



Future shape of the NSW economy

New South Wales is projected to have a \$1.4 trillion-dollar economy by 2060-61, measured in today's dollars. This represents a more than doubling of the economy in real terms from \$629 billion in 2018-19.

Treasury modelling projects that real economic growth will average 2.0 per cent per year to 2060-61. Real Gross State Product (GSP) per person – a measure of average living standards – will grow by 1.1 per cent each year on average. Overall, people in New South Wales will enjoy higher incomes over the next 40 years with average full-time wages projected to grow from \$86,000 in 2018-19 to \$139,000 by 2060-61, measured in today's dollars.

As outlined in Chapter 1, historically low fertility rates and a slowdown in overseas migration will contribute to slower population growth compared to recent decades. This means that changes in the proportion of adults in work (the participation rate), and the amount each person produces per hour (productivity) become more critical to drive economic growth, support intergenerational equity and improve living standards over time.

The NSW participation rate is projected to decline from 65.3 per cent in 2018-19 to 61.6 per cent by 2060-61 as the population ages. This decline is expected to occur despite an increase in participation amongst working age women and older workers. The proportion of the workforce working part-time is projected to continue rising from 30.7 per cent in 2018-19 to 33.0 per cent in 2060-61.

Productivity growth is expected to average 1.2 per cent each year over the next 40 years. This assumption is based on historical productivity growth over the past 30 years. While productivity is high in New South Wales, productivity growth has dropped below the OECD average (a grouping of 37 advanced economies) and the Australian average. Achieving a productivity growth rate of 1.2 per cent will be challenging and will require microeconomic reforms at the State and Commonwealth level, the development of world class infrastructure, an effective and adaptable education and training system, and the adoption of global and local technological innovations.

Employment is projected to grow fastest in business services and in social services, with these sectors projected to account for 52 per cent of jobs by 2034-35, up from 36 per cent in 1989-90. For example, the number of health care jobs is expected to grow as the population ages and as medical treatments and technologies continue to evolve. The jobs of the future will require a highly skilled workforce as the skills mix continues to shift away from more manual and routine tasks and towards non-routine and analytical activities.

In 2060-61:



Size of NSW economy:

\$1.4 TRILLION



The NSW economy will be

2.3 TIMES

larger



Average full time wages:

\$139,000

per year



Income per capita will be

59%

higher

2.1 New South Wales will be Australia's first trillion-dollar economy

The NSW economy will be worth \$1.4 trillion by 2060-61 in today's dollars, which is around 2.3 times the size of the economy today. The economy is projected to grow at an average rate of 2.0 per cent each year between 2018-19 and 2060-61 (Chart 2.1), below the annual average rate of 2.4 per cent growth achieved between 2007-08 and 2018-19 primarily due to slower population growth. Median household income is projected to increase from \$97,000 in 2018-19 to \$138,000 in 2060-61 in today's dollars (Chart 2.2).

Productivity is expected to become the largest driver of economic growth over

the next 40 years. As Chapter 1 outlines, population growth is projected to slow to 0.8 per cent each year, down from the 1.2 per cent per year seen since 2000. The proportion of the working age population engaged in the workforce (the participation rate) is projected to fall as the population ages, subtracting 0.1 per cent from annual economic growth over the next 40 years. For New South Wales to achieve an annual economic growth rate of 2.0 per cent, productivity will need to grow by 1.2 per cent each year, consistent with the 30-year historical average, but higher than the 0.9 per cent experienced between 1999-2000 and 2018-19.

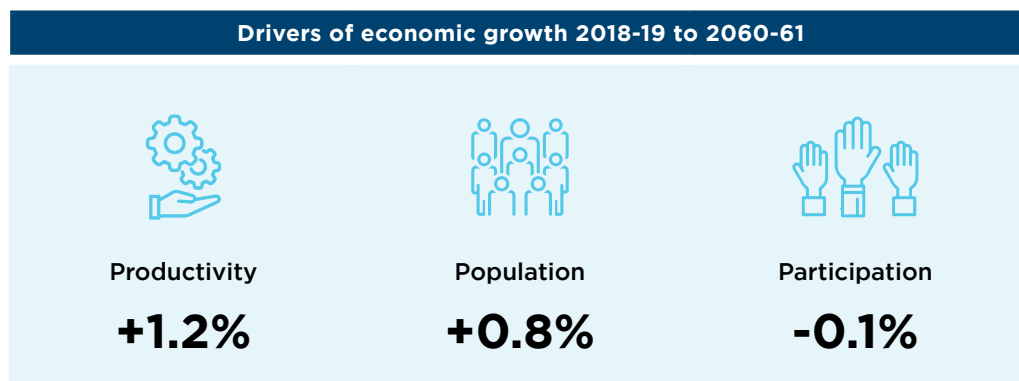
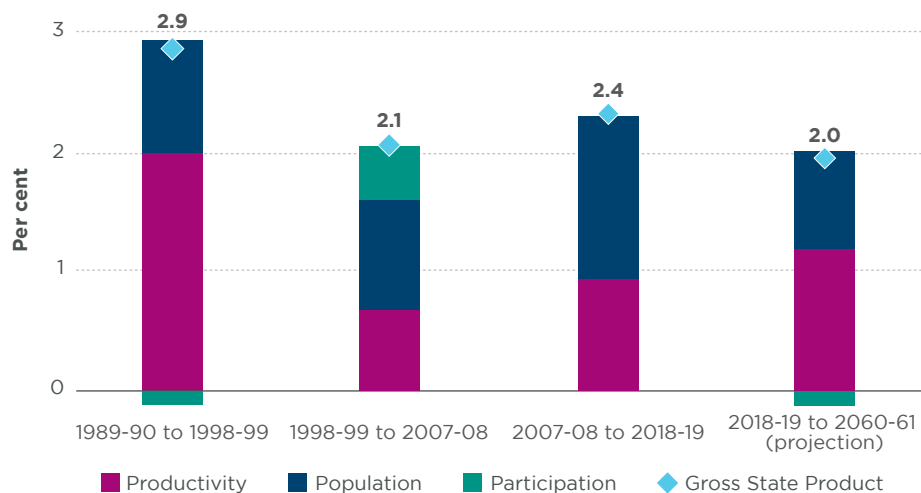
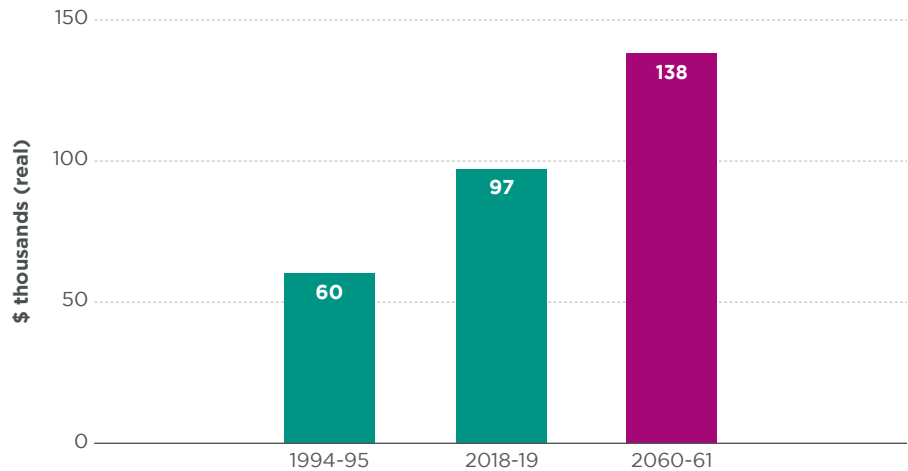


CHART 2.1: CONTRIBUTION OF POPULATION, PARTICIPATION AND PRODUCTIVITY ('THREE PS') TO REAL NSW ECONOMIC GROWTH



Participation defined as hours worked per capita. Source: ABS 5220.0, 6202.0, 3101.0 and NSW Treasury.

