

South
Australia
Economic
Statement

Economic Statement

South Australia's Prospects for Growth

Letter from the Chair

Dear Premier,

In May 2008, the Acting Premier set the Economic Development Board (EDB) a new reference of work seeking advice on the future directions of the South Australian economy. The reference was extended by you in October in light of the financial and economic crisis sweeping the globe.

The result is this Economic Statement, which has been guided extensively by South Australia's Strategic Plan.

The Board has taken a medium to longer-term view of the State's prospects and in this context the picture is bright. Major new mining developments, our growing defence sector and an emerging opportunity to establish South Australia as a national leader in renewable energy technology should sustain investment for decades to come with benefits continuing to flow from the agricultural, manufacturing and services sectors in the State.

This was an evident prospect when we began this reference a year ago, and we firmly believe it holds good today. Of course, the near-term future has been muddied by the abrupt and extraordinary financial crisis that has grown since late 2008. At time of writing there are no reliable predictions – official or unofficial – of the eventual magnitude or duration of the crisis. However, eventually economic cycles turn, and when this one does, the State will need to be ready.

This Statement highlights that South Australia's ability to capitalise on emerging opportunities can only be harmed by investment withdrawal and policy complacency now. For example, the EDB firmly believes that the dangers of failing to invest now in economic infrastructure far outweigh the downside from having a revision of the State's Triple A credit rating.

The ultimate goal is to make South Australia the most competitive place in which to invest and operate a business in Australasia and secure a genuine social dividend, while ensuring that the State is ever more environmentally sustainable.

In submitting this Economic Statement, I would like to acknowledge the work of all who contributed to it; especially business, education and other community leaders. I also pay tribute to the dedicated effort of my EDB colleagues, particularly other members of the sub-committee that oversaw the development of this Statement, ably led by Grant Belchamber and supported by Leanna Read, Michael Keating and Kevin Osborn, and the secretariat led by Matt Johnson.



Mr Bruce Carter – Chair
Mr Kevin Osborn – Deputy Chair
Mr Grant Belchamber
Monsignor David Cappo AO
Mr Rob Chapman
Dr Ian Gould
The Hon Bob Hawke AC – Honorary Member
Mr Michael Hickinbotham
Dr Michael Keating AC
Mr Justin Milne
The Rt Hon Mike Moore
Dr Helen Nugent AO
Dr Leanna Read
Mr Lance Worrall – ex-officio

12 March 2009

Key recommendations	1
Introduction	5
South Australia's Prospects for Growth	7
The Evolving Shape of South Australia's Economy	19
Addressing Growth Challenges	39
Economic Growth, Social Inclusion and the Regions	49
Economic Growth and the Environment	57
Economic Growth and Population	67
Economic Growth and the Workforce	73
Productivity and Innovation	87
Economic Growth and the Public Sector	97
Appendix 1: Terms of Reference	109
Appendix 2: Consultation	112
Appendix 3: Existing policies, strategies and initiatives for South Australia	115
Appendix 4: Modelling the impact of major projects	118

Key recommendations

The ultimate goal is to capture the emerging economic opportunities, make South Australia the most competitive place in which to invest and operate a business in Australasia and secure a genuine social dividend, while ensuring that the State is ever more environmentally sustainable.

Riding out the global financial crisis

Notwithstanding expectations that the global economic and credit crisis will get worse before it gets better, the EDB urges the Government and industry to maintain the momentum including by taking full advantage of the opportunities offered by the Commonwealth Government's most recent \$42 billion economic stimulus package.

A coordinated action plan for water security

The EDB acknowledges recent State Government action to make residential water prices more cost-reflective to support its investment for water security, including the building of a major new desalination plant. The EDB recommends that the Government continue moves towards volumetric based cost recovery pricing, in particular to provide the means to make further investments needed to secure adequate water supplies for the State into the future.

In prioritising such investments, the Government should urgently evaluate the potential to increase the Port Stanvac desalination plant to 75 or 100 GL with the support of Commonwealth loan funding. Together with further recycling and stormwater capture, this would substantially reduce the State's reliance on the River Murray and create a longer term buffer for growth in the economy.

If the proposed pricing regime is to be fully effective, private suppliers will also need to be given third-party access to Adelaide's main trunk networks for water and sewerage (as is presently the case for electricity and communications). These arrangements should be managed independently from SA Water.

Positioning SA as a leader in renewable energies

The EDB believes that South Australia has a brief window of opportunity to build on its unique natural advantages in generating solar, wind, wave and geothermal electricity and establish itself as Australia's leading clean energy state. To achieve this, the South Australian Government should implement strategies to promote technological innovation in a diverse range of renewable energies, fast track demonstration plants, minimise regulatory impediments and secure industry investment. In addition to attracting large-scale investment in renewable energy facilities, the strategy should also aim to build the State's broader manufacturing base to provide the components and services that make up the generating capacity.

An education and training system for the 21st century

The potential shortfall of Vocational Education and Training (VET) funding and higher education places over the next decade and the opportunity to increase the rate of training in the present downturn should be pursued vigorously with the Commonwealth Government.

Consistent with the National Partnership for Teacher Quality and the National Partnership on Equity, low socio-economic status (SES) schools should receive increased funding per student; and principals should have greater discretion within their school budgets to remunerate exceptional teachers appropriately and make individual recruitment decisions.

Raising workforce participation

Development of the workforce is fundamental to the State's future prosperity. It is critical that the opportunity is taken now to increase training to better equip people for employment opportunities as the economy recovers. The EDB believes an appropriate target is to increase the State's employment participation rate (percentage of the population aged 15-64 years that is employed) from the current rate of 73.8 per cent (June 08) to 78.0 per cent by 2014-15. Because the State's population is ageing, the rates of employment participation of working age people will need to increase by more than this to achieve the target.

In the present economic crisis, the State Government should increase the funding of training and workforce development opportunities for those people who are on the margin of the labour force, those who are at risk of losing their jobs or who are on short-time, and those whose training contracts are at risk. Training providers must develop partnerships with individual firms and clusters of firms to improve the use of skills by identifying specific training needs in conjunction with agreements about how work can best be organised, involving possible job redesign, improved career pathways, and better retention of skilled workers.

Social and regional benefits from economic growth

Social and economic development must go together. The EDB calls on peak industry bodies to engage with the Social Inclusion Board in its Sharing Opportunities reference, and for individual companies, especially in sectors with strong growth prospects, to explore avenues to provide job opportunities (especially entry level) for the long term unemployed.

Public sector authorities should do more to provide employment opportunities for people entrenched in disadvantage, including through their capital works programs in which employment requirements for specific groups, be they long term unemployed or Aboriginal, should be stipulated.

Regionalisation of South Australia's Strategic Plan should be extended towards the preparation of individual development plans, or blueprints, for each regional area. Over time, the Regional Development Board network should be reconfigured to align with the State's regional boundaries structure. This new structure should seek to integrate regional development activities and structures for all three levels of government.

Planning for population growth

South Australia's Strategic Plan target of two million people is likely to be achieved by 2036, fourteen years ahead of the initial target date. The EDB recommends that additional strategies are implemented to reach the two million population target by 2027. This will require review and updating of the State's population policy (now five years old) with priorities to grow South Australia's share of overseas skilled migration, stem the loss of young working people to other states and increase workforce participation. In parallel, the policy will need to ensure this growth can be accommodated through improved land supply to address housing affordability issues, as well as accelerated rezoning and planning reforms. Health and quality of life of residents, as well as environmental and regional impacts will also need careful consideration. The Government's Population Policy Unit should be empowered to coordinate implementation of this updated policy across all relevant government agencies.

Productivity gains through innovation and value-chain linkages

The State's industry policy should be focused on growing export-oriented industries that are characterised by high value-add and innovation, such as mining, defence, education, health and renewable energies. Priority should also be given to building export value from agribusiness (including aquaculture), advanced manufacturing and services.

The SA Centre for Innovation should be restructured as the flagship organisation for business related innovation activity in South Australia with a focus on manufacturing and certain traded services, operating at arm's length from government.

A robust program of infrastructure investment

The EDB strongly recommends that the State maintain a robust program of infrastructure investment. Failure to invest now would cause unacceptable delay in critical private sector projects and be far more damaging to long-term sustainable growth than any temporary downgrade in the State's AAA credit rating. The present circumstances offer significant opportunities for cost effective and counter cyclical public investment, including lower costs of borrowing and lower capacity constraints. The State Government should seek to leverage investment with Commonwealth funds wherever possible. The areas of greatest priority with respect to economic infrastructure are water, transport, defence and clean energy.

To ensure that momentum for investment is maintained and delivery of projects on budget and on time is achieved, the Office for Major Projects and Infrastructure (OMPI) should prepare an annual Infrastructure Priorities Update to Cabinet, with the first edition due in December 2009.

An efficient and effective public sector

The EDB supports the State Government's stated goal of making South Australia the most competitive place in which to invest and operate a business in Australasia and therefore recommends continuation of the red tape reduction program and its supplementation by programs of regulation review such that all regulation will be reviewed on a five-year rolling basis.

The EDB recommends that the State Government give urgent attention to strengthening the leadership of the public sector, emphasising chief executives' accountability for outcomes, succession planning and the development of the next cohort of leaders with strong strategic capacity, together with the commitment to high performance, service excellence and continuous productivity improvement.

1 Introduction - Challenging Interactions

In May 2008, the Premier set the Economic Development Board (EDB) a new reference of work seeking advice on the future directions of the South Australian economy, the opportunities that are likely to emerge and how the State can best capitalise on those opportunities (a copy of the reference is provided at Appendix 1).

The result is this Economic Statement.

This is not the first word on South Australia's economy, nor will it be the last. The EDB's *Framework for Economic Development in South Australia*¹ produced in 2003 contained 72 recommendations to set in place the building blocks for growth – government efficiency, population, education, exports, finance and infrastructure. It was prepared on the back of the Board's State of the State report which showed that South Australia had been lagging Australia's economic performance for much of the decade leading up to 2002, when the assessment was prepared.

Much has been achieved since then and South Australia is a fundamentally different place today. Notwithstanding the global financial crisis, the EDB believes that South Australia's prospects for future growth over the next decade are stronger than they were back in 2002 and, compared to the national economy, better than they have been for many decades. Yet, this positive outlook gives no cause for complacency. To the contrary, the EDB believes that the imperative for change in South Australia is greater than ever.

Assuming the central growth scenario underpinning this Statement is correct, the State is set to face serious capacity challenges and constraints over the coming decade, notwithstanding the global financial crisis. Through meticulous planning, flexible decision-making and fast implementation South Australia stands a good chance of addressing supply constraints to growth, such as water scarcity, skills shortages, infrastructure bottlenecks and the imperative to develop cleaner baseload energy sources.

Without this, South Australia will not fully capture the emerging economic opportunities and secure a genuine social dividend, while ensuring that we are becoming more environmentally sustainable. To achieve this goal social partnership is needed, between government, business and community.

The partnership approach has been a defining characteristic of the Rann Government, most vividly demonstrated in the preparation of South Australia's Strategic Plan. First proposed by the EDB in its Framework document, and now in its second iteration, the Strategic Plan provides an unambiguous statement of the State's long-term development aspirations to 2014 and beyond.

The Strategic Plan and its targets have guided the development of this Statement.

One of the most critical aspects of the Strategic Plan is its identification of "key interactions" – an acknowledgement that none of the objectives or targets are stand-alone but are all interrelated. It is a recognition that economic growth cannot occur to the blind detriment of environmental sustainability, that employment growth depends upon increasing participation by those not presently engaged, and that research and development R&D and innovation are vital to all economic, social and environmental progress.

These "key interactions" have informed the preparation of this Statement. The EDB believes the main opportunities for future development lie where these interactions arise, not in any singular pursuit. Our aim has been to bring these apparent tensions together, and in so doing highlight how they can be complementary when integrated as part of a coherent policy agenda.

This Statement has also been informed by a number of other important pieces of work completed in recent times. Our task has largely been to scrutinise and pull together these different pieces of work and reform initiatives.

¹http://www.southaustralia.biz/library/A_Framework_for_Economic_Development_in_SA.pdf

In preparing this Statement the EDB consulted many South Australians with varying interests and areas of expertise: business and industry leaders; State Government Ministers and chief executives, Members of the Opposition, education leaders, unions, academics, the community welfare sector and local government. We also sought views from beyond South Australia's borders. The last thing we wanted was to prepare our advice in a vacuum. The economy is ever-changing, a complex interaction of markets and human endeavour. Opportunities evolve, new challenges emerge and risks change. It is essential that an economic statement be informed by the current experiences of the stakeholders that make up the economy. The Board is grateful for the generous contribution of so many, whose names are listed at Appendix 2.

Notwithstanding the present global economic turmoil and uncertainty, the EDB firmly believes that South Australia's future is bright. We impress the need for the State Government, in partnership with industry, the Commonwealth and local governments and the wider community, to act with urgency in addressing challenges that will otherwise act as a handbrake on growth in what is set to become a high growth economy over the medium to longer term.

2 South Australia's Prospects for Growth

Global recession is scarcely an ideal time to welcome a new economic era for the State. Though global uncertainties will persist for some time, South Australia stands on the verge of shedding its past – a period marked by prolonged underperformance compared with national growth – as the State's industrial structure adjusts to embrace new opportunities. Albeit with a likely weak start, growth prospects over the next decade remain full of promise but with many challenges.

Slowdowns are never welcome, but this one gives SA more time to frame sensible responses to some formidable, but not insuperable obstacles that lie ahead.

We are convinced State growth will match or surpass the national average in coming years.

Recommendation 2(a): Notwithstanding expectations that the global economic and credit crisis will get worse before it gets better, the EDB urges the Government and industry to maintain the momentum including by taking full advantage of the opportunities offered by the Commonwealth Government's most recent \$42 billion economic stimulus package.

2.1 The Challenge and the Opportunity of Change

Four main developments remain key to the longer-term future:

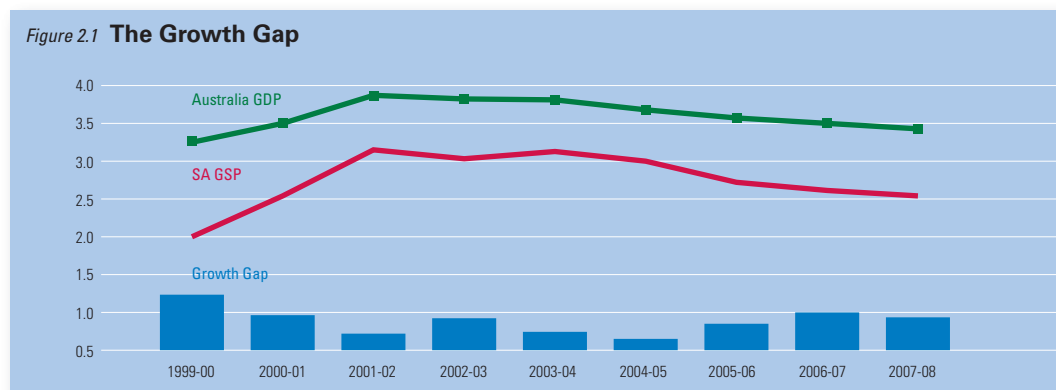
- The growing importance of nearby Asian markets for sales opportunities.
- The opening up of new areas of activity (principally but not exclusively in minerals and energy, and in defence manufacturing).
- The rising importance of knowledge-based services (of which education has become a leading example, but where South Australia more broadly is relatively weaker).
- Favourable prospects for the State's traditional agricultural strengths (moderated by climate change impacts).

These four developments, not all positive, are the main influences on a likely decade of State economic renaissance. It is critical that they be built upon sensibly and weaknesses remedied.

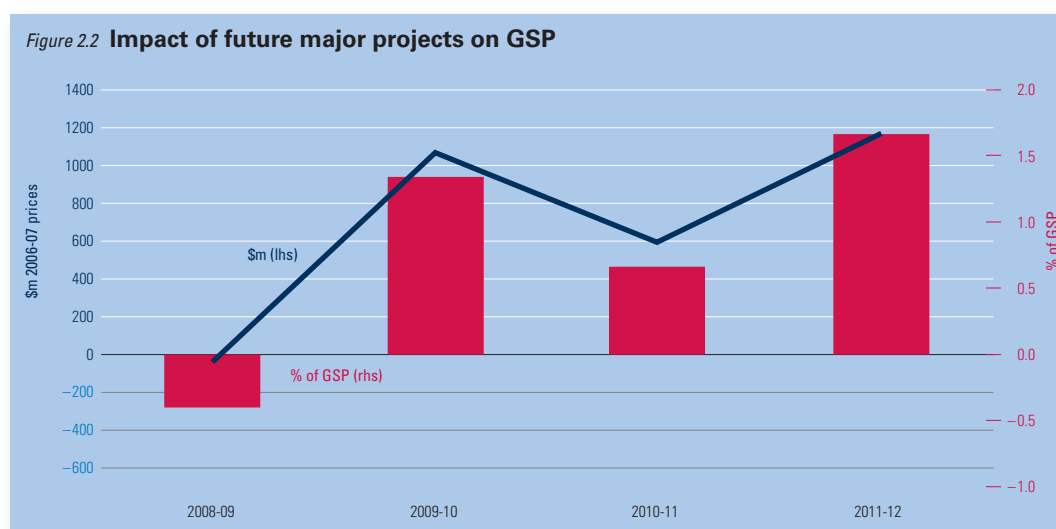
Last year the EDB examined many scenarios of State economic and employment growth over the decade ahead. The severity of the sudden global economic and credit crisis has rendered this approach incomplete: few if any places in the world are likely to have 'normal' growth in the next few years. Consequently we undertook a thorough and conservative reappraisal of the pipeline of new South Australian investment projects. The opportunities have not gone away. Newly and un-discovered resources are still there awaiting their time for development and sale to growing markets; while the global financial crisis has less impact on defence expenditure.

But the real and present difficulties of financing their birth now means that many (though not all) developments will be delayed. What was shaping as a surge in investment activity – perhaps too sudden for the State's economic good – is now likely to be a smaller but welcome buffer to a period of near-term economic adversity. Despite this, the longer-term outlook remains bright.

South Australian economic activity grew annually by about 2.5 per cent over the past decade compared to almost 3.5 per cent for the nation as a whole². (Fig 2.1).



Source: ABS National Accounts. Data are running 10-year compound annual growth rates of real GDP and GSP and the corresponding gap between the two.



Source: EDB estimates of GSP growth impacts of abnormally high major project levels (\$millions at constant 2006-07 prices). Allowance has been made for production closure at Mitsubishi Australia's former Tonsley Park facility.

Our examination suggests, the credit crisis notwithstanding, enough new projects will proceed to eliminate that gap over the next few years (Fig 2.2). When, not if, global vitality returns, the resulting investment dividend could see the State outperform the nation. But neither we nor anybody else knows precisely when that will be, or the extent of the fallout yet to come from the crisis³.

The next chapter considers the investment pipeline in more detail, along with conditions in traditional industries. Many projects are in a state of considerable flux, trapped by uncertain financing and market conditions. In mining, and elsewhere, a savage global destocking phase has flattened demand and prices. This is inherently temporary: recovery is widely expected but not to the heights of the previous boom. Nevertheless, the Prominent Hill copper-gold mine is now in production, while a range of mineral sands, uranium, iron ore and other mining projects are underway. The canvassed Olympic Dam expansion by BHP Billiton is not yet approved. The company has a team in place working on the proposal's feasibility and development assessment. Construction for defence projects and the Northern (Adelaide) Expressway has started, and a range of water projects are beginning.

²State economic activity is measured as gross state product – SA GSP in Figure 2.1. National economic activity is measured as gross domestic product (GDP).

³The latest Reserve Bank forecasts (Statement on Monetary Policy, 6 February 2009) envisage GDP growth of just 0.25 per cent over the year to June quarter 2009, expanding slowly to an annual 1.25 per cent by June 2010 before regaining a slightly-above-trend 3.25 per cent pace during the year to June 2011. The Bank emphasises the uncertainty surrounding these forecasts.

There are always some major projects to support GSP even in the darkest years but the extent of current new State projects remains abnormally high. The precise yearly profile is sensitive to relatively minor changes in assumed timing of projects; nevertheless we estimate⁴ the annual GSP growth rate should benefit by around 1.25 per cent on average over the three years from 2009-10 to 2011-12 (figure 2.2). These estimated gains would be more than sufficient to eliminate the typical growth gap with the nation encountered in recent decades.

Longer term projections are fraught with uncertainty and unknowns. We have estimated what might be in store for the South Australian economy in 2014-15; these longer-term views are advanced with less confidence than the short-term outlooks just presented. The major assumption we make is that some degree of normality will return to the global economy before the end-point. On this basis South Australia's economy could increase by between 3 and 3.5 per cent over the seven years to 2014-15⁵. On our central scenario real GSP in 2014-15 could be a quarter larger than in 2007-08.

Chief among the uncertainties and unknowns is the magnitude and duration of the global financial crisis. The greater they are, the less likely is South Australia to grow 25 per cent by 2014-15. However there are fundamental economic forces pulling the other way, including climate change, and the continuing rise of China and India. For this reason a renewed rush to start projects can not be ruled out any time soon, although this would bring other clear dangers. Resources (of labour, energy, water, land and other inputs) available to the State are constrained. Chapter 4 assesses the State's readiness to face future strong demand.

⁴Confidential information available to the State government together with other material has been used to assess the influence ten "abnormal" projects are likely to have on GSP in the immediate years ahead. We subtract both a "normal" level of new projects and a leakage of remaining project expenditures to imports (from interstate as well as overseas). One negative "abnormal" event adversely affecting 2008-09 GSP growth was the closure of the Mitsubishi Australia Tonsley Park facility late in the 2007-08 fiscal year. It was producing for much of 2007-08 but not at all in 2008-09.

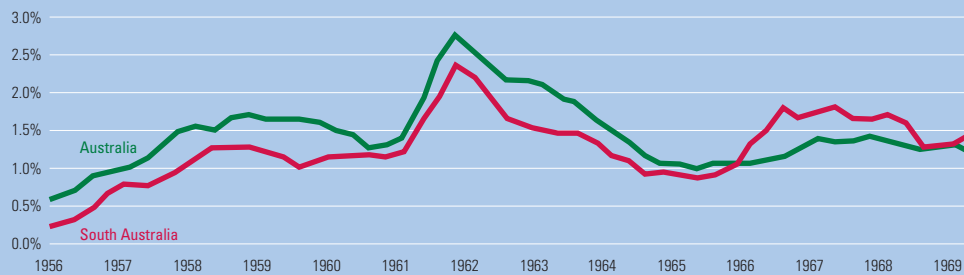
⁵Compound annual growth rate. These projections are made by adding to a base-case average of private-sector forecasts for GSP (themselves heavily influenced by an assumed continuation of past trends) a series of calculations covering the impact of major projects known to DTED. In short, we have included all projects currently under construction or in operation, those publicly-funded construction expenditures already in budgets and BHP Billiton's proposed Olympic Dam Expansion. Assumptions in relation to the Olympic Dam Expansion are based on public statements by BHP Billiton. We have imposed sharp discounts (of 40 per cent in the central case, and 20 and 60 per cent in two alternatives) on other projects on the list, whether or not approval from boards and others has been obtained. In the changed circumstances some announced projects will be abandoned.

2.2 A History of Change: A Quest for Diversification

Change is nothing new to South Australians. From its inception as a colony in the late 1830s, the State has been faced with a need to diversify its economic activities. Mining discoveries saved the infant colony, before agricultural developments opened up prosperity and a bright future. But the depressed decades of the inter-war years exposed the volatility of monocultures forcing the State once again to diversify to smooth out its existence.

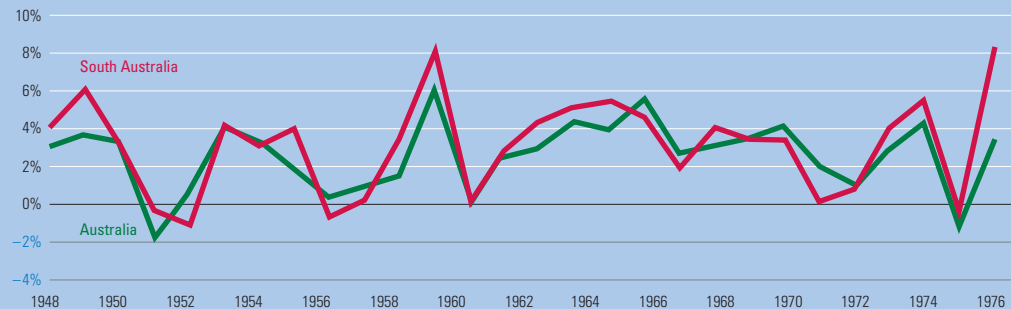
Under Sir Thomas Playford's⁶ premiership the State took advantage of global prosperity and prevailing national tariff policy to develop new mass manufacturing industries catering primarily to the domestic market. Alongside good markets for export-oriented, bedrock primary industries, processing of minerals and a smattering of other activities, the State prospered. Individual GSP records are not available for this period, but we can be sure South Australia did well in relative national terms. For a quarter century from the late 1940s, South Australia experienced consistently lower unemployment and higher employment growth rates than the national average, while State population expanded from 646,000 in 1947 to 1,174,000 in 1971⁷.

Figure 2.3 Unemployment rates in South Australia and Australia, 1956-1969



Source: Barry Taylor (1970), Quarterly seasonally adjusted data.

Figure 2.4 Employment growth rates in South Australia and Australia, 1948-1976



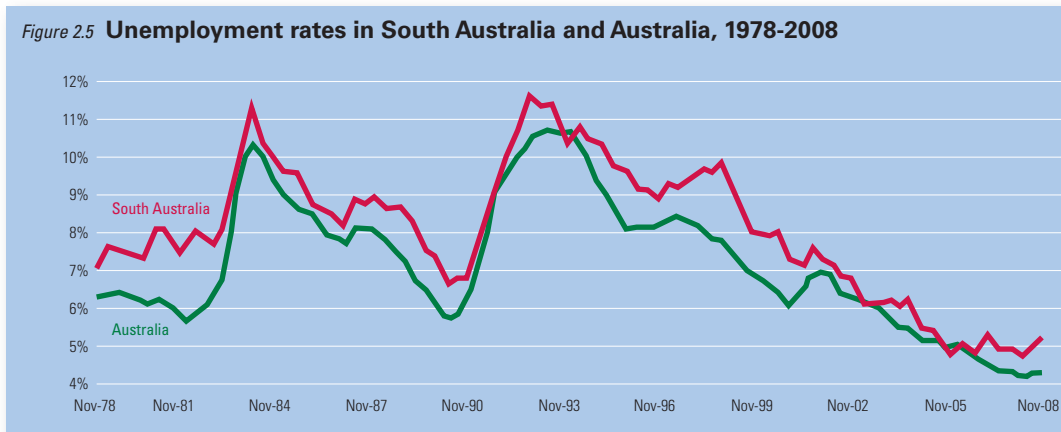
Source: ABS Yearbook, Annual Data.

⁶Sir Thomas Playford (5 July 1896 – 16 June 1981) was a South Australian politician with the Liberal and Country League party. He served continuously as Premier of South Australia from 5 November 1938 to 10 March 1965, the longest term of any democratically elected leader in the history of Australia.

⁷Australian Bureau of Statistics, Census of Population and Housing.

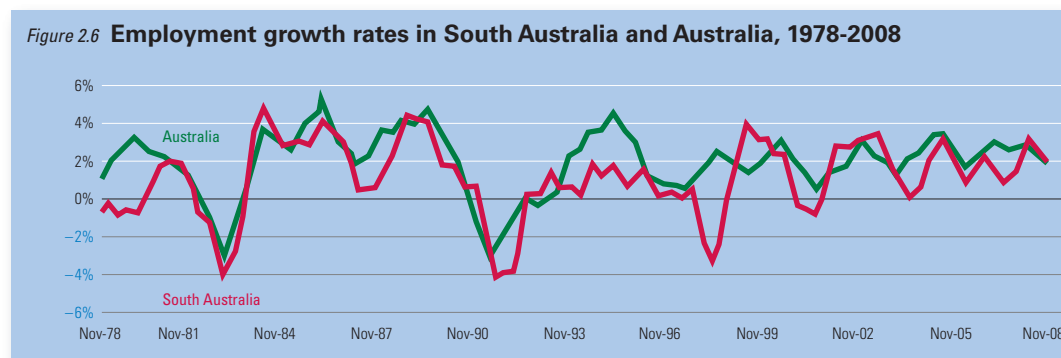
It was a period of economic success, but the world continued to change — to South Australia's disadvantage. Local manufacturing was threatened by the rise of Japan (and later South Korea) whose efficiencies allowed their producers to climb over Australia's tariff walls. In the 1980s national policymakers accepted that tariff-based internally-focused development had failed, and had imposed burdens on other industries, and sought instead to reorient the Australian economy to a globally-competitive basis. These changes had profound consequences for South Australian manufacturing and spelt the end of Playford's development strategy. At the same time, global changes were corrupting markets for South Australia's bedrock agricultural producers and mining was soon to enter a couple of lean decades.

Figure 2.5 Unemployment rates in South Australia and Australia, 1978-2008



Source: ABS Monthly Labour Force Survey. Data are trend unemployment rates as % of the labour force.

Figure 2.6 Employment growth rates in South Australia and Australia, 1978-2008



Source: ABS Monthly Labour Force Survey. Data are annual % changes of trend employment data.

Leaders of the time were aware of the changing winds and the need to diversify once again. During the 1970s Premier Don Dunstan⁸ saw them earlier than most. He stressed the coming growth of Asian markets⁹ and the potential of the State's wine capabilities, and encouraged a broad range of services from film production to cultural and design activities. The 'vision' was good, but the task of re-focusing the State economy in the emerging global market was immense.

In recent years, caught between a high dollar and rampant Asian competition South Australian manufacturing has been disproportionately affected. Unlike national manufacturing the local sector has been in continuous decline over the past five years (fig 2.7), and Mitsubishi Australia's demise as an Adelaide producer will almost certainly guarantee another negative result in 2008-09. The growth gaps shown¹⁰ are alone sufficient to account directly for most of the State's recent underperformance relative to the nation.

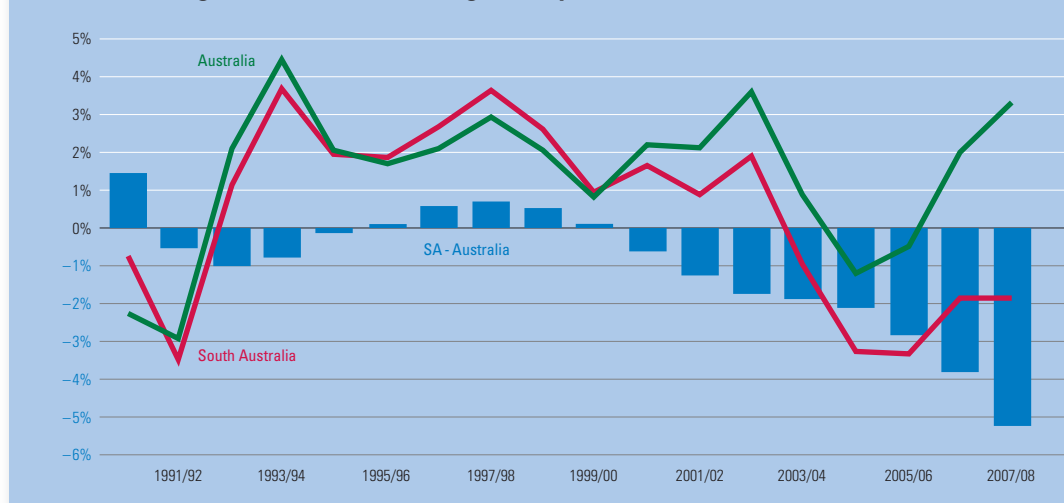
⁸Don Dunstan (21 September 1926 – 6 February 1999) was the ALP member for Norwood from 1953 and Premier of South Australia on two occasions (1967-68 and 1970-79). Ill health forced his retirement from both positions in February 1979.

⁹Dramatised through such promotional trade events as Penang weeks.

¹⁰Manufacturing annual growth rates, SA minus Australia.

Four decades since his departure as Premier, Sir Thomas Playford's influence on South Australian manufacturing is almost completely gone. Just 10,000 South Australians (about 1¼ per cent of State employment) now earn their living directly from consumer durables production.

Figure 2.7 Annual growth in manufacturing activity



Source: ABS National Accounts data on real gross value added in manufacturing.

This 'great undoing', and global economic frictions, has seen South Australia grow slower than the nation for the best part of 30 years. In the next chapter we take a closer look at the State's industrial breadth. We find performance in non-manufacturing areas, especially services, to be worrying and deserving of more detailed attention.

Table 2.1 South Australian employment shares by industry (%)

Industry	1966	1986	2000	2008
Primary production	10.8	7.8	7.4	5.2
Mining and quarrying	0.7	1.5	0.5	1.0
Manufacturing	28.3	16.6	14.0	12.5
Power, water and sanitary services	2.6	1.8	0.8	1.0
Construction	8.6	6.9	6.3	6.9
Transport and storage	5.4	4.5	3.8	4.2
Communications	2.3	2.4	1.8	1.5
Finance and property	3.6	9.9	13.8	13.1
Trade and commerce	17.2	19.9	19.3	18.0
Public administration and defence	3.4	3.4	4.0	4.8
Community and business services	11.5	16.9	17.5	20.1
Entertainment, accommodation and restaurants	5.5	8.7	11.0	11.6
TOTAL	100.0	100.0	100.0	100.0

Source: ABS, 1966 Census data and Cat no. 6291.0.55.003 Labour Force, Australia, Detailed, Quarterly.

The State's population is now approximately 1.6 million, 38 per cent greater than the 1.16 million in 1968. But it is a very different South Australia. Along with a much greater representation of females in the workforce, State jobs are now mainly in services. Table 2.1 compares the current employment structure by industry with that of 1966. More change lies ahead.

*ABS industry categories have been summed as follows: trade and commerce = retail and wholesale trade; finance and property = finance and insurance and property and business; community and business services = health and community services and education; entertainment, accommodation and restaurants = personal and other services, cultural and recreational services and accommodation, cafes and restaurants.

2.3 The Changing Global Economy

South Australia is not the only economy facing rapid change. The entire global economic league table is changing markedly, and it looks good for South Australia. The globe's economic centre of gravity is shifting steadily towards Asia, so that distance to markets is becoming an advantage; not the handicap it was throughout the State's history. The top positions on the global economic table have not changed much over the last half century, but they soon will, and decisively.

Figure 2.8 shows a selection of the latest projections from a detailed study of the growth prospects for 80 national economies by investment bank Goldman Sachs. The top 25 economies feature by overall GDP size¹¹ in 2000, 2007, 2020, 2030 and 2050. The main implication is the way global market size moves in the direction of countries already receiving sizeable exports from South Australia. After overtaking Germany recently, China's GDP has moved ahead of all other economies bar the United States and Japan.

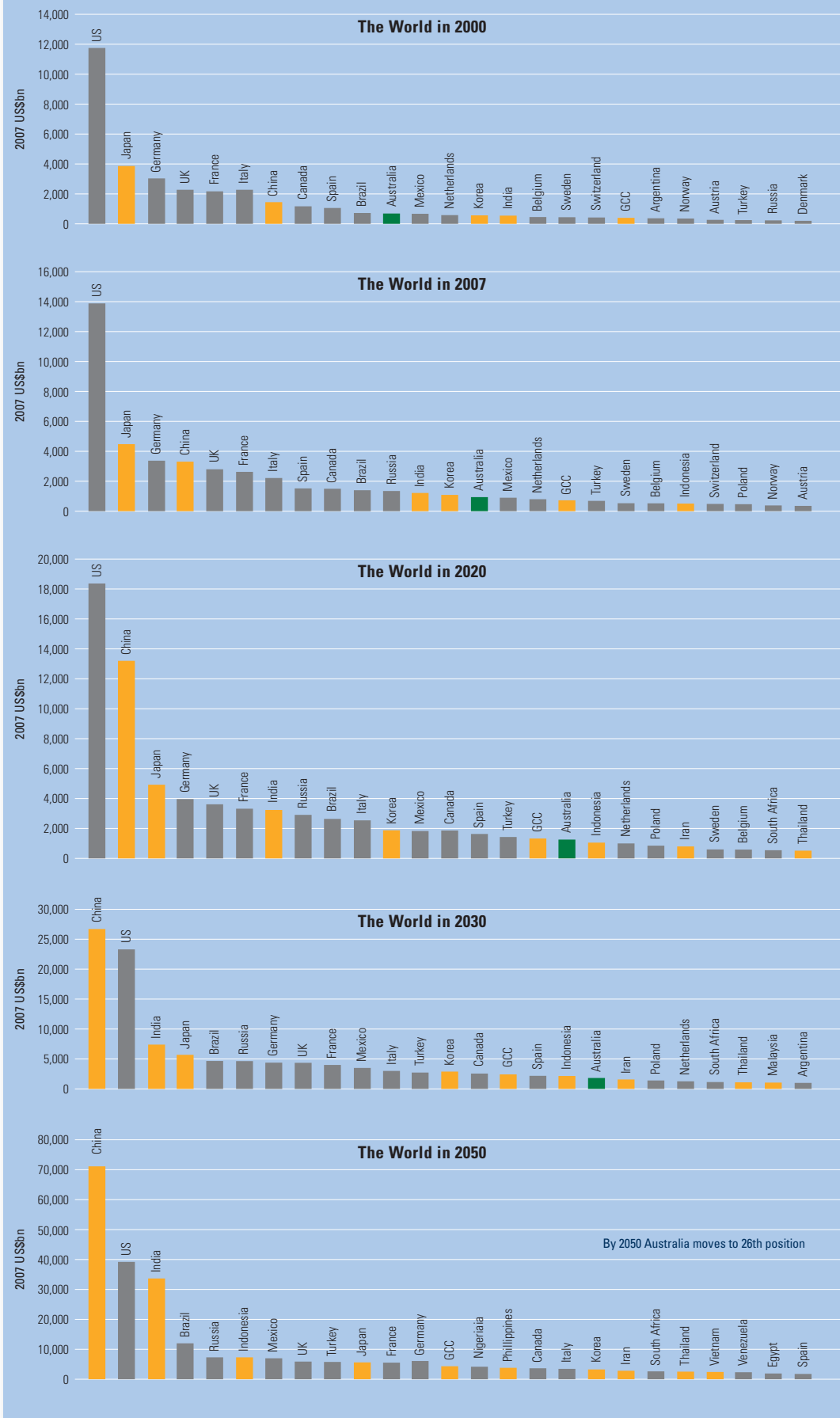
These projections suggest even the United States economy will be passed by China in about 20 years. By then India will have moved into third place, while the traditional powers will be slipping down the table. By 2050, a mere two generations away, only the US remains among the leaders, and the global GDP leader board is likely to be studded with Asian economies (coloured orange in the chart) with Indonesia and India making mighty gains¹².

There are profound uncertainties and unknowns. These range from climate change restraints to another outbreak of global protectionism crimping growth of developing countries, which could slow the indicated timetable, but the direction is unmistakable.

¹¹Total GDP in common currency. Not by income per head or living standards.

