

Impact Analysis OIA23-04803

Support for workers during the net zero transition



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Abbreviations

Abbreviation	Definition
ABS	Australian Bureau of Statistics
AEMO	Australian Energy Market Operator
CBA	Cost Benefit Analysis
CFPS	Coal-Fired Power Stations
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DEWR	Department of Employment and Workplace Relations
FWC	Fair Work Commission
JSA	Jobs and Skills Australia
NEM	National Energy Market
NPV	Net Present Value
OIA	Office of Impact Analysis

Introduction

Australia is responding to the global challenge to reduce greenhouse gas emissions, with legislated targets to reduce emissions by 43 per cent from 2005 levels by 2030, and net zero by 2050. Around the world, governments, businesses and investors are taking decisions to increase investment in renewable energy sources and emerging clean industries.

This transition to a net zero future offers a significant source of economic opportunity for Australia's industries, regions and workers, but also carries risk as existing emissions-intensive industries transform or phase out. The shift to net zero emissions by 2050 must happen fairly for Australians in emissions-intensive industries and the communities they live and work in to help minimise the social impacts of this economic transformation.

Net Zero Economy Agency

The Net Zero Economy Agency (the Agency) was established on 1 July 2023. Its role is to promote orderly and positive economic transformation as the world decarbonises, to ensure Australia, its regions and workers realise and share the benefits of the net zero economy.

The work of the Agency precedes the establishment of a legislated Net Zero Economy Authority, which will occur following the passage of legislation through established Parliamentary processes. The Agency will kick-start the work of the legislated Authority by:

- facilitating public and private sector participation and investment in greenhouse gas emissions reduction and net zero transformation initiatives in Australia;
- supporting workers impacted by the net zero transformation to transition to new opportunities;
- coordinating net zero efforts across government and key stakeholders to facilitate the achievement of Australia's greenhouse gas emissions reduction targets and support Australia's transition to a net zero emissions economy; and
- building community understanding, confidence and engagement with the net zero transformation.

More information can be found at <https://www.pmc.gov.au/netzero>.

This document refers to the Net Zero Economy Agency when discussing actions currently undertaken by the Agency. The title Net Zero Economy Authority (the Authority) is used when referring to actions to be undertaken by a legislated Net Zero Economy Authority.

Executive Summary

The Australian Government has tasked the Net Zero Economy Agency to explore options to support workers impacted by the net zero transition to access new employment, skills and opportunities.

This Impact Analysis has been prepared by the Agency on policy options to support workers at coal-fired power stations, gas-fired power stations and dependent suppliers to access new employment as these stations progressively retire.

The policy options considered in this analysis are targeted specifically to workers associated with closing coal-fired and gas-fired generators. Consideration of broader transition initiatives, such as additional supports for workers at other emissions-intensive facilities that face transformation as the world decarbonises, are beyond the scope of this analysis. These issues will continue to be considered by the Government to ensure workers and communities are supported holistically as the net zero transition continues.

Policy objectives

The overarching goal of policy options considered in this analysis is to minimise the potential negative economic and social impacts of these facility closures. Where these facilities represent major local or regional employers, it will be important to implement policy responses that mitigate local unemployment impacts in the immediate period following a closure – noting that power stations are concentrated in a handful of regions around Australia.

Specific policy objectives identified in this analysis for policy responses that support workers at closing facilities are:

- minimising involuntary unemployment when facilities close;
- maximising opportunities to transition into similar employment;
- providing appropriate supports, training and skills to impacted employees; and
- using to the best extent the skills and experience of employees.

Policy options considered in the analysis

This Impact Analysis focusses on power stations with sizeable workforces and announced closure dates, which are predominantly coal-fired power stations. The analysis considers the potential impact of three different policy options on employers, workers, governments and communities. The net benefits of two policy options through to 2035 have been estimated using an abridged cost benefit analysis (CBA) framework and a combination of quantitative and qualitative analysis. The three policy options are:

- **Option 1:** a 'status quo' option, in which existing supports for workers are relied on, with no further intervention from the Australian Government

- **Option 2:** implementing a pooled redeployment policy for workers at closing coal-fired power stations, some gas-fired power stations and dependent suppliers, with all parties participating voluntarily
- **Option 3:** implementing a pooled redeployment policy for workers at closing coal-fired power stations, some gas-fired power stations and dependent suppliers, underpinned by a legislative framework that:
 - includes the ability to require closing power station operators and their dependent suppliers to participate in pooled redeployment arrangements; and
 - requires participating closing employers and dependent suppliers to take actions to support employees to achieve employment outcomes including participation in the redeployment pool, subject to their operational requirements.

Under Options 2 and 3, whether a pooled redeployment plan is implemented in relation to a particular power station closure would be assessed with regard to factors including:

- the existing supports that are available to assist employees to find other employment;
- the number of employees involved;
- the capacity of closing employers to redeploy their employees in other business operations; and
- the capacity of the local labour market to absorb those workers in the absence of a pooled redeployment plan.¹

The final policy design for Options 2 and 3 has taken into account feedback from stakeholder consultations held by the Agency and the Department of Employment and Workplace Relations in late 2023 and early 2024. These consultations were with electricity generators, other industry employers, industry peak bodies and unions.