CHART 2.2: NSW MEDIAN HOUSEHOLD INCOME

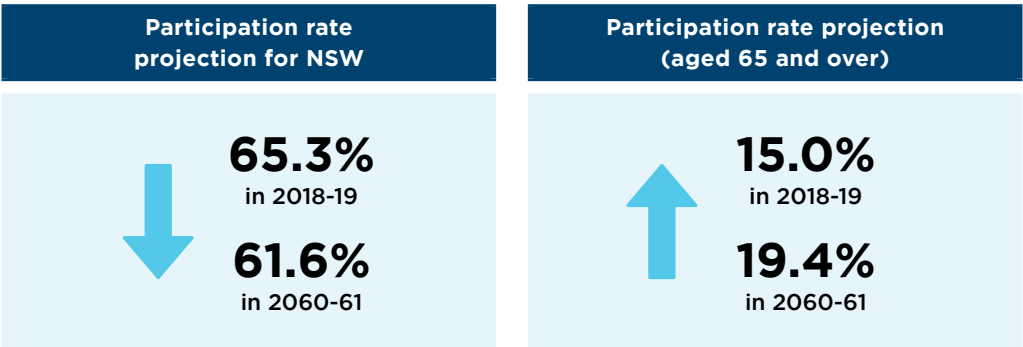


Median Annual Gross Household Incomes for NSW Households. Source: ABS 6523.0 and NSW Treasury.

2.2 Workforce participation will decline as the population ages

The participation rate measures the proportion of adults aged over 15 who are either employed or seeking employment. Higher participation rates indicate that a greater proportion of the working age population is working, earning income and paying tax. The NSW participation rate is projected to decline from 65.3 per cent in 2018-19 to 61.6 per cent by 2060-61 (Chart 2.3). This is driven by our ageing population – workforce participation is lower for those over the traditional retirement age of 65. In 2018-19, 78 per cent of people aged

between 15 and 64 participated in the workforce compared with 15 per cent of people aged 65 and over. By 2060-61, 25 per cent of our population will be over the age of 65, compared to 16 per cent in 2018-19. Chart 2.3 shows that if the age profile of the population remained the same as in 2018-19, the participation rate would be 5.5 points higher than projected by 2060-61. Under this scenario, the economy would grow 0.1 per cent faster each year and would be 4.8 per cent larger by 2060-61.



A greater share of the workforce will work part-time

Part-time work will become more common, with 33.0 per cent of the workforce projected to be working part time by 2060-61, up from 30.7 per cent in 2018-19 (Chart 2.4). In 1978-79 part-time workers only made up 14.8 per cent of the workforce. Many advanced economies have seen a similar increase in their part-time share of employment over recent decades. In line with this trend, the average weekly number of hours worked per worker is projected to decline slightly from 31.8 in 2018-19 to 31.2 hours by 2060-61.

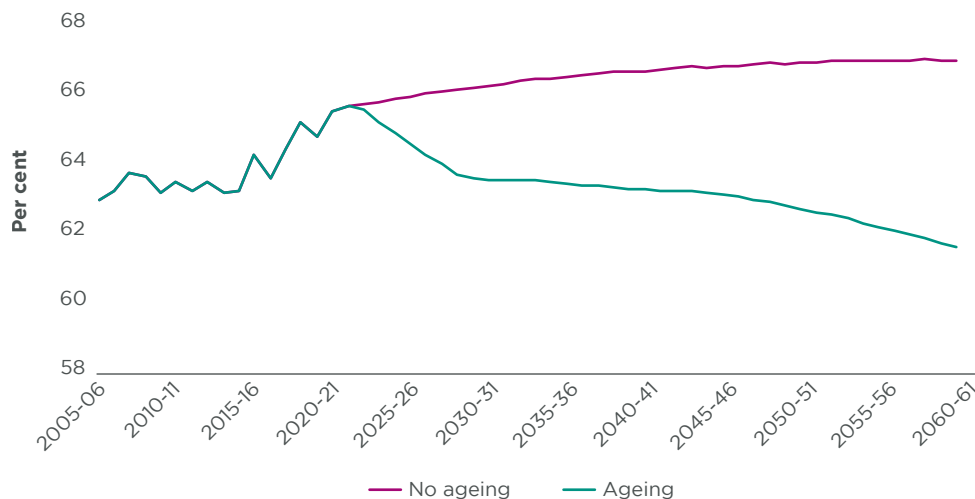
Increasing participation amongst working age women and older people

While overall participation is projected to decline, it is expected to remain higher

than was projected in the 2016 NSW Intergenerational Report. This is because more working age women and people over 65 are now projected to participate in the workforce. By 2060-61, 19.4 per cent of people aged over 65 are projected to participate in the workforce, around four times the share in 1989-90.

Higher participation amongst older workers has push and pull factors. Push factors include an increase in the pension age, financial constraints related to longer life expectancy, and low interest rates and market volatility that for some create a strong incentive to remain working. Pull factors include healthier ageing (Box 2.1) and a shift in workplace skills towards more cognitive and less manual tasks (see section 2.4).

CHART 2.3: PARTICIPATION AND THE IMPACT OF AGEING



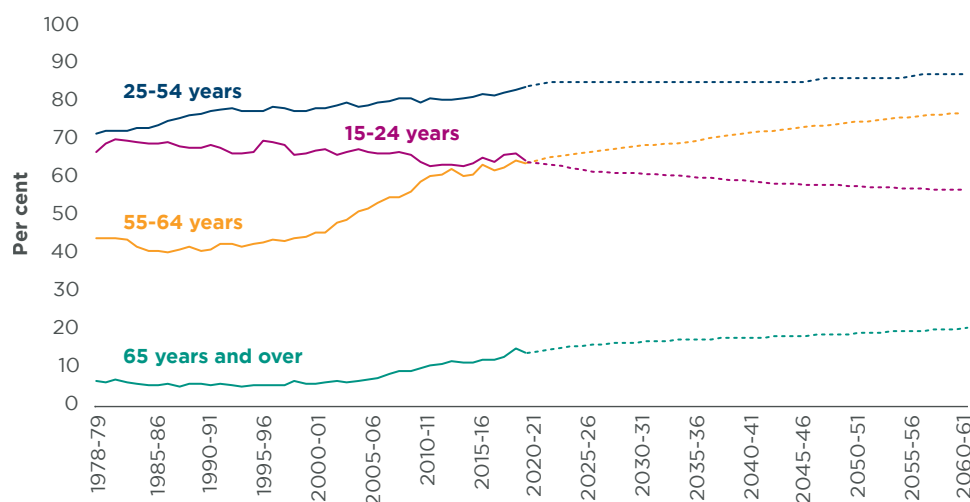
Source: ABS 6202.0 and NSW Treasury.

CHART 2.4: PART-TIME SHARE OF THE NSW WORKFORCE



2020-21 is the 12-month average to March 2021. Source: ABS 6202.0 and NSW Treasury.