¹²Goldman Sachs chief economist Jim O'Neill, who coined the term BRICs to describe the collection of upcoming powerhouses — Brazil, Russia, India and China — is insistent that his team's projections are not hard forecasts but illustrations of what might happen, albeit based on detailed analysis. It is far from clear that the present global downturn, affecting developed economies as much or more than the newcomers, will impede the changing of the guard.

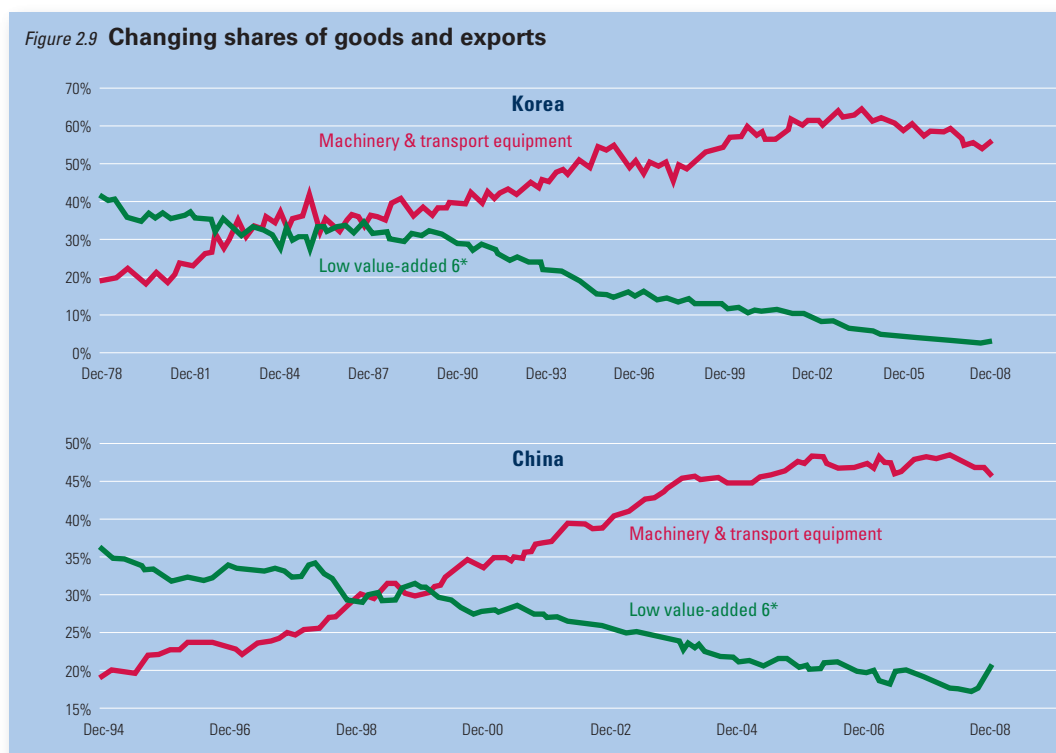
Figure 2.8 Leading national economies of the world – the rise of the East



Source: Goldman Sachs, NY, Aug. 2008.

Globalisation is not simply a matter of new economies appearing as sources for goods and services in common supply. As the geography of trading ports sweeps wider around the globe so too does the geographic integration of the production process. This is a distinguishing feature of our times. The old model saw regions and countries specialising in the entire output of a product¹³. The new model farms out bits and pieces of production far and wide before bringing them together in a final assembly point. It includes services like accounting and sales, as well as goods like cars and televisions. In our part of the world there is now a pan-Asian production process where the business market is increasingly for parts of the output rather than the entire product. This is not how earlier Australians considered business, but it is a way to which we are becoming accustomed.

Another key factor is change within developing economies as they emerge into leading positions. Following a time-honoured path, dating back as far as the British industrial revolution, emerging economies take their first steps on the development ladder in a set of labour-intensive, low-value-added industries before shedding these in order to move up-market into a set of more capital-intensive¹⁴, higher-value-added industries.



Sources: Korea Customs Service and China Customs Statistics (CEIC). Data are 3 month moving averages of seasonally adjusted exports as % of total goods exports. Low-value-added 6 are the SIC categories of "leather, leather manufactures & dressed firkins", "textile yarn & fabrics", "furniture & parts thereof", "travel goods, handbags", "articles of apparel & clothing accessories" and "footwear".

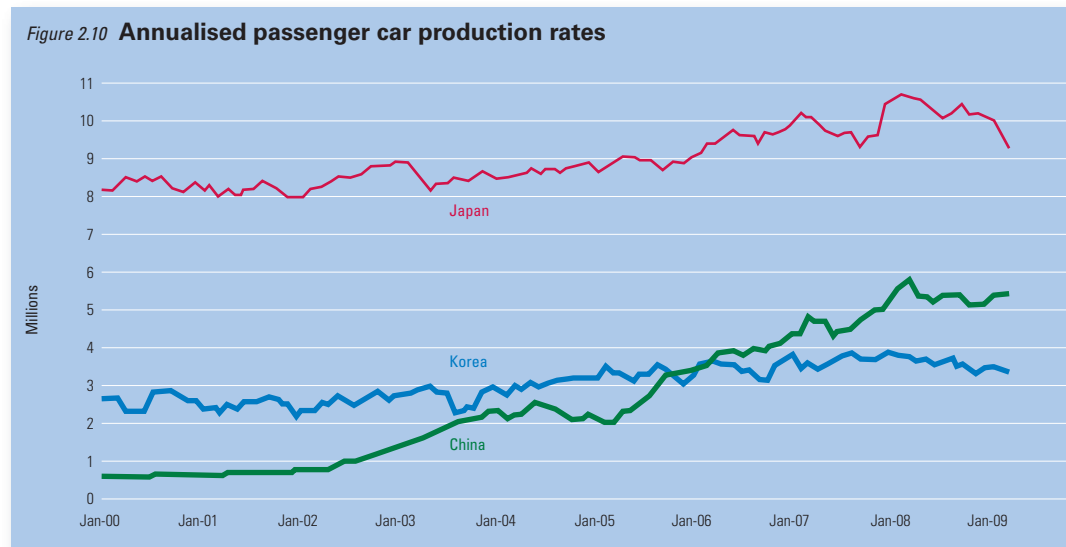
The twin charts of figure 2.9 show this phase in South Korea over the past two decades and how the same change is now sweeping through China¹⁵. The pattern is the same, and it is starting to be repeated in Vietnam and elsewhere in Asia. These switches do not occur overnight: it takes years for skills and capital to be acquired. But the notion that Asia is everywhere a low-wage sweat shop is dangerously misleading. 'Sweatshop Asia' is not the competitor nor the market that South Australians will face in coming decades.

¹³This includes Paul Krugman's late 1970's demonstration that, contrary to classical trade theory conceptions, economies of scale and consumer choice would allow different countries to export similar products to each other. Thus Volvos exported to Germany would have a high percentage of Swedish content while the Mercedes going in the other direction would be mainly of German origin.

¹⁴That is, requiring higher level specialized skills and sophisticated machinery.

¹⁵In both cases the export share of a set of six low-value-added industries is compared with that from the higher-value-added broad category of machinery and equipment manufactures.

Of special significance to South Australia is the way in which production in the car industry is changing. In 2000 China's car production capacity was not much larger than in Australia, but thanks to explosive growth involving joint ventures with leading global producers and considerable home-grown activity, its domestic car production moved past Korea mid-decade to become second in Asia behind Japan. So far China's car production has been devoted overwhelmingly towards satisfying a domestic demand that is still in its infancy¹⁶. Exports of motor vehicles are climbing noticeably, and a concentrated Chinese export drive in coming years is widely predicted, adding to global excess capacity with significant new production facilities emerging also in India, Thailand, Eastern Europe and Brazil.



Sources: Japan Automobile Manufacturers Association, Korean Automobile Manufacturers Association, Chinese National Bureau of Statistics (CEIC). Data in millions are annualised from three-month moving averages, seasonally adjusted in house.

2.4 The Growing Importance of Services

OECD studies of its member countries show strong positive correlations between income levels per head and the shares of both employment and value added occupied by services. In 2003 the Australian services share (on both measures) was slightly above the OECD average. International trade in services is significant. Averaged over both imports and exports the services trade of a typical OECD economy is more than a quarter of its goods trade. Services exports increased relative to goods exports in the rich G7 economies over the past dozen years while the corresponding import ratio declined by about the same amount¹⁷. These trends confound some populist views about the impact of 'off-shoring' practices.

Australian data shows similar trends¹⁸. Australia's \$57 billion a year services export business is dominated by earnings from education and personal travel, worth \$14.75 billion and \$12 billion respectively¹⁹. Education services are now the nation's third largest export earner behind coal and iron ore²⁰. By contrast, transportation receipts, which used to dominate these numbers, brought in \$9.75 billion. Though individually much smaller, serious export incomes are being earned from a range of professional, business and cultural services and royalties. Collectively these activities contributed \$12.25 billion in the latest year.

¹⁶Only 8.7 cars were available per 100 urban households in China in September 2008.

¹⁷For the OECD as a whole there is a growing services payments surplus, which is mirrored by similar but smaller trends for the G7 group.

¹⁸Whereas our international services balance was historically in deficit, a surplus has been posted consistently over the last eight years. Parallels with developed country experience do not end there. Services imports relative to goods have been very similar to the OECD average in recent quarters, and, notwithstanding recent resource earnings, services export receipts are also similar in relative terms.

¹⁹ABS, International Trade in Services Cat no. 5368.0, September quarter 2008.

²⁰Bradley Review of Higher Education, www.deewr.gov.au/review

We do not know enough about South Australian services activities, but it is clear that the performance is not good enough. As a proportion of total output, the State earns service export dollars at just 57 per cent of the national rate despite a recent surge in education earnings. In services exports the sector punches well below its employment weight.

The trend in all rich country activity is towards services, including specialist design and information services for manufacturing that is increasingly located in the emerging economies. Service opportunities in South Australia will emerge from new defence and minerals and energy projects in the investment pipeline as well as from the growth of traditional activities like agriculture and fisheries. Climate change too should have a silver lining given expertise built up in the State for coping with dry land farming, and its rich endowment of renewable energy resources.

Many services areas should be strengths for the State's economic base, adding diversity as well as dollars to headline GDP and underwriting less volatile growth. There are scores of individual successes, but South Australia must improve its performance to be competitive. Ranking second behind the decline of the traditional consumer durables manufacturing base, the weak growth of exportable services has been a major factor in previous underperformance with respect to the nation.

3 The Evolving Shape of South Australia's Economy

The present South Australian economy has a very different structure to 40 years ago. It will be different again a decade hence. Over the next decade a major investment thrust led by mining and defence projects will be superimposed on these trends with a marked early surge in construction activity. Though somewhat reduced by the current global economic and financial strife, with some projects delayed and others abandoned, the surge will be significant.

Forty years ago nearly one in three South Australian workers were employed in manufacturing (table 2.1). Today the proportion is one in eight with only around a tenth of these engaged in consumer durables manufacturing. Nevertheless, there remains an important machinery and engineering base in the State that should benefit from coming developments.

New goods activities (including winemaking) have expanded to help fill the gap and more are in prospect. But it is services that now employ most South Australians. Many of these services depend on the vitality of the local economy for their existence. Like a small country town or mining outpost growth leads to the establishment of shops, banks, a post office and always some pubs. Sadly, the reverse can and does happen. But some services are primary generators in their own right. Strong growth of education exports through international and interstate students receiving tuition in Adelaide is an outstanding example. There are others, but they are more the exception than the rule. While we know that overall services growth in South Australia has been sub-par we know too little about services in the state. That information gap is a key deficiency. Services growth is too important an ingredient of the State's future economic health to be neglected.

3.1 The Coming Industrial Structure

Economic growth has never proceeded in a straight line. Business cycles come and go, and this one has turned with a vengeance. Our scenarios for State growth focus on underlying evolving trends; we have not attempted to pick the end of global recession, nor the beginnings of recovery¹.

Neither DTED nor the EDB has superior knowledge of which projects presently on the books will proceed on schedule or to completion. The known projects were subjected to detailed modelling using information supplied confidentially to the South Australian Government with scaling factors that recognise current economic uncertainties². The results have been added to the base case to yield our industrial scenarios.

In order to inform State policy decisions the EDB recommends that DTED should carefully monitor and update the impact of major private and public sector projects on forthcoming GSP and broad industry gross value added levels. These updates should be provided to Cabinet and the EDB at least twice a year.

The outstanding impression from these scenarios is the size of increased construction demand ahead. The new opportunities in mining and defence all involve development construction ahead of the production phase. Allied to the projects are large infrastructure requirements for energy, transport and water, as well as proposals for new social infrastructure. At various stages up to a sixth of the activity generated by the new opportunities will be in construction. This is up to half as much again as contemporaneous impacts from mining, which is not expected to lead growth until the middle of next decade. We do not know precisely when peak construction will occur, but demand on the industry in 2014-15 is projected at nearly 8 per cent of State activity, well in excess of the 6.75 per cent recorded in 2007-08.

¹Behind the headline GSP scenario of the previous chapter is full-scale modelling of the State's coming industrial structure. A "business as usual" platform of industrial projections (mainly a consensus average from leading private forecasters) has been supplemented by a detailed database of project information collected by and/or made available to DTED. Rather than present the industrial results as year-by-year changes we project annual average growth rates by broad industry sector for the seven years to 2014-15.

²Timing and import content (including from elsewhere in Australia) of expenditures was estimated along with input-output analysis to determine ripple effects on other sectors.

Initially mining activity will be the second fastest growth sector, its output building steadily over coming years to reach a peak in the second half of next decade when the Olympic Dam expansion is expected to start production. Copper, gold, uranium, mineral sands, iron ore and other minerals will be exploited. In 2007-08 mining contributed 3.5 per cent of State activity (much larger than its jobs share due to very high use of machinery and capital equipment). By 2014-15 the sector's share is projected to be 5.6 per cent and growing (but still less than Queensland and Western Australia). This bodes well for diversification and organic growth in South Australia's manufacturing and engineering services sectors where existing capabilities are high.

A further major development thrust is coming through defence activities. Some of these (such as production of the Air Warfare Destroyers) will be classified as manufacturing. Others (such as the re-raising over the next few years of a mechanised infantry battalion based at Edinburgh) will register as public administration and defence. Both components will be significant with a combined initial impact of around \$600 million a year (nearly 1 per cent of GSP) when they peak some years ahead.

Developments in mining, defence and construction are the initial fronts of a changed economy. The stronger are the linkages that can be built from these primary sectors in to manufacturing and engineering, the more will this primary demand be transmitted through to them. Flow-on effects will ripple through the South Australian economy as demands are made on suppliers of inputs within and without the State. Incomes earned in the new projects will lead to additional spending, some of which will leak out as imports to South Australia, but much will remain. Virtually every existing activity will be affected by the coming wave of development³. There is expected to be additional annual value add of at least \$50 million (in today's prices) in every industrial sector at some stage over the next seven years.

Table 3.1 shows our projections for growth by industry sector over the seven years to 2014-15. The projections show a base "business as usual" scenario, and another with major projects, as well as recent historical performance.

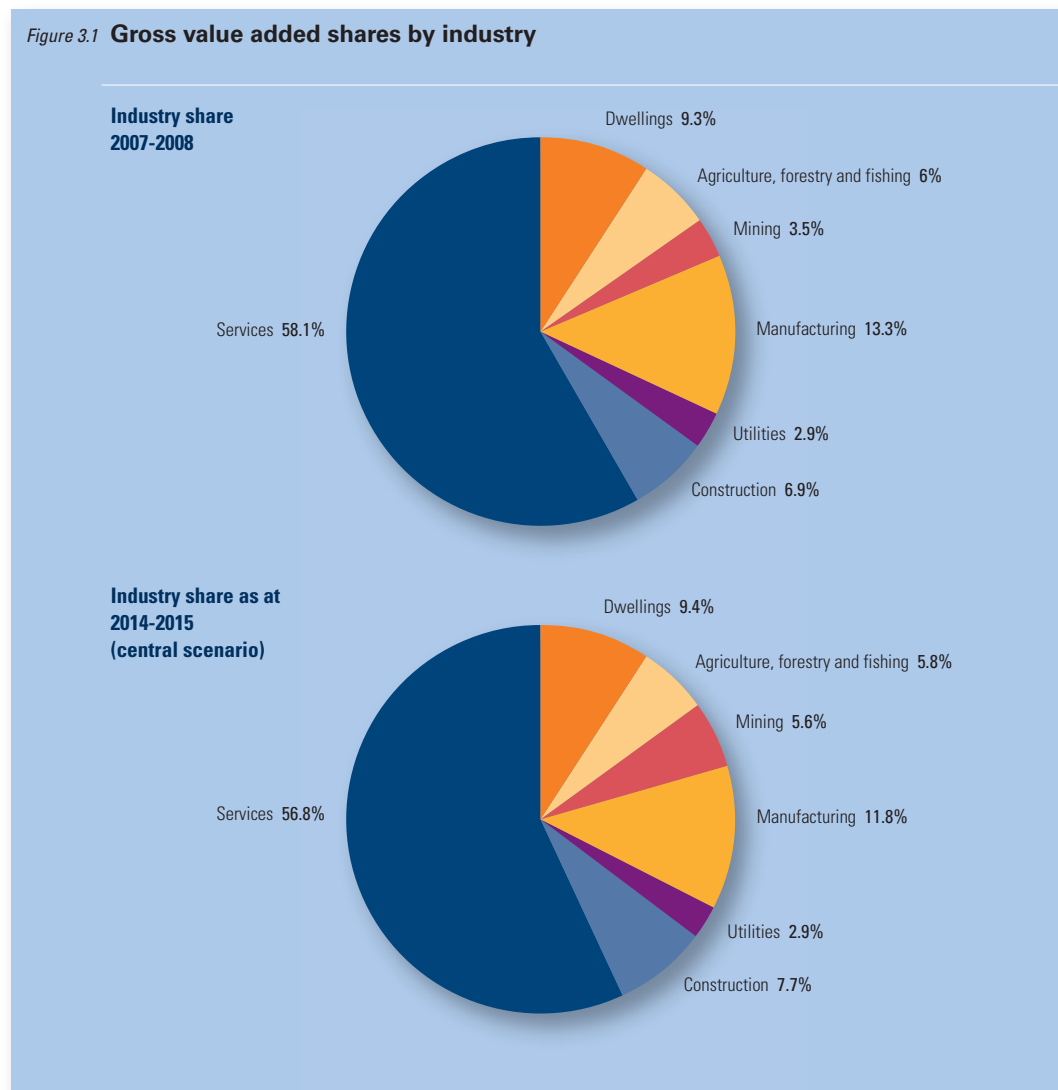
Table 3.1 Seven year annual average real output growth by industry (%)

Industry	GVA History	2014-15 Projections	
	7 years to 2007-08	Base "Business as Usual"*	Central*
Agriculture, forestry and fishing	2.80	2.7	2.8
Mining	-0.94	5.6	10.2
Manufacturing	-1.26	1.1	1.4
Electricity, gas and water	3.02	2.3	3.1
Construction	7.04	2.0	5.3
Wholesale trade	3.59	1.5	2.0
Retail trade	3.61	1.5	2.1
Accommodation, cafes and restaurants	3.55	1.9	2.5
Transport and storage	2.25	2.2	2.7
Communications services	5.76	3.2	3.8
Finance and insurance	2.97	2.9	3.5
Property and business services	2.52	2.9	3.5
Public administration and defence	2.86	1.7	3.4
Education	0.96	1.6	2.5
Health and community services	3.20	2.6	2.8
Cultural and recreational services	3.81	2.1	3.0
Personal and other services	0.33	2.2	2.5
Gross State Product	2.40	2.3	3.2

Sources: ABS National Accounts: State Accounts (cat. no. 52220.0), DTED, various private sector forecasters, EDB. * Base projections are an average of 6 private forecasts and a Hodrick-Prescott trend extrapolation. The central scenario adds to the base projection an impact for above-normal levels of new projects discounted with private-sector realisation factors of 60% for non-Olympic Dam Expansion projects not already underway. Olympic Dam Expansion is included in this scenario and part-finished projects are assumed to be completed. Assumptions made are based on public statements by BHP Billiton. Public sector projects are assumed to be realised as updated by the Treasurer's December 2008 Mid-Year Budget Statement. GVA is gross value added.

³Project expenditure assumptions were fed into an input-output model to gauge the impact. Consequential increased activity was recorded for every single sector of the ABS classification, none of it trivial though admittedly small in some sectors.

Figure 3.1 displays pie charts indicating the changing industrial composition of South Australian activity (or gross value added) between the two end points of 2007-08 and 2014-15.

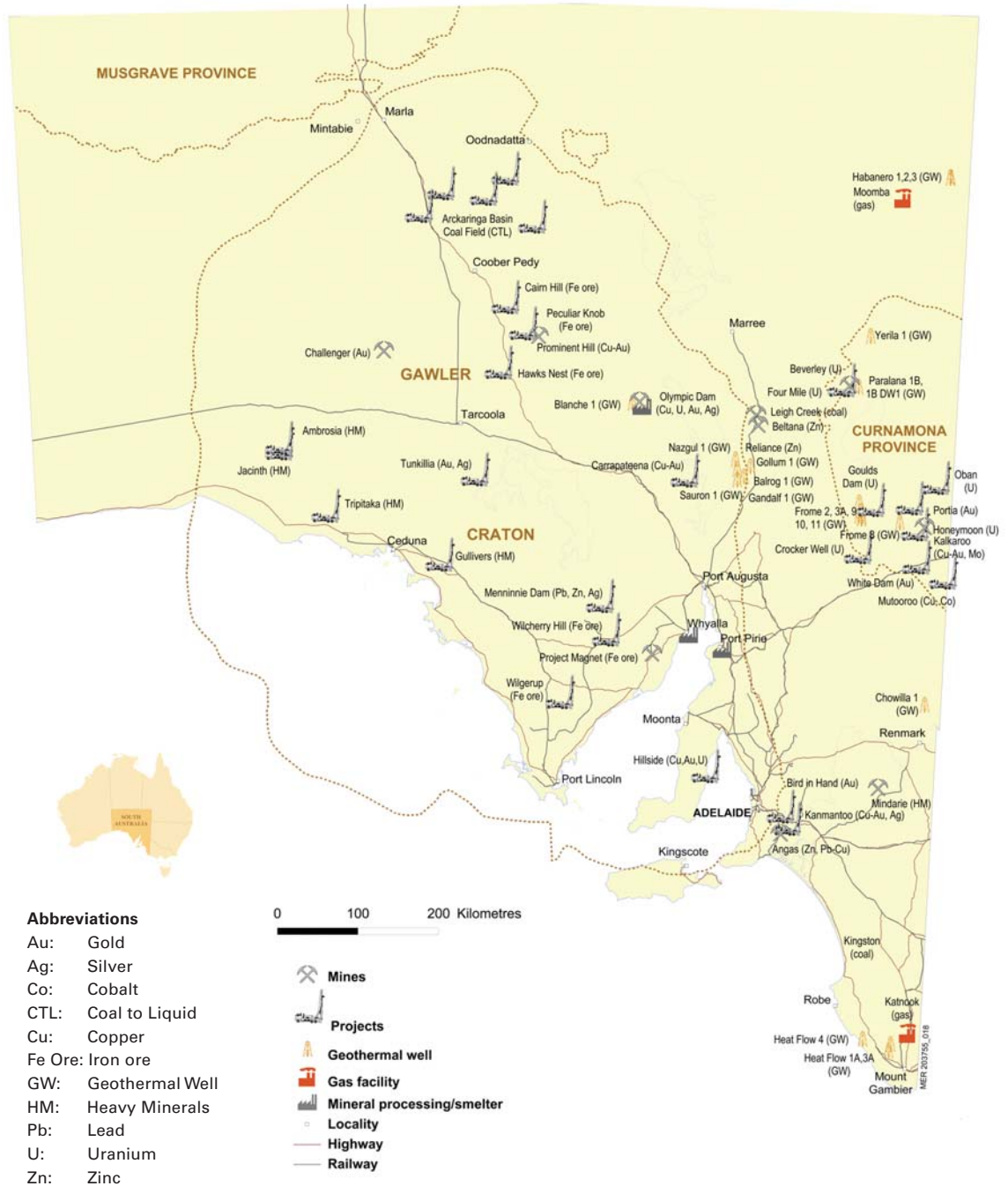


Sources: Australian Bureau of Statistics Australian National Accounts: State Accounts, Catalogue 5220.0 and EDB projections.
NB: GVA shares in chain volume measures.

3.2 The Mining Renaissance

The proposed expansion of Olympic Dam is very large⁴, but South Australia's mining revival is broad-based with some 30 new projects in prospect to add to the nine mines active in mid-2008 and just four in 2001. Many of them involve the same minerals as at Olympic Dam – gold, silver, copper and uranium – but there are also projects underway or awaiting final approval for iron ores, mineral sands, zinc, lead and cobalt. In the longer term some liquefaction and methane gas drainage schemes for the State's sub-bituminous coal resources are possible. The expanded mining menu is displayed in map form in figure 3.2.

Figure 3.2 South Australia's mines and energy projects current March 2009



⁴BHP Billiton states the expanded Olympic Dam mineral resource is the world's largest uranium resource, the fourth biggest copper and the fourth largest gold resource. The expansion is yet to receive board approval but direct employment of 4,000 people is envisaged when in full operation (BHP Billiton, December 2006).

South Australia has been in the mining business since shortly after colonisation. The well-respected SA School of Mines (now part of the University of South Australia) dates from 1889. Despite this history, the State's vast area was under-explored for mineral resources until government assistance in recent decades, most notably the Program for Accelerated Exploration (PACE) mounted in 2004, redressed the balance⁵. Helped by a background of strong commodity prices and new imaging technologies, the PACE initiative transformed activity⁶. In the year to September 2008 mineral exploration in South Australia accounted for more than 13 per cent of the national total, approaching the levels for Queensland⁷.

Minerals prices have fallen sharply since the global credit crisis ended the long economic upswing and slowed rampant Chinese growth. Some fear this will bring the State's mining revival to a premature end, but we believe such a conclusion is far too pessimistic.

Base metals prices ended 2008 higher on average than on most occasions in the past quarter century (in both US dollar and local terms). Prices for two other commodities high on the State's mining agenda – gold and uranium – are also still reasonably attractive. Further, both production and capital costs are likely to ease thus supporting profitability, with global economic cooling. While the global economy might be sluggish for some years, the fundamentals remain strong for the two most important economies in our region, China and India, whose medium-term growth will be sustained by urbanisation and industrialisation. The present acute credit squeeze disrupting trade and project finance will not continue indefinitely. Central banks around the world are working to return a degree of normality to credit markets. Ultimately they will succeed. And when recovery takes hold, history shows it could well come with a rush.

The start of many of the mining projects canvassed here may well be delayed by credit difficulties, but for the most part the issue is one of timing not abandonment. Only those projects dependent for their viability on cyclical peaks in pricing are likely to be dumped altogether.

While the demand for labour is especially strong during the construction phase, nowadays operating mines are not especially big employers. Typically, capital-intensive mining activity is conducted at three to five times the labour productivity level of the average non-mining undertaking. A stronger mining presence thus allows Gross State Product to rise for any given level of South Australia's workforce, levers up average real incomes and fills out the State's taxation base.

⁵In its 2008-09 annual survey, Canada's Fraser Institute rated South Australia tenth for mineral potential out of 71 jurisdictions assessed. The position is up from 36, six years earlier.

⁶Historically, new mineral deposits were discovered by fossickers with a pick and a mule. Much of South Australia's mineralization, lying beneath hundreds of meters of sand, remained invisible from them.

⁷Mineral exploration expenditures in both states were well beneath those in mining-dominated Western Australia. A measure of the SA surge is that the latest exploration expenditure total of \$343 million is nearly 3.5 times larger than the ambitious 2004 South Australia's Strategic Plan target of \$100 million by 2007 (ABS cat. no. 8412.0). More-detailed description of the mining (and other) projects discussed here is to be found in Major Developments SA Directory 2007 from the DTED (available at www.southaustralia.biz).

3.3 The Defence State

From small beginnings South Australia has built an important defence presence over recent years. Additional defence hardware manufacturing capacity and the relocation of a 1200-strong army mechanised battalion to Edinburgh in Adelaide's northern suburbs from 2011 will build on that base. These new major defence projects should add around half a percentage point to the level of GSP over the next five years⁸. Potentially as important, but not included in our scenarios, are interactions between the clusters in defined industry precincts to breed organic growth. Direct defence industry employment is now 11,135 people (1.4 per cent of total State employment) with 13,383 employed indirectly. The South Australian Strategic Plan targets a level of 28,000 (direct and indirect employment) by 2013.

Some defence manufacturing material is imported from elsewhere, which limits its direct contribution to GSP. But there are important indirect benefits to the State economy even in these cases. This heavily electronics-dependent industry yields strategic benefits and synergies to other, non-defence enterprises by creating a critical mass of high-tech workers⁹, and aids competitiveness through the pool of technical support and advice.

The defence industry has five broad arms, all of which are growing:

- Operational activities, including the RAAF base at Edinburgh for military exercises and defence surveillance, an adjacent mechanised army battalion to be added in 2011, and coastal customs patrols from Adelaide airport since January 2008.
- Defence manufacturing production, including naval shipbuilding and aircraft components, to which the large Air Warfare Destroyer project is now being added.
- Maintenance and upgrading support for operating units, including those outside South Australia.
- Administrative support for Australian and global regional headquarters in Adelaide.
- Centres for defence-related training, research and policy, including the national Defence Science and Technology Organisation (DTSO) based in Adelaide.

⁸An average of 0.1 percentage point to annual growth during the period.

⁹Nearly half those employed are professionals (architects, engineers, systems and software designers, programmers and business professionals).

Case Study: Air Warfare Destroyer Systems Centre

High-end personnel: More than 350

Securing the \$8 billion Air Warfare Destroyer program will have a transformational impact on South Australia and extend the State's already impressive defence credentials.

The project will inject an estimated \$1.4 billion dollars into South Australia's economy over the next 10 years and create about 1500 direct and indirect jobs in the state.

Driving the project is the Adelaide-based AWD Systems Centre, the national headquarters responsible for the design, development and delivery of the three Hobart Class ships to the RAN.

South Australia attracts defence industry elite.

Managing a defence project of such a size and complexity as the Air Warfare Destroyer program requires high-end personnel who are the best in their field.

The AWD System Centre has employed more than 350 such people from around the world, bringing together experts from multiple disciplines in defence and industry.

It houses personnel from the AWD Alliance – the Commonwealth, ASC AWD Shipbuilder Pty Ltd and Raytheon Australia Pty Ltd – as well as Navantia, Lockheed Martin Corporation, Bath Iron Works and the United States Navy.

Their expertise covers a broad range of areas, including naval architects, warship design, systems integration and project managers.

Potentially as important as the direct employment opportunities, the Air Warfare Destroyer project will also bring extensive indirect benefits to the State economy. This heavily electronics-dependent industry yields strategic benefits to other, non-defence enterprises by acting as a complement to existing and potential non-defence manufacturers and service providers, encouraging them to compete more effectively in an increasingly electronics influenced trading market in the knowledge that problem-solving technical support and advice is available close to hand in their capital city.

The State Government is backing its commitment to the AWD project by spending more than \$300 million in infrastructure to develop a world-class industrial precinct at Techport Australia.

This long-term investment will help capitalise on the enormous growth potential flowing from the AWD program.

The precinct includes common user shipbuilding infrastructure, a fully integrated supplier precinct and a commercial campus. The AWD System Centre will relocate from its temporary facilities in Felixstow to a new, state of the art facility at Techport Australia in 2010.

The State's efforts have been aided by the creation of three large precincts, within short driving distances of each other, in which much of the defence-related activity is located.

- Techport Australia, with construction now well underway, is located at Osborne on the Port River for naval shipbuilding and related industries.
- Edinburgh Parks Defence Precinct in the northern Adelaide suburbs is the home of the DSTO, RAAF Edinburgh, the coming mechanised battalion group and many companies focused on the aerospace and land environments.
- Technology Park Adelaide at Mawson Lakes, the State's high-technology precinct, is now becoming the focal point for defence industry and university research and training in defence electronics and systems engineering and integration.

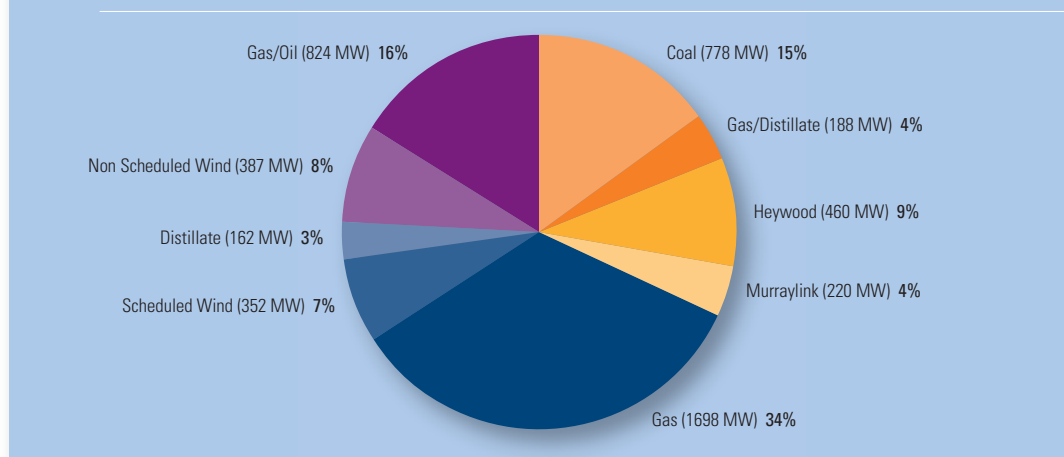
Other defence-related activities are located elsewhere in Adelaide and at the Woomera Test Range in the remote north west of South Australia.

3.4 Energy¹⁰

The electricity industry is in a huge state of flux as climate change policies, impending industrial projects and an emergence of new technologies combine to produce extreme uncertainty for costly, long term investment decisions. The Commonwealth Government has announced extended renewable energy requirements and a carbon emissions trading scheme to commence in 2010 as key elements of climate change policy. The State will need new energy supplies (more in the next chapter), but the natural reaction to uncertainty is to delay commitment as long as possible. South Australia has traditionally been saddled with high-cost energy relative to its interstate competitors. However, our lower carbon intensity and leading position with renewables could see the relative disadvantage reduce as national energy prices rise.

South Australia has a diverse range of privately-generated electricity sources of which no single source dominates. Seventeen generators (some with dual fuel capacities) supply a mix of coal, gas, diesel and wind-powered electricity into the State system. In addition the State is integrated with Victoria through the Heywood and Murraylink¹¹ interconnectors to a maximum of 680 MW in either direction. Nameplate capacity of the State system as at mid-2008 is around 3,990 megawatts (MW) which means some of it is not consistently deliverable¹².

Figure 3.3 Electricity capacities by fuel source, 2007-8



Source: Electricity Supply Industry Planning Council, *Annual Planning Report*, June 2008, p. 106.

¹⁰This section draws extensively on the June 2008 Annual Planning Report of the State's Electricity Supply Industry Planning Council (available at www.esipc.sa.gov.au) where further information can be obtained.

¹¹Nameplate capacity refers to the full load continuous rating of a generator.

¹²Half the time only a little over 20 per cent of nameplate full capacity is available from wind generation.

A wide variety of alternative energy generation methods are operating or under active consideration in South Australia. Some forms are yet to be proved practical, while others are not yet commercially viable. This could change in response to new carbon pollution reduction measures and likely future changes to gas pricing. Should some of these alternatives come to fruition South Australia would be well resourced.

South Australian wind farms already provide one of the three highest penetrations of wind generation with respect to installed capacity worldwide¹³. However, wind variability creates a series of problems for electricity supply. Two are now critical.

- **Transmission capacity:** When the wind blows transmission lines must carry the electricity generated, though they will be under-utilised when the air is still. Previous transmission slack appears to have been exhausted by the rapid development of this form of generation.
- **Interconnector capacity:** Just a few years ago the interconnectors with Victoria mainly carried electricity into South Australia to meet peaks in demand, but nowadays bursts of South Australian wind generation have balanced out the traffic as well as dissipating variability in a much larger pool.

Critical economic decisions must soon be made on whether expensive new investment in upgraded, peak-capacity transmission lines is economic before wind generation can be expanded much further, and whether the interconnector links are to be strengthened.

Large parts of South Australia contain attractive geology for generation of geothermal energy and 23 companies have geothermal exploration licences in the State. The most advanced, Geodynamics' Habanero Wells is scheduled to supply small quantities (1MW) to itself and the nearby small township of Innamincka this year. A 50MW plant is proposed for 2011 and, if commercially successful, could readily be replicated (to ten 50MW plants). These pilot projects will not contribute significantly to the State's future energy needs in the near term. However, should this resource prove to be fully deliverable, the potential contribution to South Australia and Australia could be very significant. Solar and wave energy are also under long-term consideration.

¹³Electricity Industry Supply Planning Council, South Australia.

Case Study: Geodynamics – geothermal energy

Current equity raised: \$320 million

Energy target: 500MW installed capacity by 2016

Geodynamics is entering the next critical stage in its development of exciting new clean energy technology with the commissioning of a 1MW geothermal pilot plant in South Australia's outback.

The project has focused international attention on the State which has taken a world lead in the development of hot fractured rock (HFR) geothermal energy production – a low cost, zero emission response to climate change.

Turning South Australia's outback into a clean energy hub

Since 2002 Geodynamics' HFR project has secured more than \$320 million in equity and several cornerstone investors – Origin Energy, Sentient, Sunsuper and Tata Power.

Their interest is an indication of the great potential of the hot rock resource, with current estimates showing it has the potential for generation capacity in excess of 10,000MW.

This level of interest from the private sector is also a strong positive indicator that geothermal energy is a realistic option for the relatively short term.

Geodynamics is now in the process of proving technology capable of turning the heat into electricity.

Investor funding enabled Geodynamics to purchase Rig 100, Australia's largest onshore heavy duty drilling rig which has sunk three deep wells since its delivery in 2007. This is the first step towards commercialising the vast renewable energy source that lies hidden under the Cooper Basin.

An additional, more powerful rig is currently being constructed, rigged up and commissioned in Canada. The new rig, along with Rig 100, will provide the drilling resource capacity required for the proposed 50MW power station.

The 1MW pilot plant is now scheduled to begin powering the local township of Innamincka by mid 2009 and will open the way for the 50MW commercial demonstration plant. Geodynamics then aims to embark on rapid expansion with multiple 50MW commercial modules producing 500MW by 2016.

The potential benefits of the project for South Australia are far reaching. Geothermal will provide a direct substitute for polluting baseload coal plants and open up South Australia mineral resources which are slow to develop without grid power.

Case Study continued

Transmission infrastructure will eventually connect SA with New South Wales and Queensland to create a true electricity grid and overcome the State's stranding issues.

The State is supporting progress by making PIRSA the Government's gatekeeper for the project – a single point of contact to coordinate regulatory approval.

There are still technical and infrastructure issues to be addressed, but Geodynamics is hopeful of securing Commonwealth Government funding which will help move the project from the pilot and proof of concept phase to commercial demonstration.

The size of the hot rock resource is massive and the quality and potential is proven. Geothermal power production will enable South Australia to become the renewable energy hub of Australia.