CHART 2.5: PARTICIPATION BY AGE



Source: ABS 6291.0 and NSW Treasury.

Box 2.1: Quality health care improves participation throughout life

Good health supports people's ability to participate in and contribute to the economy — whether it be through schooling, employment or in the community.

Almost half of Australians have at least one common chronic health condition, such as diabetes, cardiovascular diseases and mental health conditions.¹⁹ Studies have found people living with chronic disease are 60 per cent more likely not to participate in the workforce and often need additional support from carers. If they are working, they take almost twice as much time off due to sickness.²⁰ The Australian Productivity

Commission's recent inquiry into mental health estimated that poor mental health cost the Australian economy between \$5.3 billion to \$7.0 billion in lost productivity in 2018-19.²¹

Governments, employers and communities all have a role in creating structures and environments that support people's physical and mental health. This can facilitate workplace participation and contribute to New South Wales' economic productivity. The role of the NSW health system in improving health outcomes is discussed in Chapter 4.

Staying in education longer means younger people join the workforce later

Younger people are remaining in education for longer and so are delaying their entry into the workforce. Between 1989-90 and 2019-20 the percentage of NSW people aged 20-24 in full-time tertiary education nearly tripled from 12 per cent to 34 per cent.²² Increasing education for those who choose to study longer and obtain higher qualifications is an investment in their future wages and employability.

¹⁹ Australian Institute of Health and Welfare, *Australia's health 2020: in brief*, 2020.

²⁰ Australian Institute of Health and Welfare, *Chronic disease and participation in work*, 2009.

²¹ Australian Productivity Commission, *Mental Health*, Inquiry Report Volume 2, No. 95., 2020.

²² ABS 6291.0.

Box 2.2: Flexibility in the workplace

The way we work is changing, with fewer jobs today fitting a traditional 'nine-to-five' working week, whether this be through the increased prevalence of part-time work, changes in how people are employed (for example the emergence of the gig economy), or an increase in flexible working arrangements such as working from home.

For many, the availability of less rigid working arrangements has improved their work-life balance, while for others it has been crucial to their participation in the workforce, for instance, those with caring responsibilities. Flexibility is a key driver of rising participation rates even as the population has aged.²³ It has also been a contributing factor in how we have been able to better weather economic shocks such as the

Global Financial Crisis and COVID-19 with lower unemployment compared with earlier recessions.

For others, however, these changes have been less beneficial. The underemployment rate, which measures those who want to work more hours than they currently do, has been steadily increasing over recent decades and reached 7.7 per cent in 2018-19. Changing employment practices have also led to some workers missing out on benefits including paid leave and compulsory superannuation contributions.

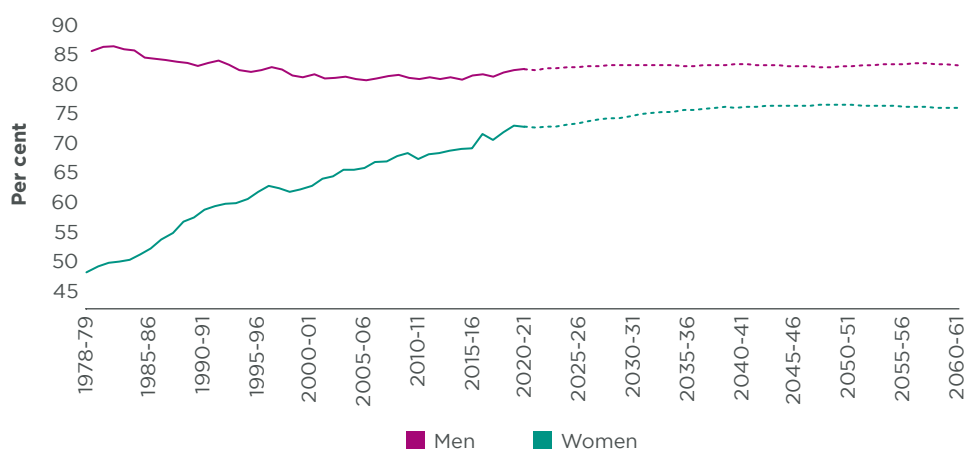
Balancing the flexibility needs of employers and employees will be an ongoing challenge as more of the workforce works part-time and non-traditional working hours, and as technology introduces even more ways to work flexibly.

More women of working age will participate in the workforce

Women's participation is projected to be higher across nearly all age groups. Amongst working age women (aged 15-64), we project the participation rate to increase from 73.1 per cent in 2018-19 to 75.8 per cent in 2060-61, whereas amongst men of the same age participation is projected to remain stable over the same period (Chart

2.6). Increasing workforce participation amongst women over the past 40 years has occurred alongside dramatic improvements in women's access to education and attainment levels; policies to address gender discrimination; improved access to paid parental leave and childcare; society's evolving attitudes; strong growth in services industries that have traditionally employed a greater share of women; and the greater availability of part-time and flexible work.

CHART 2.6: PARTICIPATION FOR MEN AND WOMEN AGED 15-64



Source: ABS 6202.0 and NSW Treasury.

²³ NSW Treasury, *Preliminary Participation Rate Projections for the 2021 Intergenerational Report*, 2021 Intergenerational Report Treasury Technical Paper Series, TTRP 20-01, 2020.



Greater participation by women in paid work has economic benefits

The participation rate for women is projected to increase over the next 40 years but remain below the men's rate, based on analysis of demographic and historical trends.²⁴ To show the economic significance of lower workforce participation by women, it is useful to consider the impact if participation rates amongst women were to reach the same level as that of men. If this were to happen gradually over the next twenty years, and be sustained, it would lift the overall participation rate by five percentage points and the economy would be 8 per cent larger by 2060-61. This would translate to an increase of \$22,000 (real 2019-20 dollars) per household. This estimate is illustrative only and does not consider any additional costs associated with achieving gender parity in participation rates.

Reform would be required to support increased participation in paid work by women

Participation rates among women in their early twenties are close to being on par with men, but from their late 20s women's participation rates are lower than that of men.

Key levers that can boost women's participation in paid work include measures that support flexible forms of work; improved access to affordable childcare; improved quality and availability of aged care; and parental leave allowances for both women and men. A more even gender mix across occupations and industries, and further improvements in flexibility for women and men across all workplaces would also likely support women's participation.

Impact in 2060-61 of women's participation reaching parity with men



Overall participation rate

+5 PERCENTAGE POINTS



Gross State product

+8%



Employment

+436,000



Income per household

+\$22,000

Based on a scenario where the women's participation rate increases to reach the same level as that of men over 20 years and then remains at the same level thereafter. The scenario is illustrative only and does not account for any costs associated with changes in participation.

²⁴ For more details of participation rate modelling see: NSW Treasury, *Preliminary Participation Rate Projections for the 2021 Intergenerational Report*, 2021 Intergenerational Report Treasury Technical Paper Series, TTRP 20-01, 2020.

2.3 Productivity is key to rising living standards

Labour productivity measures the value of economic output per hour of work. It is the main driver of material living standards since higher productivity supports higher wages and household incomes. High productivity growth also means more innovative goods and services that better meet our needs and at a more affordable price.

Productivity growth is expected to average 1.2 per cent per year over the next 40 years

Productivity is assumed to grow in line with the average annual growth rate over the past 30 years, which included a period of very rapid productivity growth through the 1990s, followed by much slower growth since around 2000.

Productivity growth will rely on a number of factors: increasing skill levels of workers; better use of advanced technologies; more efficiently organised businesses and government; and investment in buildings, machinery, equipment and infrastructure.

‘Multifactor productivity’ is the overall efficiency with which workers and capital are used together in the production process, while ‘capital deepening’ refers to an increase in capital per worker. In general, variations in multifactor productivity growth have been closely associated with variations in labour productivity growth in New South Wales.²⁵

Productivity growth leads to higher wages and lifts living standards

For most households, wages are the main source of income. This means that wages growth is the most important driver of increased material living standards.

The most important driver of higher average wages over the long term is productivity. If people are able to produce higher value goods and services in their time at work, there is more money available to lift wages. The average full-time wage is projected to grow from \$86,000 in 2018-19 to \$139,000 by 2060-61 (in 2019-20 dollars).

CHART 2.7: GROWTH IN PRODUCTIVITY AND REAL WAGES

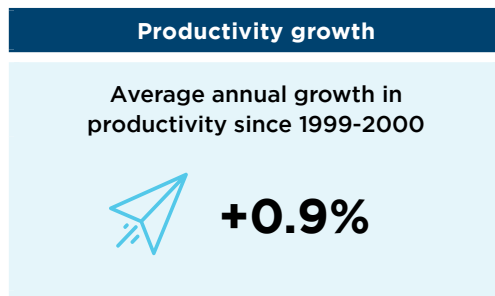


Productivity is GSP per hour worked. Real wages are compensation of employees per hour worked. Includes salaries, wages and employer superannuation contributions. Both indices are deflated using the implicit GSP deflator. 2019-20 data includes wages supported by Commonwealth JobKeeper payments and is also impacted by compositional effects associated with COVID-19

Source: ABS 5220.0, 6202.0 and NSW Treasury.

²⁵ These trends are detailed in: NSW Treasury, *Projecting Long Run Productivity Growth Rates for the 2021 Intergenerational Report*, 2021 Intergenerational Report Treasury Technical Research Paper Series, TTRP 21-02, 2021.

Chart 2.7 maps the relationship between wages and productivity growth in New South Wales over the past 30 years. This relationship is not perfect. Average wages do not reflect everyone's experience and there will be those who have enjoyed high wages growth and others who are doing it tough. More generally, over recent decades average real wages have not grown as fast as productivity. This is due to an increase in the share of economic income accruing to the owners of housing, and to an increase in measured profits in the mining and financial sectors.²⁶ *Nominal* wages growth (that is without adjusting for inflation) remains around its lowest level on record.

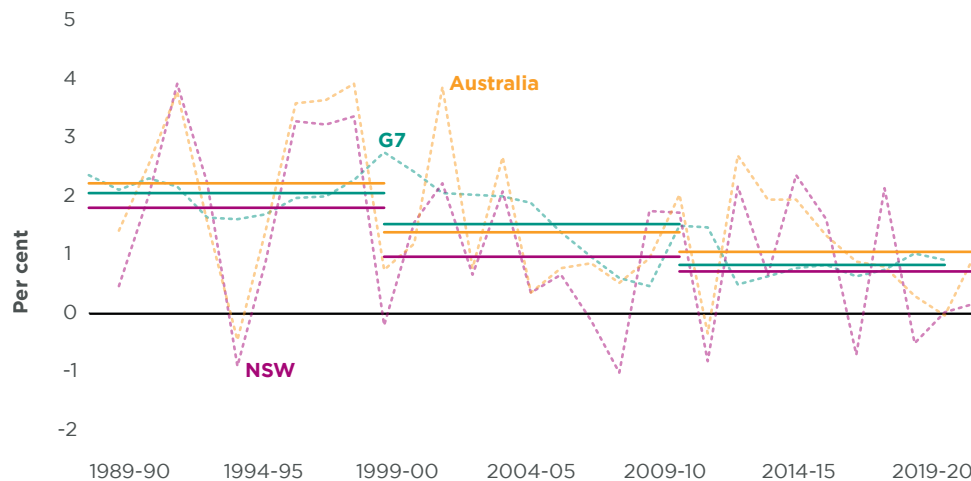


New South Wales is a highly productive economy, but there is scope to improve

Productivity *levels* in New South Wales (as opposed to productivity growth) position the state as equivalent to around the 15th most productive country in the OECD, which includes 37 of the world's most advanced economies. Within Australia, New South Wales' productivity levels are second only to resource-rich Western Australia. New South Wales' relatively high productivity level is based on it being home to some of Australia's most productive knowledge based industries, a diverse, skilled and globally connected workforce, relative economies of scale, advanced infrastructure and productive agricultural land.

Sluggish productivity growth over the past 20 years has been a concern for many advanced economies, including Australia (Chart 2.8). Within New South Wales, productivity growth has averaged just 0.9 per cent per annum between 1999-2000 and 2018-19, significantly lagging the national average of 1.2 per cent, the

CHART 2.8: PRODUCTIVITY GROWTH IN NSW, AUSTRALIA AND THE G7



G7 includes the United States, Japan, Germany, the United Kingdom, France, Italy and Canada. Solid lines represent the average annual growth rate over selected periods.

Source: OECD, ABS 5220.0, 6202.0, and NSW Treasury.

²⁶ The uptick in 2019-20 should be treated with caution given significant compositional changes in the workforce associated with COVID-19 as well as the impact of JobKeeper. This relationship is examined in detail in La Cava, G., "The Labour and Capital Shares of Income in Australia", Reserve Bank of Australia Bulletin, March 2019.

²⁷ US and G7 measured by calendar years 2000 to 2019.

²⁸ This is explored in further detail in: NSW Treasury, *Secular Stagnation, the Long-Term Real Bond Rate Outlook and Policy Issues for NSW and Australia*, 2021 Intergenerational Report Treasury Technical Research Paper Series, TTRP 21-06, 2021.

Box 2.3: Impacts of climate change on the NSW economy

New South Wales has experienced the impact of climate extremes recently, including drought, the 2019-20 bushfires and, more recently, widespread flooding. Climate change related extreme weather events are likely to persist in the future and these will have a significant impact on the livelihoods of our communities. This will also impact the State's productivity growth and the global economy in the coming decades, although it is uncertain to what extent.



Natural disasters

\$15.8B-\$17.2B

total economic costs on average every year by 2060-61 (real 2019-20 dollars)



Bushfires

2%-24%

Increase in risk



Floods

0%-12%

Increase in risk



Storms

2%-5%

Increase in risk

Modelling for this Report has considered the sensitivity of the economic and fiscal outlook to a range of climate scenarios, developed and assessed as plausible by the United Nation's Intergovernmental Panel on Climate Change. The projections in this Report are consistent with a baseline assumption of moderate warming, with an average global surface temperature increase of 2.0°C by 2060-61 compared with the pre-industrial average. However, there is considerable uncertainty in this assumption because the actual extent of global warming will depend on both the future trajectory of global greenhouse gas emissions and the way they impact the global and local climates.

Treasury modelling considered the economic impact of four key climate risks: natural disasters; sea level rise; heatwaves; and the effect of climate change on agricultural production. In reality, climate change will impact a wider range of factors and this should not be considered a comprehensive assessment of the total cost of climate change on the State.