Alistair Webb
Commercial Manager
Geodynamics

The staple fuels of late 20th Century South Australian electricity generation, Leigh Creek sub-bituminous coal and Cooper Basin gas, are in continuing decline. Gas imports by pipeline from Victoria have exceeded Cooper Basin supplies since 2006 (with Queensland methane now on stream), and the search is on for alternatives to Leigh Creek to extend the life of coal power stations, and various proposals have been made¹⁴.

In this light one thing is certain; large investment in energy production will be required over the next decade but we do not know what form this will take. Accordingly, little of the coming surge in energy investment is reflected in our calculations.

¹⁴South Australia does possess large reserves of quality bituminous coal in the Cooper Basin, but they are uneconomic to extract as black coal (too deep and too distant from markets). There are also other deposits of sub-bituminous coal around the State. Depending on the course of global oil and gas prices these could be extracted also as coal seam gas or liquefied into diesel.

3.5 Economic Infrastructure

Nearly all of the economic infrastructure projects underway have been treated as "business as usual" projects for modelling purposes, along with the regular flow of "social infrastructure" expenditures. However, two projects of abnormally large scale — the new Northern Expressway and the water desalination plant at Port Stanvac — are included in our major projects list.

Work is already underway on the Northern Expressway which will upgrade the road links into Adelaide and Port Adelaide from the Riverland, providing trunk routes to and from eastern Australia. The project is expected to be completed by the end of 2011. Work on the Port Stanvac desalination plant is underway with a pilot project completed successfully and main construction due to start early this year for completion in 2013-14.

These two projects have a combined headline capital expenditure tag in the vicinity of \$2 billion. Over the period to 2012-13 they will be worth the equivalent of 2.75 percentage points of annual GSP with peak levels of activity in 2009-10 and 2010-11. The two projects might add 0.14 percentage points to this year's GSP growth, another 0.5 percentage points in 2009-10 and a further 0.3 percentage points in 2010-11 as expenditures peak.

3.6 Construction under Capacity Pressure

A silver lining from the global financial crisis is the near-term relief it gives to the State's construction industry. Without the project delays imposed by global adversity it is quite likely the sector would have been unable to cope, spilling inflation and competitive dangers through the State. Construction remains in a favoured position and all the stronger for the extra time now allowed for adjustment to higher operating rates. But the future is uncertain: exceptionally strong demand could arrive with a rush when the appetite for risk returns to the globe.

An impact is already apparent in published data (figure 3.4). The three broad divisions of the industry — housing, non-residential building and engineering construction — have provided between 5 and 7.5 per cent of total State employment (around 56,000 workers) over the past 20 years. Our central scenario still envisages strong demand ahead and by 2014-15 we project the construction share of State GSP will be 7.9 per cent¹⁶.

A distinctive feature of the construction sector is the pervasiveness of sub-contracting. Around two-thirds of all firms are self-employed businesses, while the large companies operate with very small permanent staff. It is predominantly a male industry, over half of whom are trade-qualified. The nomadic nature of the business poses distinctive challenges for training, which have been met on an industry basis. New apprentices and trainees have increased more than fivefold in the last decade, with a particularly large increase in the last five years. More will be needed.

¹⁶In the mid-1960s the share was larger at around 8½ per cent.

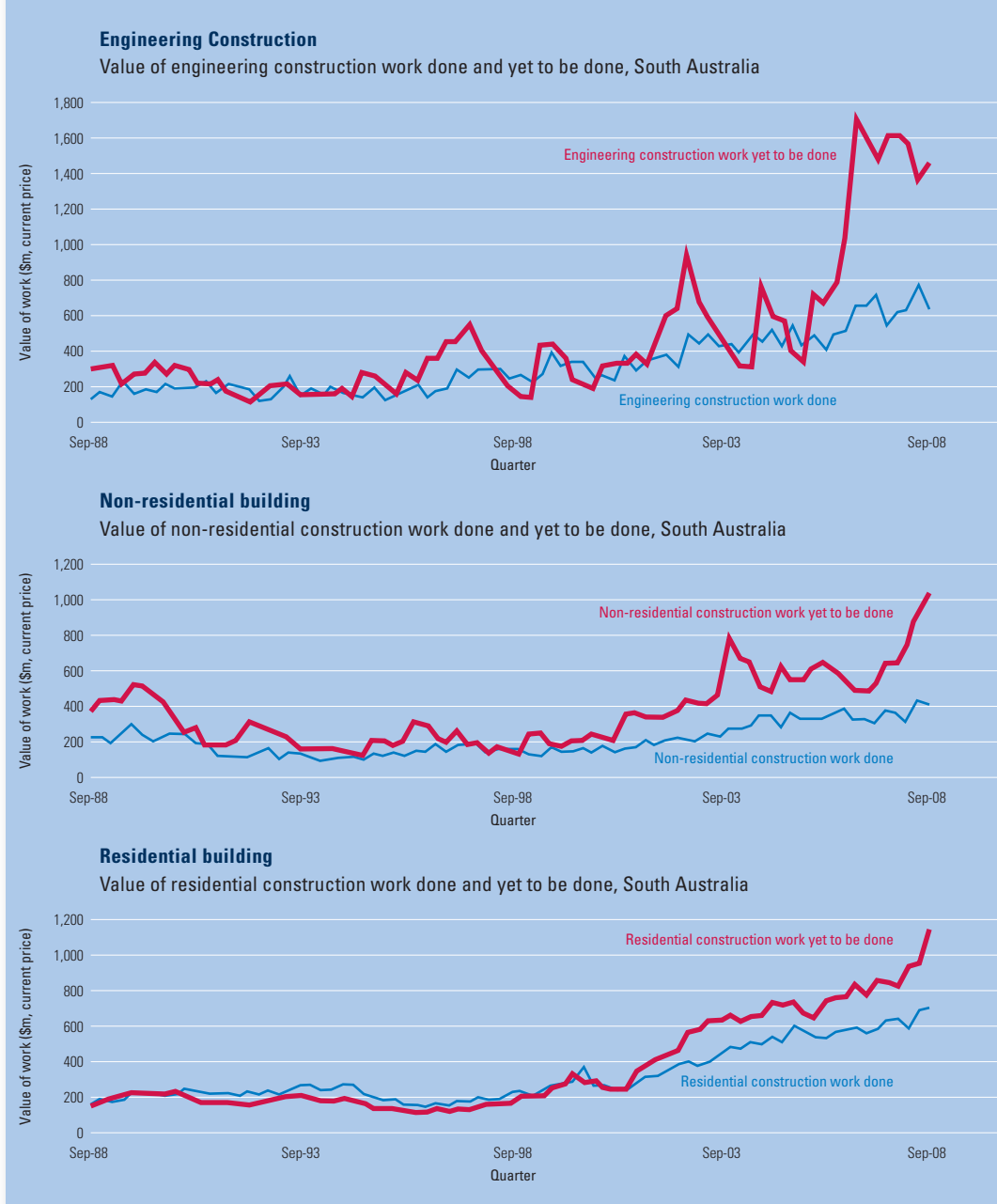
The civil and engineering sector will drive the overall expansion in the construction industry with smaller but still significant contributions from the residential and non-residential sectors. The pipeline of work in the civil and engineering sector has increased in recent years more sharply than for other construction sectors and future projects will continue this trend.

All three broad sectors are under strong pressure to increase production capacity. The housing industry regards annual production of around 11,000 units as "capacity"; yet starts in 2007-08 exceeded 12,000. Continuing population growth at rates seen in recent years will force reconsideration of the cottage industry's capacity limits, for new dwellings, demolitions and re-developments. Urban planning issues are discussed further in chapter 7.

Similar capacity pressures are being faced by the non-residential construction industry. Continuing high levels of activity are expected in 2009 and beyond with South Australian Government infrastructure projects, including the new Royal Adelaide Hospital, and major resource and defence projects adding to normal commercial renewal and expansion. Industry estimates of future capacity in 2009 and beyond suggest significant pressures are looming.

In short, whether construction can respond to coming pressures is critical to State growth prospects being realised. The present global slowdown gives some breathing space, but the issue of capacity constraints on the construction sector has not gone away. Our central scenarios envisage a compound annual real growth rate of 5.3 per cent. This is an aspect of State development that needs critical attention.

Figure 3.4 SA construction work done and yet to be done



Source: ABS 8726.0

3.7 Services

That amorphous collection of activities called "services" provides the majority of South Australian employment (73 per cent) and output (58 per cent). Services account for a growing share of advanced country activity and are geographically favoured by rising Asian incomes, but South Australian service activities under-perform the nation virtually across the board.

Services traded across borders are primary drivers of economic growth while ancillary services (like hairdressing and gardening) are dependent on the general health of the economy to grow and prosper.

Traded services meet markets interstate as well as overseas, though very little is known about the former. In 2007-08 South Australia earned \$1.9 billion in international services exports, up 69 per cent over seven years. This is a non-trivial amount and a healthy rate of increase, but it represents just 3.7 per cent of national service exports, well below South Australia's weight in the national economy. The State has maintained a heavily underweight position in one of the high-growth areas of economic activity. By way of example, defence has potential strengths in this area, especially R&D, test and systems engineering.

Under-performance is widespread. In only two of the broad industries listed in table 3.2 – communication services and personal, cultural and recreational services – does the State export more than the national average, and both are rather small components within the services total¹⁷. Research and development services have a 6 per cent share of the Australian total, and education 5.4 per cent, both close to but still below the national average.

Table 3.2 Services export receipts, 2007-08

Industry	Australian exports (\$m)	SA Exports (\$m)	SA share of national total (%)
Transportation services	9,394	253	2.7
Travel services			
Business	2,710	112	4.1
Personal education-related	13,726	741	5.4
Other (largely tourism)	11,994	482	4.0
Communication services ¹⁸	746	102	13.7
Construction services	115	-	0
Insurance services	724	-	0
Financial services	1,036	-	0
Computer & information services	1,545	3	0
Royalties & licence fees	752	14	1.9
Other business services		119	1.7
Merchanting	283	np	
Other trade-related services	687	np	
Operational leasing services	86	-	0
Professional services	1,445	np	
Research & development	553	33	6.0
Architectural, engineering & other technical services	1,675	18	1.1
Agriculture, mining & on-site processing	381	np	
Services between affiliated enterprises, nei	1,244	11	0.1
Other	665	16	2.4
Confidential items – other business services		41	
Personal, cultural & recreational services		87	12.3
Audiovisual & related services	214	np	
Other personal, cultural & recreational services	496	np	
Government services, nei	848	-	0
TOTAL	51,319	1,913	3.7

Source: ABS. NEI is not elsewhere included, NP is not provided due to confidentiality restrictions. Communications services incorporate other services not elsewhere included.

¹⁷The communication services position is obscured by incorporation in both State and national data of a residual "other services not elsewhere included" component. There is little reason, however, to believe that this inclusion is responsible for the State's rare above-average status.

Elsewhere the returns are either non-existent or insignificant. In some cases the State is not well-positioned to make a change – “government services” are largely earnings from national embassies and consulates, while financial and insurance services are heavily concentrated in Sydney and Melbourne¹⁸. But “other business services” earnings are disappointing. Excluding research and development, the State's export earnings from this area amount to a mere 1.3 per cent of the national total¹⁹.

Business services are not extinct species in South Australia. There is some representation in most of the categories, but examples of strong presence or strong growth are few. Two of the nation's leading architectural practices were founded in Adelaide (Woods Bagot and Hassell), but the international work conducted out of the city these days is meagre. A range of new endeavours in environmental sciences, biotechnology, defence, agribusiness and mining show promise.

Box 3.1 South Australian Services Exporters Directory

A recent directory of South Australian service exporters shows:

- About two thirds of South Australian service exporters have less than 20 employees and only ten per cent had more than 100 employees.
- The largest 15 per cent of firms accounted for 50 per cent of all exports.
- For the business and professional services sub-grouping there is a much more even spread of different size companies and export revenue is much more evenly spread over the company size categories (i.e. larger proportion of exports generated by medium-sized firms).
- Markets of most interest to South Australian service exporters (excluding education and tourism) are the United States (by far), the United Kingdom, China (including Hong Kong) and New Zealand.

South Australia has increased its share of national education-related services over the past five years and the sector offers the promise of making a significant contribution to future state economic prosperity. However, currently receipts in this sector are well below our per capita share.

Further, some of the best high-end service opportunities will almost certainly come from manufacturing sector demand. Many parts of manufacturing are high users of sophisticated services and the manufacturing sector accounts for the bulk of industrial research and development, mostly with a technical emphasis. It makes sense to regard the development of high-end services as a complement to, and not a substitute for, an advanced manufacturing sector (as is the case in the above mentioned sectors). The EDB believes strongly that a concerted effort must be made by policy makers to better understand services and to implement measures to promote their growth. To this end, decision makers must have reliable quantitative information. The recent creation of an industry directory of service exporters was a good start, (Box 3.1) but the work remains well short of what is needed²⁰. This effort must be renewed.

In view of the limited data available on the services sector, the EDB recommends that Government takes steps to map South Australia's strengths and weaknesses in traded services, and work with industry to facilitate services export growth by removing barriers. The EDB would welcome a role in overseeing this work.

¹⁸However, interstate exports (of unknown amount) are earned in financial services through Adelaide-based listed investment companies. Elsewhere both Boston and Edinburgh are strong examples of financial centres thriving outside their main cities.

¹⁹While not strictly comparable, national accounts data deliver a similar message of considerable State underperformance in this area. By 2007/08 the proportionate share of SA GSP accounted for by “property and business services” gross value added had grown by just over 13.0 per cent since 1989/90 to 1991/92 (the first three years of state GSP accounts). By contrast over the same period the sector's national share of GDP has grown by 19.8 per cent, more than half as large again as the proportionate increase in SA. The data are doubly damning since the sector's national share was a fifth larger than in SA at the outset.

²⁰South Australian Government and Australian Services Roundtable, South Australian Services Exporters Directory (draft) July 2007

3.8 Agribusiness

Agribusiness includes farming, fishing and forestry. It has been a staple of the State economy since colonisation, and accounts for a greater share of output in SA than every state except Tasmania. South Australia's agricultural production provides the base for secondary-level wine and food production now taking over from machinery and equipment as the leading manufacturing activity. But the relative importance of agribusiness to the State has been declining, so that now it accounts for around 6 per cent of GSP. Our scenarios project a further proportionate (though not absolute) decline to 2014-15.

However, agribusiness in South Australia is blessed with advantages that are growing in importance. Markets are drawing nearer to the State as Asian incomes grow and advances in communications and transport are reducing the difficulties (and associated costs) of meeting these markets. These same cost reductions are sharpening seasonal advantages conferred by our being in the southern hemisphere. Our farmers are well experienced in producing under arid conditions and our products have a growing reputation for integrity in an increasingly polluted world. Most importantly, the State has many outstanding agribusiness individuals who know how to capitalise on these advantages.

In principle the opportunities opening up are capable of rivalling those in mining and defence, but we have not projected realisation of this potential over our timeframe. For it to be achieved, a "whole-of-value-chain" focus must be developed and adopted by farmers across the sector²¹; and farm sizes must rise²². These are major structural and attitudinal shifts.

Resources, including labour, will not be drawn to agribusiness unless activities are profitable enough to support high rewards, and profitability will only be achieved if production is conducted efficiently, and attains a scale required to support market intelligence on what is in demand around the globe.

There have been successes, notably in tuna aquaculture and wine grape production, but restructuring is difficult without community acceptance and support. Subsidies and licences granted decades ago and capitalised into land values, benefit inherited wealth but not today's rate of return.

A new spur to change is the widespread fear that insufficient water will be available to support agribusiness expansion. The Garnaut report sees South Australia especially at risk both in terms of the severity of the likely rainfall and temperature outcomes and lost production from unchanged carbon emission practices. Garnaut's best estimate is that unchanged practices will lead to loss of half the irrigated output from the Murray-Darling by mid-century, while South Australian wheat production will be amongst the worst affected in the longer term even though initially favoured by higher carbon dioxide concentrations²³.

These formidable challenges have already generated intense community discussion of water trading, rights and practices. The EDB believes the State's agribusiness future is a matter of choice and is potentially an economic trump, but tough decisions are unavoidable. With the stakes raised by climate change, another hard look at the shape of South Australia's agricultural future is needed.

²¹The recent report by Thinker in Residence Andrew Fearn is the latest in a long line of reports to make this vital point. In this sector, "from paddock to plate" is one expression on this focus – the need for producers to understand what happens to the fruits of their labours after it goes out the farm gate, the better to produce product that meets the final needs of consumers.

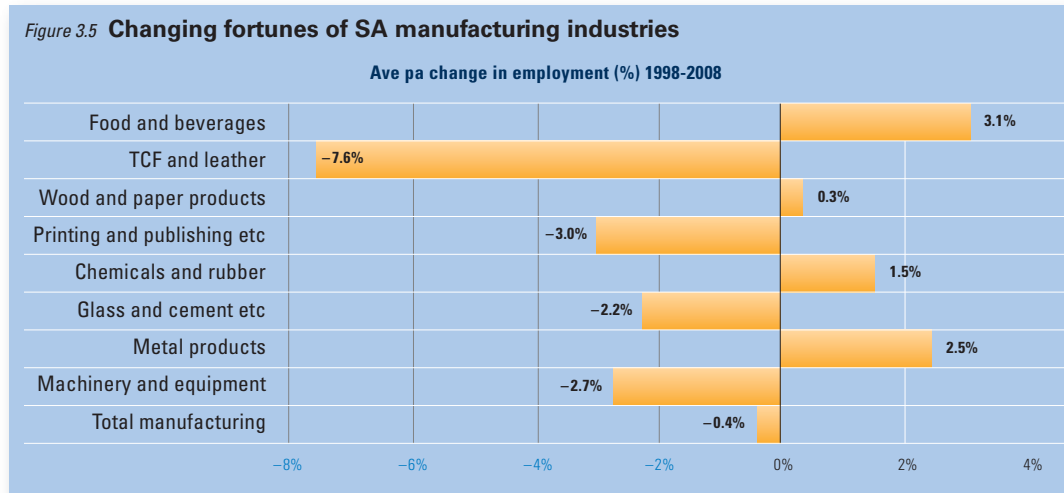
²²In common with the rest of Australia the typical farm is about a tenth of its optimum size often with nearly double the unit costs of production achieved by best-practice producers.

²³See especially chapters 6 and 7 of the Garnaut Climate Change Review Draft Report, June 2008.

3.9 Manufacturing

Over recent decades manufacturing has been both a leading export sector and a source of great concern over its ability to withstand global competitive pressures. The sector employed about 95,000 South Australians in August 2008 - 12.2 per cent of the State's total employment, involving about 7,500 firms²⁴. Manufacturing employment has been broadly constant over the past decade, but fell as a share of the State total as job gains occurred elsewhere²⁵. The developing mining, defence, energy and construction surges will bring extra work to the manufacturing sector, offsetting the loss of car industry jobs and supporting organic growth in areas such as precision engineering and bio-medicines.

Manufacturing incorporates substantial activity sometimes attributed to other industrial sectors. Thus a third of all manufacturing workers are employed in food and beverage manufacturing and wood and paper products that many consider agribusiness; and a further sixth work in steel mills, smelters and refiners closely related to mining. What distinguishes South Australia is that one quarter of its manufacturing employment is in the machinery and equipment industries. Of these just over 9,000 (around 10 per cent of manufacturing employment and 1.2 per cent of State employment) now work in the car and parts industry, including 3,400 at General Motors Holden.



Source: ABS Labour Force Survey cat No. 6291.0. Employment figure are year to August with changes expressed as compound annual growth rates.

Figure 3.5, updated from a recent Manufacturing Consultative Council (MCC) report, shows the mixed fortunes of South Australian manufacturing industries over the past decade. What stands out initially is losses suffered by the clothing trades (TCF) and machinery and equipment, both victims of globalisation and currency, and the impact of the electronic revolution on printing industry jobs.

Pressures from globalisation will not disappear, but the global recession and diminution in risk appetite has brought with them a collapse in the Australian dollar. Writing in August 2008 ahead of these trends becoming plain, the Manufacturing Consultative Council saw new demand for its industries spinning off from mining and defence developments. Noting manufacturing developments in the two major resource states of Western Australia and Queensland, the Council foresaw a net gain of 6,000 South Australia manufacturing jobs by 2020 if the State could go half way towards matching their performance. Our own scenarios for manufacturing output and employment growth are considerably weaker than the MCC's aspirations. Some strong spin-offs will be required to bridge the gap.

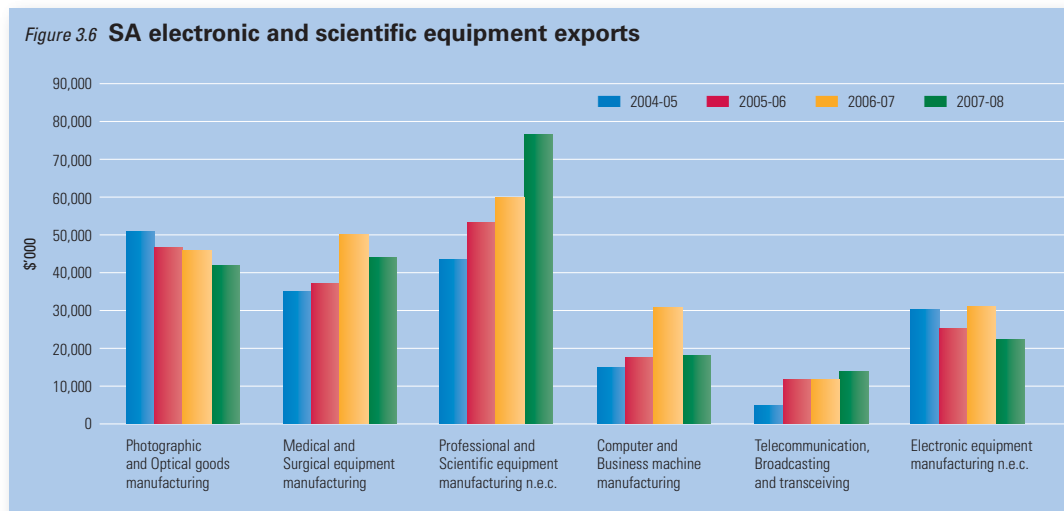
²⁴ABS Labour Force, Australia, Detailed, Quarterly, August 2008 Cat. No. 6291.0.55.003 SuperTable E-06

²⁵The sliding manufacturing share of South Australian employment mirrors similar movements at the national level. A five-year moving average of the SA share has been consistently close to 2 percentage points higher than its national equivalent for the past decade, and is currently (2.2 points) near its highest point for the period.

We agree with the latest MCC report that *"it is pointless to try to compete with low-wage countries on standardised products. Manufacturers in industrialised nations must compete on knowledge throughout the entire supply chain of products, processes and services"*. To this end State Government policy is directed towards providing advice, support, marketing information and geographic clusters or precincts where manufacturers can learn from each other's experiences²⁶.

The EDB believes this approach should continue. But no amount of encouragement will breed success unless the basic products are in demand. What is South Australian industry now good at producing? This is not a question about picking winners – industry will gravitate towards what is profitable and leave the rest. That said, some broad observations can be made.

South Australia has a rich engineering past that will continue into a future augmented by stronger mining and defence presences. Though operating until recently under a high dollar, engineering had already broken new ground. Figure 3.6 shows electronic and scientific equipment exports from the State in recent years. At around \$200 million in 2007-08 these are still small by comparison with vehicle exports, but it is notable that they held their ground against currency adversity. There is a cluster of electronic manufacturers listed on the State database, with a growing capability in medical and scientific equipment manufacturing.



Source: ABS Unpublished data.

Another area of capability is pump compressing manufacturing with 49 local producers listed²⁷. Shipbuilding and mining developments will provide natural strength to their markets, as will a keener focus on water supply developments arising from climate change. It is important to maintain attention to rapidly growing Asian markets. Water is another growth area – long experience with very dry conditions has bred local expertise in water solutions. Exports of water technology and services from South Australia have grown over the past decade from \$25 million to nearly \$400 million²⁸.

²⁶A full description of these measures is contained in the MCC report, *Manufacturing A Sustainable Future: A Transformation Strategy for South Australian Manufacturing*, August 2008.

²⁷These company numbers have been taken from the Industry Capability Network database established to provide purchasers with a free sourcing service to identify Australian producers capable of supplying items that might otherwise be imported. The database has been used as a source to analyse the capacity of the manufacturing industry at a detailed industry level.

²⁸Estimate from Joe Flynn, CEO of the industry umbrella organisation, the Water Industry Alliance.

4 Addressing Growth Challenges

Sustained growth at 3 to 3.5 per cent a year over the next seven years is envisaged in our projections. This represents a marked step-up in the pace South Australians have become accustomed to in recent decades. Can the State handle the higher tempo? We think so; but such growth might push the limits of what is achievable. The growth challenges considered are substantial, and failure to tackle them means growth opportunities foregone. A failed growth ambition could also see the disappearance of some traditional South Australian activities. A lot is at stake.

Where will the labour, energy and water come from to service growth? And will that growth stymie our carbon pollution reduction goals? The constraints are not absolute: there is always a solution at some price, but it may be high. In these four crucial areas there is a danger that growth will strain the State's resources leading to inflation that squeezes out existing activities through competitive pressures. A boom in some sectors of the State economy might suck up available labour or water or energy leading to shortages and inflation in the ensuing scramble for resources. This 'crowding out' could place pressure on everyday business, and there is no doubt it would occur with very strong growth.

There are other obstacles to growth. Availability of land, transport infrastructure, broadband connectivity and social facilities and cohesion amongst others are all possible stumbling blocks. These are important and we comment on them in later chapters. In this chapter our focus is on the four key growth challenges: labour, energy, water and carbon pollution

The EDB believes sustained State growth at 3 to 3.5 per cent is manageable. Each one of the growth challenges can be met and surmounted. Every one of them can be addressed and alleviated through sound policy responses.

4.1 Providing Labour

Simple arithmetic conveys the nature of the problem. The State's working-age population has been growing only slightly more than 1 per cent a year (figure 4.1). At that rate output expansion of 3 to 3½ per cent a year would require sustained labour productivity growth (the gap between output and employment growth) of over 2 per cent a year. Less than this and the State would eventually run out of labour. The participation rate¹ could rise from current levels – we think it can and will under concerted policies. Current trends suggest that sustained productivity growth at 2 per cent is improbable over coming years, even with implementation of the important measures canvassed in Chapter 9².

However, at the macroeconomic level there is some scope for adjustments to be made to meet this challenge:

- **More use can be made of existing South Australian labour.** In 2008 South Australia's unemployment rate hit a low of 4.7 per cent; Western Australia's low was 2.7 per cent; and, Queensland's 3.6 per cent. This interstate evidence suggests some slack in the State's labour supply exists even at the recent low point of unemployment, and especially if the skill levels of those at the margins of the labour force are improved. Also, decades of sub-par performance caused the State's participation rate to stay below the national average (figure 4.2). Both have been recovering in recent years but State outcomes still trail the nation. There is clear scope to unwind these gaps. While there are finite limits, raising participation and skills provides a critical resource to meet the challenges of growth over the medium term³.

¹The participation rate is the percentage of the population aged 15 and over working or actively seeking work.

²As noted earlier labour productivity in mining is normally a multiple of that on average elsewhere, so that the compositional shift of activity towards the sector should carry with it a lift in State-wide average outcomes as the step-jump is made. However, the big shift to mining is more a feature of the second than the first half of next decade leaving the problem of the labour gap unresolved in the interim.

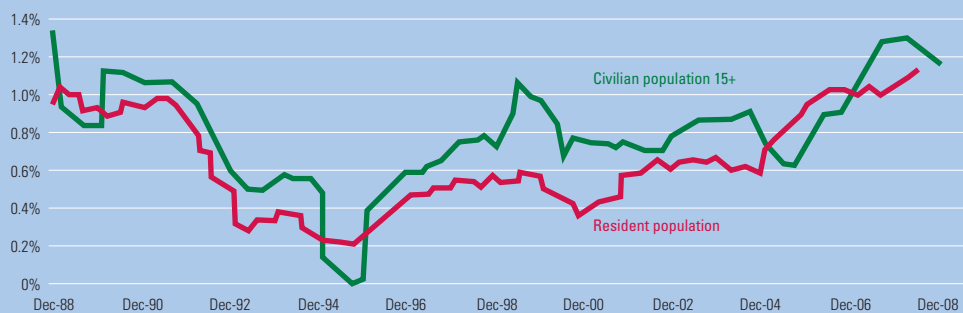
³An EDB employment participation rate target for the State of 78.0 per cent is canvassed in chapter 8. Indigenous participation is well placed to benefit from mining developments in the north of the State.

- Migration outcomes can be strengthened.** Migration, with pushes and pulls in both directions, is very sensitive to growth and labour market performance. When State labour markets come under pressure migration (interstate and overseas) always responds. Experience in Western Australia (Figure 4.3) is instructive. Following the onset of the mining boom in 2004 a net interstate migration similar to that now apparent in South Australia was reversed and overseas migration increased strongly⁴. While both effects took some time to build they appear durable.

The EDB believes these sources of additional labour input – participation, skills and migration – mean that sustained GSP growth around 3 to 3½ per cent on average over the next seven years should not strain State capabilities. There is enough room within the arithmetic to allow realistic expectations of sustained employment growth above 2 per cent annually, but a faster expansion would be ambitious and put a strain on the expected capacity of the State's education and training system.

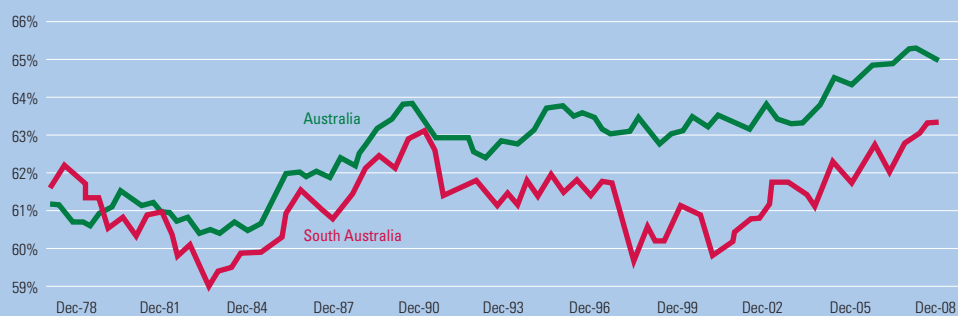
While sufficient numbers of people can be found to meet the likely new jobs, they need to have the right skills and be in the right places. Our industrial projections (table 3.1) suggest particularly strong expansions in construction and mining, two industries with distinctive employment and skill requirements. There will also be strong replacement demand for skills as an ageing population and decades of slow growth catches up with the State labour market⁵. The young people attracted to South Australia in the last vibrant economic era 40 years ago are now retiring.

Figure 4.1 South Australian annual population growth



Source: ABS *Australian Demographic Statistics* (cat. no. 3101.0). Data charted are annual percentage changes.

Figure 4.2 Labour force participation

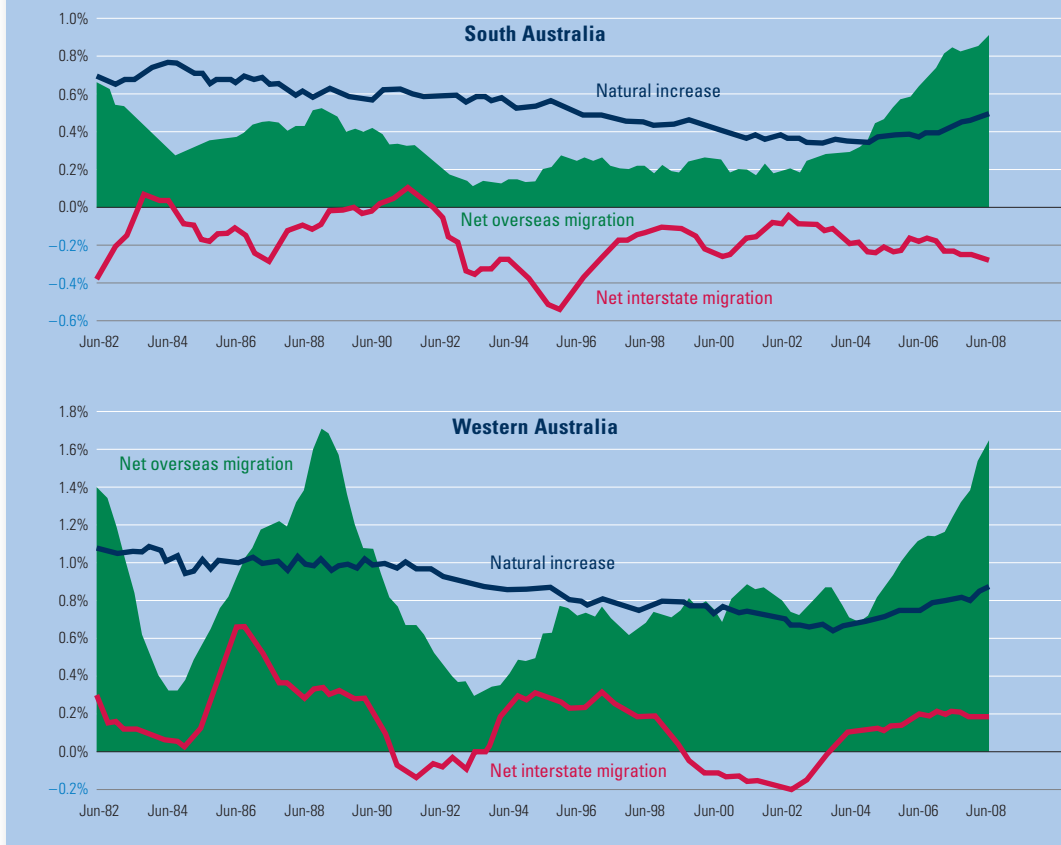


Source: ABS, *Labour Force* (cat. no. 6202.0). Data charted are trend participation rates as % of the civilian populations aged 15 and over.

⁴Crude inspection of the chart suggests WA population growth benefited from the boom by the order of 1.2 percentage points a year. A reversal of net interstate migration contributed 0.4 percentage points to annual population growth (from -0.2 to +0.2), while net overseas migration added another 0.8 points (increasing from 0.6 to 1.4 percentage points).

⁵EDB *Review of Skills and Workforce Development*, 2008

Figure 4.3 Contributions to annual population growth

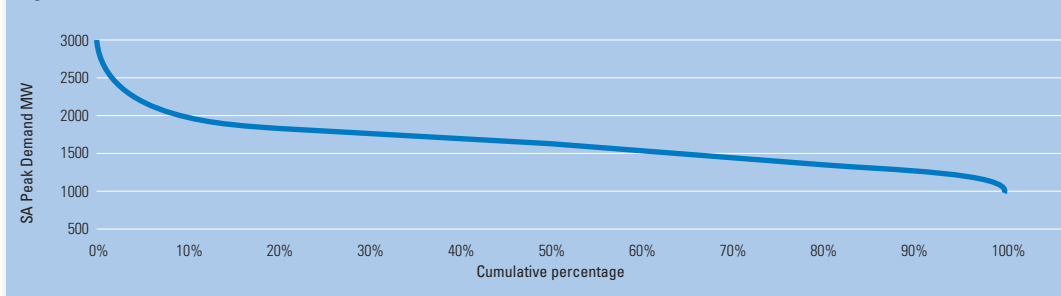


Source: ABS Australian Demographic Statistics (cat. no. 3101.0). Data are percentage point contributions to annual population growth.

4.2 Providing Energy

Energy is a distinctive collection of industries. Usage patterns show short peaks of intense demand followed by long periods when expensive capital sits idle or under-used. Peaks in demand determine the required system capacity. In 2007-08 the load carried by the South Australian system was less than two thirds of the peak rate for the year for 90 per cent of the time, and less than half that peak for nearly 40 per cent of the year (figure 4.4). On this view, GSP could grow substantially without new capacity provided that the State learned to live with brownouts and blackouts during infrequent periods of peak demand. Of course, this is not an acceptable option. What is now a privately-operated industry is required by regulation to maintain sufficient capacity to meet high demand.

Figure 4.4 South Australian load duration curve 2007-08



Source: Adapted from ESIPC Annual Planning Report, June 2008, chart 4.3, p. 95.

Pooling electricity with the larger Victorian grid through two interconnectors at the border — Heywood and Murraylink — offers some relief, but it is limited because both states have similar climatic patterns. Capacity regulation is required at both South Australian and combined state levels, and in 2008 there was more spare capacity in the State grid than in the combined pool. With long lead times for power station and related construction, and very much longer times in operation, future capacity limits require detailed estimation and thorough monitoring. The Annual Planning Report published by the Electricity Supply Industry Planning Council (ESIPC) does this⁶.

In its June 2008 report ESIPC concluded that by 2017-18 and probably sooner, extra capacity (including pipelines, generation and transmission facilities) would be needed in addition to replacement of ageing equipment. The GSP path underlying its base case demand projections is very similar to the “business as usual” numbers presented earlier in chapters 2 and 3. A “high case” set of ESIPC projections added some major projects to their base forecasts to yield a similar annual average GSP growth rate to that in to our central scenario⁷. On both scenarios there was a clear need for investment in new capacity.

ESIPC has been reworked its analysis on a basis consistent with our central GSP and industrial scenario⁸. Broadly speaking, on this basis by 2014-15 the State will need an extra 700MW of electricity generating capacity (on top of the 3,500MW available now) and further substantial increases later next decade should GSP growth continue at the pace we have indicated. There would also be a substantial need for upgrades to transmission lines and interconnectors and, depending on the method of generation, for extra gas pipelines as well. None of this potential investment is included in our numbers⁹.

The investment crunch point comes through providing capacity to meet infrequent peak demands since the average load on State facilities remains low. Necessary extra generating capacity will be required only sparingly and intermittently. That could mean new base load capacity (with some existing plant relegated to peak status only) or dedicated peak plant. Above all, the State needs to be concerned that it does not saddle itself with expensive, under-utilised capital that will increase electricity costs unnecessarily to the detriment of South Australia’s competitive position. Flexibility is needed to meet possible surges in demand and output¹⁰. In the next decade that seems most likely to come from gas turbines using fuel from Queensland (including coal seam methane now available) and Western Victoria to augment declining though still significant Cooper Basin supplies.

⁶ESIPC is established by statute and has responsibilities under national electricity rules. The Report and other relevant matters are to be found on ESIPC’s website at www.esipc.sa.gov.au. Much of this section is paraphrased from information on this site.

⁷For a full decade rather than our seven years

⁸Our thanks are due to David Swift, CEO of ESIPC, who is, of course, not responsible for the use we make of his materials. Since the initial ESIPC modelling was prepared, the global financial situation has deteriorated further.

⁹Our scenarios do not include “known unknowns”. But to illustrate the magnitudes, additional energy investment to cope with higher growth could increase the level of 2014-15 GSP (after stripping out import content) by between \$400 and \$800 million. That would increase the State’s compound annual average growth rate in the interim by between 0.1 per cent and 0.2 per cent.

¹⁰While overall system loads are predictable there is a random element; peak loads will occur but it is not possible to say precisely when they will occur or how high they will be.

Extra energy from wind generation can make some contribution, but there are problems. The contribution of wind to solving peak needs is unreliable¹¹. A second, distinct class of problems is finding enough transmission capabilities to handle surges when strong wind generation occurs¹². Upgrading of both transmission lines and interconnectors is required in any event.