Chart 2.9 shows that, if warming is more severe than expected and temperatures increase by 2.8°C by 2060-61, the NSW economy would lose \$4.5 billion in annual income by 2060-61 compared to the moderate warming scenario. If warming is limited to a 1.5°C increase, total economic income in New South Wales would be \$3.8 billion higher every year by 2060-61.³⁰



Sea level rise

39,000-46,000

NSW properties exposed to coastal erosion or inundation by 2060-61



Heatwaves

700,000-2.7M

working days lost by 2060-61



Agricultural production

\$750M-\$1.5B

in lost production every year by 2060-61 (real 2019-20 dollars)

CHART 2.9: SENSITIVITY OF NSW ECONOMY TO DIFFERENT WARMING SCENARIOS

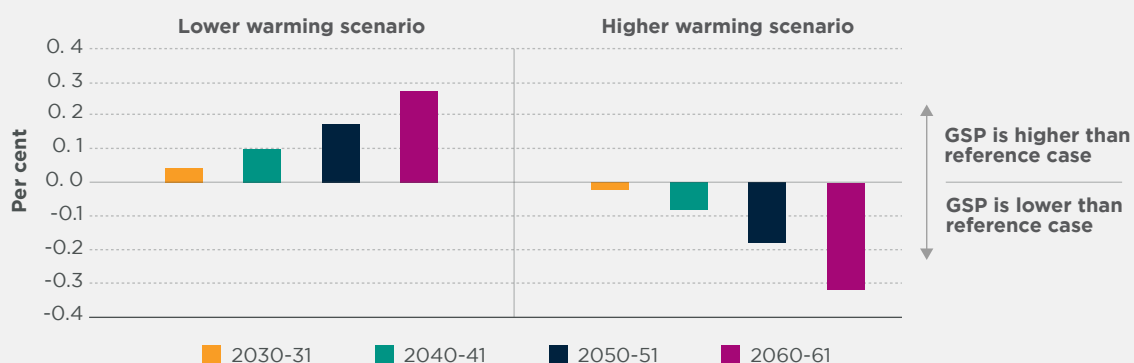


Chart displays deviations in NSW Gross State Product under lower warming (RCP2.6) and higher warming (RCP8.5) scenarios compared to the reference case of moderate warming (RCP4.5). Economic impacts are limited to the four key risks included in modelling.

Source: NSW Treasury, *An indicative assessment of four key areas of climate risk for the 2021 NSW Intergenerational Report*, 2021 Intergenerational Report Treasury Technical Research Paper Series, TTRP 21-05, 2021.

²⁹ This modelling is outlined in detail in: NSW Treasury, *An Indicative Assessment of Four Key Areas of Climate Risk for the NSW Intergenerational Report*, 2021 Intergenerational Report Treasury Technical Research Paper Series, TTRP 21-05, 2021.

United States (1.5 per cent), and the G7 (1.2 per cent).²⁷ This has led to concerns that the world may be entering a period of ‘secular stagnation’, characterised by low interest rates and economic growth. If this slowdown persists, the productivity outlook in New South Wales is likely to weaken further, and interest rates would be expected to remain low for an extended period.²⁸

Productivity can be difficult to measure, particularly in non-market sectors such as health care and education. This is because where services are provided to consumers either free of charge or heavily subsidised there is less information on how consumers, or society more broadly, values those services relative to other parts of the economy, or how their quality changes over time. As these sectors grow, this will impact measured productivity growth.²⁹

Predictions of future productivity growth are inherently uncertain

Key drivers of productivity growth include the education and training system; infrastructure; regulatory and tax settings; demographic, savings and investment patterns; and global factors largely outside the direct control of governments including the pace of technological development.

A range of additional risks are likely to emerge over the coming decades including impacts of climate change and the transition toward renewable energy (see Box 2.3 and Box 2.5); risks associated with wealth and income inequality; geopolitical tensions which could impact trade; as well as the potential for future shocks similar to COVID-19 or the Global Financial Crisis which have both acute and enduring impacts.

2.4 The future of work

The demand for social and business services will increase

The future NSW economy will be increasingly concentrated in the services sector, continuing a centuries-long trend where more repetitive and manual tasks are automated, freeing up workers to do jobs that are more creative and analytical. Increased automation does not reduce employment overall but allows the economy to grow by reducing the cost of producing and distributing goods and services – in 2018-19, a higher proportion of the NSW population was employed than ever before. Industries more exposed to automation will likely see faster productivity growth, but slower employment growth, while industries less exposed to automation will see the reverse. These processes work side by side to create a modern and productive economy based on advanced technology and quality services.

Most new jobs will emerge in services industries. Business services and social services have seen the strongest growth in jobs and are projected to account for 52 per cent of total employment in New South Wales by 2034-35, an increase from 36 per cent in 1989-90 (Chart 2.10). In contrast employment in the production and distribution of goods is projected to decline from 53 per cent to 36 per cent over the same period.³¹

Employment growth in services

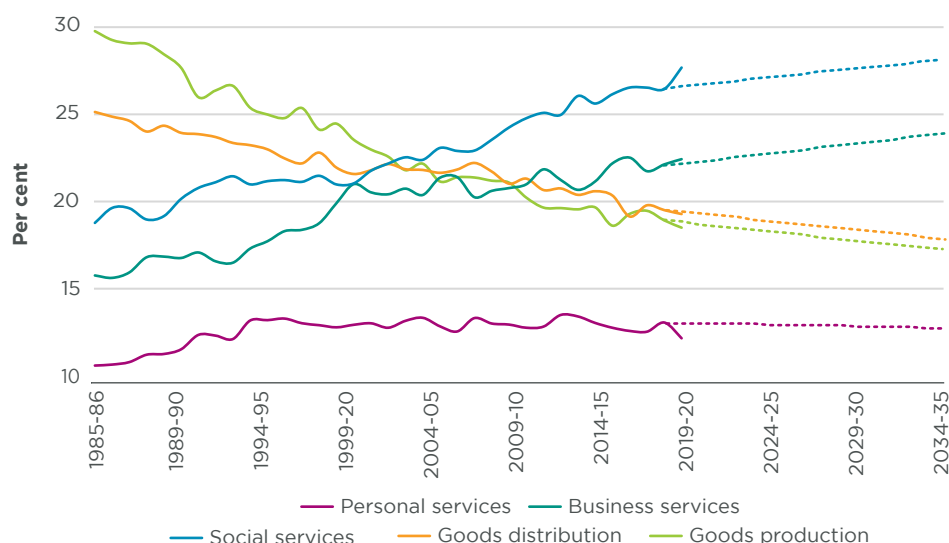
There is strong employment projected in social services, such as Health Care and Social Assistance



³⁰ This is explored in further detail in: Productivity Commission *Things you can't drop on your feet: An overview of Australia's services sector productivity*, PC Productivity Insights, Canberra, April 2021; and Australian Bureau of Statistics, *Enhancing measures of non-market output in economic statistics: Progress paper*, 2019.

³¹ Modelling in this section has been developed by the NSW Innovation and Productivity Council, powered by Faethm AI. Projections are limited to the next 15 years (i.e. 2035) given significant uncertainty in technological development and industry trends thereafter.

CHART 2.10: SHARE OF NSW EMPLOYMENT BY SECTOR



Source: NSW Innovation and Productivity Council (powered by Faethm AI); NSW Treasury. Employment is measured in headcount. Social Services includes Education and Training, Health Care and Social Assistance and Public Administration and Safety. Business services include Administrative and Support Services, Financial and Insurance Services, Information Media and Telecommunications, Professional, Scientific and Technical Services and Rental, Hiring and Real Estate Services. Goods Production includes Agriculture, Forestry and Fishing, Construction, Manufacturing and Mining. Goods Distribution includes Electricity, Gas, Water and Waste Services, Retail Trade, Transport, Postal and Warehousing, and Wholesale Trade. Personal Services includes Accommodation and Food Services, Arts and Recreation Services and Other Services.

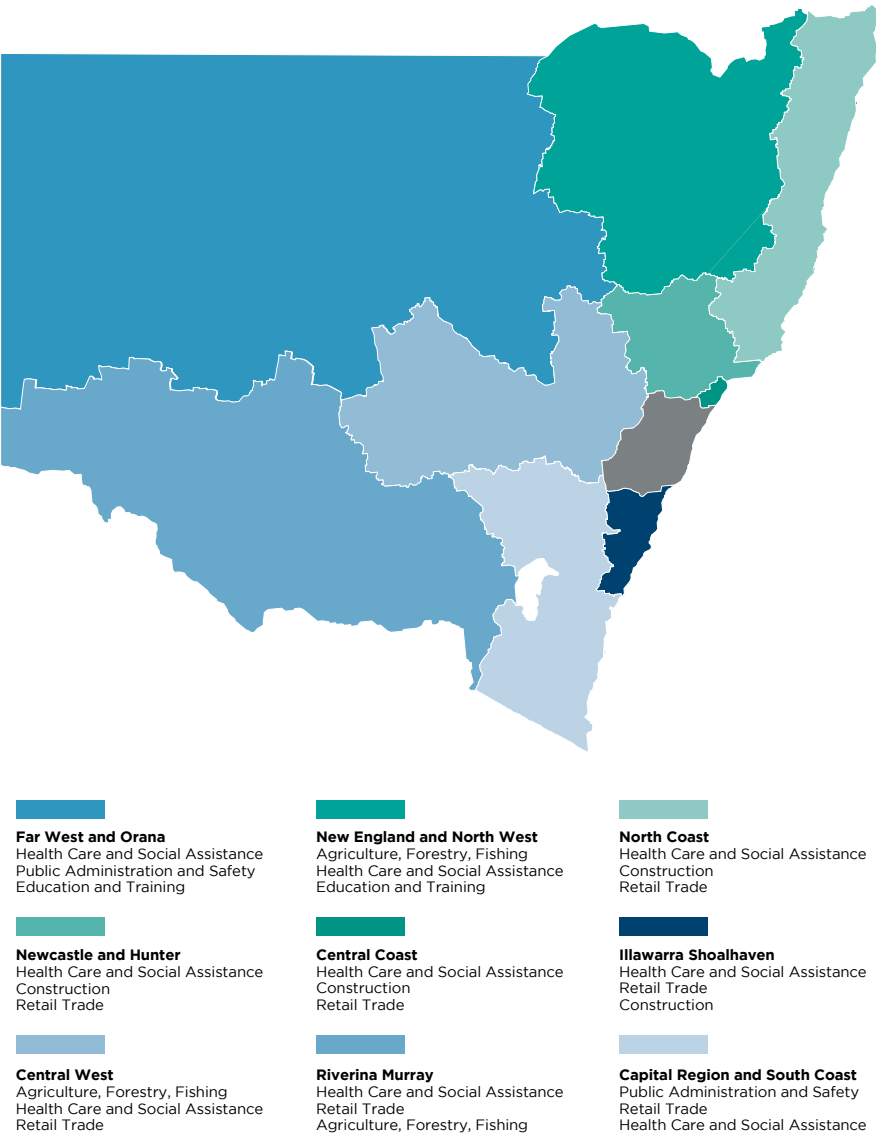
Services industries will also drive employment growth in regional and rural New South Wales

Nearly one million people were employed across regional and rural New South Wales in 2019-20, with an additional 0.5 million in Newcastle, Wollongong and the Central Coast. Services industries such as Health Care and Social Assistance, Education and Training; and Accommodation and Food Services are the largest employers in the regions along with Construction and Retail Trade (Chart 2.11). In line with the statewide trend, employment in services industries is projected to grow the fastest in rural and regional New South Wales over the next 15 years, while employment in goods production and distribution (for example agriculture and mining) is expected to grow more slowly (Chart 2.12).

The most in demand skills will be those least exposed to automation

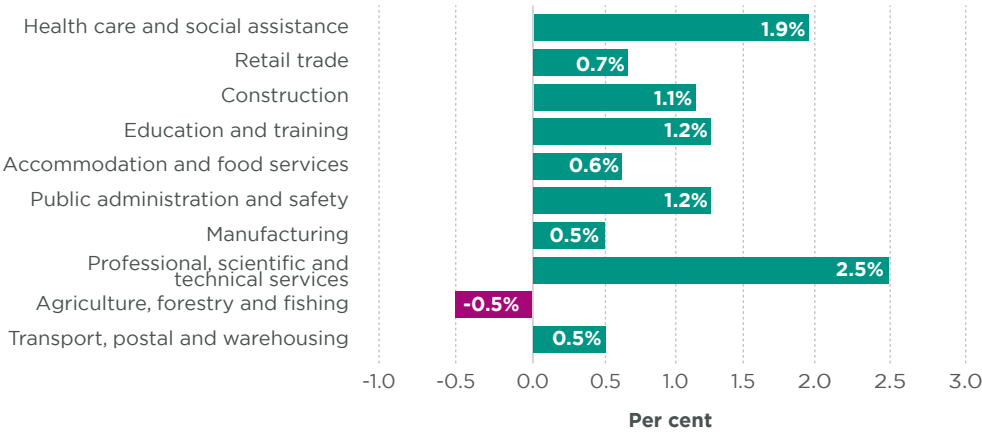
Over the coming decades, the proportion of jobs that involve more routine and manual tasks will fall, and the share of jobs that mostly utilise more complex, analytical, and social skills will grow. Over the past 30 years, jobs that need more non-routine and cognitive skills — such as nursing, teaching and engineering — have grown by 3.0 per cent per year. In contrast, jobs which utilise more manual skills, such as labouring, machine operating and driving, have grown at just 0.5 per cent per year. These trends could accelerate in the coming decades. Modelling by the NSW Innovation and Productivity Council (powered by Faethm AI) indicates that demand will grow fastest for skills and abilities such as mental processes, interacting with others and complex problem solving skills. Skills where demand is likely to relatively decline include physical and psychomotor (that is, finer physical perception and control) abilities, and technical skills such as repairing and maintaining equipment and machinery (Chart 2.13). The modelling also indicates the potential for artificial intelligence to automate up to 30 per cent of all work tasks currently performed in New South Wales.