It does not follow that all the expansion needed will be to the State grid. Some developing projects in remote areas might find on-site generation to be the most efficient augmentation, reducing transmission losses and offering co-generation opportunities.

Overall, the increase in State energy consumption on our growth scenario is challenging but not insurmountable. The chief difficulties arise early on, with global financial uncertainty creating fraught investment conditions, and new carbon pollution arrangements still in gestation. The Carbon Pollution Reduction Scheme (CPRS) will reduce energy consumption (and thus investment) growth rates and may change the economic relativities between different forms of generation. Over the coming decade Australia's domestic targets will remain adjustable pending the outcomes of global negotiations. Over the same interval credit conditions should return to a degree of normality, and the shape of the global business cycle should improve.

Beyond 2014-15, two energy developments will shape the State's longer-term energy and climate balance. Since the mid-20th Century Leigh Creek coal has been a staple fuel for energy generation. These deposits are declining and are expected to be exhausted by late next decade. While there might be alternative sources of sub-bituminous coal available to power the Port August stations, the plant is both old and emissions intensive. By then we should know if geothermal power is economically viable. If it is, a straight swap appears an attractive option, solving generation and emissions problems with a single switch. If not, further expansion of gas usage seems likely. While this would reduce emissions (compared to coal), electricity would remain expensive relative to other states.

The future for the industry remains clouded, but there is no sense that energy provision will be insufficient. The limits are economic rather than absolute. With forward planning South Australia can meet the energy challenges of development at sensible costs, but the State will continue to struggle in electricity-intensive competition against others. We have never been a low-cost producer in a country with extensive black coal and hydro resources, nor will we be in the future unless there are unexpected technological breakthroughs and exciting prospects are proven commercial at scale.

4.3 Providing Water

Most of South Australia's natural catchments are managed within sustainable limits, and the State has a "total sustainable water yield" well in excess of the current annual consumption rate¹³. On this view it is hard to argue that South Australia will face an overall shortage of water for some decades to come.

But this aggregate economic picture hides difficulties in important parts of the State, and sheds little light on environmental water needs. Much of the unused water is in the South East, while irrigators in the Riverland are in obvious difficulties. The environmental situation in the lower lakes is parlous. The adequacy and security of water supply is a major challenge for the State, and we address it further in Chapter 6 of this report.

Agriculture is by far the largest user of water in the State, accounting for three-quarters of the total in 2004-05. This is much higher than the national average. In part the thirst is due to a larger-than-average agricultural sector, but it is also due to a predominance of irrigated farming. Major users within agriculture have been reliant on irrigation-intensive activities such as pasture growth, grape, fruit and vegetable production and dairy farming. Nearly all of this water has been extracted directly from the source (rivers, creeks, dams and bores) rather than being distributed by authorities. The exception is grapes and, to a considerably lesser extent, fruit and vegetable production.

¹¹Experience indicates wind has performed only at an average of 7 per cent of nameplate capacity during past peak periods.

¹²Capacity strains occur both with intrastate transmission lines and the interconnectors, with an additional complication that Western Victoria is rapidly developing its own wind sources (thereby reducing an export market).

¹³See the 2008 Audit Committee report (www.saplan.org.au); and the National Water Initiative report Australian Water Resources 2005

Table 4.1 Water consumption in 2004-05 (Gigalitres)

Industry	South Australia		Australia	
	GL	% share	GL	% share
Agriculture	1020	74.7	12191	65.0
Forestry & fishing	<1	<0.1	52	0.3
Mining	19	1.4	413	2.2
Manufacturing	55	4.0	589	3.1
Electricity & gas supply	3	0.2	271	1.4
Water supply & sewerage	71	5.2	2083	11.1
Other industry	52	3.8	1059	5.6
Households	144	10.5	2108	11.2
TOTAL	1365	100	18767	100

Source: AWR 2005.

Table 4.2 Water consumption in 2004-05 (Megalitres)

Industry	ML	ML	Industry	ML	ML
Agriculture			Manufacturing		
Dairy farming	94592		Food, beverages & tobacco	13218	
Vegetables	94874		Textiles, clothing, footwear, leather	860	
Fruit	143808		Wood & paper products	1389	
Grapes	203992		Printing, publishing & recorded media	377	
Livestock	118554		Petroleum, coal & associated	2338	
Pasture	336720		Non-metallic minerals	1174	
Grains	12413		Metal products	32987	
Other	14888		Machinery & equipment	2546	
Total	1019841		Other	115	
Services to agriculture, hunting & trapping	345		Total	55004	
Forestry & fishing	264		Electricity & gas	2542	
Mining			Water supply & sewerage	71331	
Coal mining	438		Other industries	52301	
Oil & gas extraction	2053		Households	144440	
Metal ore mining	12579				
Other mining	4161				
Total	19230		State consumption 2004-05	1365298	

Source: AWR 2005.

Climate change, increased salinity and reduced river flows pose major challenges and costs for the State's irrigated agricultural producers and Riverland communities in particular. This is a large topic outside the scope of the present Statement. Nevertheless, short of widespread soaking rains, responses will rely heavily on capital-intensive methods (such as replacement of open dams and drains with piped and covered enclosures to reduce evaporation, and greater use of water-efficient irrigation methods) aided by appropriate, opportunity-cost-based pricing and water trading. The best response may be to buy back water and/or water trading. Water use should be market determined.

Unlike other industries, for irrigated agriculture in South Australia the growth risk is to the downside. However, the sector is largely independent of the coming wave of new non-agricultural projects during the next seven years, and some irrigation (especially of grape growing) is done from reticulated sources. There is no threat to supplies of distributed water albeit at higher prices.

As discussed in Chapter 6, the supply position is less critical for the State's non-agricultural sectors, where usage is dominated by urban activities and several initiatives to secure supply are underway.

Water resource assessments indicate plentiful supplies in the South East, but there are reports that aquifers in the Great Artesian Basin in the north of the State are under strain.¹⁴ BHP-Billiton is considering a desalination plant drawing water from the Upper Spencer Gulf to supply the proposed Olympic Dam expansion. It is not clear, however, which water-supply methods other proponents of mining are proposing in the northern parts of the State. Mining is normally a high value-added activity able to withstand extra costs of water, but there is an issue of scale, especially for smaller projects. Clarification of proposed water use is needed, since artesian supplies are not necessarily available on a sustainable basis.

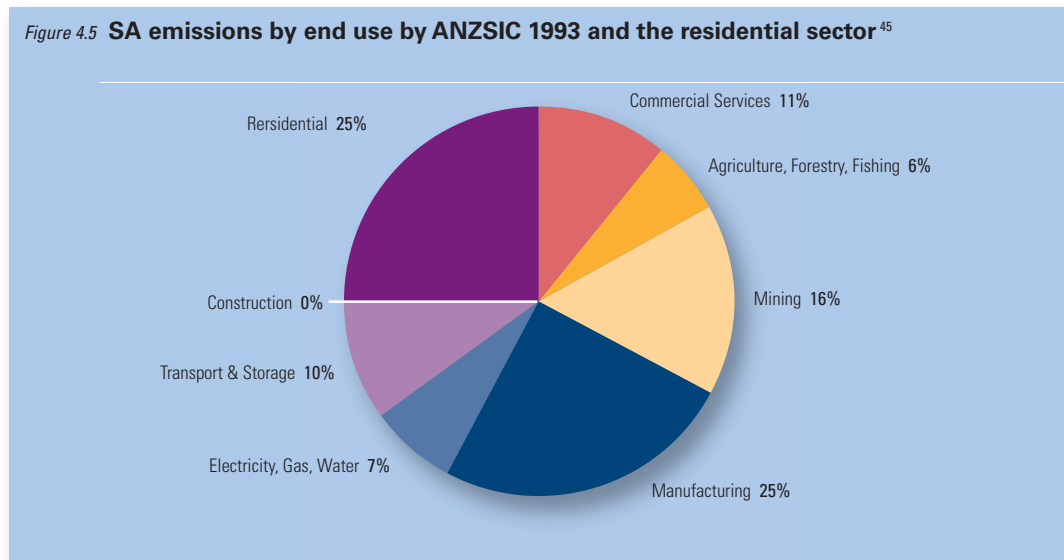
4.4 The Challenge of Reducing Carbon Pollution

Changes to the industrial structure and the growth rate of the South Australian economy will have impacts on the amount of greenhouse gases that we emit as a state. The tensions between economic growth and our requirement to reduce greenhouse gas emissions need to be understood and managed.

To this end we have reviewed the State's current greenhouse gas inventory and historical trends of sectoral economic and emissions growth. Combining this with our central growth scenarios, we assess the likely direction of emissions in the context of the Commonwealth CPRS to apply from 2010.

South Australia emits 31 megatonnes of greenhouse gases, which is 5.4 per cent of Australia's total emissions.¹⁵ The majority of emissions in South Australia are generated in the residential and manufacturing sectors. Residential sector emissions result mainly from electricity consumption and road transport, with some other fuel combustion (primarily gas). Mining accounts for 16 per cent of the State's emissions inventory.

Chart 4.5 SA Emissions by End Use by ANZSIC 1993 and the Residential Sector⁴⁵

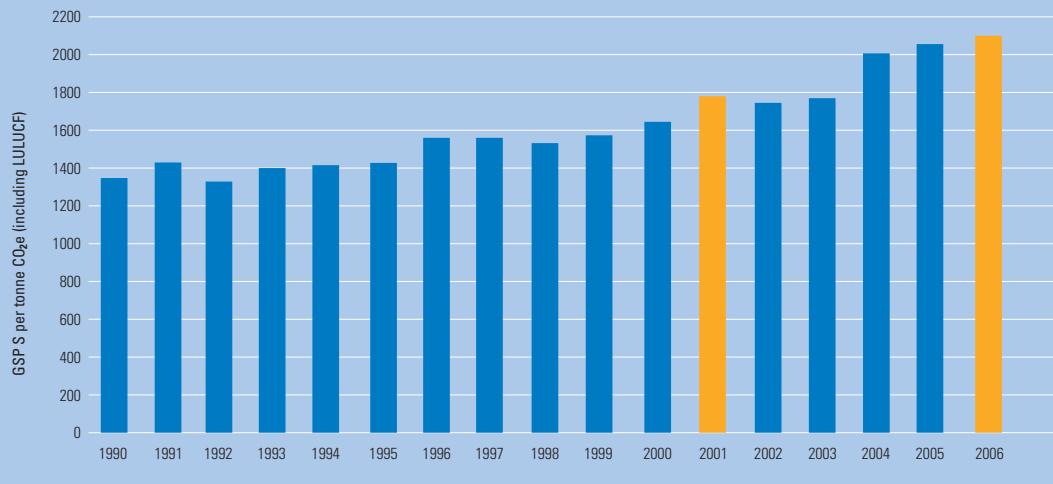


South Australian emissions fell by 7 per cent between 1990 and 2006. This largely reflects revegetation, new forestry plantings, and increased renewable energy production. Improved technology and process efficiency also helped. The fall in emissions occurred in a period of economic growth, not stagnation or decline. The emissions intensity of economic activity has been falling, allowing real GSP per tonne of emissions to rise from \$1342 to \$2091 in this time.

¹⁴The 2005 Water Resource Assessment notes the Great Artesian Basin appears "to have had consumptive use greater than the total annual inflow in 2004-05" (file on Water Resource Development in Priority Geographic Areas).

¹⁵Department of Climate Change, State and Territory Greenhouse Gas Inventories 2006 and Department of the Premier and Cabinet analysis

Figure 4.6 Annual greenhouse emissions in South Australia indexed against GDP



Sources: Australian Bureau of Statistics (ABS Cat. No. 3101.4 and 5220.0), Australian Greenhouse Office State and Territory Greenhouse Gas Inventories 2006 and the Essential Services Commission of South Australia.

Table 4.3 Annual greenhouse gas emissions in South Australia indexed against GDP

GSP\$/tonne	CO ₂ e Excluding LULUCF			Including LULUCF		
	1990	2006	% Change	1990	2006	% Change
South Australia	1410	1846	31%	1342	2091	56%

Sources: Australian Bureau of Statistics (ABS Cat. No. 5220.0), Australian Greenhouse Office State and Territory Greenhouse Gas Inventories 2006 and the Essential Services Commission of South Australia.

Table 4.4 Greenhouse gas emissions in South Australia, by end-use sector (Mt CO₂-e)

	1990	2006	% Change
Agriculture, Forestry and Fishing	7.7	2.0	-74%
Mining	5.1	4.9	-4%
Manufacturing and Construction	7.6	8.0	+5%
Utilities	1.8	2.2	+25%
Commercial	2.7	3.4	+26%
Transport and Storage Industry	2.5	3.0	+21%
Residential	6.1	7.7	+28%
TOTAL (inc. LULUCF)	33.3	31.2	-7%
TOTAL (exc. LULUCF)	31.7	35.3	+11%

Source: Department of Climate Change (2008)

Over the period 1999 to 2006:

- Agriculture output grew more than a quarter but emissions fell more than half.
- Electricity, gas and water grew a quarter but emissions rose less than 1 per cent.
- Mining grew less than 5 per cent but emissions fell 13 per cent.
- Transport and storage grew by almost a fifth while emissions rose by 7.8 per cent
- Construction grew more than a quarter but emissions actually fell by 7.9 per cent.

Table 4.5 Economic and Greenhouse Gas (GHG) emissions

	Agriculture, forestry and fishing (A)	Mining (B)	Electricity, gas and water (D)	Transport and storage	Construction
Central scenario Value Add Growth 2008-09 to 2014-15	21.3%	97.4%	24.7%	21.3%	55.4%
Industry Value Add Growth (Chain Volume Measure) 1999 to 2006	28.9%	4.8%	24.8%	17.8%	28.9%
GHG Emissions Growth 1999 to 2006 (Based on ANZSIC 1993)	-56%	-13%	1%	7.8%	-7.9%

Our projections for growth imply significant changes to the industrial composition of the State which may alter these historical trends. In some sectors, like electricity, gas and water, and transport, the projected growth to 2014-15 is broadly in line with historic trends. We see significantly higher growth in mining and construction in coming years, with more modest expansion in agriculture.

Mining activity can increase while emissions fall, and did so over the seven years to 2006; but the projected doubling of mining output over the next five years exceeds the earlier growth twenty-fold. We expect the mining expansion in prospect to add significantly to the State's emissions inventory. The extent of that increase will depend on how new mines do business – how much the new mines use renewable energy sources for example, or more fuel efficient vehicles.

Construction output grew strongly in the seven years to 2006 while its emissions fell noticeably. This industry is predicted to grow even more in the five years period to 2014-15. If history is a guide, improvements in emissions-intensity in this industry can offset the growth in activity over the next five years.

Clearly, growth in different sectors affects emissions differently. There is also a risk that across all sectors, emissions intensity will not continue to decline in step with past trends. Technological progress is hard to predict and rarely follows a linear trend. There may be limits to the process efficiencies that can be employed to reduce emissions per unit of GSP. In forestry, land and water constraints could eventually limit sequestration potential.

For these reasons, we think it likely that total emissions in South Australia will rise somewhat in future. However, any increases in emissions levels from 2010 will occur within the CPRS framework set by the Commonwealth Government.

The CPRS is a broad based emissions trading scheme, which will place a legal cap on carbon emissions for the first time in Australia, and will allow trading of carbon pollution permits to achieve that cap. The scheme will place a price on carbon, making emissions-intensive activities more expensive and creating an incentive to reduce emissions within Australia.

The emissions cap set by the CPRS is for national emissions. The scheme sets no target for South Australian emissions, nor any specific fraction of emissions reductions that must come from South Australian emitters. The CPRS system does not dictate where emissions reductions occur, in which sector, or which state, only that a certain emissions reduction must be made for the whole country.¹⁶

From this perspective, there is not an emissions limit on South Australian firms per se, as long as they can purchase permits or credits to acquit against their emissions. Firms will set production levels with a clear knowledge of the carbon price and overall emissions will fall.

¹⁶Moreover, if the country is unable to meet this target through actual emissions reductions, there will be unlimited scope to purchase international Kyoto compliant carbon credits, such as those generated through the Clean Development Mechanism. This would allow Australia to pollute more, but to ensure through the purchase of permits that emissions reductions are made elsewhere in the world.

Under the CPRS new major projects will face every incentive to ensure that their operations will be as greenhouse efficient as possible while they are in initial project design phase. The price of permits will determine at what point different abatement alternatives become cost effective.

The CPRS will have minor impact on overall economic growth.¹⁷ However, it will change relative prices. Less emissions intensive outputs will be relatively cheaper than more emissions intensive ones and patterns of production will shift over time to favour lower emissions goods and services.¹⁸

While there is no imperative under the new national framework to reduce emissions in South Australia, SASP sets targets for limiting the State's greenhouse gas emissions in line with the Kyoto goals,¹⁹ as a first step towards reducing emissions by 60 per cent by 2050. The Climate Change and Greenhouse Emissions Reduction Act 2007 enshrines these emissions reductions targets and also sets targets for renewable energy generation and consumption.

At about 20 tonnes per person of carbon dioxide equivalent, South Australia's emissions are 30 per cent lower than the national average.²⁰ However, they are also about four times above the world average. The CPRS will be the main driver of South Australia emissions reduction to achieve the SASP targets. At the state level, the role of energy efficiency initiatives is explored further in Chapter 6; and renewable energy prospects are explored further in Chapter 9.

4.5 The way forward

Labour, water, energy and carbon emissions are just four of the long-term challenges to growth in the South Australian economy. These are enduring challenges, above and beyond the current global economic circumstances. The Board has no doubt that these challenges can be addressed and overcome with timely and decisive policy interventions.

Additions to the water supply, for example, can be made through desalination, but at a cost. Chapter 6 outlines the need for a water pricing regime that reflects the cost of water supply.

Pricing of carbon will also alleviate any absolute carbon constraint on South Australian firms, but at a cost. Intervention to break the link between energy and economic activity will also be required. This will lessen the carbon constraint and help address long run energy constraints.

Pressures in the labour market can be alleviated through targeted policies in education and training and migration, explored further in Chapters 7 and 8.

The pace of growth entailed in our projections is firm – but not unprecedented in the state or the nation. Can we grow at this pace in the coming decade? In the EDB's view, the answer is a clear yes.

Community support is vital for change to succeed, and the changes ahead for the State are substantial. It is imperative that South Australians understand the challenge and the opportunity ahead, and know that the benefits of change and growth will flow to them and their children. The next chapter examines how disadvantaged and regional South Australians will be included in and benefit from the State's future growth.

The remainder of this statement examines solutions to these and other challenges in more detail. The Statement also addresses the role of innovation in increasing productivity and explores what is required of the public sector to facilitate growth in the State.

If the solutions identified in this Statement are enacted expeditiously, South Australia will be well placed for strong medium-term growth once global circumstances improve.

¹⁷Modelling from the Commonwealth Treasury indicates that the rate of national GDP growth will fall by just 0.1 per cent annually by 2020 under a CPRS, with an even smaller impact in South Australia. Australia's Low Pollution Future - The Economics of Climate Change Mitigation, Australian Treasury, 2008

¹⁸This may not occur in the traded sector, in which emissions-intensive, trade-exposed emitters are being compensated for a proportion of the impost of the scheme.

¹⁹SASP Target "limiting greenhouse gas emissions to 108 per cent of 1990 levels during 2008-2012";

²⁰Garnaut Climate Change Review, Final Report, 2008

For the economy to perform at its best, all South Australians – whether they be socially excluded, or geographically isolated, and whatever their age – must have increasing opportunity to participate in, and contribute towards, the growth process. Some population cohorts have traditionally missed out on economic opportunity. For them, a growth dividend must be found over the next decade. Actively involving these groups in the growth process will directly improve the lives of people in need. It will also contribute greatly to the State surmounting key constraints to growth and realising its economic potential over the medium to longer term.

5.1 Jobs and skills

A major intersection between economic and social development occurs in the labour market, and it matters greatly. Paid employment is central to social inclusion, providing opportunities to develop skills and confidence while reducing income inequalities. And social inclusion is vital to economic development, helping to ensure a supply of suitably skilled labour.

People who have low education and skill levels have more difficulties gaining and retaining employment,¹ and there is a strong link between education, employment and economic performance. While employment growth in South Australia has been impressive in recent years, there remains in the State an unacceptably high level of people who are not fully engaged in the labour market. In 2008, some 264,900 South Australians are either unemployed (40,000), not in the labour force but willing to work (105,800) or seeking more hours of work (119,100).²

Over the last twenty years the proportion of male South Australians aged 15 – 64 in employment has fallen by 11 percentage points, from 80 per cent in 1978 to 69 per cent in 2006. During this period the participation rate fell across all age groups, but the largest group was males aged 25-55 years with no post-school qualifications, highlighting the training effort that is required. While the labour force participation of women aged 15 – 64 has increased by 11 percentage points in the same period, from 45 per cent in 1978 to 56 per cent in 2006,³ much of the employment was in part-time jobs, often offering fewer hours than preferred. South Australia has the lowest rate of female participation amongst all states and territories, and women's employment is concentrated in less skilled, lower paid positions within a narrow range of occupations and industries. New strategies for employment and training to assist particular groups of women facing difficulties entering the workforce, for example refugees, newly arrived migrants and those with low literacy and numeracy skills, must be developed.

5.2 Sharing Opportunity

The Social Inclusion Board (SIB) was asked by the Premier in January 2008 to provide advice on how to secure a social benefit from the anticipated expansion in the State's mining and defence industries, particularly for those who are most disadvantaged.

Box 5.1 The SIB's Sharing Opportunities reference

In scoping its work, the SIB has prioritised the following populations:

- Jobless households where there are children.
- Low income, asset poor single person households.
- Aboriginal people.
- People with disabilities.
- People in regional areas.
- Carers.

The reference will focus on preparing priority populations for emerging employment opportunities. In recognition of the complexity of individual life circumstances and interrelated issues faced by many people in these priority populations, the SIB will implement a place based approach using intensive family case management as the key mechanism to support an effective transition for people experiencing entrenched disadvantage into appropriate and sustainable employment.

¹Keating, Michael (2007) Paper presented at From Welfare to Social Investment Conference, 21-22 February, Melbourne.

²DFEEST (2008) South Australian Labour Market Profile

http://www.workforceinfoservice.sa.gov.au/workforceinfo#labourMarketProfile_Anchor

³ABS cat no 6291.0.55.001, Labour Force Australia, Detailed – Electronic Delivery 2007.

A primary component in this reference will involve working with employers to gain support for the approach and to engage them as active partners in the delivery of tailored training, support and provision of jobs for priority populations. Ultimately it is intended that the successful models will form the basis for the development of a new socially inclusive way of doing business in South Australia, under which such programs are important elements in negotiating a social licence to operate.

Genuine collaboration, between business, government, community and SIB over the medium term is a sure path to setting the State on a high and socially inclusive growth path.

Recommendation 5(a): The EDB calls on peak industry bodies to engage with the Social Inclusion Board in its Sharing Opportunities reference and for individual companies, especially in sectors with strong growth prospects for the future, to explore avenues to provide job opportunities (especially entry level) for the long term unemployed.

This effort must be matched by governments doing all they can to minimise the risks for businesses in employing people who are disengaged from the labour market. One way it can do so is by ensuring that integrated social services are in place, but businesses must be prepared to give them a go.

Recommendation 5(b): Public sector authorities should do more to provide employment opportunities for people entrenched in disadvantage, including through their capital works programs in which employment requirements for specific groups, be they long term unemployed or Aboriginal, should be stipulated.

This is being achieved in the massive Northern Expressway project, where 10 per cent of the workforce is required to be either youth or Aboriginal from the northern metropolitan area. Large infrastructure projects of this kind offer multiple entry level positions and a variety of work experiences for people entering or re-entering the labour market.

Personal factors that limit social and economic participation range from language, literacy and numeracy levels, work history, low self esteem, drug and alcohol dependency, to homelessness and mental health. These require individualised responses. The complex interaction of these issues means that 'whole-of-life' circumstances of individuals must be identified, so that government and social services can put individuals experiencing social disadvantage on the firmest foundations possible to make the most of employment opportunities. Individually customised support should not just identify required training and pre-employment programs, but also referrals to relevant health or social support services to assist job seekers to manage personal issues and to access relevant employability skills in order to become job ready.

Currently, the South Australian Government's main employment program is SA Works. This program has produced some positive results and to varying degrees aspects of the program incorporate a flavour of what has been outlined above. We need to ensure that this program is achieving as much as possible.

Chapter 8 deals specifically with the need to increase the State's workforce through education and training, including the imperative of increasing the participation of the socially disadvantaged in the labour market.

5.3 Early Childhood Development and Active Ageing - two ends of the demographic spectrum

The EDB commends the priority attention the Government has given to early childhood development in recent years. Investment in early childhood development is critical to the State's longer-term development and economic success. The best return on investment of public funds is achieved by investing in the very young. South Australian Thinker in Residence, Dr Fraser Mustard, has demonstrated that investing in supporting parents and children in the first 18 to 24 months of life improves educational and employment outcomes, while reducing recidivism, unemployment and a range of other social problems. The EDB believes that the State Government should continue to invest in early childhood development and build on the gains it has made in this area.

Similarly, South Australia needs an “active ageing” approach that taps into the skills of the aged, particularly the ‘younger aged’ (i.e. 60 – 75 year olds), in economic activity (including employment, small-business creation and mentoring) and also in a host of community building activities through volunteering. The contribution of older South Australians is to be acknowledged and encouraged, and should be reflected in the updated Population Policy recommended in Chapter 7. Its potential to offset the impact of the State’s rising dependency ratio is significant.

5.4 Aboriginal Wellbeing

There is no doubt that Aboriginal people are the most disadvantaged population in South Australia (and the rest of Australia).

The demographic profile of the State’s Aboriginal population runs contrary to the general demographic trends of the State. The combination of high mortality and high fertility rates means that the Aboriginal population is young and increasing at a rate higher than that of the general population. Accounting for these differences is important in forming a coherent and effective policy response. For example, workforce entry and career progression patterns are very different for Aboriginal and non-Aboriginal people.

Box 5.2 SASP targets – Aboriginal Well-being.

South Australia’s Strategic Plan includes nine targets specifically related to improving the wellbeing of South Australia’s Aboriginal population. These are:

- Aboriginal Unemployment (T1.26)
- Aboriginal healthy life expectancy (T2.5)
- Understanding of Aboriginal culture (T4.5)
- Aboriginal Leadership (T5.7)
- Aboriginal Wellbeing (T6.1)
- Aboriginal Housing (T6.9)
- Aboriginal Education (T6.18)
- Aboriginal Employees (T6.24)

Performance against these targets has been mixed.⁵ While a number of targets were assessed as having recorded positive progress, and almost half were rated as “on track”, none had been achieved outright ahead of their timeframes.

The overall labour force participation rate for Aboriginal people aged 15 years and over in South Australia was 48.0 per cent in 2006; this was significantly below the non-Aboriginal participation rate at the same time of 61.6 per cent. For Aboriginal women, workforce engagement patterns differ from the mainstream largely as a consequence of high fertility rates. For Aboriginal men the key points of difference stem from health and morbidity rates. Accordingly health, housing, early childhood and parenting are fundamentally important areas of policy focus in addressing Aboriginal workforce engagement and capacity.

Aboriginal mobility patterns in the State are similarly important. The 2006 census revealed that 49 per cent of South Australia’s Aboriginal population live in urban areas with 32 per cent in inner or outer regional locations, and only 19 per cent in remote and very remote regions. However, there is a documented trend towards an ‘Indigenisation’ of regional centres across Australia, which is likely to change the composition of South Australia’s regional town populations. For example from 1996 – 2001 the Aboriginal population of Port Augusta grew 14 per cent while the non-Aboriginal population declined by 6.8 per cent. There is also significant growth of Aboriginal population in urban areas nationally, including Adelaide.

These trends are the product of outward migration by non-Aboriginal people, inward migration by Aboriginal people from more remote areas and a higher rate of Aboriginal fertility. The likelihood that they will continue must be a key consideration in the development of regional centres such as Port Augusta and Renmark, with implications for appropriate planning and service provision in a wide range of areas including community governance, education and training and opportunities for employment.

⁵South Australia’s Strategic Plan’s Audit Committee report, July 2008

The provision of meaningful and sustainable employment opportunities for Aboriginal people is the key to improving overall Aboriginal wellbeing, and the work of the Social Inclusion Board will be critical. The EDB believes the development of an Aboriginal Economic Statement warrants consideration, to provide a more detailed and customised policy response for Aboriginal people to the growth opportunities identified in this Statement and to advance the Aboriginal Wellbeing targets in South Australia's Strategic Plan.

The Aboriginal Congress of South Australia, along with a division of the Aboriginal Legal Rights Movement, recently incorporated a new organisation called the Aboriginal Foundation of South Australia (AFSA) on behalf of native title groups in South Australia. The objective of the Foundation is to provide mentoring, technical and financial support to Aboriginal groups wishing to undertake economic and enterprise development. It aims to generate long-term economic development for Aboriginal communities through the development of joint ventures, and investments with government and the corporate sector.

AFSA's goal is to create over 3000 jobs for Aboriginal people in South Australia across a range of industry sectors including mining, housing, agriculture, fishing and aquaculture. A similar model has had some outstanding successes in Western Australia as outlined in the Ngarda case study. The EDB believes that the Foundation could have an important role to play in realising economic opportunities arising from native title negotiations.

Case Study: Ngarda Civil & Mining

Projected turnover 2008/09: \$200 million

Indigenous employees: 200

Ngarda Civil and Mining was established in 2001 to provide employment for indigenous people in the Pilbara mining region in North West Australia. Seven years later the company employs about 400 people – half of them from local indigenous communities – and has won more than \$500 million of work.

Indigenous mining business thrives

Ngarda Civil and Mining was created as a vehicle for indigenous communities of the Pilbara to pursue economic opportunities from significant mining industry investment in the region.

The business was established as the result of a partnership between the Ngarda Ngarli Yarndu Foundation, Indigenous Business Australia and Henry Walker Eltin. Leighton Contractors Pty Ltd acquired HWE shares in March 2006.

The foundation partners believed there was a perception in the mining and construction industries that indigenous people were generally lacking the skills and training necessary to meet the industry's needs. They decided the perception needed challenging.

Ngarda has experienced consistent growth in business turnover and job creation since 2001, providing cost effective contracting services to the mining and construction industries. Customers include BHP Billiton, Rio Tinto, Woodside and Newcrest with major projects within the towns of Karratha, Port Hedland and Pannawonica.

Ngarda prides itself on the training and personal support it provides and says its greatest impact has been in the personal development of its employees. The wage bill paid to indigenous employees this year is expected to exceed \$20 million.

"Normally in a mine of 500 people you might have two indigenous people, so they're truly in a minority. Ngarda has set a target of 50 per cent minimum indigenous employment, a target the company has achieved consistently over its seven-year life."

Barry Taylor, Executive Chairman
Ngarda Civil and Mining

5.5 People with Disabilities

About one in five Australians has a disability,⁶ including 204,200 South Australians aged 16 to 64. South Australia has a higher proportion of people with a disability than other mainland states because of its relatively high proportion of older people. Disability becomes more prevalent with age, and as our population ages, the number of South Australians with a disability is expected to increase.⁷

The EDB recognises that people with disabilities are significantly disadvantaged, and typically have lower levels of schooling, qualifications and employment than the general population. Labour force disadvantage is reflected in lower levels of participation and higher levels of unemployment.⁸

Increasing employment of people with a disability will require a willingness to consider the whole-of-life issues they face (as outlined in section 5.2) and to acknowledge the need for flexible employment options that allow for recurring illnesses or particular health conditions. Specific barriers to employment include lack of relevant education, training and skills, poor incentives or financial returns for work effort, limited job availability, access to transport, lack of adequate and/or stable accommodation in addition to community and employer perceptions. Adequate responses to these complex issues will assist the many people with a disability who are seeking to gain a position in the labour market.

Box 5.3 An example of a South Australian program for people with a disability

The *VET to Work: disability support and transition* pilot project is jointly funded by DEEWR and DFEEST to provide 50 students with a disability with support from selected Disability Employment Network agencies during the students' training and into employment. Students have a range of disability types and severity levels and are studying Certificate I to Certificate IV qualification levels.

- Early indicators show outstanding rates of VET completion and point to positive employment outcomes for students in this pilot with 83% expected to successfully complete training and (based on a similar school to work transition project in South Australia) it is anticipated that approximately 70 – 80% of these students will be employed by the end of 2009.

Social and economic cost/benefit:

- There are significant improvements to the lives of individuals and their families when students with a disability complete training and gain employment and South Australia becomes a more socially inclusive community.
- The economic cost of under engagement of people with a disability is estimated nationally to be in excess of \$54 billion per annum due to lost employment opportunities. Per capita, South Australia's share is around \$4.3 billion per annum.

⁶There are various definitions of disability used for a range of purposes such as legislation against discrimination and the assessment of individuals for eligibility for support services. However they are all generally similar in scope. The South Australian Disability Services Act 1993 provides that a "disability" in relation to a person means a disability—
(a) that is attributable to intellectual, psychiatric, cognitive, neurological, sensory or physical impairment, or a combination of any of those impairments; and
(b) that is, or is likely to be, permanent; and
(c) that results in the person having—
(i) a reduced capacity for social interaction, communication, learning, mobility, decision making or self care; and
(ii) a need for continuing support services,
and includes such a disability notwithstanding that it is of an episodic nature.

⁷ABS (2003) Survey of Disability, Ageing and Carers, indicates that 58 per cent of South Australians aged 65 or older have a disability.

⁸Almost 50 per cent of people with a disability are not actively participating in the labour force, compared to under 20% of people without a disability and the unemployment rate is almost double that faced by persons without a disability. In addition to those who are unemployed, according to 2007 Centrelink data, over 68,000 South Australians were in receipt of a Disability Support Pension, including a disproportionately high number of women.

Success is central to South Australia being a socially inclusive state and addressing Strategic Plan targets relating to improving the health, housing participation and wellbeing of people with disabilities, and will contribute to the State reaching its economic potential over the medium term.

The reform of Australian Government Disability Employment Services and the development of a National Mental Health and Disability Employment Strategy signals new opportunities for the State to work collaboratively with the Commonwealth to develop innovative programs that link people with a disability into training and employment.

5.6 Regional Prosperity

For South Australia to achieve its full potential it is imperative that our regions fulfil their potential. Many of the challenges, opportunities and constraints outlined in this Statement will be experienced more acutely across regional South Australia.

The regions account for just over a quarter of the State's population and full-time equivalent jobs, approximately 40 per cent of total exports and almost 25 per cent of total output (GSP). There are marked differences between the labour markets in individual towns within regions, with unemployment rates ranging from 10.2 per cent in Peterborough to 0.4 per cent in Keith.⁹ Differences in labour force participation rates are more striking, ranging from 85 per cent in Roxby Downs to 50 per cent in Peterborough.¹⁰

All regions have increasing population levels. Some (such as Eyre Peninsula) have recorded only 0.4% growth per annum in recent years, less than half that of the State average; others (such as Yorke Peninsula) are benefiting from increased migration, particularly by older people moving to coastal areas in retirement. Regional South Australia generally experiences a net loss of young people who move away for work or study, leaving an older than average population and workforce.

Regional and remote communities must continue to plan for their future development. Government support here is critical to underpin the transformation process that will occur as a result of new economic and employment opportunities. Some regional communities will require much greater government support than others as they pursue economic and industrial restructuring, for example to survive the impacts of water shortages and climate change. Others will need considerable investment to support growth in developing industries such as mining and to capture the economic benefits in the local community. In the end, planning and investment decisions will need to be made by government reflecting the merits in each situation.

Two reforms/initiatives are providing the foundations for a new approach to regional development in South Australia. The first is the adoption of uniform regional boundaries by the South Australian public sector. The second is the 'regionalisation' of South Australia's Strategic Plan.

The adoption of uniform regional boundaries for the provision of State Government services (refer Fig. 5.1) promises better collaboration across government agencies through developing shared understandings of commonly defined regions and the challenges and opportunities they face. There also exists a unique opportunity to develop a new regional development structure which will align and integrate regional development activities and structures across the three levels of government. The EDB encourages this cooperative development which would reduce duplication and increase the efficiency of regional development service delivery.

The initial phase of the 'regionalisation' process, which has involved communities developing local expressions for whole-of-state Strategic Plan targets, has been completed for the Limestone Coast, Murray and Mallee, Yorke and Mid North and Far North and Eyre and Western regions. The Barossa, Adelaide Hills and Fleurieu & Kangaroo Island regions will be completed in 2009.

⁹DEEWR (2008 June) Small Area Labour Market series.

¹⁰Salt, Bernard (2008) Understanding the Drivers of Regional Employment Growth in South Australia. Presentation to South Australia Works in the Regions Regional Forum, 6th November, 2008, Adelaide.

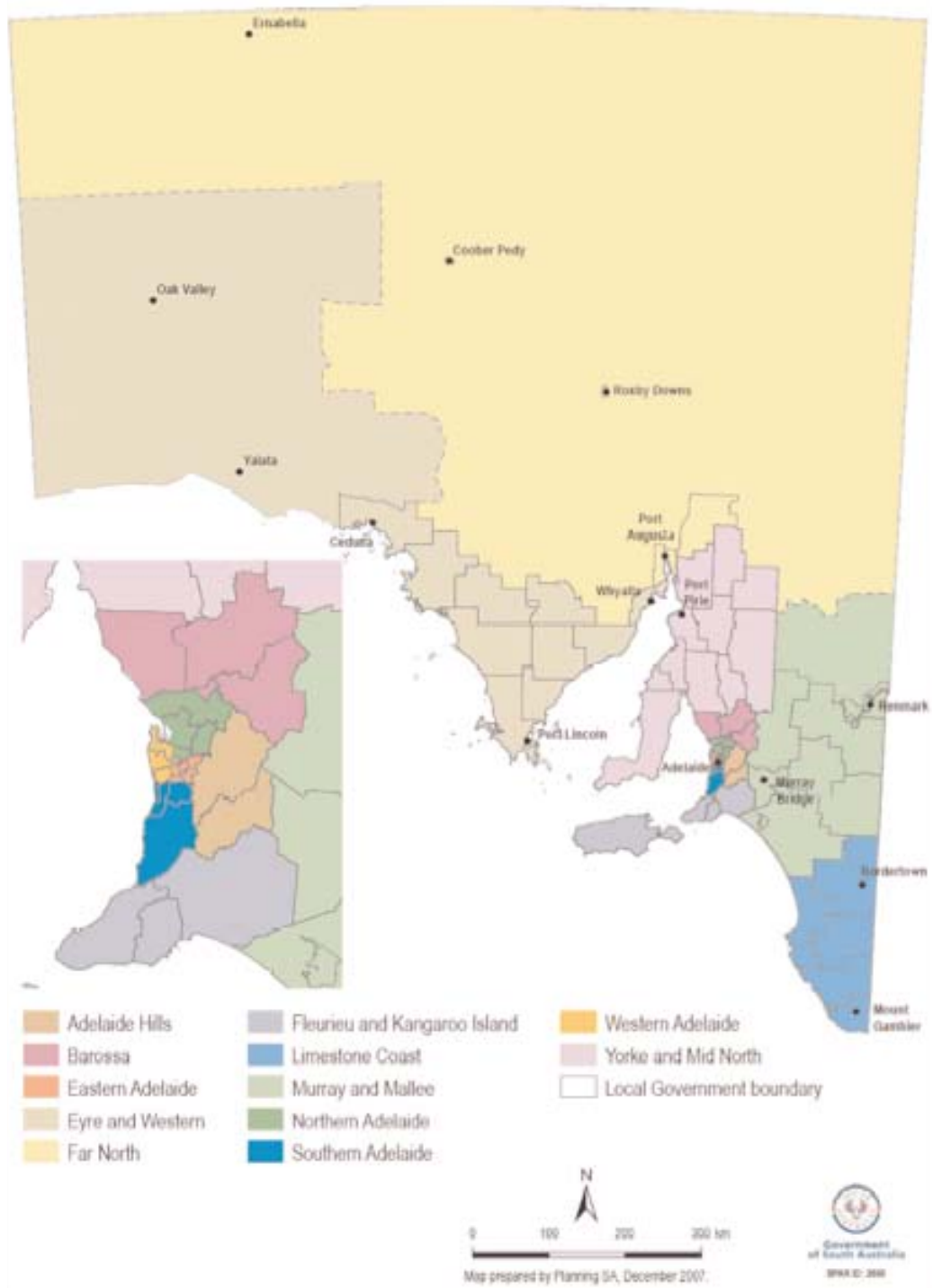
There is now opportunity to extend this work through development of regional blueprints, highlighting the particular strengths of regions, as well as the challenges and opportunities they face under the central growth scenario set out in this Statement. This would enable each region to focus on strategies and specific actions required to achieve SASP targets. The regional blueprints would help identify and better coordinate changing government service requirements in regional South Australia.

The EDB recognises that local government provides vital leadership across South Australia and its involvement in the development and implementation of regional blueprints will be critical, as will involvement of the Office of Regional Affairs and the Regional Development Board network.

Recommendation 5(c): The EDB recommends that :

- **Regionalisation of South Australia's Strategic Plan be extended towards the preparation of individual development plans, or blueprints, for each regional area;**
- **Over time the Regional Development Board network be reconfigured to align with the State's regional boundaries structure. This new structure should seek to integrate regional development activities and structures for all three levels of government.**

Figure 5.1 South Australian Government Regions



6 Economic Growth and the Environment

Economic activity ultimately depends on the use of environmental resources – land, air and water. Some of these resources have natural limits, particularly the capacity of the atmosphere or water bodies to purge themselves of pollutants. Economic growth therefore depends on finding efficiencies which will allow increased production while sustaining natural resource capacities.

South Australia is facing a number of critical environmental challenges. The current global economic situation may be seen by some as a reason to postpone measures to address these challenges. The EDB does not share this view. The environmental issues facing the State will represent serious barriers to South Australia's future productivity if they are not addressed. South Australia must address them if it is to be favourably positioned for above average economic growth in the medium term.

While there are a number of environmental challenges facing South Australia, the EDB considers water availability and climate change to be the most threatening to ongoing sustainable economic growth and therefore recommends that they be the focus of concerted government action.

6.1 Overcoming Water Scarcity

The adequacy and security of our water supply was cited consistently as the biggest challenge facing the state in the EDB's consultations in the preparation of this Economic Statement. The EDB agrees with this assessment, seeing water security as the primary domestic environmental concern.

The outlook for water security is concerning. The current low rainfall pattern in the southern Murray-Darling Basin is the most severe in recorded history and Adelaide's water storage is significantly below capacity. South Australian irrigators are receiving a small fraction of their water allocations and SA Water customers are subject to ongoing water restrictions. The historic and continuing over-allocation in the Murray-Darling system has created profound environmental stresses, with the Lower Lakes and Coorong facing unprecedented crisis.

The situation in the Murray Darling Basin is concerning because South Australia is more reliant on the River Murray than any state. Approximately 95 per cent of the state's current population is directly reliant on the river. On average, the river provides 40 per cent of Adelaide's water needs, and in dry years it provides 90 per cent. The Murray River also supports the productive capacity of the Upper Spencer Gulf and other regional centres.

Recent and continuing national reforms to the management of the Murray-Darling Basin system, as outlined in Box 6.1, are vital. These reforms will not solve the immediate problems South Australia faces, but they do promise sustainable diversion limits in the medium term to redress the over-allocation that has plagued the Murray for too long. Importantly, the reforms deliver greater water security by guaranteeing South Australia access to upstream storages for critical human needs.

Box 6.1 Murray-Darling Basin Reform

On 3 July 2008 the Council of Australian Governments signed an historic intergovernmental agreement on Murray-Darling Basin reform. As a result the Basin's water resources will be managed by a new, independent Murray-Darling Basin Authority.

The Authority will be charged with preparing a whole of Basin Plan that sets sustainable diversion limits on water use in the Basin and safeguards the water needs of communities relying on its water resources. Comprehensive and consistent water trading arrangements will be established across the Basin.

The intergovernmental agreement also incorporates up to \$610 million worth of priority projects for South Australia, for the benefit of the Lower Lakes and Coorong and the state's valuable irrigation and agricultural communities. These measures will be complemented by a \$3 billion Commonwealth program to buy back water from willing sellers in the Basin.

National Water Initiative

The reforms to the Murray-Darling Basin are consistent with a broader set of reforms under the National Water Initiative (NWI). The NWI is a shared commitment by commonwealth, state and territory governments to increase efficiency of Australia's water use through a nationally compatible market, regulatory and planning-based system for managing surface and ground water for both rural and urban use. Water trading and market based water pricing will ensure the most efficient use of water and its conservation.

In addition to achieving reform in the management of the Murray Darling Basin, South Australia is finding solutions to diversify our water supply and provide non-climate dependent sources of water. Initiatives include:

- Constructing a desalination plant at Port Stanvac.
- Working at the international cutting edge in dry-land farming technique and pioneering extensive uptake of micro-drip irrigation systems.
- Recycling 29 per cent of wastewater for irrigation use, toilet flushing and garden watering, more than any other capital city.
- Developing and implementing aquifer storage and recovery well ahead of the rest of the nation.
- Managing 52.2 per cent of natural catchments and groundwater resources within sustainable limits, and 35.8 per cent partly within sustainable limits.

However, despite this progress, water security is an issue that will require ongoing solutions, particularly given the projections of higher population and economic activity in coming years. South Australia must manage existing water resources better, improve demand management, generate additional water supplies and adapt to changing climatic conditions.

The EDB believes that these will all be important elements of the forthcoming State Water Security Plan, being developed by the Water Security Council, and due for release in 2009. The Board believes that the Plan must address the state's short, medium and long-term water security, with a particular emphasis on securing supply and introducing a pricing regime that encourages the efficient use of water.

The EDB strongly supports the use of desalination to generate additional, non-climate dependant water supplies for the state. The establishment of a desalination plant at Port Stanvac, which will deliver up to a quarter of Adelaide's water needs, will be an important step in reducing Adelaide's reliance on the River Murray. It increases our water security, gives certainty to investors and allows us to grow our population and economy while maintaining our standard of living and environment.

The EDB also believes that the State Government should continue to seek Commonwealth loan funds for the purpose of expanding the capacity of Port Stanvac desalination plant beyond 50GL to 75GL or 100GL. Among other things, if Adelaide continues to reduce its reliance on the Murray, then there is also likely to be less pressure on other Murray-dependent regional centres such as the Upper Spencer Gulf to develop more costly alternative water supplies.

The desalination initiative is a major capital investment project and present estimates are that the plant alone will cost \$1.374 billion.¹ The cost of this project will be met by South Australian consumers, through increases in water prices. This reflects the fact that it is the residents and businesses in Adelaide who will benefit from the initiatives for years to come. The EDB believes this is the fairest and most equitable way of paying for these projects. Increased prices to reflect the cost of supplying water is also the essential foundation for demand management to encourage the conservation of water and its efficient use.

The EDB believes that continued restructuring of South Australian water pricing can and should make a major contribution to fixing water supply and security over coming years. Urban and town water supplies do not have to be restricted, provided there is diversity of supply, and market signals to consumers and investors to manage demand and enhance supply. Supplies of potable water can be increased through desalination, recycling and storm water capture, conservation and demand management, and purchases from the River Murray. The optimal combination should be determined by their relative costs, with user charges set to recover the cost of the most recent addition to the supply.

With this pricing regime, South Australia will unlock other alternative water sources, and build on its strong local water manufacturing and services cluster. To be fully effective, private suppliers will also need to be given third party access to Adelaide's main trunk networks for water and sewerage (as is presently the case for electricity and communications).²

The increase to user charges to recover the cost of additions to Adelaide's water supplies will be significant. South Australia has already moved to a new three-tier pricing structure and has increased prices to reflect the costs of the desalination plant. Prices increased by 12.7 per cent in 2008-09 and will increase by 17.9 per cent in real terms in 2009-10. In addition, the fixed annual water supply charge will be cut by nearly \$20, enabling consumers to reduce their water bills by being more water-wise.

The water price for an average household in Adelaide will be \$1.99 per kilolitre as a result of these changes. This is still very low compared with bottled water. In fact, four bottles cost more than the average household's total consumption of tap water for a week. It may be that further price increases will be required in the future to fund the desalination project, as costs become known with more certainty.

In the rural and regional context, restructuring bulk water tariffs to irrigators to better reflect scarcity will have a significant social impact, and must be supported by redistributive measures and structural adjustment support. It needs to be remembered that water accounts for less than 10 per cent of an irrigator's costs. The EDB believes the introduction of a new water-pricing regime for irrigation can be phased in, but cannot and should not be avoided. Consistent with the National Water Initiative, new investment to improve irrigated water supply should not be undertaken unless the benefits to the irrigators allow their share of the costs to be fully recovered from them over time.

Realistic water pricing in urban and rural settings is critical to making the best, the most productive use of scarce supplies. Economically and environmentally, water is used best when it flows to high value-adding industries and is used in locations where the environmental impact is benign. Wastage and inefficiency must be made costly to reflect their true social costs, so that wastage and inefficient usage is reduced. Pricing policy and open market development has a pivotal role in achieving the structural adjustment required for a sustainable future.

¹Estimated cost as of 11 November 2008.

²NSW has already legislated to this effect and it is understood that interest from potential private suppliers is keen.

Recommendation 6(a): The EDB acknowledges recent State Government action to make residential water prices more cost-reflective to support its investment for water security, including the building of a major new desalination plant. The EDB recommends that the Government continue moves towards volumetric based cost recovery pricing, in particular to provide the means to make further investments needed to secure adequate water supplies for the State into the future.

Recommendation 6(b): In prioritising such investments, the Government should urgently evaluate the potential to increase the Port Stanvac desalination plant to 75 or 100 GL with the support of Commonwealth loan funding. Together with further recycling and stormwater capture, this would substantially reduce the State's reliance on the River Murray and create a longer term buffer for growth in the economy.

Recommendation 6(c): If the proposed pricing regime is to be fully effective, private suppliers will also need to be given third-party access to Adelaide's main trunk networks for water and sewerage (as is presently the case for electricity and communications). These arrangements should be managed independently from SA Water.

Table 6.1 Residential, commercial and industrial Users³

Residential use (250 kL per annum per household)	Price per kilolitre (\$/kL)
SA Water	1.69
City West Water Melbourne	1.59
Sydney Water	1.91
Water Corporation (Perth)	1.46
Brisbane Water	2.11
Bottled water	around 2,000.00
Commercial use (average: 399 kL per annum)	
SA Water	3.22
City West Water Melbourne	1.64
Sydney Water	2.00
Water Corporation (Perth)	3.02
Brisbane Water	2.35
Industrial use (average: 3,840 kL per annum)	
SA Water	1.42
City West Water Melbourne	1.20
Sydney Water	1.67
Water Corporation (Perth)	1.41
Brisbane Water	2.13

Source: SA Water.

³SA Water's complete 2007/08 customer profile with parameters for meter size and number, consumption and capital value was applied to different jurisdictions' price structures for 2008/09 to determine average bills for customers with the South Australian profile. The customers were separated into commercial and industrial, legislatively historic categories that apply only in South Australia which are loosely related to property land use codes (commercial properties include shops, offices, retailers, wholesalers, business and professional services). Each customer in the relevant category was modelled applying the sum of: an access charge (based on a combination of: property charges; minimum charge; fixed charge; and the meter size); service rent (either fixed or dependent on meter size if applicable) for additional meters or a larger than standard meter size; and a consumption usage charge using tiered prices where applicable. South Australia has a general policy of statewide pricing whereas Western Australia varies prices between regions. The metropolitan charge for Western Australia is applied to the SA structure due to incongruity of the geographic regions and the fact that (Community Service Obligation) funding is received to account for the cost differential in SA. While the SA customer profile has been applied, the "average" profile of customers would be expected to vary between states.

6.2 Greenhouse gas emissions

Climate change is the critical global challenge of our time. Rising atmospheric concentrations of greenhouse gases threaten the sustainability of the world's environmental, economic and social systems. The international scientific consensus is that without profound cuts in global greenhouse gas emissions, the likelihood of dangerous climate change is high.⁴

South Australia is a small part of a medium-sized national economy on the world stage. There is a view that, because our emissions are a fraction of the global total, anything the State does to cut emissions is inconsequential.

The EDB rejects this view. Australia's per-capita emissions are the highest in the OECD and among the highest in the world.⁵ While South Australia's per-capita emissions are lower than Australia's, they remain high by world standards.

South Australia is one of the regions in the developed world most vulnerable to climate change. As the driest state in the driest continent, we have little choice but to mitigate and adapt to climate change.

South Australia also has the capability to be a world leader in renewable energy technologies, which break the link between economic activity and greenhouse emissions.

The combination of these factors means that a strong mitigation and adaptation response is required from the South Australian Government. Many of the required actions are set out in the 2008 *State of the Environment Report*. If undertaken correctly, this response can benefit the State economically.

Adaptation

It is important to recognise that, even with a successful national and global effort to reduce greenhouse gas emissions, historic emissions have already set us on a path towards substantial further warming throughout the 21st century. Climate change will continue even after the cause of that change has been addressed, and South Australians will have little choice but to adapt.

No one government can solve the adaptation challenge; it will involve efforts from governments, businesses and individuals. Government can play a role in the provision of information. In particular, Regional Vulnerability Assessments will be crucial to understanding the adaptation challenges that face different areas and providing households and businesses with the information that they need to respond to a changing climate.

Under the Plan for Greater Adelaide, an outcome of the Planning Review,⁷ impact assessments are being done for the Greater Adelaide area. This type of work should be extended to all South Australian regions, so that all South Australians can access consistent and high quality information about climate change risk and make their decisions accordingly.

Mitigation

South Australia has already made significant progress in reducing emissions. South Australia's Strategic Plan sets tough targets for limiting the state's greenhouse gas emissions in line with the Kyoto goals of limiting greenhouse gas emissions to 108 per cent of 1990 levels during 2008-2012, as a first step towards reducing emissions by 60 per cent by 2050.

South Australia has achieved significant reductions to date through revegetation, new forestry plantings, and increased renewable energy production. However, new energy demand from mining development and population growth will significantly increase South Australia's electricity demand and greenhouse gas emissions over the coming decades.

⁴see Chapter 2, Garnaut Climate Change Review (2008), Final Report

⁵see Chapter 8, Garnaut Climate Change Review (2008), Final Report

⁷see chapter 7 for more information about the reforms to the planning system

Indeed, there is a significant mitigation challenge facing the entire country, to which the Commonwealth Government is now responding. As of 2010, the Australian Government's Carbon Pollution Reduction Scheme (CPRS) will be the national policy framework for reducing greenhouse gas emissions. The Commonwealth Government recently committed to a reduction in emissions of between 5 and 15 per cent below 2000 levels by 2020.

Under this scheme, capping emissions will result in a price being placed on carbon, making emissions-intensive activities more expensive and creating an incentive to reduce emissions. This means that, as in other jurisdictions, prices to South Australian consumers for electricity and many other goods and services will rise.

Some may argue that the presence of a carbon price negates the need for any further mitigation action on the part of state governments. The EDB rejects this view and believes there is a role for the South Australian Government in mitigation.

An effective emissions reduction strategy must incorporate a mix of both public and private initiatives to improve energy and transport efficiency, improve land use and increase research into the uptake of renewable and low emission technologies. Action will be required from all levels of government and the private sector. The EDB believes that South Australia can make a significant contribution to local and global emissions reductions by focusing on its comparative advantage in renewable energy.

By fostering and encouraging new technologies, South Australia can contribute to breaking the link between energy and emissions. This will be the key to driving continued economic growth despite a carbon constraint.

Continuing research, testing and development of new techniques will deliver electricity and production processes with much lower carbon emissions. This will assist Australia to make significant cuts to greenhouse gases without stifling long-term economic growth.

This innovation will be driven by the private sector, but there are strong reasons for public support for research and development. These relate to the strong economic spill-over benefits from these new technologies, as well as the potential to deliver broader public benefits through faster emissions reductions and the creation of new industries.

There is already public support for renewable technology. The CPRS and initiatives such as the Renewable Energy Target have the potential to induce major investment in low emission and renewable energy technology from public and private sources.

In addition, substantial Commonwealth resources are earmarked for research into carbon capture and storage (CCS) and renewable energy technologies. The Commonwealth has committed \$110 million to CCS and \$500 million to support the development of renewable energy, which will be delivered in 2009 and 2010.

However, there is no guarantee that these national schemes will focus on optimising the unique natural and regulatory advantages that South Australia has in the renewable energy sphere. There is also a likelihood that these programs will favour lower cost, already available technology, at the expense of some of the less advanced technologies, which have the potential to provide base load electricity as well as significant economic development opportunities for the State in future.

There is therefore good reason for South Australia to act now to coordinate effort across industry, universities and government to drive research and development and stimulate the renewable energy industry.

6.3 Renewable Energy

South Australia has significant existing renewable energy resources and a capacity for new renewable sources, such as geothermal, which is unique to Australia. South Australia also has the potential to develop low emissions technologies, such as carbon sequestration; and vast supplies of low carbon emissions fuel in its extensive uranium reserves.

Renewable energy technologies lie at different stages of the development cycle, as can be seen below in figure 6.2. They also have markedly different costs and it is not yet clear which if any will be competitive with traditional energy sources under the CPRS.

Box 6.2 South Australia's Clean Energy Advantage

South Australia is home to around 50 per cent of Australia's installed wind generation capacity, with more under construction. The state has:

- Nearly 40 per cent of the nation's grid-connected solar power capacity.
- Led the nation in the development of geothermal energy, attracting more than 90 per cent of Australia's total geothermal investment.
- Excellent prospects as a geological repository for sequestered carbon.
- Excellent solar-thermal potential close to its mineral resources.
- World-class potential wave energy resources.
- First-rate research capacity in its higher education institutions.

With its abundant renewable energy resources and excellent research capacities, South Australia is well placed to establish itself as a research, testing and proving hub in this field, by integrating and coordinating effort across government, business and universities.

A feature of the Government's strategy should be to examine possibilities for co-location of complementary types of renewable energy sources to reduce generation variability and minimise the need for upgrades to transmission lines and interconnectors (see Figure 6.1 below).

Figure 6.1 Co-location of South Australian renewable energy prospects



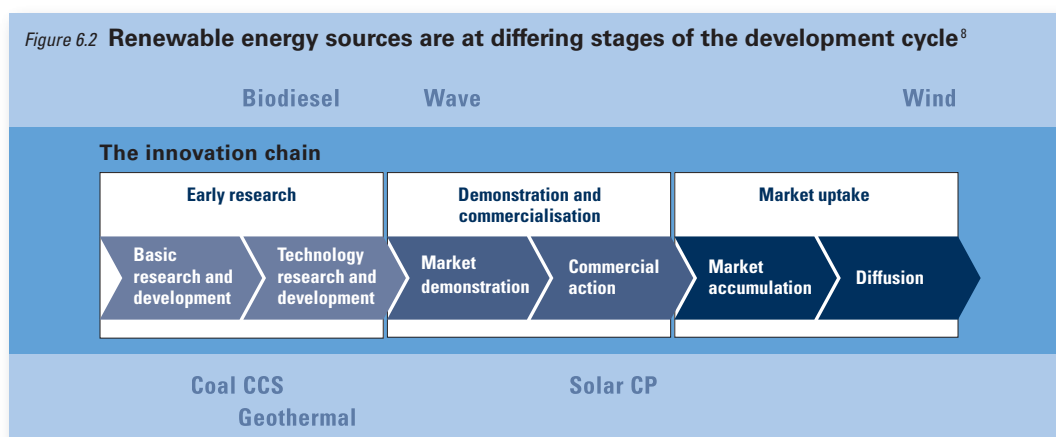
There are barriers such as transmission capacity and high cost relative to traditional energy sources that must be overcome for these technologies to succeed. In addition, the intermittent nature of some renewable technologies, such as wind and solar, is such that without significant advances in storage capacity they will not be able to meet baseload demand, or peak demand in all conditions.

Notwithstanding these challenges, given its remarkable resource base, South Australia could eventually become self-sufficient in renewable energy in the long term. In the shorter term, South Australia is ideally suited to becoming an exporter of renewable energy and renewable energy knowledge and associated services to the rest of Australia and the world.

The EDB believes that South Australia has a brief window of opportunity to establish itself as Australia's leading clean energy state, building on the state's existing renewable developments and its natural advantage in renewable energy resources. A concerted effort by government in conjunction with industry and our research institutions offers the opportunity for the state to lead the emergent growth of renewable energy in Australia.

Promoting technological innovation and industry investment in this area will allow the State to build on its green credentials and its unique natural advantages in generating solar, wind, wave and geothermal electricity with the dual objectives of achieving emissions reductions and building economic activity in the State.

Figure 6.2 Renewable energy sources are at differing stages of the development cycle.⁸



Source: Adapted from Grubb (2004)

To drive concerted action in this area, the EDB recommends that the Government establish a Renewable and Low Emissions Energy (RaLEE) Board. This Board would inform public and private investment that will flow into the renewable energy sector in coming decades.

The Board should include experts and leaders in the development of renewable energy from across Australia from both government and industry. Board members would seek to engage proactively with the Commonwealth Government and the international business community to attract investment in this sector to South Australia. It would also work to resolve vital matters affecting the future development of the sector, such as transmission infrastructure.

⁸See Chapter 18, Garnaut Climate Change Review (2008), Final Report; and Grubb (2004), 'Technology innovation and climate change policy: an overview of issues and options', Keio Economic Studies 41(2): 103-32.

This Board could be supported by a RaLEE Office, which would provide a single point of coordination for industry and universities and the necessary resources for this effort. The Office would work with industry in identifying priority R&D needs and in building a strong and responsive renewable energy science base to underpin the strategy of the Board and attract company headquarters to South Australia.

This is similar to the model used by the Government in establishing the Defence SA Advisory Board and Defence SA, innovations which have stimulated significant economic activity for the State in the defence industry.

Sufficient funding should be provided to establish these bodies and provide funding for research and development for geothermal, tidal and wind energy and bio-diesel transport fuels, as well as geo-sequestration. A five-year period of funding is recommended in the first instance, with the expectation that this modest investment would be leveraged manyfold by industry and the Commonwealth Government.

Recommendation 6(d): The EDB believes that South Australia has a brief window of opportunity to build on its unique natural advantages in generating solar, wind, wave and geothermal electricity and establish itself as Australia's leading clean energy state. To achieve this, the South Australian Government should implement strategies to promote technological innovation in a diverse range of renewable energies, fast track demonstration plants, minimize regulatory impediments and secure industry investment. In addition to attracting large-scale investment in renewable energy facilities, the strategy should also aim to build the State's broader manufacturing base to provide the components and services that make up the generating capacity.

As a parallel to the successful Defence SA model, the State Government should establish, for an initial term of five years, the Renewable and Low Emissions Energy Board and Office and invest in a suitable science base in renewable energy to underpin investment attraction, oversee and drive implementation of the State's renewable energy strategy and help build the associated manufacturing capacity to supply components and services.

6.4 Resource efficiency – improving the ecological footprint

New water supplies and lower emissions technologies can be developed, but there is also significant scope to tackle demand side pressures by increasing the efficiency of use of these and other resources. This will reduce costs, as well as the State's ecological footprint.⁹

There is tremendous scope to improve the energy efficiency of South Australia's homes, commercial buildings and industry processes. Most of the existing stock of houses, offices and factories was constructed without consideration of energy efficiency. Over recent years the average energy efficiency of dwellings has remained steady, and it is too early to observe the benefits of new performance standards for water heater installations and the Residential Energy Efficiency Scheme introduced by the State Government.

The EDB believes further action to strengthen both energy and water efficiency requirements for new buildings, dwellings and extensions warrants careful consideration. The future stream of cost reductions arising from such measures must be weighed carefully against the additional up-front costs they entail. Increased efficiency in existing buildings and dwellings should be encouraged through raising public awareness of the scope to reduce heating and cooling costs through better insulation, and Commonwealth programs should be leveraged to this end. The South Australian Government should also become a leading edge consumer of greenhouse-friendly buildings.

In terms of households, the impact on first home buyers and on low-income households must be taken into account. The introduction of such measures ought not to occur without full modelling and analysis of all costs and benefits.

⁹Under SASP target T3.7 the state aims to reduce its ecological footprint by 30 per cent by 2050.

Similarly, there are opportunities for businesses to increase their resource efficiency and reduce their environmental impact, through up-front investments which will be offset by lower costs in future years. Leading edge performance in this area will not only reduce the State's ecological footprint, it will also lead to a business advantage for those South Australian businesses which can market themselves as sustainable. While this can have a net benefit over time, there is often a lack of information that prevents businesses, particularly small and medium businesses, from improving their resource efficiency. There is therefore a role for Government to provide targeted information about resource efficiency to small and medium enterprises.

Accordingly the EDB believes the Environment Protection Authority (EPA) should give greater prominence to its non-regulatory functions. Through education, provision of information and assistance, the EPA should increase its work with industry to reduce its ecological footprint, identifying opportunities to reduce waste and unwanted by-products to achieve environmental outcomes.

The EDB recommends careful assessment of additional measures to increase the uptake of energy efficiency initiatives in established offices and dwellings and strengthen energy and water efficiency requirements for new buildings.

The EDB recommends the EPA increase its emphasis on education, information dissemination, and proactive strategies to reduce waste and improve environmental outcomes.

7 Economic Growth and Population

The EDB believes healthy population growth is good for South Australia's economy and society leading to greater opportunity, incomes and civic vitality. This view is reflected in South Australia's Strategic Plan target 1.22, which seeks to increase South Australia's population to two million by 2050, with Adelaide's population rising to 1.5 million at this time.

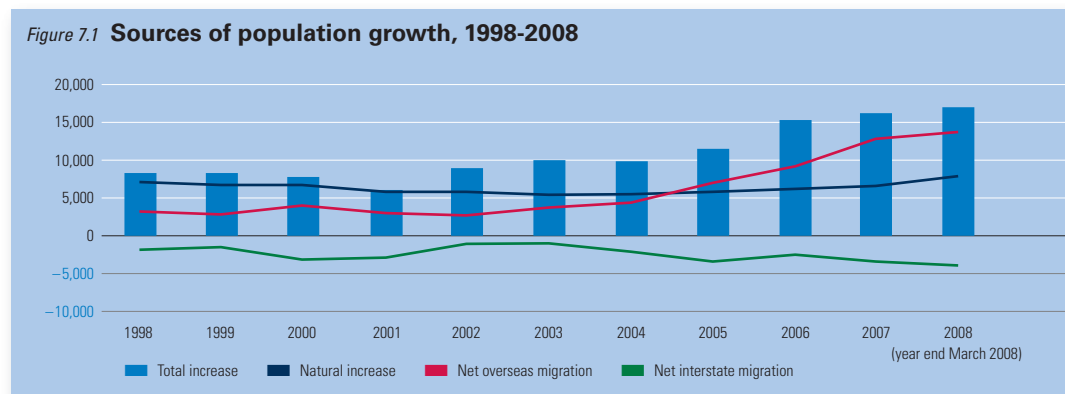
7.1 South Australia's Population Strategy

To achieve projected growth, we need to:

- Maintain a relevant and effective population strategy for South Australia.
- Further increase South Australia's share of overseas skilled migration, and grow the level of employer-sponsored migration.
- Increase net inward interstate migration flows.
- Address housing affordability issues by improving land supply.
- Plan for population growth, and accelerate rezoning and planning reforms to accommodate this growth.
- Ensure that a greater proportion of working-age people participate meaningfully in the workforce.
- Maintain and improve the liveability, sustainability, safety and health of South Australia's residents, and in doing so increase South Australia's attractiveness as a place to live and work.
- Establish a central point of co-ordination across government.

Today South Australia is experiencing historically high population growth rates (just over 1 per cent per annum) and is on track to meet its two million target well ahead of schedule. This growth is primarily due to higher overseas migration, with a small natural increase through higher fertility.¹ Barely five years ago predictions were for South Australia's population to decline.

However, interstate migration over recent years has seen a net loss of young working age people to other states² and is the one population-related Strategic Plan target (T1.23) unlikely to be achieved in the original timeframe.



Source: (ABS Cat. No. 3101.0)

A robust, effective population policy focuses the State's endeavours to address the population and growth objectives of South Australia's Strategic Plan. The current Population Policy is achieving that outcome, but by March 2009 the policy will be five years old. This is an opportune time to review and revise the policy, to update trends and projections, and to evaluate the success of the programs and initiatives it sets out.

¹The State's fertility rate was 1.829 in 2007, the highest result in 23 years. Source: ABS 2007 Demographic Statistics Cat No. 3101.0.

²Significantly, 20-29 year olds accounted for over 50% of the net outflow.

Recommendation 7(a): South Australia's Strategic Plan target of two million people is likely to be achieved by 2036, fourteen years ahead of the initial target date. The EDB recommends that additional strategies are implemented to reach the two million population target by 2027. This will require review and updating of the State's population policy (now five years old) with priorities to grow South Australia's share of overseas skilled migration, stem the loss of young working people to other states and increase workforce participation. In parallel, the policy will need to ensure this growth can be accommodated through improved land supply to address housing affordability issues, as well as accelerated rezoning and planning reforms. Health and quality of life of residents, as well as environmental and regional impacts will also need careful consideration. The Government's Population Policy Unit should be empowered to coordinate implementation of this updated policy across all relevant government agencies.

Economic prosperity – and the jobs that come from it – is the biggest driver of skilled migration. South Australia is growing, with excellent growth in prospect over the coming decade and beyond. That growth will bring with it quality jobs and settlement opportunities for skilled migrants and their families, from overseas and interstate.

Making South Australia visible as a migrant destination is a continuing challenge. Better collaboration within and between government, business and community support agencies must complement efficient and well targeted strategies for recruiting skilled migrants and their families to jobs and fulfilling lives in South Australia.

Recruiting overseas migrants can be time-consuming and costly to employers. The State has a role to continue to monitor the cost and the competitiveness of migration processes, to liaise with the Commonwealth in red tape reduction, ensure that the Commonwealth is well informed about the State's skill needs and that appropriate weighting is given to prospective migrants that meet those requirements.

South Australia's strong recent overseas migration history reflects close cooperation with the Commonwealth Government, including the Regional Skilled Migration Scheme (RSMS), which has helped overcome the State's regional disadvantages as a migrant destination. The EDB believes it would be ideal for the same or similar arrangements to remain in place for at least the next five years.

South Australia has a growing share of Australia's overseas student numbers. The South Australian Government should continue to work with universities and industry to encourage more overseas students to study in areas of future demand in South Australia, and to encourage them to stay once their studies are completed.

The State's efforts in overseas migration should be predominantly directed to supporting employers in recruiting skilled migrants. More overseas students should be encouraged to study in areas of future demand in South Australia, and to stay once their studies are completed. Current Government programs and initiatives should be evaluated and restructured towards these outcomes, and include migration targets for the State's overseas offices. The Government should continue to work closely with the Commonwealth to maintain South Australia's Regional Skilled Migration status for five more years.

For economic growth and social inclusion, it is vitally important that skilled migrants and their families settle successfully and quickly.

The EDB recommends that more be done to improve publicly provided settlement services and to engage employers in supporting and providing these services for their migrant employees as well as attractive workplace environments.

Beyond this, employers must be sensitive to social and cultural needs, and government must deliver relevant and integrated support services for culturally diverse communities. The result will be a stronger labour market, improved economic capacity, and a more cohesive community over the longer term. This is wholly in keeping with South Australian attitudes — 87.7 per cent of South Australians appreciate that cultural diversity has a positive influence on the community.⁶

³The EDB has recommended that this be achieved through better use of labour market data by modelling occupations in demand. See EDB Skills and Workforce Development Review 2008.

⁴Audit Committee 2008 SASP Progress Report.

⁵South Australia: Migration, Economy and the Housing Market, March 2006, Macquarie Property Research.

⁶see SASP Audit Committee Progress Report (2008), SASP target 5.8.

7.2 Housing Affordability

Together with economic and employment growth, relative housing affordability affects interstate migration, particularly between capital cities. As Table 7.1 shows, interstate migration has detracted from South Australian population growth for some time and a high proportion of the loss has been amongst young professional workers – the same cohort the state will need in coming years.

Adelaide's median house price, and its ratio of house prices to average earnings, remains less than that of Sydney and Melbourne. While currently lower than all state and territory capitals other than Hobart, over the past year the median house price in Adelaide has risen faster than any other city in Australia.

To preserve and improve South Australia's relative housing affordability, South Australia's *Planning Review*⁷ is addressing issues with land supply and land affordability, Transit Oriented Developments (TODS), transport infrastructure and the development approvals process.

Table 7.1 Housing and earnings ratio: Housing affordability

	Median house price (Sep 08)	Median household income	Ratio - housing price to median household income
Sydney	\$529,000	\$64,000	8.3
Melbourne	\$435,000	\$61,300	7.1
Adelaide	\$363,000	\$50,900	7.1
Perth	\$435,000	\$67,800	6.4
Brisbane	\$410,000	\$65,100	6.3
Hobart	\$320,900	\$51,900	6.2
Darwin	\$426,000	\$71,900	5.9
Canberra	\$435,000	\$85,700	5.1
National Median	\$447,700	\$74,617	6.0

Sources: 5th Annual Demographia International Housing Affordability Survey 2009, median house price from Real Estate Institute of Australia.

7.3 Planning for Population Growth

On current trends growth, 90,000 extra people will need to be accommodated by 2014, and a further 360,000 by 2050, creating further demand for land, housing, transport and services.

The State must plan to address the strains that economic growth will place on energy, water and transport; and it is doing so.

The Government's Planning and Development Review has recommended ways to streamline and free up the capacity of the current planning system to enable it to accommodate growing demands. These recommendations have largely been adopted and are being implemented. A new Plan for Greater Adelaide that sets out where housing and employment growth should occur, where land should be conserved and released, and how transport and infrastructure will support growth, is being developed and Regional Plans will soon be released.

Under the new Plan for Greater Adelaide, housing and employment growth will be concentrated around major transport corridors, reducing reliance on cars, improving access to services and providing the population to support the upgrading of infrastructure, such as the long-term electrification of the rail system.

⁷Better Planning Better Future - Directions for creating a New Plan for Greater Adelaide (2008).

Within these corridors, the Plan will identify sites for Transit Oriented Developments. These will be high-density, highly liveable centres which will bring together jobs, housing and transport, and allow the city to achieve population growth without widespread change to existing suburbs.

The plan will also provide for careful expansion of the urban growth boundary and fast-track rezoning on all land currently within the boundary. The EDB considers that the expansion of the boundary must be supported by an immediate and accelerated rezoning of all land within the boundary, to meet short-to-medium term demand for land, and to protect housing affordability.

Plans will also be developed for South Australia's regions that take an equally comprehensive approach to management of the diverse demands that regional growth generates.

To achieve this change it will be critical to proceed swiftly to implement the recommendations within the Planning and Development Review report that have been endorsed by the Government.

The Government recently announced an investment of \$2 billion over the next decade to revitalise Adelaide's public transport system. This will include electrification of the rail corridors to the north, south and west, and extending the tramline through the West End, down Port Road to the Entertainment Centre. New dual-voltage trams will operate on the western network, and service new rail extensions to West Lakes and Semaphore, through the heart of Port Adelaide.

The EDB welcomes this announcement, which is a key to the achievement of growth along transport corridors and to the State's ability to meet its population targets for Adelaide.

To free up capacity in the planning system, the Government has endorsed the recommendations of the Planning and Development Review to introduce a new Residential Development Code, to increase the number of matters that do not require planning approval, and to streamline approval processes to make them simpler and quicker.

The current planning system is at capacity, and the EDB considers that it is critical to improve capacity by removing minor matters from the system, so that they do not constrain South Australia's growth or put pressure on housing affordability.

The EDB considers that these initiatives are of critical importance to increase housing supply and to contain increases in the cost of housing which, if delayed, will seriously erode of South Australia's housing affordability. The Department of Planning and Local Government must rapidly re-gear its resources to achieve these outcomes.

The EDB will maintain a close involvement in the implementation of these initiatives, and considers it essential that the proposed timeframes are met for implementing the core recommendations: to provide certainty in land supply; to speed up rezoning processes, especially in relation to broadacre land and transport corridors; and to implement a residential development code.

7.4 Social Infrastructure⁸

The social challenge ahead is to accommodate a larger population with:

- Housing that is affordable, and that is well located with respect to public transport and employment.
- A safe community.
- First-rate health, education and human services.
- An attractive lifestyle.
- Decent work opportunities.

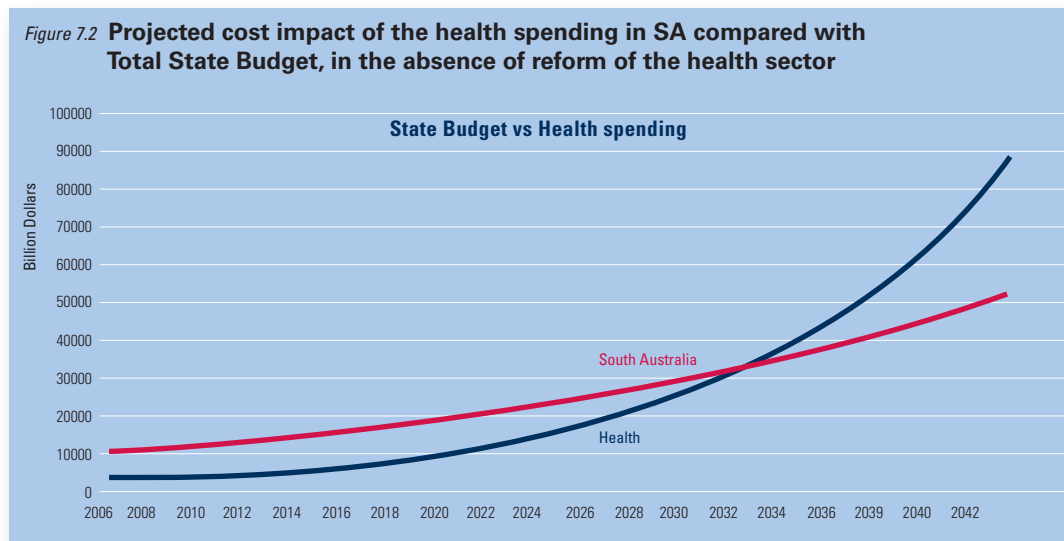
⁸See also chapter 5.