CHART 2.11: HIGHEST EMPLOYING INDUSTRIES IN NSW REGIONS (2019-20)



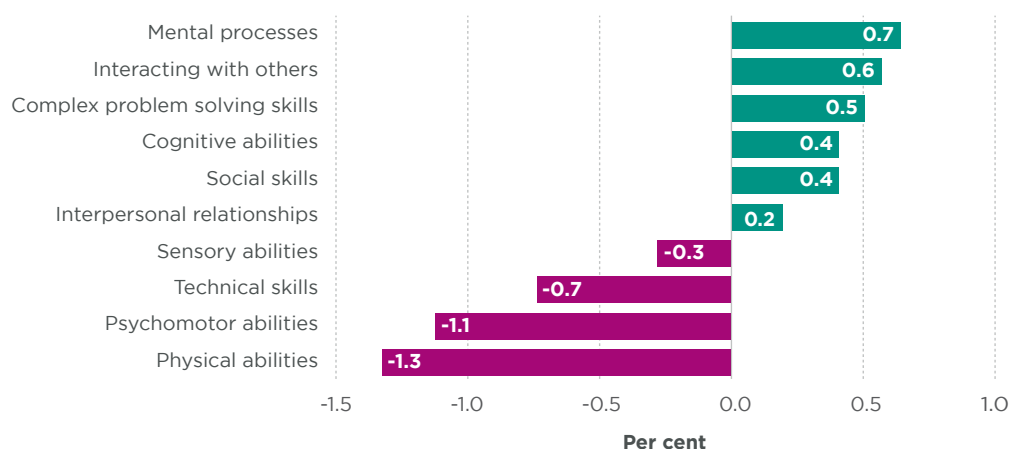
Source: ABS 6291.0 and NSW Treasury.

CHART 2.12: PROJECTED ANNUAL EMPLOYMENT GROWTH 2019-20 TO 2034-35 FOR TOP TEN EMPLOYING INDUSTRIES IN NSW REGIONS



Source: NSW Innovation and Productivity Council (powered by Faethm AI) and NSW Treasury.

CHART 2.13: PROJECTED CHANGE IN RELATIVE DEMAND FOR SKILLS AND ABILITIES 2019-20 TO 2034-35



Each occupation is scored for specific skills and abilities. The chart reflects the relative change in the share of total skills and abilities using projected changes in employment by occupation.
Source: NSW Innovation and Productivity Council (powered by Faethm AI) and NSW Treasury.

The workforce will be increasingly skilled

The jobs of the future will require an increasingly skilled workforce. Improving educational outcomes in our schools, including in science, technology, engineering, and maths (STEM) subjects is critical to ensuring the future workforce is equipped with the skills necessary for an advanced and productivity economy.

Skills development will not end with school, or even at university or TAFE, but will entail lifelong learning. According to the World Economic Forum, job skills lose around half their value every five years.³² Given the increased pace of change of valued skills as industries evolve, we can expect workers will need to update their skillsets more frequently in the future than they do today. Increased educational attainment will also have knock-on effects throughout the economy. The participation rate amongst those aged 15-24 declined by around four percentage points between 1980-81 and 2018-19 and is projected to decline by a further 11

percentage points by 2060-61. This has likely been a contributing factor to lower home ownership rates, living at home for longer and lower fertility rates.

A more educated workforce will improve living standards and quality of life

The benefits of a more highly skilled workforce will be realised through higher wages and improved living standards. Modelling by the NSW Innovation and Productivity Council (powered by Faethm AI) indicates that employment in the highest paying occupations will grow 30 per cent faster than employment in the lowest paying occupations over the next 15 years.³³

The automation of work tasks can also have benefits beyond economic growth. Manual and routine tasks are often the most dangerous and in line with trends described, the proportion of Australian workers experiencing a work-related injury or illness declined by a third between 2005-06 and 2017-18.³⁴

³² World Economic Forum, Skill, re-skill and re-skill again. How to keep up with the future of work, 2017. <https://www.weforum.org/agenda/2017/07/skill-reskill-prepare-for-future-of-work/>

³³ Highest paying occupations are those with typical incomes over \$100,000 as reported in the 2016 Census. The lowest paying occupations are those with typical incomes below \$40,000.

³⁴ Source: ABS 6324.0.

2.5 Supporting productivity growth and employment

Economic reforms can boost productivity growth and participation rates to lift living standards

To improve the productivity of New South Wales, the NSW Productivity Commission was established in 2018 to identify a new productivity reform agenda for the state. The NSW Productivity Commission recently released its Productivity White Paper: Rebooting the Economy, recognising that lifting the State's productive capacity is about practical changes to how we do things.

The pandemic created unprecedented opportunities for trying new ways of doing things and showed that we can quickly and successfully adapt to rapid change. Recognising this opportunity, the NSW Government progressed a number of recommendations from the Productivity Green Paper (released in 2020) in the 2020-21 Budget, including:

- Implementing a suite of planning reforms aimed at maximising the productivity and flexibility of our employment lands, and further reducing assessment timeframes, including through the NSW Government's Planning Reform Action Plan.
- Establishing a new Training and Skills Recognition Centre (commencing in the construction sector) to develop and pilot new, flexible trades pathways.
- Accepting the Commission's reforms to the infrastructure contributions system, unlocking up to \$12 billion in productivity benefits through changes to how public facilities and services are funded through the planning system, as well as developing an integrated digital tool to make it easier for stakeholders to understand and interact with the infrastructure contributions system.
- Implementing a new nation-wide scheme for the automatic mutual recognition of state based occupational licences to overcome skills shortages.

The NSW Government is also exploring options to overhaul the State's inefficient property tax system, which would represent the most significant reform of the NSW tax system in a generation (see Chapter 3). The NSW Government is also proactively managing risks to productivity, such as the transition to low emissions energy generation technologies (Box 2.5).

The NSW Government has also taken steps to help equip NSW businesses with the skills, talent, partners in innovation and pathways to crucial global markets, as outlined in the 2040 Economic Blueprint and the Global NSW Strategy (Box 2.4).

Five fastest growing skills

1. Science



2. Programming



3. Operations analysis



4. Systems evaluation



5. Technology design



Five slowest growing skills

1. Repairing



2. Equipment maintenance



3. Installation



4. Operation and control



5. Equipment selection



Box 2.4: Global NSW Strategy and NSW 2040 Economic Blueprint

The Global NSW Strategy is working to accelerate the creation of new, resilient jobs in advanced industries and assisting priority sectors to be truly world-leading.

Advanced manufacturing supports jobs, productivity, and growth across several industries. The field encompasses technologies including additive and precision manufacturing, advanced materials, robotics, artificial intelligence, virtual and augmented reality, advanced sensors, data analytics and quantum technology. Annual salaries in advanced manufacturing tend to be well in excess of \$100,000 a year, reflecting higher education levels of the workforce (over 85 per cent of workers have bachelor's degrees or higher).

New South Wales is home to the largest medical technology industry of any state, employing over 7,000 people in highly skilled, high-paying jobs. It is estimated that the medical technology industry has the potential to create an additional

28,000 jobs and generate \$18 billion in GDP nationally by 2025. The industry is nimble, with manufacturers recently swiftly adjusting production offerings to produce essential medical technologies. The industry is also expanding through services such as telehealth, e-health and remote-area health.

The renewable energy industry in New South Wales is developing significant capacity for wind and solar energy generation. Hydrogen is also emerging as an economic opportunity for Australia to reduce emissions through new energy sources. For example, Australia has the potential to build a hydrogen export industry worth \$1.7 billion annually by 2030, supporting 2,800 jobs, many in regional areas.³⁵ New South Wales is well-positioned to produce and export hydrogen through its access to abundant renewable energy resources, existing transport and export infrastructure, and a skilled workforce and strong research capabilities.

Higher productivity growth has significant economic benefits

There are significant benefits to boosting productivity. If productivity grows by 1.3 per cent per year instead of the 1.2 per cent expected in this report, the NSW economy will be \$53 billion larger in 2060-61, measured in today's dollars. This is the equivalent of \$11,000 more income per household. Higher productivity growth would also lead to a significant improvement in the NSW Budget outlook, explored further in Chapter 5.