One of South Australia's great successes in the past few years has been the major reduction in victim reported crime that it has achieved. In fact, the State reached its Strategic Plan target (T2.8) to reduce victim reported crime by 12 per cent by 2014 in 2007, seven years ahead of the target timeframe. Clearly these results contribute greatly to the overall wellbeing and prosperity of South Australians. The EDB is of the view that crime reduction also contributes to the State's ability to attract overseas migrants, tourists and, ultimately, investors. There is a link between community safety and economic prosperity, and the more stable and secure our State, the smaller will be the risks facing potential investors.

Public services supporting our growing population must be delivered effectively, and remain robust under budget pressure. It is essential to deliver efficient, high quality health and other human services to support the State's population growth. This will require consolidation and integration of programs and facilities with a clear focus on primary preventative health care, integrated human services and life-long learning.

Efficiency gains in the delivery of health services are essential. Between 2001-02 and 2008-09 spending on the State's health services has increased by \$1.33 billion or 69 per cent. In the absence of reform to the system, it is projected that the entirety of the State's Budget would need to be spent on health by 2032 to maintain standards at current levels. Clearly this requires urgent action.

The soaring health costs can be attributed to multiple factors. These include the rising incidence of 'lifestyle' diseases and an ageing population in developed countries such as Australia. The increased availability of new and more expensive medical technologies and drugs imposes a significant burden as does the excessive use of hospitals for procedures that are most appropriately undertaken in the primary care system.



Source: SA Department of Health 2008.

The direct economic burden of ill-health from the costs required to prevent, diagnose or treat disease is only part of the equation. The indirect costs through lost productivity, and intangible costs associated with the stress of illness, are also substantial.

There is strong evidence that early intervention, through health promotion and prevention activities as well as investment in quality primary health care, will achieve long term positive health outcomes and economic benefit. For example, treatment of cardiovascular disease is currently responsible for 11.8 per cent of the Australian health system costs. A reduction of 10 per cent of cardiovascular disease mortality in the working age population of high income countries has been found to be associated with a 1 per cent growth in per capita GDP.¹⁰ The authors of this report argue that allocation of resources to these activities should be regarded as an investment rather than expenditure that brings no returns. The EDB agrees.

⁹SA Department of Health data.

¹⁰Barnett K, Burgan B, Spoehr J, the University of Adelaide, February 2008: The economic contribution of the health sector to the SA economy.

The South Australian Government and its Department of Health are well aware of the need for decisive action on healthcare. The Government's long term strategy for dealing with increased demands on the health system is based on increasing capacity and managing demand.

The EDB impresses the importance of the Department of Health's strategic plan to reduce the unacceptable projected growth in the State's healthcare costs with a strong focus on preventative and primary healthcare. An integrated policy response at both the State and Commonwealth Government levels is needed to ensure ongoing positive economic and social dividends.

A number of initiatives are underway or planned, including the new Royal Adelaide Hospital. As the centrepiece of the State Government's reform of the health system this state-of-the-art facility will provide a new model of care targeted at consolidating acute care hospital services in Adelaide, reducing the number of hospital admissions and increasing emphasis on primary and preventative healthcare.

8 Economic Growth and the Workforce

The development of the South Australian workforce is fundamental to South Australia's future prosperity. It is also vital in its own right, and the main means of securing a social dividend for South Australians from tomorrow's economic growth.¹

To secure this future we need:

- A larger and deeper skills base that meets industry's demands to underpin the opportunities for economic development.
- More people participating in the workforce.
- A more flexible and responsive education and training system that allows all individuals to develop the full range of their potential skills and employability.

Initiatives now in train are designed and intended to help meet South Australia's future workforce needs. The EDB believes the overall effectiveness of the State's skills strategy can and should be enhanced by broadening the scope for action on skills beyond the Vocational Education and Training system to include early childhood learning, schooling and higher education.

8.1 Ensuring the Future Availability of Skills

Over the next decade:

- Billions of dollars worth of major projects in progress or in the pipeline are expected to create thousands of new jobs, particularly in defence, mineral resources and construction.
- Almost one-third of South Australia's existing workforce will reach retirement age.
- Imbalances between the availability and demand for skills and labour within some occupations, industries and regions are likely to persist.

Raising the skills of the general population, particularly for those with low levels of workforce participation, is central to addressing the State's future labour supply requirements. This is a major challenge.

Box 8.1 Workforce Demand

To meet prospective growth by 2014-15, the EDB has estimated that South Australia will require:²

- A net additional 75,000 workers.
- A further 112,000 workers to replace those leaving the workforce, mainly due to retirement of older workers.
- This results in total job openings over seven years of 187,000.

These new job openings do not equate with training demand. Some jobs will necessarily be filled by migration and people re-entering the workforce (such as from family leave). On the other hand many currently employed workers will need upskilling or retraining because of structural change and new technologies.

¹The EDB has separately reported to the Government on policies to prepare the skill base for the challenge that lies ahead and those recommendations have been accepted in 2008. This report built on the Government's Skills Strategy for South Australia's Future, released earlier in 2008. The skills challenge we face is not unique to South Australia. The Australian Government is working with state governments to implement a range of reforms across the education and training spectrum.

²These are updated figures to the EDB's Review of Skills and Workforce Development in South Australia released in 2008. Differences in the net additional employment demand compared to the original skills review are due to a different mechanism to derive the base (population derivation vs GSP derivation), updated data on major projects and, the shorter time period examined. The estimated level of replacement demand has been significantly revised from that previously estimated by the EDB, the main factor is the use of CEET replacement demand forecasts as opposed to Monash CoPS replacement forecasts. CEET replacement demand forecasts are based on workforce flow data sourced from the ABS labour mobility survey data, while Monash CoPS replacement forecasts are primarily based on age profile information and estimated rates of retirement derived from Census data. As CEET is based on actual workflows, it is considered to be more representative of actual labour movements. For this reason the Monash CoPS forecast have been replaced with the CEET replacement demand forecasts.

The EDB has estimated that 337,000 formally accredited education and training qualifications will be required over the seven years.

On recent trends, the South Australian education and training system can be expected to supply 257,000 publicly funded VET and higher education qualifications. In addition, the Australian Government's new Productivity Places Program could deliver an additional 69,000 VET qualifications making a total of 326,000 qualifications compared to an estimated requirement of 337,000 (see box 8.2).

Box 8.2 What is the Breakdown of South Australia's Training and Qualifications over the Next Decade?

Level of training	Projected demand for qualifications	Projected supply for Training
Bachelor Degree or higher level	31%	26%
Diploma and Advanced Diploma level	15%	14%
Certificate IV level	16%	18%
Certificate III level	32%	25%
Certificate I and II levels	6%	17%
Total	337,000	326,000

With a Certificate I qualification employment may be gained as a florist, outdoor council worker or kitchen hand, with Certificate II, bank officer, car detailer or receptionist; with Certificate III, a baker, motor mechanic or plumber; and Certificate IV an accounts clerk, architectural drafter or mechanical engineering technician.

These new training places are concentrated at higher level VET skills (Cert III and above). On present indications, additional resources may be required to secure adequate funding per training place/qualification. There may also be a shortfall of 17,000 higher education qualifications. It is critical that these concerns be fully investigated and addressed with the Commonwealth Government.

Recommendation 8(a): Given the concerns identified here, the EDB recommends that the potential shortfall of VET funding and higher education places over the next decade and the opportunity to increase the rate of training in the present downturn should be pursued vigorously with the Commonwealth Government.

8.2 Ensuring the Usefulness and Use of Skills

Meeting the training effort is one part of the challenge. Another is to ensure that the skills delivered are useful to the individuals and are required by industry.

In this respect it is critical that South Australia's workforce planning system be informed by systematic stakeholder input. *The Training and Skills Commission* (TaSC) has commenced the first stage of an extensive industry and stakeholder engagement process to identify priorities for skills and workforce development in its new five year plan.

This will ensure that the skills provided respond to industry demand so they support economic growth and promote social inclusion. The EDB believes it important that the plan guides allocation of places for both VET and higher education, as well as the targeting of skilled migration programs.

It will be vital to ensure that the skills available are actually used. Too often in the past people have not been able to make full use of their skills, job retention has been poor, labour turnover too high, and too many people have moved to jobs where they do not use their qualifications. Employers need to be encouraged to accept their responsibility for workforce development.

Box 8.3 What is the Training and Skills Commission?

The State's peak advisory body to government on skills issues is the newly constituted Training and Skills Commission (TaSC) chaired by Professor Denise Bradley.

The TaSC is responsible for providing high level strategic advice and recommendations on priorities for skills and workforce development in South Australia. It is responsible for promoting pathways between education and training sectors, and advising on the State's role as part of an integrated national system of education and training. The TaSC will work closely to achieve this with the Commonwealth government body Skills Australia.

The TaSC will develop a 5-Year Plan for Skills and Workforce Development. The Plan will encompass the whole education, skills and workforce development system from early childhood development through to higher education and continuous lifelong learning. The EDB, the Social Inclusion Board (SIB), Industry Skills Boards (ISBs), and regional, community and industry stakeholders will contribute to the development of the Plan, which will align with continuing national developments. The 5-Year Plan will combine quantitative ('top down') analysis about occupational skill requirements, with local intelligence ('bottom up' information) gathered through stakeholder engagement.

The TaSC's plan will directly inform the allocation of resources for skills and workforce development in South Australia over the next five years.

TAFE SA must reposition itself in a competitive market to work closely with companies and clusters of firms to broker broader workforce solutions that focus on the use of skills to improve productivity and participation. Partnerships with individual enterprises to identify specific training needs in conjunction with how work can best be organised, can lead to job redesign, improved career pathways and better retention of skilled workers.

The EDB considers that the reforms being implemented to South Australia's skills system are urgent and must proceed as quickly as possible.

Box 8.4 Improved Information about Careers and Training

Individuals and organisations need to be better informed about the labour market. Career Development Centres currently established in six regions across the State provide information on jobs and education and training pathways. These services assist individuals to make informed learning, career and employment decisions and better connect people to employers for both work experience and jobs.

The Centres provide employers with a single point of contact to obtain workforce development resources to identify and meet current and future skills needs. They also provide communities with a resource which uses up-to-date and accurate information about jobs, careers and training pathways to help link enterprises with skilled workers, and assist the smooth transition of migrants into the local economy.

8.3 Increasing workforce participation to increase labour supply and improve social inclusion

South Australia has both the opportunity and the necessity to increase the State's rate of workforce participation. Investing in skills formation builds human capital and lifts employment participation, directly enhancing the social and economic opportunities of job seekers and improving the long term sustainability of our society and economy.

The growth rate of employment consistent with South Australia's prospective economic growth will average around 1.3 per cent per annum from 2007-08 to 2014-15.³ Because of the prospective ageing of the population, we will need a significant increase in workforce participation – amongst both prime-aged and older persons – to achieve this.

Male employment participation has fallen dramatically since the 1960s and both male and female age specific participation is well below the rates in other states and other countries. With the present economic downturn employment participation is likely to deteriorate further in the next year or so. But it is critical that the opportunity is taken now to increase training so that people are better equipped to take up the prospective employment opportunities as the economy recovers.

Recommendation 8(b): In the present economic crisis, government should increase the funding of training and workforce development opportunities for those people who are on the margin of the labour force, those who are at risk of losing their jobs or who are on short-time, and those whose training contracts are at risk. Training providers must develop partnerships with individual firms and clusters of firms to improve the use of skills by identifying specific training needs in conjunction with agreements about how work can best be organised, involving possible job redesign, improved career pathways, and better retention of skilled workers.

Box 8.5 Raising South Australian Workforce Participation

There is great scope to increase participation among those currently not engaged in the labour force, and by using the existing workforce more effectively.

In 2007 more than 260,000 South Australians were seeking work or more hours of work. This group includes those who are unemployed, underemployed, or not engaged but who want to work. These figures represent a vast under-utilisation of labour, and point to the significant challenges facing the State if more South Australians are to take up the prospective employment opportunities.

Low employment participation rates are concentrated among people who left school early and have no further qualifications. The EDB believes a concerted effort to improve their employability skills is essential if they are to achieve sustained employment. Early intervention to increase school retention and improve the transition from school to work will help avoid future generations following similar life paths.

Recommendation 8(c): Development of the workforce is fundamental to the State's future prosperity. It is critical that the opportunity is taken now to increase training to better equip people for employment opportunities as the economy recovers. The EDB believes an appropriate target is to increase the State's employment participation rate (percentage of the population aged 15-64 years that is employed) from the current rate of 73.8 per cent (June 08)* to 78.0 per cent by 2014-15. Because the State's population is ageing, the rates of employment participation of working age people will need to increase by more than this to achieve the target.

³EDB calculations assuming a productivity growth rate of 1.75% per annum.

*Refers to the ratio of persons employed in the State to the State's population aged 15-64 years. Population estimates are based on Planning SA Population projections, high series.

Box 8.6 Ending the cycle of entrenched disadvantage

In an increasingly skilled labour market, job seekers with minimal qualifications are at a significant disadvantage. The higher a person's qualifications level, the better are their life long employment prospects and the greater is their attachment to learning.

For this reason we need to increase the number of South Australians with Year 12 or a comparable foundation qualification – to enable them to access pathways to further learning and work. And to achieve this we must do much better in the early years, building a thirst for knowledge and a love of learning from the pre-school years.

Investment in school and pre-school education has significant net benefits in the longer term. These benefits accrue to both individuals and employers, with large positive social and economic returns.⁴ The benefits include increased earnings for school leavers once their initial education is completed; positive social outcomes through better health and reduced crime; increased productivity and profitability for employers; and longer term gains in output and consumption levels.

Increased employment participation will make significant inroads into economic disadvantage. In June 2008, there were nearly 200,000 South Australians receiving benefits/allowances from the Commonwealth Government, excluding the age pension. The surest route to a fairer sharing of the benefits of economic development and greater social inclusion is through getting more of them into work.

In addition to their lack of skills, the most disadvantaged groups also face numerous other barriers to their employment. For this reason skill formation needs to be integrated with wider provision of other supporting services. The evidence is clear – employability skills are most effectively imparted when integrated with a broader suite of support services within a framework that addresses personal needs.⁵ These supportive measures include pre-employment assistance, work experience, literacy and numeracy programs, on-the-job training and post-placement support, mentoring and case management.⁶ Training undertaken in conjunction with an employer and with an expected job outcome achieves the best results.

Currently, the South Australian Government's main employment program is SA Works. This program has produced some positive results. However, the Board recognises that intensive individually customised support is effective in assisting people who experience personal, social and financial disadvantage to gain and remain in employment. It recommends that SA Works and the Productivity Places Program for disadvantaged job seekers incorporate individualised support.

The EDB believes that an evaluation of SA Works should now be undertaken to ensure the best employment outcomes for target groups are achieved. The evaluation should have regard to the SIB's Sharing Opportunities work, the Productivity Places Program, the current Commonwealth review of Employment Services, and economic conditions and prospects.

⁴Business Council of Australia (2003) *The Cost of Dropping Out: The Economic Impact of Early School Leaving*

⁵South Australian Centre for Economic Studies, SACES (2008) *Modelling What Works Well in SA Works in the Regions*. Report commissioned by the Workforce Development Directorate of the Department of Further Education, Employment, Science and Technology, Adelaide, 57

⁶Moskos, M (2007) *Workforce Participation in South Australia*, National Institute of Labour Studies, Adelaide; SACES (2008) op cit; EDB, (2008) *Review of Skills and Workforce Development*.

Box 8.7 South Australia Works and Productivity Places Program: Policy to Meet the Challenge

Existing South Australia Works programs, in conjunction with the new Commonwealth Productivity Places Program, provide a public policy platform for raising participation and meeting the needs of disadvantaged job seekers.

South Australia Works targets those sectors of the population who have the greatest difficulty gaining and retaining employment, including young people aged 15 to 24, mature age people, Aboriginal people, those with a disability and groups whose special needs are identified at the local level. Programs are delivered in partnership with all levels of government, industry, regions and non government sectors. South Australia Works has evolved into an integrated package of workforce development activity with a focus on supporting industry-led projects. In 2007-08 29,000 South Australians participated in learning, training, skills development and work programs through South Australia Works; 17,500 people participated in work programs, and 8,500 subsequently gained employment.

The Productivity Places Program will deliver 701,000 additional training places nationally (including 85,000 apprenticeship places) over five years. Of these places, 392,000 training places will be allocated to existing workers wanting to gain or upgrade their skills and 309,000 places will be allocated to job seekers. The training will be offered in industries that are experiencing skill shortages and will be provided by public and private training organisations. The intention is that 90 per cent of the training places should be for Certificate III qualifications or above, and which have good employment and earnings outcomes.

8.4 Effective Migration

Continued migration flows will be critical if South Australia is to make the shift to a higher economic growth path (see chapters 4 and 7).

In raising the State's labour supply, skilled migration supplements other efforts to boost local skills and participation. For this to be effective, migrants who settle in South Australia should have skills in demand in the labour market and which are well identified through the State's workforce planning system. Almost two-thirds of the recent arrivals to South Australia have been skilled migrants. It will be important to maintain this share.

Box 8.8 Employer Engagement in the Migration Process

To ensure that migrants' skills meet employer expectations for employment, it is imperative that employers engage better with migration programs and processes from start to finish. Factors frequently cited as causes of migrant skill mis-match include; incomplete qualifications for licensing and registration; misunderstandings about the work rights of temporary migrants; discordant expectations of work conditions and entitlements (e.g. overqualified); lack of appropriate work experience; and, lack of knowledge of local business networks. These can best be addressed through early engagement by employers in the migration program.

If the experience of other states is a fair guide, South Australia's prospective economic growth will underwrite its continuing skilled migration inflows. Supporting employers to undertake migration recruitment provides a better mechanism to meet employer workforce needs and migrants' employment outcomes than state sponsored migration.

Rather than the State Government casting a broad net, sponsored migration by employers removes issues associated with timing, quantity and quality of skill needs and mitigates settlement issues arising from unemployment, underemployment or over qualification. Employer sponsored migrants have quicker and smoother transitions into work and local communities. Of course, employers have a responsibility to train, and individual employer access to temporary migration permits should have regard to their training effort and future plans.

Approximately 65 per cent of international students intend to remain in Australia after graduation.⁷ Attraction of international students should be aligned with migration skills targets to increase the prospects of their staying in the State upon graduation and helping to meet the State's skill needs.

8.5 An Education and Training System for the 21st Century

The achievement of a skilled workforce with high rates of employment participation rests fundamentally on the quality of the education and training system.

Education starts in early childhood years and should continue throughout working life. At each stage of the learning process, the education and training system needs to provide both foundation skills and pathways to further learning, so that individuals are equipped to adapt to changing needs and technologies throughout their working lives.

Successful achievement of these targets rests on all elements of the education and training system. Key concerns are to improve the take-up of science and maths by students, and to improve the critical transitions between school and further training and work, and between vocational education and higher education. Continued cooperation between the State and Commonwealth Governments through COAG is critical to achieve a seamless integrated education and training system in South Australia.

Early Childhood Learning and Development

*'Recognising the economic and social value that derives from providing the very young with the foundations for a healthy and successful life is essential to South Australia's future.'*⁸

Early childhood development provides the essential foundation for future learning and personal success. Children develop the key cognitive, social and emotional skills in their first years of life – before they turn eight – which are profoundly important to achievement of their educational goals, health and wellbeing throughout life.

While high returns flow from public investment in early childhood development,⁹ regrettably Australia's investment in early education is at the bottom of the ladder of developed nations.¹⁰ To address this, in March 2008 COAG endorsed a comprehensive plan for early childhood education and care.

⁷Graduate Careers Australia, *University and Beyond 2007*, Media Release 1 July 2008.

⁸Mustard, F, (2008) 'Investing in the Early Years: Closing the Gap between what we know and what we do', Thinkers in Residence Report 2007, Department of the Premier and Cabinet, South Australia, April 5

⁹Economics Nobel Prize winner, James Heckman, has calculated an economic return of 15 to 17 per cent for every dollar of public investment in early childhood development. This is much higher than the rate of return for dollars invested in school or post-school interventions Heckman, J (2006) *The Economics of Human Skills: Evidence and Policy Implications*. Research School of Social Sciences, Australian National University, February

¹⁰Organisation for Economic Cooperation and Development (OECD), *OECD (2007) Education at a Glance 2007*, Paris

Particularly for low-income and disadvantaged groups, extension of effective programs in early childhood education is extremely important to the acquisition of basic skills that underpin success at school, further education and working life.¹¹ A national paid maternity leave scheme would provide parents with greater economic capacity to nurture infant children which has long been recognised as central to children's healthy development.

Box 8.10 COAG targets for early childhood education and care

- universal access to preschool for all children for 15 hours per week.
- the establishment of 260 early learning and care centres.
- strong national quality standards through an A-E quality rating system.
- support for education and training of the early childhood workforce.
- the development of an Early Years Learning Framework.
- improving the affordability of child care.
- enhanced early years services for indigenous children.

Schooling

The goal of school education should be to provide students with positive attitudes to learning and to equip them with the necessary skills to realise their full potential as active citizens in work and society.

The quality of the learning experience depends heavily on the quality of the teaching. Research shows that the professional development of teachers is most important.¹² The EDB believes excellence in teaching should be promoted and rewarded, and that schools serving disadvantaged areas should be equipped and funded to attract excellent teachers. Reforms presently being developed at the national level adopt these goals.

Principals are well placed to know the needs of their school community and the skills set required of their teachers. Principals should be empowered to employ the high quality teachers that their school requires. However, it will be a challenge not only to attract exceptional teachers to schools that are disadvantaged but also to retain them.

Box 8.11 National and South Australian initiatives to improve the quality of teaching

The national Education Agreement contains two specific national partnerships requiring cooperation between governments, professional associations, principals and teachers, and school communities.

The National Partnership for Teacher Quality will address the major teacher quality issues including greater flexibility and innovation in teacher recruitment, training, management, professional development and incentives. It will include new ways of attracting high achieving graduates into teaching and rewarding teachers of excellence. A national process is under way to develop rigorous standards for the accreditation of teacher education courses.

The National Partnership on Equity will provide extra funding to the most disadvantaged schools to help them turn things around – by attracting high-achieving teachers, providing more one-on-one help to struggling students, engaging parents and getting the local community more involved.

From 2011 there will be a new kindergarten to year 12 national curriculum – beginning with English, Mathematics, Science and History. Teachers will have a clear understanding of what needs to be covered in each subject and in each phase of schooling and this will provide them with flexibility to shape their classes around the curriculum in a way that is meaningful and engaging for students.

¹¹Leseman, P (2002) Early childhood education and care for children from low-income or minority backgrounds: A paper for discussion at the OECD Oslo workshop, Paris

¹²Caldwell, B and Sprinks, J (2007) Raising the Stakes: From Improvement to Transformation in the Reform of Schools. London: Routledge.

Recommendation 8(d) The EDB recommends that consistent with the National Partnership for Teacher Quality and the National Partnership Equity:

- low SES schools receive additional funding per student.
- principals have greater discretion within their school budgets to remunerate exceptional teachers appropriately and make individual recruitment decisions.

As part of the Commonwealth Government's \$1.2 billion 'Digital Education Revolution' initiative, all secondary schools with students year 9 to 12 can apply for Commonwealth funding to purchase laptops, desktop computers, and other technologies. The EDB supports these Federal initiatives on which the State can build, but cautions that the policy will fall short of potential if training for teachers is not provided once the computers are delivered.¹³ Coinciding with the Commonwealth initiative, the Department of Education and Children's Services (DECS) has commenced a new program to provide teacher training in 2008 to support and develop their use of ICT in the classroom.¹⁴ Initially this was directed towards secondary schools only but it has been extended to primary schools.¹⁵

Science and Maths

The long-term decline in the proportion of students taking science and mathematics is not unique to South Australia. Reversing this trend will pay large dividends for the State's economic growth over the long-term, and for the students themselves throughout their working lives.

Attitudes developed during the primary years of schooling and maintained during the early secondary years lead to successful aptitude for studies at senior secondary level and beyond in science, technology, engineering and mathematics (STEM). Interventions and resources aimed at encouraging student interest in STEM from an early age should be a priority to engage and capture the imagination of students in the upper primary and early secondary school years.

Partnerships are needed between school and community and industry groups or universities that can offer young people positive images of what STEM professionals do.

- More maths and science graduate teachers for country areas, and incentives for practitioners in the science, maths and associated fields, to retrain as teachers would certainly help.
- A cross-agency Steering Group, including DECS, DFEEST and DTED is preparing a coordinated approach to deliver significantly greater numbers of mathematics and science skills to match anticipated demand from the resources, defence and ICT sectors.
- The Commonwealth Government has agreed that maths and science graduates who go on to work in related occupations, including teaching will be eligible for a refund of around half on their HECS-HELP repayments for up to five years.¹⁶

These are promising developments. They are being supported by a range of initiatives spearheaded by the Government to increase community engagement with the role of science in the major issues of our time, such as climate change and water scarcity. Following the recommendations of the Adelaide Thinker In Residence, Baroness Professor Susan Greenfield, the Government has invested in the Royal Institution Australia, the first campus of the Royal Institution UK to establish outside that country's borders in the Institution's 200 year history. It will provide courses of free lectures and seminars open to the public on key issues. In addition, the Australian Science Media Centre is supported in South Australia to provide a link of scientific opinion to the media, to help create more engaged scientists, and a more scientifically-informed media and community. Other initiatives from the Greenfield residency include measures to engage young women in the sciences and maintain robust dialogue between school teachers of science and academia, to name a few.

¹³It is also important for schools to have access to broadband technology to make full use of these computers. Student learning can be enriched with the use of digital content but not all teachers will have the capacity or competence to impart to students how they can use this hardware optimally to further their learning.

¹⁴A joint initiative between Intel and DECS has trained 300 secondary school teachers. Helping students and teachers embrace digital education, DECS, Media Release 21 May 2008.

¹⁵Using a 'train the trainer model', in the first two rounds 30 teachers were trained at Master level, who each trained 10 teachers on their worksite. Another 21 teachers are due to start their training.

¹⁶Science and maths to build Australia's future, the Hon Julia Gillard MP, Media Release 30 October 2008

Box 8.12 Attracting students to science, technology, engineering and maths (STEM)

National research has shown that student aspirations are significantly formed before the age of 14 and transformed into career choices later by a range of factors including interest and self-efficacy in relation to mathematics and science, expectations and encouragement from parents, support and inspiration by teachers, career expectations and exposure to career guidance, exposure to role models and successful adults, and perceptions of the usefulness of the subject.¹⁷

For young children to engage with mathematics and science these subjects need to capture their imagination. Students tend to have a limited appreciation of the nature of work in STEM and the range of career options.

The Australian Science and Mathematics School (ASMS) at Bedford Park demonstrates that a focus on interdisciplinary curriculum with a problem solving and inquiry approach in Years 10 and 11 can significantly increase the numbers of students studying STEM at the tertiary level.

School to Work Transitions

Improved transitions between school and work are critical if we are to avoid repeating the experience of earlier generations who left school early and have since gained no further qualifications. South Australia's school to work policies and programs must be based on strong partnerships between schools and business, industry and the community, driven by the knowledge, skills and capabilities that are required locally.

In tomorrow's student transitions, some form of further education will be the norm for all school leavers. Students leaving school before completion of year 12 will typically attain year-12 or equivalent qualifications through the Vocational Education and Training system as part of their 'induction' into the world of work. For all of today's school leavers, continuing up-skilling will be part of tomorrow's working life.

¹⁷Opening up pathways: Engagement in STEM across the Primary-Secondary school transition - A review of the literature concerning supports and barriers to Science, Technology, Engineering and Mathematics engagement at Primary-Secondary transition, DEEWR June 2008

Box 8.13 Retaining and re-engaging young people with learning and training.

South Australia has several targeted programs embedded in local communities which provide a sound platform for development.

ICANs (Innovative Community Action Networks) – An initiative of the Social Inclusion Board, these networks bring together community and school services to help young people who are at risk of leaving school without qualifications to access further education, training and employment. More than 6,000 young people have taken part in ICAN programs since 2004, with 82 per cent successfully re-connecting with education or training.

VET in Schools – In 2008, more than 20,000 students in government, Catholic and Independent schools are undertaking school-based nationally recognised vocational training provided by or under the auspices of TAFE SA or a private Registered Training Organisation (RTO). Young people receive two forms of credentials: a credit towards their SACE as well as a nationally recognised certification of industry accredited training.

Secondary mentoring program – provides individualised support to senior secondary students who are at risk of not completing their SACE and/or making a successful transition into further education, training or employment. In 2007, 97.4 per cent of participants remained in learning programs until the end of the year. In 2008 the program was expanded to assist 1,100 students from 54 schools.

Trade Schools for the Future – established in 2008, this program provides secondary students with the opportunity to combine school studies with intensive skills courses at one of ten trade schools in order to achieve higher levels of VET. It is expected that a student undertaking a school based apprenticeship will complete about 30 per cent of a Certificate III qualification over two years.

South Australia must have a demand driven, responsive and flexible VET system.¹⁸ Current reforms to VET being driven by the Training and Skills Commission to meet the needs of individual trainees and of industry, ensure that training places are taken up, that training is completed successfully and that the skills acquired are useful and used in the workplace.

Box 8.14 Changes underway for VET in South Australia

The proportion of public funds for VET allocated on a contestable basis is planned to rise from 25 to 50 per cent by 2012, with greater devolution in the public provider's ability to respond directly to the needs of industry.

TAFE SA (the public sector arm of the VET system) now consists of a network of three connected institutes, each with the dexterity to respond quickly to customer needs while being part of a connected network. Contestability and devolution in the VET sector will improve responsiveness, increase choices for both learners and employers, and encourage innovation in training offerings.

The profile of job openings over the next decade will impact on the nature and level of the training required, with a continued shift to higher level skills and a continuing need to up-skill today's workers. Improved links in credit transfer and course design, in both directions between VET and higher education, will be critical. Within both the VET and higher education sectors the proportion of adult students in the overall student population will increase.

¹⁸Government of South Australia (2008) A Skills Strategy for South Australia's Future

More user-friendly approaches to learning that are not constrained by the traditional class-room setting will include greater use of IT and e-learning, and more work-based training to suit the needs of individuals and their employers. The more flexible training system will also embrace greater recognition of prior learning (RPL), increased reliance on competency based assessment, and delivery of modular skill sets.

Higher Education

The Commonwealth Government has recently commissioned a review of the higher education sector, chaired by Professor Denise Bradley. It will be important for South Australia to capitalise on outcomes from the review (see box 8.15).

The speed at which the Bradley Review is implemented will affect the ability of universities and other higher education providers in South Australia to meet the demand for higher education from non-traditional entrants. In order to meet the future demand for highly skilled professionals and para-professionals it will be essential to increase participation in higher education by maintaining better access for existing workers wishing to gain new skills, VET graduates seeking higher level qualifications, and school leavers from low SES families traditionally under-represented in higher education intakes.

Box 8.15 Key recommendations from the Bradley Review of Australian Higher Education

- Increased Commonwealth Government funding to the higher education sector and full funding of R&D;
- Greater freedom of choice for students through an entitlement system where funds follow the student;
- Enhance the proportion of disadvantaged students that gain tertiary qualifications;
- Commonwealth Government to offer additional scholarships to international students in areas of skills shortages;
- Reduce HELP debts by nursing & teaching students (already in place for maths & sciences);
- Increase the total proportion of the population with higher education qualifications;
- Remove limits to the number of students that universities can enrol in courses;
- Increase funding to establish sustainable higher education provision in regional areas;
- Enhanced VET-university sector linkages.

South Australia's economic growth and social development would be well served by a closer relationship between industry, government and universities. At state level workforce planning should encompass the higher education sector, so that:

- Funding gaps can better be identified and closed.
- Universities and their students make better choices based on better information about the likely growth of jobs.
- The impact of new technologies and changing work practices in industry and the professions, and their implications for course design, are better understood.

Box 8.6 Electronics industry initiative (ie)²

The success of the electronics industry initiative (ie)² provides a model for other industry sectors. The (ie)² program enables small enterprises to engage and support students in school and university to increase the supply of graduates trained in electronics. The program has been operating for three years. Initially funded by DTED, now DFEEST, over 1300 students and 100 companies participate each year. The program includes: university shared courses, career mentoring, work experience, internships, professional development courses and career events.

Increasing participation in higher education from those groups that have traditionally missed out presents significant challenges for higher education providers. Solutions may include tailored bridging courses, additional counselling and financial support, cultural support, and additional tutoring. There are several working examples of successful strategies that have been developed locally.¹⁹

South Australia has scope and capacity to accommodate further increases in the number of international students studying at its higher education institutions and SASP sets some ambitious targets. The direct benefits to the state from growth of its high-value services sector is supplemented by indirect benefits through retained skills and population growth (refer chapter 7 above).

8.6 The need for cultural change

A skilled labour force is critical to South Australia's economic future and a fair sharing of the social dividend. The provision of the necessary education and training places that are publicly funded is largely being addressed, although funding will need to be monitored closely to ensure that it is sufficient.

The more difficult challenge is to achieve the necessary 'cultural revolution' so that the whole community embraces the various implications of life-long learning from the cradle to the grave. Training should be industry led, and reforms are being implemented to make providers more responsive and flexible to client demands. The Government is providing leadership and is driving new approaches to workforce planning and development. Enterprises have a continuing responsibility to train their staff, and to develop strategies to make the best use of their skills. Individuals must accept that change is an inevitable part of working life in the 21st Century.

¹⁹For example by UniSA (UNAP program) and Flinders University (Inspire peer0).

Innovation is the application of knowledge in new or different ways to achieve better practical outcomes. It underpins and determines growth in productivity. In this chapter we focus on the role of government in supporting private sector innovation.

Box 9.1 Productivity and Growth

Productivity growth is a key factor in the growth of income per person. Australia's productivity performance has shifted from substantially better than the OECD average at the start of the decade to significantly below the OECD average now. South Australia's performance has tracked slightly below the Australian average over this period, with labour productivity growth averaging 1.6 per cent per annum compared with 1.9 per cent nationally. This sluggish performance can be attributed largely to the State's industry structure and its historical reliance on industry protection and subsidisation. However there has been progress; South Australia's growth in labour productivity has actually improved over the past five years (2008 Progress Report on South Australia's Strategic Plan).

9.1 Industry R&D and innovation for high value-added products and services

It is pointless for South Australia to try to compete with low-wage countries on low-value, labour-intensive products.¹ Building our productivity requires innovation, and research and development (R&D) that can generate more knowledge-intensive and export-focused products and services building on our strengths in mining, defence, agriculture, water, advanced manufacturing, and education services.

In terms of innovation performance, South Australia has performed better on process improvement than on new goods and services or marketing.² The level of business expenditure on R&D (BERD) in South Australia has traditionally been lower than the national average and well below the OECD average, though the most recent figures show a slight improvement.

The reluctance of the State's business sector to engage with new technology and scientific ideas required for development of new innovative products and services reflects the State's business structure. More than 90 per cent of companies in South Australia turn over less than \$2 million a year⁴ – typical of the overall Australian landscape – and small firms tend to lack the capacity for high-risk R&D. The fact that larger corporations are often headquartered elsewhere means that much product development and marketing innovation is undertaken in other locations.

¹*Manufacturing a Sustainable Future: A transformation strategy for South Australian manufacturing.* Manufacturing Consultative Council, August, 2008

²Australian Bureau of Statistics, *Innovation in Australian Business, 2006-07*, Cat No: 8158.0, 22 August 2008.

³South Australian BERD in 2006-07 was higher (1.2 per cent), as a percentage of GSP, than the national figure (1.15 per cent), but still well below the OECD average of 1.56 per cent. Australian Bureau of Statistics, *Research and Experimental Development, Business, Australia, 2006-07*, ABS Cat No: 8104.0, 14 October 2008.

⁴Counts of Australian Businesses, including Entries and Exits (cat. No. 8165.0), 2007

The importance of innovation to future economic development has been clearly recognised in the recent Cutler Review of the National Innovation System (see Box 9.2).

Box 9.2 The Cutler Review of the National Innovation System
(www.innovation.gov.au/innovationreview)

In January 2008, the Commonwealth commissioned a review of the national innovation system, chaired by Dr Terry Cutler. The results of this review were released in September 2008 in a report entitled *Venturous Australia*. A Commonwealth response is expected within months, once stakeholder feedback has been considered.

The review notes that “four powerful circumstances” are now impacting on Australia’s productivity performance and these provided the backdrop for the review:

1. The architecture of Australia’s existing national innovation system is a generation old and requires reappraisal.
2. Innovation today is much more than simply commercialisation of knowledge.
3. The rate of improvement in innovation throughout the 1980s has given way to a decade of stalled growth in innovation.
4. The economic geography of global production is shifting – clearly demonstrated by the rise of China and India.

The Cutler report contains a number of recommendations to improve the national innovation system, and therefore productivity. The EDB is generally supportive of the direction of these recommendations, although detail is scant in many areas.

Key recommendations from the Cutler Review of Australia’s Innovation System⁵ that are particularly relevant to this Economic Statement include the following:

- **Skills:** Reforms to immigration policy, teacher quality (particularly for maths and science) and career incentives. (These are consistent with the initiatives proposed in Chapters 6, 7 and 8 of this Economic Statement.)
- **Public sector research:** Research in universities and other public sector institutions needs to be much better funded, and block funding more closely tied to research excellence.
- **Industry R&D:** A major revamp of the incentives for company R&D, including a revised, repayable grants scheme and replacement of the R&D tax concession with a simplified tax credit.
- **Growing early-stage innovative companies:** Enhance funding and mentoring to early-stage companies such as expansion of the COMET (Commercialising Emerging Technologies) and Enterprise Connect programs, extension of the Innovation Investment and Pre-Seed funds to provide venture capital, and support of angel investor organisations.
- **Linkages:** New funding mechanisms to stimulate partnerships and clusters that can provide firms with competitive advantage.
- **Innovation priorities:** Nominated priority areas for government support include climate change mitigation and adaptation; water; resource and marine industries; agricultural and food security; and population health.

Which of these recommendations will be adopted by the Commonwealth Government, and over what timeframes, is not yet clear. It will be important for South Australia to align its innovation policy with the federal initiatives to maximise the benefits to our State.

⁵Cutler & Company Pty Ltd, *Venturous Australia: Building Strength in Innovation (An Overview)*, Review of the National Innovation System for the Australian Government, 9 September 2008, pp 1-2.

9.2 Enhancing Business Innovation and R&D in South Australia

Continued improvements in levels of innovation and BERD, are needed if the state is to achieve its SASP targets. South Australia will not achieve these gains by a business as usual approach.

The EDB is confident that its recommended initiatives in the areas of skills, training, infrastructure, reduction in red tape and streamlining of regulatory approvals will contribute significantly to the State's productivity. However, these will not be sufficient without deliberate additional strategies to embrace new opportunities in industries that are inherently innovative such as mining, defence, renewable energies and health.

Recommendation 9(a): The State's industry policy should be focused on growing export-oriented industries that are characterised by high value-add and innovation, such as mining, defence, education, health and renewable energies. Priority should also be given to building export value from agribusiness (including aquaculture), advanced manufacturing and services.

The EDB's proposal to position South Australia as a leader in the renewable energy sector is consistent with this recommendation to promote innovative, export-focused industries.

Another sector that warrants particular attention is services. As detailed in Chapter 3, the collection of activities called 'services' provides the majority of South Australian employment (73 per cent) and output (59 per cent). But the State's service activities under-perform the nation virtually across the board. They represent under 4 per cent of national service exports, well below South Australia's weight in the national economy, and are particularly lean in the high-growth areas of the services sector – with the exception of education and research and development.

A concerted effort must be made by policy makers to better understand services and to implement measures to promote their growth, particularly those that are high value-add. To this end, decision makers must have reliable quantitative information. The recent creation of an industry directory of service exporters (see chapter 3) was a good start.

9.3 Linkages and clusters to promote business competitiveness

Effective innovation is typically highly networked and interactive: business-to-business and business-to-public sector. Innovation networks and precincts have proven effective because they bring together and co-locate different players in the innovation space and supply chain.

The EDB has identified four specific priority government-led initiatives to implement this recommendation:

- Strengthening networks of innovative companies and research organisations.
- Continued development of the Thebarton and Mawson Innovation Precincts, and the creation of a Flinders Innovation Precinct in the south of Adelaide.
- Finance and mentoring linkages to assist early stage technology-based companies grow to international scale.
- Improving the alignment of the South Australian Government's funding for R&D and innovation, with the State's development imperatives.

⁶SASPT4.11 is to increase business expenditure on research and development to 1.5 per cent of GSP in 2010 and increase to 1.9 per cent by 2014.

9.4 Strengthening innovation networks

Various studies, including work undertaken by Thinker in Residence, Prof Andrew Fearn, have concluded that the South Australian agricultural sector has neglected the importance of connectivity along the value-chain⁷ from producer to consumer, causing the industry to fail to capitalise fully on the value-add⁸ for agricultural products in global markets.⁹ The State's small to medium enterprise (SME) dominated manufacturing industry appears to suffer similar problems; an issue raised often in the EDB's consultations with the manufacturing sector was the difficulty in accessing international partners and customers.

A second weakness is the lack of linkages between industry and the State's public sector research base, reflecting poor alignment of R&D focus between the two sectors. Health, other life sciences and agriculture are key research strengths in the State's universities and public sector research agencies.¹⁰ Conversely, manufacturing accounts for over 50 cents in every dollar business spends on R&D (2005-06 figures), with mining being the next most significant area (12 per cent of business R&D spend).¹¹ This profile is reasonably consistent with the composition of exports of goods and services from South Australia.

Other reasons for the poor engagement between industry and public sector R&D include:

- The tendency of public-sector research to be technology driven rather than market driven.
- Cultural difference and a lack of understanding of each other's strengths and drivers.
- Fragmentation of capabilities along the product and business development pipeline.

The EDB believes that stronger linkages between different companies in the value-chain from producer to consumer and between companies and the public research sector are vital for the growth of more innovative and internationally competitive companies in South Australia.

There are some good examples of how such an approach can succeed. The formation of the Water Industry Alliance to cultivate clusters of companies and research organisations focused on innovative technology and export opportunities has been a significant factor in the growth of South Australia's water management industry. In less than a decade the sector has increased interstate and overseas exports of products and services from \$25 million to more than \$400 million, with the expectation of a further doubling of revenues over the next five years.

⁷According to Porter "the value chain disaggregates a firm into its strategically relevant activities in order to understand the behaviour of costs and the existing and potential sources of differentiation", *Competitive Advantage: Creating and Sustaining Superior Performance*, 1985, Macmillian Inc, p 33.

⁸Value-add refers to a product's selling price less the cost of the input raw materials.

⁹Prof Andrew Fearn, SA Thinker in Residence 2008 – for further information visit <http://www.thinkers.sa.gov.au>

¹⁰Premier's Science and Research Council 2006; findings based on scientific publications as a measure of research concentration

¹¹*Manufacturing Consultative Council strategy paper: 'Manufacturing a Sustainable Future: A transformation strategy for South Australian manufacturing', August 2008)*

Case Study: Water Industry Alliance

Exports: \$400 million 2007/08
Export target: \$1 billion by 2015

South Australia is ideally placed to become a world class export-oriented hub for water technology and services.

Industry leaders believe the challenges of drought and climate change have presented the State with an opportunity to demonstrate global leadership in the development of innovative water management systems.

Under the umbrella of the Water Industry Alliance, the sector is confident of achieving an export target of \$1 billion by 2015.

Global interest in SA's water management initiatives

The Water Industry Alliance has exceeded most expectations since it was established by SA Water 10 years ago as a small cluster of 40 organisations.

Today it has more than 240 members and exports out of the State have increased from a modest \$25 million to more than \$400 million in 2007/08 – about half going overseas.

Significant international interest has been generated in our market leadership in areas such as water policy and trading, urban water efficiency initiatives, precision irrigation for agriculture and parks, and asset management planning.

In addition to opportunities in Asian markets, strong demand is also being shown in our water management systems in the Americas, particularly the US.

A key strength is the diversity of our industry which includes expertise in education services, research, technology and communications, consulting and manufacturing.

While administration of the alliance is funded 100 per cent by industry, the State Government shares the cost of industry development and export initiatives through SA Water.

"When the Water Industry Alliance was established I don't think anyone in their wildest dreams thought it would be so successful. We now have a fantastic opportunity to capitalise on the challenge of climate change – and I'm not talking theoretically, it's already happening."

Joe Flynn
Chief Executive
Water Industry Alliance

Defence SA is the State's lead government agency to facilitate the growth of defence industries in South Australia on a competitive and sustainable basis. *BioInnovation SA* plays a similar and effective role in the bioscience sector.

The Medical Device Partnering Program, established to build networks and prototyping opportunities, is another more recent initiative (see Box 9.3). Similarly, *Constellation SA* is a vehicle to enhance the effectiveness of public sector research in contributing to innovation in industry and to provide the framework for Government funding of research. The South Australian Government has allocated \$2 million over two years to seed the Constellation SA strategy which is built on alliances, clusters and precincts for innovation and research.

Box 9.3 The Medical Device Partnering Program (MDPP)

A Medical Device Research Cluster was formed approximately 12 months ago with seed funding from the Premier's Science and Research Council. Industry participants and public sector researchers recognised that South Australia is well placed to become the national leader in the medical devices sector, but before the MDPP was introduced, there was no model for effectively coordinating all of the stakeholders.

The MDPP provides the glue for effective networking between 60 South Australian companies in the sector as well as linkages to the State's excellent public sector research base. The Cluster has strong local support; Southern Adelaide has nominated medical devices as a target economic growth area for the region, the City of Marion has defined Medical Technologies as one of their key industries, and the SA Centre for Innovation has demonstrated commitment to the medical devices sector through the employment of a Medical Device Industry Development Manager. Establishment of a Flinders Innovation Precinct would provide further support.

The Cluster brings together end-users (clinicians and client services) and researchers from all three South Australia universities to identify and prototype product development opportunities. The MDPP achieves this through workshops, awareness seminars, initial market and intellectual property assessments, and medical device development and prototyping projects.

The EDB believes innovation, exports and global competitiveness in South Australian firms will be boosted by strong collaboration between industry associations and government to adopt and nurture the 'clusters and alliances' model of development, especially for small and medium enterprises. Priority sectors include:

- **Mining**
The unprecedented expansion of mining in South Australia will require parallel development of new innovative technologies. The University of South Australia's Ian Wark Research Institute together with the adjacent Mawson Innovation Precinct already provides a centre of excellence for mining-related R&D.
- **Innovation-intensive services**
Notwithstanding the domination of 'local' services (restaurants, retail, health etc) in the State's service sector, the State *does* have innovation-intensive export services – including education, research and development, water conservation, film animation, and renewable energies.

9.5 Innovation Precincts

South Australia has two commercially focused innovation precincts, established to forge geographical concentrations of businesses, research institutions, education institutions and industry innovation.

Box 9.4 Thebarton and Mawson Innovation Precincts

The Thebarton Bioscience Precinct is home to one of the largest clusters of commercial medical bioscience companies in Australia. It forms part of a 12.0 ha bioscience and advanced technology hub in collaboration with the adjacent University of Adelaide Research Park. The opportunity allows for 25,000 sqm of new facilities to be established for new bioscience companies. The first of these buildings, a dedicated bioscience incubator for start-up companies was opened by the Premier in October 2008. Six early-stage companies have already relocated to the incubator.

The Mawson Innovation Precinct comprises Technology Park, UniSA's Mawson Lakes Campus and the Mawson Lakes mixed use Master Planned Community. Collectively it represents some 20 per cent of the Gross Regional Product of the City of Salisbury – with approximately 100 companies, some 2,600 employees and revenue of \$500 million. The precinct is a centre of excellence in defence, electronics, advanced manufacturing and information and communication technologies, with growing niche capabilities in minerals and environmental technology.

The Thebarton Bioscience Precinct, managed by BioInnovation SA, is already home to over 10 bioscience companies, in addition to a similar number of life science companies in the adjacent University of Adelaide Research Park. The challenge is to attract sufficient private investment to grow the precinct to full capacity, housing around 50 companies.

The Mawson Innovation Precinct seeks to improve the connections and synergy between the industry and research participants. Further development with greater density in its built environment would be best achieved through the establishment of a more formal management structure to ensure improved co-ordination and a whole of government approach. The EDB believes South Australian Centre for Innovation (SACFI) should be given responsibility for developing and managing the Mawson Innovation Precinct to drive innovation in the manufacturing sector.

The Southern Region of Adelaide has no equivalent to the Thebarton or Mawson Innovation Precincts. Although Science Park (adjacent to the Flinders University campus) has been established for some years now, it has not developed as an engineering or science centre of excellence that builds strongly on the academic capabilities on its doorstep. There are moves afoot to develop a new Flinders Innovation Precinct in the south of Adelaide targeting the development of sustainable industries in South Australia. With strong branding and integration between industry and the public research sector, the Flinders Innovation Precinct could have the capacity to attract new private investment and develop into a centre for excellence in cleantech and renewable energy. With significant private investment, this new initiative would have the potential to rejuvenate the industrial base of Adelaide's southern suburbs, create significant employment and support the Government's climate change agenda.

Much of the responsibility for industry growth rests with the private sector, but a nimble, focused and responsive public sector can help. The EDB strongly supports the restructuring and repositioning of the South Australian Centre for Innovation (SACFI) as proposed by the SACFI Board, to focus centrally on the State's SME manufacturing sector.

The EDB would go further to suggest that SACFI should be flagship organisation for business related innovation activity in South Australia with a focus on manufacturing and certain traded services. SACFI should be nationally recognised and internationally networked.

It will be important for SACFI to operate at arms length from Government with a chief executive appointed by its Board, and it should be resourced appropriately to:

- Raise SACFI's profile and impact within State Government innovation policies and programs.
- Expand SACFI's service offering to promote the innovative capacity of small businesses.
- Implement programs to help local manufacturers build international relationships and meet the standards required by global purchasers.
- Support the development of the tradeable service sectors as well as value-chain connectivity in the agricultural industries.
- Foster stronger linkages between SME businesses in South Australia and the State's R&D base.
- Facilitate efforts in areas such as cooperative research centre funding.
- Lead and coordinate the development of the Mawson and Flinders Innovation precincts.
- Deliver the Commonwealth Government's Enterprise Connect network¹² within South Australia.

To achieve these goals, the SACFI will require an increase in its annual budget from Government, and will need to obtain secure funding from other potential funding partners.

Recommendation 9(b): The EDB recommends that the South Australian Centre for Innovation (SACFI) be restructured as the flagship organisation for business related innovation activity in South Australia, with a focus on manufacturing and certain traded services, operating at arms length from government.

9.6 Finance and mentoring linkages

South Australia now has more than 100 bioscience companies of which 50 were established within the last four years, but few have yet progressed to become sustainable, internationally competitive enterprises.¹³

There are several reasons for this:

- The lack of private equity funding, particularly secondary funds for follow-on investment, has forced the early listing of many small companies which cannot hope to reach the capital value that will attract institutional investment or achieve sustainability.
- Despite the current financial crisis there is a dearth of merger and acquisition activity, suggesting unrealistic valuations and/or excessive egos of management and boards.
- The performance criteria for universities and some government support agencies still centre on the number of spin-out companies rather than their capability to achieve capital growth.

The solutions are not straightforward, but it seems clear that public sector research organisations should give greater priority to collaborating with and adding value to established companies rather than spinning-out more start-up companies. Another priority is to provide early-stage companies with the necessary mentoring as well as funding to nurture them to become sustainable, globally competitive enterprises.

Current Commonwealth Government initiatives to seed the formation and growth of innovative early-stage companies include the Innovation Investment Fund, the Pre-Seed Fund, the Biotechnology Innovation Fund, and the Building on Information Technology Strengths (BITS) incubator program.

¹²The Commonwealth Government's Enterprise Connect program is an important business advisory initiative aimed at helping SMEs acquire the knowledge, tools and expertise to improve productivity, increase competitiveness and fully capitalise on their growth potential.

¹³Of all quarterly reporting listed life sciences companies on the Australian Stock Exchange, more than half have less than 12 months cash left. Bioshares edition 287, 31 October, 2008

South Australia also has a number of additional elements needed to grow early-stage companies, including:

- Two business angel investment networks – SA Angels and BioAngels, whose members provide their own funding as well as mentorship to early stage, innovative companies.
- Investment funds such as the Trans-Tasman and Terra Rossa Funds that are targeted at early stage companies. The Trans-Tasman fund is specifically aimed at supporting technologies arising from the university sector, the University of Adelaide, Flinders University and the University of SA.
- Several government-supported 'innovation catalysts' including BioInnovation SA and Playford Capital.
- The local universities each have commercialisation arms charged with the commercial development of university intellectual property as well as forging links with the private sector.

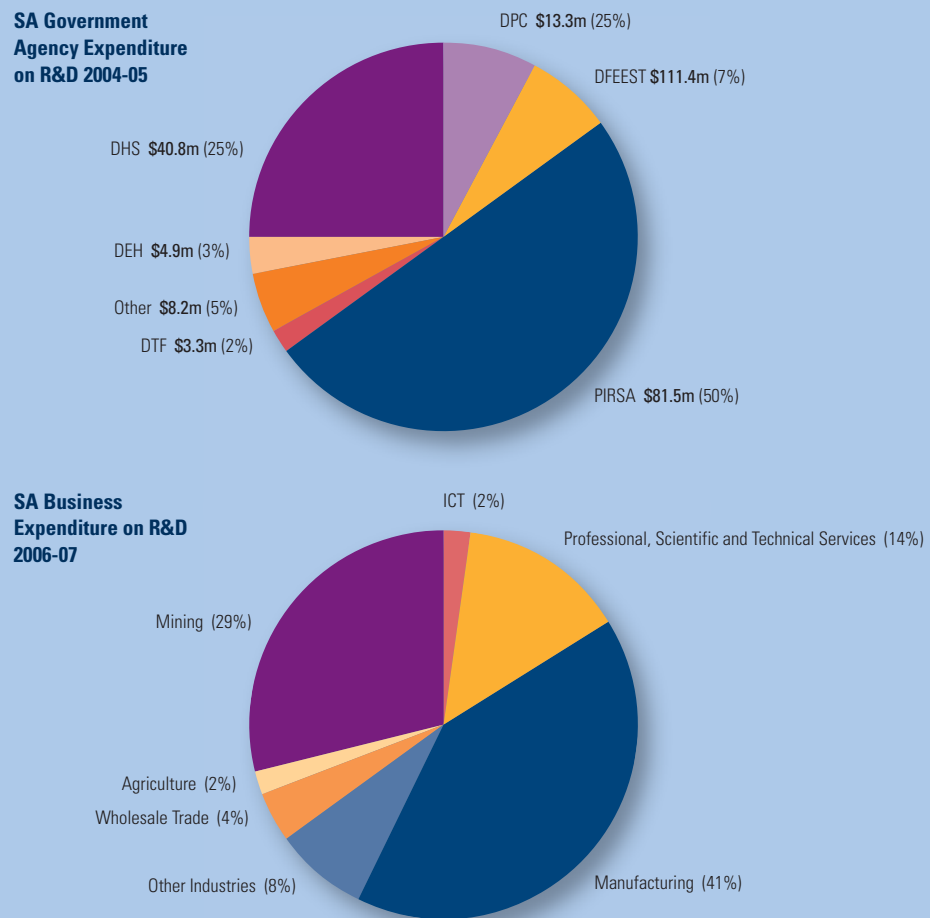
These groups are seeking to work together to achieve better commercial outcomes from early stage opportunities. The EDB strongly encourages the cooperative efforts of such groups and supports the recommendation of the Cutler Innovation Review that government should provide modest support for angel investor organisations.

9.7 Improved alignment of R&D funding

Between 2000-01 and 2006-07 the South Australian Government invested \$1 billion in R&D, around \$160 million per annum. This level of investment is equal to or exceeds that of most other states both on a per capita basis and as a percentage of GSP.

Approximately 50 per cent of the State Government's R&D funding is allocated to Primary Industries and Resources (PIRSA) and 25 per cent to Health. By contrast, business expenditure on R&D is targeted mainly at manufacturing (41 per cent) and mining (29 per cent). Government investment in agriculture and health is important due to the broad range of benefits it can generate for the community as a whole, as well as its economic contribution. However, the figures still suggest considerable disconnect in focus between the private and public sectors which merits further review.

Figure 9.1 South Australian Government Expenditure on R&D vs BERD



Sources: DFEEST, 2006. ABS: Research and Experimental Development, Businesses, Australia, 2006-07: Cat. no. 8104.0.

The EDB recommends a thorough review of State Government expenditure on R&D and innovation, to determine whether current allocations remain appropriate and whether there is scope to improve coordination between the various delivery arms of government. The future funding priority must be to improve linkages between government, industry and research institutions.

The review should also work to ensure there is coordination and not duplication between the various delivery arms of government. The EDB could oversee this, and monitor implementation of those recommendations ultimately accepted by the Government.

¹⁴For example, a \$10 million expansion in health service exports is estimated to generate directly and indirectly a \$15.1 million increase in contribution to GSP, as well as a \$10.1 million increase in wages and salaries and employment for 190 full-time equivalents. The Economic Contribution of the Health Sector to the SA Economy. Dr Kate Barnett, Prof. Barry Burgan and Assoc Prof John Spoehr, University of Adelaide, February 2008.

The public sector exists to help secure the economic, social and environmental well-being of all South Australians, and to ensure a strong future for the State. The services and infrastructure delivered by the public sector are critical to meeting the challenges of the future, and to capitalising on the opportunities – economic, social and environmental. The activities of the public sector touch upon every aspect of our economy and society.

10.1 The role of Government

The public sector affects economic performance directly as a service and infrastructure provider, as a regulator, and as a strategic leader, organiser and facilitator.

How well the public sector performs as a service and infrastructure provider is fundamental to our competitiveness. With the services sector dominant in the GDP of advanced countries, and with many of these services supplied predominantly by the public sector predominantly, any strategy for sustainable competitive advantage must include the need for a high performance public sector and effective, innovative service delivery.

Box 10.1 An efficient and effective public sector

Since 2002 the EDB has argued that having an effective, focused and flexible public sector is key to maximising South Australia's future growth potential.¹

South Australia's Strategic Plan sets ambitious specific targets for higher public sector performance.² It recognises that a public sector performing to the highest standards of efficiency and effectiveness underpins achievement of many other Strategic Plan targets, ranging across all the objectives of the Plan.

The State Government 'red tape reduction' program aims to make South Australia the most competitive place in which to invest and operate a business in Australasia.³

At state government level the most direct links between public provision and economic performance occur in the areas of education, health and infrastructure.

The public sector plays the key role in education and the capture and application of knowledge at all levels, from schooling, to employment training, to funding and undertaking applied research and innovation. Expansion and application of knowledge and education underpins sustainable competitive advantage and productivity improvement. How well we compete abroad depends in very large measure on how well we educate and train at home.

¹The Board's 2003 report, *A Framework for the Economic Development of South Australia*, devoted a chapter to 'Government Efficiency, Effectiveness and Leadership' and urged the development of a strategic plan for the State.

²The public sector targets of South Australia's Strategic Plan are:

T1.7 Performance in the Public Sector – customer and client satisfaction with government services: Increase the satisfaction of South Australians with government services by 10 per cent by 2010, maintaining or exceeding that level of satisfaction thereafter

T1.8 Performance in the Public Sector – government decision-making: Become, by 2010, the best-performing jurisdiction in Australia in timeliness and transparency of decisions which impact the business community (and maintain that rating)

T1.9 Performance in the Public Sector – administrative efficiency: Increase the ratio of operational to administrative expenditure in state government by 2010, and maintain or better that ratio thereafter.

³Premier Mike Rann, Media release: Cutting red tape to make South Australia competitive, April 5, 2006

A productive economy rests on a healthy workforce. Expenditure on health accounts for nearly 30 per cent of the State government budget.⁴ Driven by population ageing and technological advance, health care costs will continue to rise faster than other expenditures. A sustained focus on preventative care, consolidation of acute services and efficient delivery are essential to maintaining an affordable and effective health care system.

Public infrastructure provides the foundation for an efficient economy in the traded and non-traded sectors alike. Without provision of affordable accessible common infrastructure, fewer private sector activities would be profitable and barriers to entry into many private businesses would rise.

Also fundamental to our competitiveness is how well the public sector regulates market activity or behaviour, either to achieve a social or other objective, or to correct for market failure.

Box 10.2 Effective regulation

Regulation tends to focus on such measures as provision of information to consumers and businesses so that their decisions are adequately informed and their actions are 'market conforming'. It is also concerned with establishing clear and transparent property rights and third party access to common infrastructure at competitive prices.

Over recent decades, regulation has taken the place of stronger forms of government intervention into certain markets, such as direct public ownership of facilities. Regulation can vary in its nature and impact on a continuum from strong 'command and control' regulation to the lighter forms of incentive-based regulation.

Skills and infrastructure are two areas that are often seen as classic instances of market failure: without government intervention of some kind the market will typically under-provide these goods. Similarly, regulation will often be required to ensure that the investments and operations of private firms cover adequately their 'external' costs, such as their environmental impacts or those arising from their use of public and common infrastructure. Beyond this, intervention into markets may be appropriate where there exists a strong social or other imperative or goal.

Although the degree and nature of regulation will vary on a case-by-case basis, the EDB considers that 'fit-for-purpose' regulation will most often be found (and should first be sought) at the lighter end of the spectrum. In some cases, the best intervention may simply be the provision of better information to economic actors; or facilitation by bringing the main players together in conference.

This should not be confused with the type of approach that has allowed the growth of uncontrolled and irresponsible speculation in the major financial markets of the world. There can be no doubt about the massive failure of deregulated or inadequately regulated financial markets that have led to the present global financial meltdown which has required the socialisation of failed enterprises by the taxpayer.

In all cases, intervention should be targeted carefully – to address the substantive market failure or imperative, and to ensure the benefits of any intervention exceed its costs.

⁴2008-09 Budget, Budget paper 3, p 2.38

Regulation can impose costs and, given the rapid pace of change in markets and technologies, become outmoded quickly. When this happens, the regulation can become ineffective and its costs rise relative to the realised benefits.

There is thus a need frequently and regularly to review regulation for contemporary relevance and effectiveness to ensure that the benefits exceed the costs, and that there is not a better means of achieving the original objective. Review is also necessary to guard against and to mitigate any unintended consequences from the application of regulations. Regulation should be targeted to clearly defined and transparent objectives to avoid unintentionally impeding sustainable and desirable development.

The Government's red tape reduction program should continue. Significant cuts to business compliance in dealing with government have been announced,⁵ with a further round of work planned.

The Government has enunciated an objective of making South Australia the most competitive jurisdiction in Australasia in which to invest and operate a business. The EDB supports this aim strongly, and believes that whilst there are certainly challenges, this is an achievable goal that should be embraced as an overriding objective. There is no reason why South Australia should not have the most competitive business environment in Australasia

Recommendation 10 (a): The EDB supports the Government's stated goal of making South Australia the most competitive place in which to invest and operate a business in Australasia and therefore recommends continuation of the red tape reduction program and its supplementation by programs of regulation review such that all regulation will be reviewed on a five-year rolling basis.

The public sector's role as a strategic leader, organiser and facilitator also matters greatly for our long-term competitiveness.

Fundamentally, this is about the active strategic role of the public sector – the effective disposition and deployment of public sector resources, working to a plan, and aligning these to the key economic development opportunities and leveraging the resources of the private sector, other levels of government, and the broader community.

This requires leadership of the highest calibre; people who are able to address problems and challenges through the greater use of partnerships and collaboration with the community, business, educators and others. Decisions must be robust and able to be implemented appropriately and on time. The public sector's leadership needs both the capacity and the capability to align and marshal its own and others' resources to achieve strong and worthwhile outcomes for the economic and social development of South Australia.

⁵Reducing Red Tape for Business in SA 2006-2008.

Box 10.3 Public sector reform since 2002

Much has been done to help lift public sector leadership and capability and the overall effectiveness of the public sector since 2002, including:

- Establishment of ExComm, the Executive Committee of Cabinet,⁶ to monitor agencies' progress in helping to achieve the targets of South Australia's Strategic Plan. ExComm reviews the performance of agencies and their cooperation on issues across traditional boundaries, and conducts chief executive performance appraisals.
- Abolition of tenure for executives, together with the creation of the SA Executive Service (SAES) to create a contract-employed cohort of flexible and mobile public sector leaders with highly transferable skills, able to be deployed to new responsibilities and areas to meet new demands. SAES officers have skills and leadership capabilities applicable across several areas of the public sector.
- Augmentation of the Cabinet Office to become a more effective central coordinator and driver of policy and effective programs across government.
- Adoption of a Common Measurement Tool to measure customer satisfaction and enable benchmarking of customer service.
- Establishment of 12 Common Regional Boundaries to allow better planning and improved coordination of services (see chapter 5).
- Implementation of the 'red tape reduction' program through the Competitiveness Council, delivering annual cost savings to business of \$170 million.
- Comprehensive review and reform of the planning system and associated development of a 30-year Plan for Greater Adelaide (see chapter 7).
- Reform of certain budget processes to allow greater program flexibility and greater capacity of managers to manage within a clearer envelope of resources over time.

10.2 A Future Agenda

The EDB believes it essential now to build on reforms of recent years with further renewal of the South Australian public sector as an urgent priority. The looming major challenges confronting the community and the economy may be delayed but will not be averted by the effects of the global financial crisis. These challenges include:

- The retirement of a high proportion of current public sector workers over the coming half decade or so, including teachers, nurses and police.
- The demand for labour from major projects in the State will reduce the availability of appropriately skilled employees to work in important areas of public service.
- The increased demands for services deriving from population ageing, within a constrained envelope of public financial resources.
- The need for coordinated whole-of-government responses to address complex whole-of-state issues on a much larger scale.
- Changing financial relationships between the states and Commonwealth.

To meet these challenges, the critical priority must be to provide the ingredients of high performance and to drive productivity improvement. The newly formed Public Sector Performance Commission (PSPC) has identified several key areas for action. The EDB believes the public sector renewal program of the PSPC should proceed with urgency.

⁶ExComm is chaired by the Premier and includes senior ministers and two independent advisers, Mons David Cappo and Bruce Carter, Social Inclusion Commissioner and EDB Chair respectively.

Box 10.4 Public Service Performance Commission priorities

The PSPC has identified the following four key areas for action to achieve renewal of South Australia's public sector.

Leadership and Strategic Capacity: Forward-looking leadership that understands where we need to be in 5-10 years time and what we must do to get there. This will require a major training and education effort, for all levels of the SAES and the public sector, with career pathways linked to actual achievement.

Productivity and Performance: Higher productivity and continuous improvement are the keys to addressing the increased demand for services in a resource-constrained environment. There will need to be strong frameworks and systems to evaluate performance and achieve high minimum standards.

Workforce planning and development: These are vital to productivity improvement and better service delivery. There is a need to identify the public sector workforce we will need in 10 years and start planning now to achieve it. This entails a range of reforms to public sector recruitment, stronger succession planning, and retention initiatives including more flexible working arrangements for older workers.

Collaboration and Innovation: Building partnerships between the public sector and business and the community. Creating better information circuits between service deliverers and the users of the service and enabling personnel interchange is essential to achieve effective collaboration across the public sector, and with private sector and community and education providers, so as to address problems with pinpoint accuracy and solve them. Here the PSPC is developing Action Teams of the best and brightest thinkers and doers from across the public and private sectors, the community and our education sector to help the State address key issues. This collaborative and targeted model derives partly from the experiences of the Social Inclusion Initiative referred to earlier in this report, and whose successes stem from the use of highly disciplined teams that identify and pursue their objectives with clarity and feed back the knowledge they have gained to help mainstream new approaches into agencies.

The EDB supports the move to bring all public sector employees under a single framework through the new Public Sector Act.⁷ This change reinforces the high performance agenda, instituting a single public sector to which all South Australian Government employees belong, with the clear expectation that over the span of their careers they will likely be called upon to undertake many different roles.

In 2007 the median age of public sector employees was 45.4 years, with more than 18 per cent aged 55 or above.⁸ In spite of the adverse impact upon superannuation returns of the financial crisis, many of these are still expected to retire over the coming few years. Planning for their replacement will be very challenging given the expected growth in demand for labour across the state economy over that time.

Existing practices should be reviewed and assessed against alternatives. Recruitment currently occurs on an individual and agency-by-agency basis. A regular general intake may be more effective means of recruiting workers with generic capabilities. Given the need to retain experienced employees, flexible work arrangements that allow older employees to continue working on a part-time basis prior to full retirement should be developed.

⁷Coverage under the Act will grow from around 25,000 currently to more than 94,000 as the entire public sector workforce is brought within it.

⁸The South Australian Public Sector Workforce Information June 2007, page 8. At 12.5 per cent of total employment, the South Australian public sector is a very significant employer; this includes a significant proportion of part time employees so that, for example, comparison of this figure with the employment share of manufacturing could be misleading. Ibid p 11.

The EDB welcomes the provisions of the Public Sector Act that place explicit responsibility on chief executives for performance management, but more can be done to align budget process with service delivery. Chief executives must be held accountable for the financial performance of their agency, and accordingly must have authority and flexibility to shift resources within their portfolio to meet new needs and priorities. More scope for 'invest-to-save' approaches, together with a better risk and reward structure for innovation and higher performance, is required.

Recommendation 10 (b): The EDB recommends that the Government give urgent attention to strengthening the leadership of the public sector, emphasising chief executives' accountability for outcomes, succession planning and the development of the next cohort of leaders with strong strategic capacity, together with the commitment to high performance, service excellence and continuous productivity improvement.

10.3 Focal Points for Policy Intervention and Action

Notwithstanding current international financial instability, the next 10 years will likely see South Australia outperform the national economy. The questions and challenges to be confronted by government, business and the community in the decade ahead will therefore be the reverse of the past three decades, during which relative underperformance was the norm. With a strong pipeline of major projects in prospect, the Government will need to focus clearly on three critical issues for policy intervention and mobilisation:

- Skills and education (see chapter 8).
- Infrastructure planning, provision and delivery (see below).
- Providing regulatory and business environments that are supportive of high levels of orderly long-term investment, while preserving social equity and environmental values.

Beyond the continuing focus on red tape reduction, rapid and effective processes for achieving project approval while ensuring the broader public interest are imperative irrespective of whether the project is in the resources sector, defence, TODS, or elsewhere. This will stretch and test the strategic and leadership capacity of the South Australian public sector.

To date, in the exploration phase of the resources industry expansion, the performance of South Australia's public sector has been outstanding. Independent international surveys reveal South Australia to be a standout performer in the facilitation of resources development, while other Australian states are seen to have fallen behind.⁹

In the next phase the minerals expansion will move from exploration to investment, construction and operation. The task for government will extend beyond ensuring approvals:

- Aligning the timely delivery of infrastructure including roads, water and power;
- Handling the expansion of existing communities and the development of new ones;
- The provision of quality services such as education, health care and policing;
- Ensuring that local communities including indigenous populations support and benefit from the expansion through jobs, more local opportunities and services, and stronger communities;
- Making sure that development occurs in an environmentally sustainable manner.

⁹South Australia has improved its international ranking on the Toronto-based Fraser Institute index of mining prospectivity from 36th six years ago to 10th (of 71 mining jurisdictions) in the world today. Recently, a global survey by Resourcestocks magazine found South Australia to be the most investor-friendly resources state in Australia and, in fact, second in the world, after Finland. Western Australia is the state in the Resourcestocks survey regarded as having the most marked decline in performance. See Resourcestocks World Risk Survey October 2008.

Western Australia provides important lessons concerning the consequences of a failure to manage growth. There is a strong perception that the regulatory regime in the West failed the development community with excessive delays and complicated reporting and compliance arrangements. There has also been discontent in some regional and remote communities who believe the expansion has not been to their benefit. Left with the impacts of resource development, these communities believe the wealth has gone to the larger cities.

Poor regulation pleases neither investors nor the affected communities. South Australia's challenge is to have the best regulation – for all major projects – to ensure a social dividend from future growth. This will require the most concerted collaborative effort, a willingness to innovate and major development of public sector capacities and capabilities, particularly in project evaluation and management.

10.4 Infrastructure

With a surge in investment will come much higher demand for infrastructure, with a premium upon its efficient delivery. Its planning, and efficient and timely provision, will greatly shape how successful South Australia will be in riding the coming wave of sustained growth.

The EDB advocates a two-stage approach to government decision making on major projects:

- The project proposal should be evaluated on its merits and ranked alongside others, so that priorities can be established.
- Whether to fund the project, and if so, how to fund it.¹⁰

History shows that the absence of such an ordered approach risks both under-provision of capital spending, and haphazard expenditure decisions that are blind to key priorities.

Box 10.5 Provision of public infrastructure in South Australia

Three major developments characterise the State's provision of public infrastructure in recent years.

First, major repair of the state's budget and balance sheet has provided additional scope for public investment. In line with this, there has been a revision of the target for budget balance away from the net lending balance to the net operating balance, supported by the EDB.

Second, a Strategic Infrastructure Plan (SIP) has been developed. Although primarily a project list, the SIP sets out some priorities and acknowledges the need for a coordinated approach across government, and for partnerships between governments and business. The SIP embraces a staged approach to project evaluation and funding.

Third, a major program of capital works has been approved: in health with the commissioning of a major new hospital; in transport with the extension and electrification of the light rail network; in education with the development of super schools; in water security with the commitment to construction of a metropolitan desalination plant; and the Planning Review's major recommendations regarding TODS have been adopted, with profound implications for future coordination of infrastructure provision in greater Adelaide.

¹⁰A Framework for Economic Development in South Australia, May 2003, pp 62.

The EDB recognises that in the present difficult financial environment, it may be necessary to modify the timescale for delivery of certain works that appear lower on the list of priorities. However, the EDB cautions strongly against any retreat from, or substantial diminution of, the government's commitment to public investment in key projects over the coming period.

The EDB notes and welcomes the approach taken in the Government's recent Mid Year Budget Review, which affirmed the commitment to proceed with previously announced infrastructure commitments, while rescheduling and deferring spending on some lower priority items. Nevertheless, opportunities should be taken to increase that commitment over the course of the cycle as required, and to accelerate deferred projects as circumstances allow.

The difficulties of financial management in the period ahead are substantial. However, the global financial crisis also presents significant opportunities for cost effective investment:

- Australian governments are low risk borrowers.
- Capacity constraints in the construction sector will ease, allowing for lower construction costs and reduced inflation risk in line with more readily available labour and material inputs.
- When stronger growth returns, more infrastructure projects will have been completed, allowing earlier realisation of the gains from the development of linked private sector projects.

The consequences of not investing now may include delay to critical private sector projects accompanied by higher costs as capacity constraints again return.

In addition, retention of local industry capacity and resident skills base should be key priorities during the trough. This illustrates the need for public policy to be counter-cyclical rather than pro-cyclical; the lion's share of capacity to provide a macro-economic stimulus resides with national government, but there is great scope for the State Government's infrastructure program to be an effective delivery vehicle for that stimulus. Beyond this, the rationale for budget repair earlier in the decade was to put the State's finances on a sustainable footing, and to provide additional future flexibility, particularly for investment purposes. Now is the time to make these investments.

Across the globe governments are including strong public investment programs in policy responses to the financial crisis. Circumstances are similarly favourable for a strong program of public investment in South Australia. There has been some impact on the availability of funds generally, and some re-ordering of project priorities may be required. And it will be necessary to explain clearly to ratings agencies why and to what extent South Australia's long-term sustainable growth strategy will require a deficit for investment purposes (but not to finance current expenditure) for a period of some years.

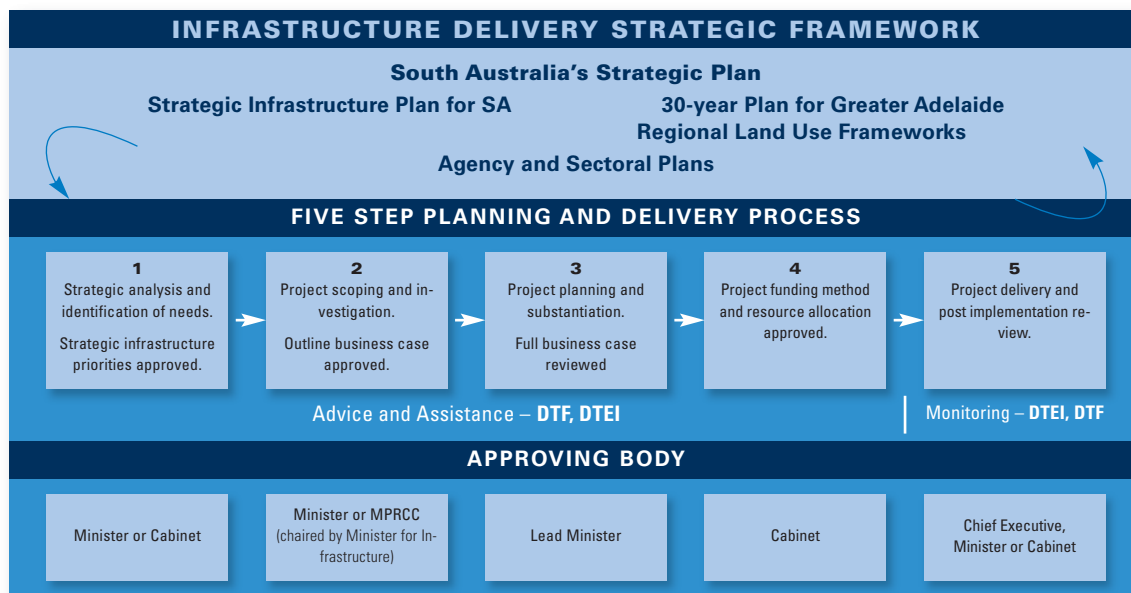
There is nothing in the current economic slowdown that makes a blanket cutting back on long-term investment a rational policy.¹¹

Recommendation 10 (c): The EDB strongly recommends that the State maintain a robust program of infrastructure investment. Failure to invest now would cause unacceptable delay in critical private sector projects and be far more damaging to long-term sustainable growth than any temporary downgrade in the State's AAA credit rating. The present circumstances offer significant opportunities for cost effective and counter cyclical public investment, including lower costs of borrowing and lower capacity constraints. The State Government should seek to leverage investment with Commonwealth funds wherever possible. The areas of greatest priority with respect to economic infrastructure are water, transport, defence and clean energy.