Faster Productivity Growth

If productivity grew 0.1 per cent faster every year

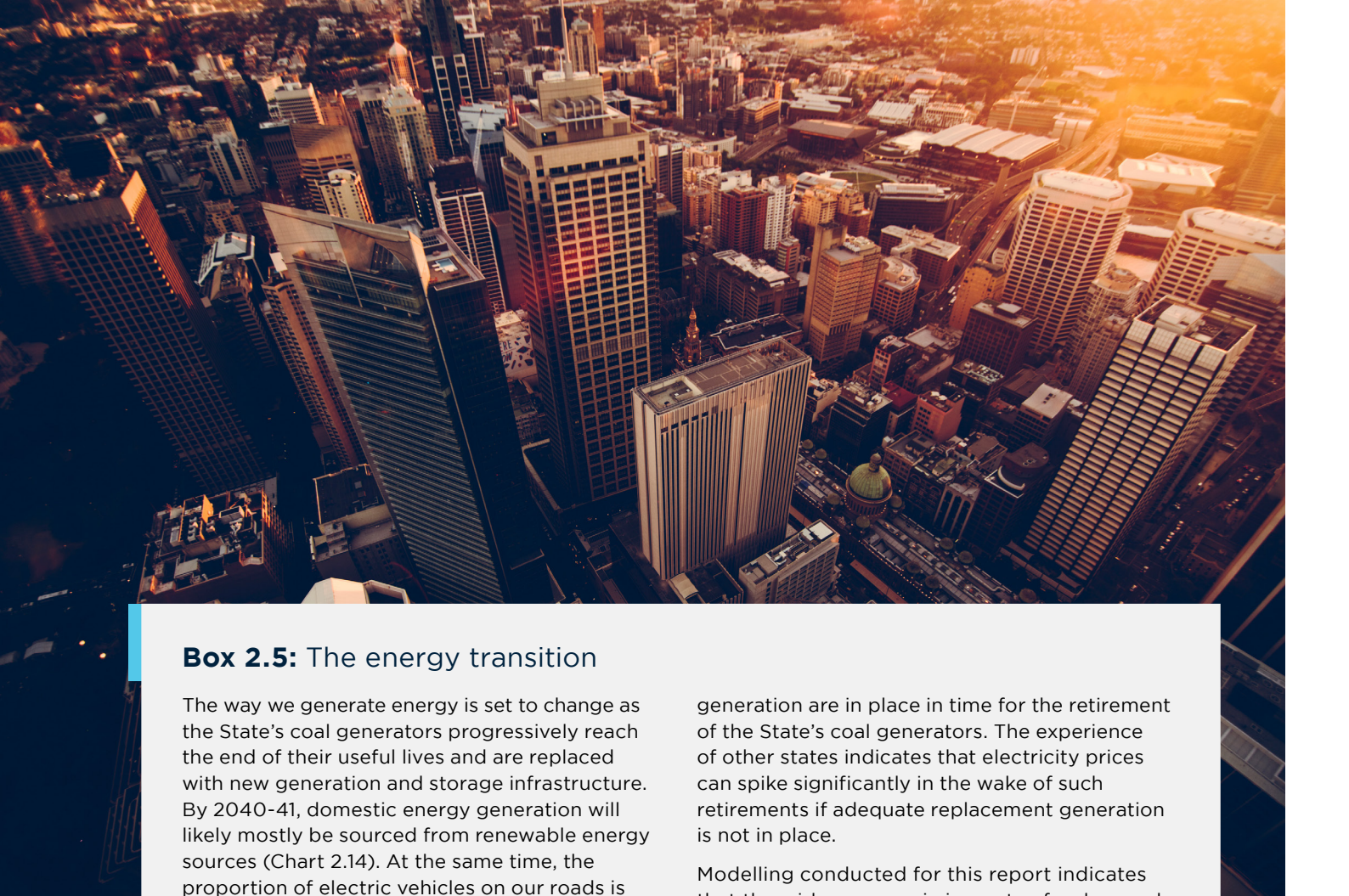


the economy would be

\$53 BILLION

larger by 2060-61 (2019-20 dollars)

³⁵ NSW Treasury, *NSW 2040 Economic Blueprint: Investing in the state's future*, 2020.



Box 2.5: The energy transition

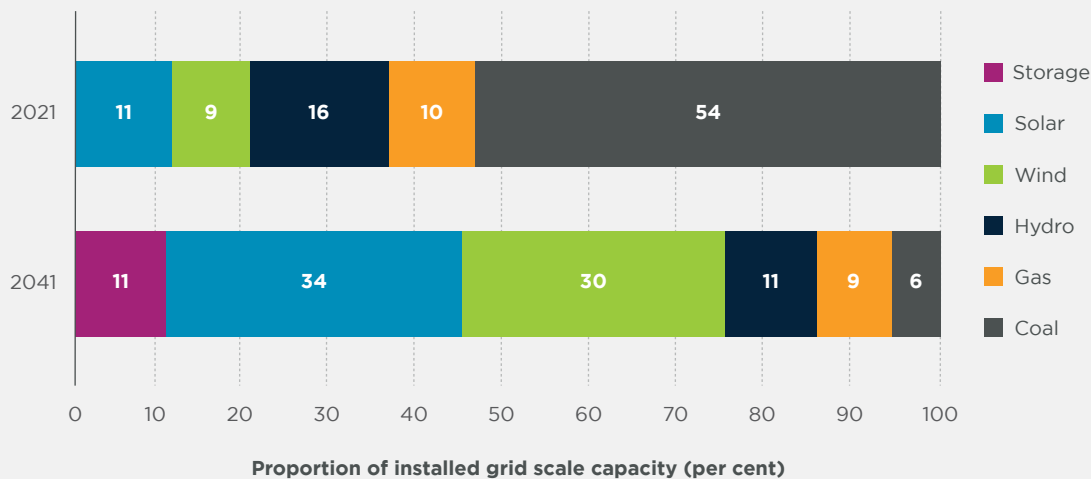
The way we generate energy is set to change as the State’s coal generators progressively reach the end of their useful lives and are replaced with new generation and storage infrastructure. By 2040-41, domestic energy generation will likely mostly be sourced from renewable energy sources (Chart 2.14). At the same time, the proportion of electric vehicles on our roads is expected to grow considerably.

The NSW Electricity Infrastructure Roadmap addresses a key risk in this transition with a framework to ensure new forms of electricity

generation are in place in time for the retirement of the State’s coal generators. The experience of other states indicates that electricity prices can spike significantly in the wake of such retirements if adequate replacement generation is not in place.

Modelling conducted for this report indicates that the wider economic impacts of a slow and disorderly energy transition would leave the economy 0.9 per cent, or \$13 billion smaller by 2060-61 with this being primarily driven by higher and more volatile electricity prices.³⁶

CHART 2.14: GRID-SCALE ELECTRICITY GENERATION CAPACITY IN NSW



Excludes rooftop solar. Source: Australian Energy Regulator, NSW Department of Planning, Industry and Environment and NSW Treasury.

³⁶ This modelling is outlined in further detail in: NSW Treasury, *The sensitivity of the NSW economic and fiscal outlook to global coal demand and the broader energy transition for the 2021 NSW Intergenerational Report*, 2021 Intergenerational Report Treasury Technical Research Paper Series, TTRP 21-07, 2021.