¹¹The EDB makes no comment on what should be the optimal level of debt, nor on the preferred form of those liabilities (eg, direct borrowings versus long-term lease arrangements such as Public Private Partnerships). But the following considerations are relevant. Direct borrowing is most often the cheaper option. This does not mean that private financing should always be ruled out because there may be other aspects, such as the potential to benefit from certain private sector innovations. While PPPs may be attractive to governments as they are 'off-balance-sheet' transactions, they still result in a liability to government equivalent to a debt. Furthermore, these 'engineered' financial products may in future become less available as private risk premia rise with the present international turmoil. A recovering financial system may well favour stable borrowers such as sovereign governments borrowing conventionally over the alternatives.

For all these reasons, the EDB believes a sharper focus should now be brought to infrastructure priorities and their coordination, management and evaluation, building on the substantive progress made in recent years.

The areas of greatest priority with respect to economic infrastructure are water, energy and transport. It is important to reassess the Strategic Infrastructure Plan (now four years old) in light of new needs. A long report is not required. To ensure that momentum for investment is maintained and projects are delivered on budget and on time, the EDB believes an annual Infrastructure Priorities Update should be prepared for Cabinet as a Report from the Office for Major Projects and Infrastructure (OMPI).



OMPI's *Update* would give Cabinet a clear statement of progress for projects against schedule and estimated cost. It would also provide an assessment of priorities for future infrastructure commitments following consultation with agencies, the community, business and other stakeholders, including local government. In this way it would address the first step (strategic analysis and identification of needs) in the above Five Step Process in a systematic and coordinated manner. The *Update*, provided to Cabinet in December of each year for the forthcoming budget round, would also encompass maintenance priorities. It would incorporate the 'merits / finance' staged approach to government decision-making on major projects. Finally, the *Update* would report annually on the state of project evaluation and management capability on an agency-by-agency basis and recommend measures to achieve improvements.

Recommendation 10 (d): To ensure that momentum for investment is maintained and delivery of projects on budget and on time is achieved, the Office for Major Projects and Infrastructure (OMPI) should prepare an annual Infrastructure Priorities Update to Cabinet, with the first edition due in December 2009.

The *Update* would prove useful if it informs and assists the Government in its role as **strategic leader, organiser and facilitator**, and as **regulator**.

The comprehensive and strategic approach to planning and the roll-out of complementary transport infrastructure outlined in chapter 7 is aligned to future strategies for economic development, new neighbourhood development centred on higher housing densities, integrated service delivery and a lower carbon footprint. Like the resources expansion, the Transport Oriented Development concept, TODS, is a prime example of government's leading, organising and facilitating role. It is a role that requires the development of partnerships with business, amongst others, but one that businesses acting alone would be unable to achieve fully.

The EDB believes these reforms and future directions for Adelaide's urban development to be of the utmost importance to South Australia's economic, social and environmental future. Local government must be a partner in this exciting transformation of the way we live, work and use public services. Although the EDB does not propose a further round of wholesale structural reform of local government, it does consider it essential that municipal authorities understand the breadth of the strategic vision underlying these transformative approaches.

Attention should be focussed over coming years on ensuring the high performance of individual local authorities in facilitating and supporting this vision on the ground. Help may be needed where individual councils are supportive but do not have all the resources needed to fulfil their roles. However, obstruction will not be an acceptable response.

With much of the State's key infrastructure in private ownership and control, the Government will need frequently to regulate to ensure workable and equitable third party access provisions to power sources, gas and water pipelines and so forth. More generally, the supply of infrastructure associated with the resources expansion particularly, will need often to be led by government, in partnership with business. Unassisted, competing businesses find it difficult to hammer out arrangements that will maximise benefits to the community from full use of available common infrastructure.

Government often can bring about stronger long-term results by aggregating, leveraging and aligning resources, as well as by the creative use of regulatory powers.

Government should consider on a case-by-case basis the merits of setting charges for users proportionate to the value of their use. This has the potential to provide revenue streams that will allow the earlier development of needed infrastructure.

An important issue for the strong development and building phase ahead will be how to ensure local businesses receive fair opportunity to compete for contracts let by either larger private firms or by government itself. Opportunities to develop strong efficient local supply chains are lost often because large investors and government are reluctant to look beyond their established supplier networks. The Australian Industry Capability Network promotes the capabilities of local companies to larger players in the private sector, with the support of industry groups, the Commonwealth and state governments and unions. Within a competitive framework, local companies should have every opportunity to bid for government work. The EDB believes tenderers for major government works should be required to show that they have considered local capability in preparing their bids, and to indicate the proportion of the contract to be sourced locally. This should also include a workforce development plan, which outlines the specific measures that will be undertaken by the successful tenderer to enhance the skills of the project workforce, and help maximise and sustain the workforce past completion of the project.

A stronger local industry participation policy needs explicitly to encompass suppliers of both goods and services, including professional services such as engineering, project management and financial advice. These high-end services comprise a significant component of the value of many projects. Failure to capitalise on opportunities to build the capacity of local companies to become involved in major projects early in the development process would mean a loss to South Australia of this high value activity, and future dependency on expertise from outside the state. With this might also come the loss of innovative potential that often relies upon close and constant iteration between project planning, design and delivery, together with opportunities for knowledge transfer and capacity building in critical areas such as project management.

Finally, a stronger approach to local industry participation needs explicitly to encompass both the private and public sectors; government must be a leader and a full partner in building industry capability.

It is important that local businesses receive fair opportunity to compete in the awarding of contracts let by large private firms or government agencies. The EDB recommends that current local industry participation policies and practices be assessed against the need for strong industry sustainment over the present downturn and beyond, and that this be a key focus of attention for policy development and implementation.

10.5 Commonwealth – State Financial Relations

The new reformed framework for Commonwealth/State financial relations places Commonwealth payments to the states into three components

- GST revenue funding.
- General revenue assistance.
- Payments for specific purposes.

The new framework also focuses on providing clear targets and key performance indicators for provision of money to programs. This applies most particularly to the reformed framework for Specific Purpose Payments – *National SPP Agreements* covering healthcare, schools, skills and workforce development, affordable housing, and disabilities, and *National Partnerships* to support the delivery of specific projects and to facilitate nationally significant reforms. All payments to the states will be made to each state's Treasury, rather than to each recipient agency, as previously.

These reforms should provide additional flexibility concerning the ways in which funds are expended, and some greater certainty as to the ongoing character of the funding stream.

Given the central role of the Department of Treasury and Finance as recipient of Commonwealth monies, it is vital that strong links between service delivery agencies and Treasury be in place, so that the Government is informed of the full implications of agreements struck in each portfolio area.

10.6 Partnerships for economic growth

The EDB believes that the 'business welfare' approaches of a decade or so ago were a poor substitute for strategy, and had little relevance to building sustainable competitive advantage. That model saw an indiscriminate approach to investment attraction with large grants for companies to set up operations in the State. Attracted primarily by large handouts, all but one of the high profile companies has left the State.

The EDB reiterates the position it has enunciated since its inception. That the focus should be building the foundations of competitiveness and a partnership of business, government and the community. In this framework the priorities will be those discussed in this report:

- Looking ahead to anticipate change.
- Investing in education and skills.
- Developing productivity.
- Enhancing infrastructure.
- Overcoming growth constraints.
- Capturing and applying knowledge.
- Ensuring effective and efficient government.

Knowledge, skills and infrastructure are paramount.

This report has referred to some of the sectors of the economy whose expansion will help to sustain a vibrant and prosperous South Australia into the future. They include resources, defence, advanced manufacturing, food and agribusiness, education and renewables. Their development and that of all sectors will best be sustained through investment in the same things that will lift the long-term growth of the economy as a whole: skills, infrastructure, a competitive business environment, an aggressive but targeted approach to inward investment, and having an action plan that is forward looking and strategic. In partnership with business and the community, government has a key role to play.

Appendix 1: Terms of Reference

160/004/053 TC09



Hon. Mike Rann MP
Premier of South Australia

Mr David Simmons
Chair
Economic Development Board
GPO Box 1264
ADELAIDE SA 5001

David
Dear Mr Simmons

Since the Rann Government came to office in 2002, there have been significant changes within the South Australian economy.

These changes have been underpinned by the South Australian Strategic Plan, which contains several targets that have established a pathway for growth.

South Australia is now well placed to reap the benefits of growth in defence, mining and other higher-value parts of our economy, if we are able to strategically grasp the emerging opportunities.

Since it was established, the Economic Development Board has consistently provided valuable advice, for example, in conceiving the P.A.C.E. program, and in advocating for planning reform.

I am now seeking the advice of the Economic Development Board on the future directions of the South Australian economy, the opportunities that are likely to emerge, and how we might best capture those opportunities to the maximum benefit of South Australia.

I invite the Economic Development Board to develop comprehensive advice that sets out possible future scenarios for South Australia's growth that addresses the following:

- future growth scenarios;
- systemic reforms required to support growth – for example, to the planning system;
- future workforce and skill needs;
- climate change and water issues;
- infrastructure implications;
- possible risks and ways of mitigating those risks; and
- any other key issue and imperatives that will be important to ensuring a prosperous future South Australia.

Office of the Premier
State Administration Centre 200 Victoria Square Adelaide South Australia 5000 GPO Box 2343 Adelaide SA 5001
Telephone +61 8 8463 3166 Facsimile +61 8 8463 3168 Email premier@saugov.sa.gov.au www.premier.sa.gov.au

Such a comprehensive statement is likely to involve input from several Government agencies and Ministers, and I invite you to seek the input of those parts of Government that will be able to assist you with this task.

You will be aware that the Premier has asked the Social Inclusion Board to consider ways of ensuring there is a social dividend from South Australia's future growth, and I anticipate that the work to be undertaken by both the Economic Development Board and the Social Inclusion Board will be highly complementary.

It would be appreciated if your advice could be provided by 30 November 2008.

I look forward to your advice.

Yours sincerely



KEVIN FOLEY MP
Acting Premier

22 15 /2008



Hon. Mike Rann MP
Premier of South Australia

Mr Bruce Carter
Chairman
Economic Development Board
Level 6, 81 Flinders Street
ADELAIDE SA 5000

Dear Mr Carter

On 22 May this year, the then Acting Premier Kevin Foley MP wrote to Chair of the Economic Development Board, Mr David Simmons, inviting the Economic Development Board to provide comprehensive advice on South Australia's future economic growth.

I am advised that this work is proceeding well, and that it will comprehensively address the initial Reference.

While there were some signs of change to global financial markets in May, the extent of change was not yet evident, and the Board was not specifically asked to take account of it or to identify its likely impact for South Australia.

I am now amending the Government's earlier request to the Board. I would ask the Board to now expand its advice to consider, in broad terms, the current global economic environment, the possible implications for South Australia's future growth, any opportunities and risks that might emerge from this and ways of addressing them.

I am not anticipating that the Board will be able to be definitive in its advice, given the significant global uncertainty and volatility, but would nonetheless appreciate your considered views on this important matter.

To ensure the Board is able to provide this advice, I am extending the timeframe from 30 November to 31 March 2009, which should give sufficient time for the direction of the global changes and their impact on South Australia to become clearer, and for the Board to take these changes into account in providing its advice to Government.

I look forward to your advice.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Mike Rann'.

MIKE RANN
Premier

15/10/2008

Office of the Premier
State Administration Centre 200 Victoria Square Adelaide South Australia 5000 GPO Box 2343 Adelaide SA 5001
Telephone +61 8 8463 3166 Facsimile +61 8 8463 3168 Email premier@saugov.sa.gov.au www.premier.sa.gov.au

Appendix 2: Consultation

Extensive consultation was undertaken in the preparation of this report. Consultation was conducted via a number of mechanisms including targeted consultations around key themes via focus groups and a series of one-on-one meetings

The EDB would like to thank the following people for their contributions:

Name	Title	Company
Mr Steve Adcock	Chief Executive Officer	Electronics and ICT Association
Ms Gillian Aldridge	Mayor	City of Salisbury
Prof Kym Anderson	George Gollin Professor of Economics	The University of Adelaide
Mr Harold Anderson AM	Mayor	City of Charles Sturt
Dr Lyn Arnold AO	Chief Executive	Anglicare
Ms Claire Baker	Project Director	Electronics and ICT Association
Ms Joy Baluch AM	Mayor	City of Port Augusta
Ms Catherine Barnett	Executive Officer	Flavour SA
Mr Christian Bennett	Group Executive	Santos Ltd
Ms Christine Bierbaum	Executive Director, Government Relations and Reform Office	Department for Transport, Energy and Infrastructure (DTEI)
Mr Darren Bilsborough	National Director of Sustainability	Parsons Brinckerhoff Australia Pty Ltd
Ms Michelle Bissett	Policy and Industrial Officer – Vocational education	Australian Council of Trade Unions
Mr Peter Blacker	Chairman	Regional Consultative Council
Mr Mark Braes	Mayor	Wattle Range Council
Mr Geoff Brock	Mayor	Port Pirie Regional Council
Dr Kevin Buckett	Director Public Health	Department of Health
A/Prof Barry Burgan	Head of School	The University of Adelaide
Mr Jeff Burgess	Chairman	Southern Flinders Ranges RDB
Mr John Chapman	Executive Director	Motor Trade Association of SA
Dr Ian Chessell	Chief Scientist	Department of Further Education Employment Science & Technology (DFEEST)
Dr Susan Close	Director, Sustainability	Planning SA
A/Prof Owen Covic	Faculty of Social Sciences, Flinders Business School	Flinders University
Ms Barbara-Ann Cowey	Regional Drought Coordinator	PIRSA
Dr David Cruickshanks-Boyd	Regional Director Central-West	Parsons Brinckerhoff Australia Pty Ltd
Mr Brian Cunningham	Chief Executive	Department of Further Education Employment Science & Technology (DFEEST)
Dr Gour Dasvarma	Director, Graduate Courses in Applied Population Studies School of Geography, Population and Environmental Management	Flinders University
Mr Peter Davis	Mayor	City of Port Lincoln
Dr Guy Debelle	Assistant Governor (Financial Markets)	Reserve Bank of Australia
Mr Phillip deCoursey	Chief Executive Officer	Defence Teaming Centre Incorporated
Mr Paul Dowd	Chairman	Resources and Engineering Skills Alliance
Mr Andrew Downs	Managing Director	SAGE Group Holdings Ltd
Ms Jane Drake-Brockman	Executive Director	Australian Services Roundtable Limited
Prof Andrew Fearnle	Thinker in Residence	
Mr Bill Filmer	President	Engineers Australia, SA Division
Mr Andrew Fletcher	Chief Executive Officer	Defence SA
Mr Joe Flynn	Chief Executive Officer	Water Industry Alliance Inc.
Mr Jonathan Forbes	Director Industry Development	South Australian Chamber of Mines and Energy
Mr Robert Freeman	Chief Executive	Department of Land, Water and Biodiversity Conservation (DLWBC)

Appendix 2: Consultation

Name	Title	Company
Ms Liz Furler	Director Education Policy, Planning & Performance	Department of Education and Children's Services (DECS)
Mr David Gaffney	A/Executive Director, South Australia	Housing Industry Association Limited
Ms Penny Gale	General Manager Policy & International Business	SA Employers Chamber of Commerce & Industry Inc
Mr Raymond Garrard	Chief Executive	Department of Trade and Economic Development (DTED)
Ms Janet Giles	Secretary	SA Unions
Dr Ian Gould	Chair	South Australian Minerals and Petroleum Export Group
Prof Roy Green	Dean, Graduate School of Management	Macquarie University
Ms Karen Grogan	Executive Director	South Australian Council Of Social Service Inc
Mr Jim Hallion	Chief Executive	Department of Transport, Energy and Infrastructure (DTEI)
The Right Honourable Michael Harbison	Lord Mayor of Adelaide	City of Adelaide
Mr Michael Heard	Chief Executive	Codan Limited
Mark Henley	Manager Advocacy and Communication	UnitingCare Wesley
Mr Nigel Hennessy	Chief Executive Officer	AquaSpy Group Pty Ltd
Mr David Hitchcock	Manager, Finance and Infrastructure	Local Government Association of South Australia
Mr Alan Holmes	Chief Executive Officer	Department for Environment & Heritage (DEH)
Mr George Inglis	A/Executive Director	Property Council of Australia (SA Branch)
Mr Gary Johanson	Mayor	City of Port Adelaide Enfield
Mr Gavin Kain	Principal	Woods Bagot
Mr Grant King	Chief Executive Officer	Limestone Coast RDB
Mr Anthony Kittle	Managing Director	Redarc Technologies Pty Ltd
Mr Geoff Knight	Chief Executive	Department of Primary Industries and Resources
Mr Stephen Lewis	Research Officer	SA Unions
Ms Felicity-ann Lewis	Mayor	City of Marion
Mr Martin Lindsell	Mayor	City of Playford
Prof Chris Marlin	Deputy Vice-Chancellor (Research)	Flinders University
Mr Malcolm May	Managing Director	Balco Australia Pty Ltd
Hon Karlene Maywald MP	Minister for Water Security	
Mr Warren McCann	Chief Executive	Department of Premier and Cabinet (DPC)
Mr Andrew McEvoy	Chief Executive	South Australian Tourism Commission
Prof Caroline McMillen	Pro Vice-Chancellor and Vice President: Research & Innovation	University of South Australia
Mr Jamie McPhee	Group Managing Director	Adelaide Bank Limited
Mr Julian Morison	Managing Director	EconSearch Pty Ltd
Mr Neil Murphy	General Manager	South Australian Freight Council Inc.
Mr Dennis Mutton	Chair	Natural Resources Management Council
Mr Stephen Myatt	Director	Engineering Employers Association South Australia
Ms Ann Nelson	Director Biotechnology Infrastructure	Bio Innovation SA
Mr John O'Brien	Managing Director	Australian Clean Technology Consulting Pty Ltd
Mr Ian O'Loan	Chairman	Yorke RDB
Mr Tim O'Loughlin	Deputy Chief Executive	Department of the Premier and Cabinet (DPC)
Mr Lew Owens	Chief Executive Officer	ETSA Utilities

Appendix 2: Consultation

Name	Title	Company
Mr Nathan Paine	Executive Director	Property Council of Australia Limited
Ms Jillian Paull	State Director - SA	Mission Australia
Mr Roger Perry	Head of Planning and Infrastructure	SA Water
Mr Steve Perryman	Mayor	City of Mount Gambier
Mr Rod Reeve	Chief Operating Officer	Coffey - International Development
Prof Sue Richardson	Director	National Institute of Labour Studies
Mr Guy Roberts	Managing Director & Chief Executive Officer	Penrice Soda Holdings Ltd
Mr Ken Rollond	Mayor	City of Holdfast Bay
Mr Phillip Sims	Chief Executive Officer	Robern Menz Pty Ltd
Mrs Judith Sloan	Commissioner	Productivity Commission
Mr Brian Smedley	Chief Executive	South Australian Wine Industry Association Incorporated
Mr Chris Stathy	President	Engineering Employers Association of South Australia
Mr Robert Stewart	Chief Executive	Master Builders South Australia
Mr Andrew Stock	Executive General Manager, Major Development Projects	Origin Energy Limited
Mr David Swift	Chief Executive	Electricity Supply Industry Planning Council
Mr Michael Thomas	Consultant	Access Economics
Mr David Thomas	Deputy Project Manager for Infrastructure	BHP Billiton
Mr Greg Troughton	Chief Executive Officer	Real Estate Institute of SA Inc
Mr Peter Vaughan	Chief Executive Officer, Business SA	SA Employers Chamber of Commerce & Industry Inc
Ms Denise von Wald	Chief Executive Officer	Education Adelaide Services
Mr Terry Walsh	Executive Director	Urban Development Institute of Australia (SA Branch)
Mr John Wenzel	General Manager	Woodhead Pty Ltd
Mr Peter White	President	South Australian Farmers Federation
Mr Jim White	General Manager-Business Sustainability	OneSteel Ltd
Mr Jim Wright	Under Treasurer	Department of Treasury and Finance
Mr Ian Yates	Deputy Chair	SACOSS
Mr Richard Yeeles	Manager Corporate Affairs	BHP Billiton Ltd

The EDB would also like to thank a number of organisations for their written submissions:

Company	Submission Date
Alexandrina Council	13 August 2008
Australian Clean Technology Consulting	6 August 2008
Australian Conservation Foundation	28 August 2008
City of Adelaide	21 August 2008
City of Mount Gambier	29 August 2008
City of Port Adelaide Enfield	29 August 2008
Engineering Employers Association SA	29 August 2008
Flinders Partners	18 August 2008
Motor Trade Association of SA	28 August 2008
Property Council of Australia Limited	3 September 2008
SACOSS	September 2008
Southern Adelaide Economic Development Board	29 August 2008
South Australian Freight Council Inc.	4 September 2008
South Australian Wine Industry Association Incorporated	29 August 2008
South Australian Tourism Commission	August 2008
The University of Adelaide	12 August 2008

Appendix 3: Existing policies, strategies and initiatives for South Australia

Policy and Strategy

- South Australia's Strategic Plan (2007)
<http://www.stateplan.sa.gov.au/>
- A Skills Strategy for South Australia's Future (2008)
<http://www.dfeest.sa.gov.au/Portals/2/downloads/skillsstrategyfull200308.pdf>
- Better Skills Better Work Better State: A Strategy for the Development of South Australia's Workforce to 2010 (2005)
<http://www.workforceinfoservice.sa.gov.au/strategytools/strategy>
- Improving with Age Our Ageing Plan for South Australia (2006)
<http://www.sapo.org.au/pub/pub5843.html>
- Industry Participation Policy (2005)
http://www.southaustralia.biz/library/IPP_Guidelines_071205.pdf
- Inner City Services Strategic Plan (2004)
<http://www.familiesandcommunities.sa.gov.au/Default.aspx?tabid=752>
- Planning Strategy for Greater Metro Adelaide (currently under development)
<http://www.planning.sa.gov.au/go/strategy/land-use-planning-strategy-for-sa/metropolitan-adelaide>
- Prosperity Through People: A Population Policy for South Australia (2004)
<http://www.sapo.org.au/pub/pub182.html>
- SA Country Health Care Plan (2008)
<http://www.countryhealthsa.sa.gov.au/>
- SA Health Strategic Plan (2007)
<http://www.health.sa.gov.au/Default.aspx?tabid=59>
- South Australia's Health Care Plan (2007)
<http://www.health.sa.gov.au/Default.aspx?tabid=247>
- South Australia's Waste Strategy (2005)
http://www.zerowaste.sa.gov.au/waste_strategy.php
- State Natural Resources Management Plan (2006)
http://nrm.sa.gov.au/nrmresearch/display.php?table=research_project&id=6235
- STI10 – A 10 year vision for Science, Technology and Innovation in South Australia (2005)
http://www.innovation.sa.gov.au/sti/10_year_vision
- Strategic Infrastructure Plan for South Australia (2005)
http://www.infrastructure.sa.gov.au/strategic_infrastructure_plan
- Tackling Climate Change: South Australia's Greenhouse Strategy (2007)
<http://www.climatechange.sa.gov.au/>
- Water Proofing Adelaide Strategy (2003)
<http://www.waterproofingadelaide.sa.gov.au/wpa/>

Reviews

- Final Report of the Planning and Development Review Steering Committee (June 2008)
<http://www.planning.sa.gov.au/go/planningreview>
- Generational Health Review (2003)
<https://www.library.health.sa.gov.au/Portals/0/GHR-final-report-better-choices-better-health.pdf>
- Review of Health and Medical Research in South Australia (May 2008)
<http://www.health.sa.gov.au/Default.aspx?tabid=433>
- Review of Skills and Workforce Development in South Australia, the challenge for the next decade (June 2008)
<http://www.sapo.org.au/pub/pub11603.html>

Initiatives

- A series of industry-wide reviews into red tape reduction for the South Australian Competitiveness Council (2007)
<http://www.southaustralia.biz/Doing-Business-in-SA/Issues-for-Businesses/Red-Tape-Reduction.aspx>
- Dr Fraser Mustard's Early Childhood Development Thinker in Residence Report
<http://www.ecsinquiry.sa.gov.au/pages/frasermustard/home/>
- Ministerial Inquiry into Early Childhood Services (2004)
<http://www.ecsinquiry.sa.gov.au/>
- Multicultural SA Access and Equity Initiatives (2003)
<http://www.multicultural.sa.gov.au/programs/accessequity.htm>
- Strategic Research Agenda (2006)
<http://www.familiesandcommunities.sa.gov.au/Default.aspx?tabid=752>
- Submission to the Federal Government Infrastructure Audit (2008)
<http://www.infrastructureaustralia.gov.au/>

Industry development strategies

- Aviation Strategy (2007)
http://www.southaustralia.biz/library/Aviation_Strategy.pdf
- Beyond Local, Towards Global: Building South Australia's Export Culture (2004)
http://www.southaustralia.biz/library/15_ExpSA_BeyondLocalTowardsGlobal.pdf
- Bio Innovation South Australia Strategy (2007)
http://www.bioinnovationsa.com.au/mission_strategy.html
- Cycle Tourism Strategy (2005)
<http://www.tourism.sa.gov.au/tourism/publications.asp>
- Defence Electronics Systems Sector Plan (2005)
<http://www.defence.gov.au/media/2003/ACF4345.doc>
- Global Horizons, Local Initiatives – A Framework for South Australia's Manufacturing Future (2005)
<http://www.sapo.org.au/pub/pub2682.html>
- Manufacturing a Sustainable Future - A Transformation Strategy for South Australian Manufacturing, Manufacturing Consultative Committee (2008)
- Nature-based Tourism Strategy (2004)
<http://www.tourism.sa.gov.au/tourism/plan/SNBTS.pdf>
- SA Seafood Plan (2005)
http://www.pir.sa.gov.au/fisheries/commercial_fishing/sa_seafood_plan
- South Australia Wine Tourism Strategy (2004)
<http://www.tourism.sa.gov.au/tourism/publications.asp>
- South Australian Beef Industry Strategy (2005)
http://www.pir.sa.gov.au/__data/assets/pdf_file/0011/18794/beef_industry_strategy.pdf
- South Australian Dairy Industry Strategic Plan for 2010 (2002)
http://www.pir.sa.gov.au/__data/assets/pdf_file/0020/18632/sadistratplana1.pdf
- South Australian Food Plan (2007)
<http://www.safoodcentre.com/about/pages/statefoodplan/>
- South Australian Goat Industry Strategic Plan to 2010 (2003)
http://www.pir.sa.gov.au/__data/assets/pdf_file/0018/18900/goat_plan_document.pdf
- South Australian Honeybee Industry Strategic Plan (2006)
<http://www.safoodcentre.com/about/pages/statefoodplan/honeybee/>
- South Australian Olive Industry Strategic Plan (2003)
<http://www.safoodcentre.com/about/pages/statefoodplan/olives/>
- South Australian Pork Industry Strategic Plan to 2010 (2003)
http://www.pir.sa.gov.au/__data/assets/pdf_file/0019/18721/pork_strategic_plan.pdf
- South Australian Sheep Industry 10-year Strategic Plan
http://www.pir.sa.gov.au/__data/assets/pdf_file/0008/18782/sheep_10year_plan_web.pdf
- South Australian Tourism Plan (2003)
<http://www.tourism.sa.gov.au/tourism/publications.asp>
- Strategic Directions for Poultry Meat in South Australia (2005)
<http://www.safoodcentre.com/about/pages/statefoodplan/poultry/>
- Strategic Plan for the South Australian Citrus Industry (2005)
http://www.pir.sa.gov.au/__data/assets/pdf_file/0014/23810/final_sacitrusindustrystrategicplanapproved.pdf
- Strategic Plan for the South Australian Egg Industry (2003)
http://www.pir.sa.gov.au/__data/assets/pdf_file/0009/18693/egg_plan_final_report.pdf
- Strategic Plan for the South Australian Vegetable Industry (2004)
<http://www.safoodcentre.com/about/pages/statefoodplan/vegetable/>
- Wine: A Partnership (2005)
http://www.pir.sa.gov.au/__data/assets/pdf_file/0015/33261/WINE_A_PARTNERSHIP_FINAL_LoRes_071017.pdf

Regional and local government plans

- Intergovernmental Agreement Establishing Principles Guiding Intergovernmental Relations on Local Government Matters (2006)
<http://www.localgovt.sa.gov.au/policy>
- State-Local Government Relations Agreement (2004) <http://www.localgovt.sa.gov.au/policy#agreement>

- Clare Valley and Barossa Tourism Plan (2007)
<http://www.tourism.sa.gov.au/tourism/publications.asp>
- Fleurieu Peninsula Integrated Strategic Tourism Plan, 2007 - 2012
<http://www.tourism.sa.gov.au/tourism/publications.asp>
<http://www.pamc.biz/tech/home.jsp>
- Northern Lefevre Peninsula Masterplan (March 2008)
- Planning Strategy for Metropolitan Adelaide (December 2007)
<http://www.planning.sa.gov.au/go/strategy/land-use-planning-strategy-for-sa/metropolitan-adelaide>
- Planning Strategy for Regional SA (January 2003, as amended at December 2007)
<http://www.planning.sa.gov.au/index.cfm?objectid=C3629D1A-F203-0D46-AAABB651524DEF88>
- Planning Strategy for the Outer Metropolitan Adelaide Region (December 2007)
<http://www.planning.sa.gov.au/go/strategy/land-use-planning-strategy-for-sa/outer-metropolitan-adelaide-region/planning-strategy-for-the-outer-metropolitan-adelaide-region>
- Strategic Plan for Training and Workforce Development in the Mid North Region
http://www.mnrdb.com.au/img/upload/file/Mid%20North%20Workforce%20Strategy%20Plan_final_0808.pdf
- Yorke Peninsula Regional Land Use Framework (December 2007)
<http://www.planning.sa.gov.au/go/strategy/land-use-planning-strategy-for-sa/regional-sa/yorke-peninsula-regional-land-use-framework/yorke-peninsula-regional-land-use-framework>

Social Inclusion and Community Plans

- Corporate Volunteering Policy (2007)
http://www.ofv.sa.gov.au/pdfs/DPC_CorporateVolunteeringPolicy.pdf
- Keeping Them Safe: The SA Government's Child Protection Reform Program (2004)
<http://www.familiesandcommunities.sa.gov.au/Default.aspx?tabid=270>
- Making the Connections: a School Retention Action Plan (2007)
<http://www.socialinclusion.sa.gov.au/page.php?id=31>
- Reducing Homelessness: A Plan for Immediate Action (2004)
<http://www.socialinclusion.sa.gov.au/page.php?id=29>
- SA Tobacco Control Strategy (2005)
<http://www.dassa.sa.gov.au/site/page.cfm?u=197>
- School to Work Strategy for Secondary Education (2006)
http://www.decs.sa.gov.au/learningandwork/a8_publish/modules/publish/content.asp?id=32542&NAVGRP=174
- South Australian Drug Strategy (2005)
<http://www.dassa.sa.gov.au/site/page.cfm?u=197>
- Stepping Up: A Social Inclusion Action Plan for Mental Health Reform (2007)
http://www.socialinclusion.sa.gov.au/files/Stepping_Up_mental_health_action_plan.pdf
- Strategic Directions for Science and Mathematics in South Australian Schools (2003)
http://www.scimas.sa.edu.au/scimas/files/links/Booklet_SCIMAS_2004_NE_1.pdf
- Success Through Partnership: A Strategy for Volunteer Engagement (2005)
http://www.ofv.sa.gov.au/innovative_government_strategies.htm
- Supported Accommodation Strategy (2006)
<http://www.familiesandcommunities.sa.gov.au/Default.aspx?tabid=752>
- The South Australian Early Years Literacy and Numeracy Program (2008)
http://www.earlyyears literacy.sa.edu.au/files/pages/2008_EYLNPOverview.pdf
- Women's Health Action Plan (2006)
<http://www.officeforwomen.sa.gov.au/index.php?section=891>
- Women's Safety Strategy (2005)
<http://www.officeforwomen.sa.gov.au/index.php?section=970>
- Youth Action Plan (2008)
<http://www.officeforyouth.sa.gov.au/Policy/YouthActionPlan/tabid/193/Default.aspx>

Appendix 4: Modelling the economic impact of major projects*

Both the industry gross value added (chapter 3) and the macroeconomic Gross State Product (GSP, chapter 2) projections have been obtained from a two-stage modelling process. A base (or “business as usual”) set of projections out to 2014-15 was obtained first as an average of external forecasts mainly from established private-sector forecasters, to which was added an EDB estimate of the impact of major projects.

The base projections are a consensus (simple average) of seven different forecasts. Six of these were provided on a fiscal year basis (out to 2014-15) by leading independent private-sector forecasters. The seventh projection was a sophisticated extension of past trends using a popular technique known as a Hodrick-Prescott filter (after the inventors of the method).

Four forecasters¹ provided us with fiscal-year growth forecasts for both South Australian one-digit industries and GSP. Two forecasters² provided fiscal-year projections of GSP but only national forecasts at the industry level. In these latter two cases we used the national industry growth forecasts as proxies for their state counterparts subject to scaling them to be consistent with that agency’s over-riding GSP forecast.

Through the course of 2008 some, though not all of the national forecasters appeared to become aware of South Australian major projects on the horizon, and adjusted their published forecasts accordingly. We avoided the danger of double counting major projects (in the base as well as the second stage addition) by using earlier, 2007 vintages from the forecasters. While this procedure reduced the value of the individual forecasts as cyclical indicators for individual years (by neglecting new information becoming available in 2008), our purpose was to estimate underlying cyclically-adjusted (or “structural”) growth rates over the medium to longer term on a pre-major-projects basis.

The results from this base, business as usual consensus are presented as seven-year compound annual average real growth rates (from 2007-08 to 2014-15) in the middle column of table 3.1 for standard industry classifications and GSP. The slight diminution of projected GSP growth over the preceding historical period reflects the using up of previous slack as assumed “full employment” is approached.

The second strand of output impacts from major projects was estimated by the EDB through a multi-stage process of modelling. First, an updated version of the list of major projects known to DTED (previously published in the Major Developments SA Directory 2007 volume) was further enhanced with information and assumptions about the timing of expenditures for individual projects. Second, an estimate was made (based upon past trends from Access Economics Investment Monitor) of a “normal” level of major projects that could be expected to be underway in the State on a business-as-usual basis. This estimate was deducted from the full list to yield a reduced sub-set of “abnormally high” levels of major projects. For analytic convenience larger projects were assumed generally to be representative of “abnormally high” investment activity.

Third, this sub-set of “abnormally high” investment projects was analysed in detail (using information available to DTED from the relevant businesses and other government departments) both as to timing and amount of capital expenditures and resulting revenue streams. Fourth, estimates of the (interstate and international) import content of these revenues and expenditures were subtracted from the original totals of abnormally high projects. Fifth, these individual import-adjusted expenditures were fed project-by-project into the RISE (Regional Industry Structure and Employment) input-output model of the South Australian economy created by EconSearch Pty. Ltd. to determine ripple effects on other industries.

If all projects were to be completed as assumed the results of these exercises would provide estimates of major projects’ impacts on industry gross value added and GSP. In turn, the addition of these estimates to the first-stage base forecasts would provide estimates of industry and GSP growth rates. Even before the global economic deterioration, however, it was possible that some projects would be delayed or abandoned. The modelling handled that objection by imposing a realisation discount on anticipated outcomes from major projects. Weaker global outcomes suggested deepening of the discount.

¹These are Access Economics, BIS Shrapnel, Monash Centre for Policy Studies (CoPS) and National Institute of Economic and Industry Research (NIEIR).

²KPMG Econtech and IBIS World.

Numerical projections contained in the report have been estimated in two distinct fashions corresponding to two separate questions posed. The first (exemplified by the material in figure 2.2) considers the minimum addition to GSP likely to result from major projects. For this purpose we included only those projects already underway, those in approved public-sector budgets and the latest iteration of BHP-Billiton's yet-to-be-approved Olympic Dam expansion. All other major projects have been excluded from this exercise (implicitly with a realisation discount of 100 per cent). As indicated in chapter 2, while precise year-by-year estimates are sensitive to small changes in timing this conservative formulation of a minimum major project impact yields a growth increment to GSP of around 1¼ per cent per annum on average over the four years of 2008-09 to 2011-12 inclusive. Before these estimates can be converted to actual outcomes in the immediate years ahead some impression of the effect of global business cycle on base (or business-as-usual) outcomes has to be added. The EDB has not undertaken this latter task.

A second, different question asks what the EDB thinks to be the most likely growth outcomes over the longer span of the seven years to 2014-15. Here we consider it highly unlikely that all the yet-to-be started private projects will remain dormant throughout (as is assumed in figure 2.2). After considering alternatives we settled on a realisation discount of 40 per cent for these projects (with 60 per cent of contemplated projects being implemented during the timeframe). The central forecasts in column three of table 3.1 were obtained by adding this list to the base forecasts (column two) and the "conservative" group of projects in figure 2.2. The results are presented as annual average (or compound annual) growth rates over the seven years to 2014-15. While the average annual GSP growth outcome of 3.2 per cent is shown to one decimal point, the projection is best interpreted within a range of 3 to 3½ per cent. Cyclical deviations about this annual pace are as yet unknown, and extremely difficult to predict accurately, but, in common with other forecasters like the Reserve Bank of Australia, we are assuming that GSP will return to its underlying path by 2014-15.

We also considered alternative modelling methods, especially those that go under the general rubric of "computable general equilibrium" (CGE) models. The essential feature of CGE models is that inputs (such as labour, land and capital) are pre-determined ("exogenous" to the model) with shocks such as new major projects effectively determining which industries obtain the scarce, fixed resources. Typically in these models a large part of the impetus from new projects will displace ("crowd out") activity in existing industries leaving only a small net addition to GSP. We rejected this approach as inconsistent with abundant evidence (such as the course of migration in figure 4.3) that growth in some allegedly-fixed-path inputs will be induced by demand pressures (or be "endogenous" to the model). Experimentation with CGE models on an ad hoc basis using higher fixed-growth paths for labour yielded results not broadly dissimilar to those in table 3.1.

There is also the possibility that higher growth outcomes than we have envisaged could engender yet further growth, most notably through a demand for extra housing (and associated inputs such as bricks, glass and furnishings) created by induced higher population growth. At an earlier time we integrated a separate third-stage housing-population model into our output growth estimates. We are now persuaded that such a third stage is not warranted with population likely to grow only by recent rates. But should population growth pick up further on a sustained basis (as a result, for example, of renewed resources enthusiasm) a need for such a third-stage procedure should be noted.

**The EDB was supported by a cross-government research team comprising Matt Johnson (DPC), Rebecca Greenfield (DTED), Adam Comley (DTED), Dan Jordan (DPC), Belinda Wood (DTED), Chris Geisler (DTED), Wendy Riemens (DFEEST), Rohan Callaghan (DTF), Brad Gay (DPC), Grant Whitesman (DTED), Tanya Carroll (DTED), Tim Mares (PIRSA), Emmanuel Santos (DFEEST), Jerome Claessen (DTEI), Richard Day (DTEI) and Michael Pullman (DTED). A number of other agency personnel supported the development of this statement with the provision of information and analysis, either directly or through a number of working groups established in the early phases of the reference. In addition, Dr Barry Hughes provided economic consulting support to the Board. The EDB thanks all contributors for their outstanding and sustained contributions to this project. All responsibility for the content of this Report rests with the EDB.*

World Trade Forum

A report by the Economic Development Board March 2009