Outcomes of the analysis

The costs and benefits of Options 2 and 3, relative to the status quo, are summarised in **Table 0.1** below. While overall quantified net present values (NPVs) of Options 2 and 3 are negative, the overall NPVs of Option 2 and Option 3 are expected to be positive when unquantified impacts are taken into account.

The policies under Option 2 and 3 have a range of impacts that could not be quantified for the purpose of this analysis. The unquantified impacts of the plan are largely significant benefits that affect almost all stakeholders. These benefits include:

- the benefit to closing power stations and dependent employers of greater certainty around their workforces in the lead-up to facility closures, and government assistance in finding job opportunities for their workers;
- the benefit to receiving employers of access to a pool of skilled workers;
- the social, health and welfare benefits for workers, families and communities of maintaining ongoing employment, including reduced labour market scarring over time; and

¹ **Chapter 4** outlines in further detail which power stations are assumed to be 'in scope' for the purpose of this analysis for Options 2 and 3.

- the benefits to regions of maintaining their social cohesion, employment and identity.

The scale of the unquantified benefits of the plan is driven by the number of workers that are transferred to new jobs through pooled redeployment arrangements. More than two and a half times as many workers are successfully transferred under Option 3 than under Option 2, providing unquantified benefits to more than offset other quantified costs.

Additionally, without the legislated framework included in Option 3, closing power station operators could choose not to engage with the pooled redeployment policy at all, risking the overall success of the policy and leading to poorer outcomes for workers.

The Authority will measure and monitor the success of the preferred policy option. It will collect data and information on key measures and use this to monitor progress towards the objectives of the policy. Reviews and evaluations will also be undertaken to inform ongoing implementation.

TABLE 0.1 COSTS AND BENEFITS OF REDEPLOYMENT PLANS RELATIVE TO STATUS QUO

Please note that the overall net present values of Option 2 and Option 3 are expected to be positive when unquantified impacts are taken into account.

STAKEHOLDER	IMPACT	DESCRIPTION	QUANTIFIED	UNQUANTIFIED	OPTION 2 QUANTIFIED NPV	OPTION 3 QUANTIFIED NPV
Closing employers (power stations and dependent suppliers)	Costs	Administrative costs of participating	<input checked="" type="checkbox"/>		-\$3.6 million	-\$22.8 million
		Training costs (only for Option 3)	<input checked="" type="checkbox"/>			
	Benefits	Greater certainty around workforce retention		<input checked="" type="checkbox"/>		
Receiving employers	Costs	Training costs (only for Option 2)		<input checked="" type="checkbox"/>		
		Administrative costs of participating	<input checked="" type="checkbox"/>			
	Benefits	Lower search costs to fill vacancies		<input checked="" type="checkbox"/>		
Closing employer employees	Costs	Income support payment impacts	<input checked="" type="checkbox"/>		+\$40.5 million	+\$119.4 million
	Benefits	Employment income impacts	<input checked="" type="checkbox"/>			
		Health, welfare, and social impacts, including reduced labour market scarring impacts		<input checked="" type="checkbox"/>		
		Training benefits	Unquantified for Option 2; quantified for Option 3			
Receiving employer employees	Costs	Employment income impacts	<input checked="" type="checkbox"/>			
	Benefits	Retirement subsidy payment impacts	<input checked="" type="checkbox"/>			
Government	Costs	Commonwealth early retirement subsidies	<input checked="" type="checkbox"/>		-\$53.2 million	-\$129.7 million
		Government administration costs	<input checked="" type="checkbox"/>			
		Tax revenue impacts	<input checked="" type="checkbox"/>			
	Benefits	Welfare expenditure	<input checked="" type="checkbox"/>			
		Reputational impacts		<input checked="" type="checkbox"/>		
Community	Benefits	Regional economic prospects, including reduced labour market scarring impacts		<input checked="" type="checkbox"/>	Unquantified	Unquantified
		Regional social cohesion		<input checked="" type="checkbox"/>		
Total quantified net present value					-\$16.3 million	-\$33.1 million
Worker participation rate²		Percentage of total closing employer workforce that seek to participate in pooled redeployment			51%	60%
Participant success rate²		Of those who participate, percentage of workers transferred to new job through plan			39%	85%
Overall worker transfer rate²		Of the total closing employer workforce, percentage transferred to new job through plan			20%	51%

² These rates are inputs into the model that illustrate the expected scale of the unquantified benefits under Option 2 and Option 3.

1 Defining the policy problem

Coal mines, coal-fired power stations and gas-fired power stations provide secure, well paid employment across Australia. Coal-fired and gas-fired electricity generation have powered Australian homes and businesses for decades, and revenues from coal mining contribute to our national wellbeing and prosperity. Coal and gas still play a large role in Australia’s domestic electricity system, representing almost two thirds of electricity supplied to the National Electricity Market (NEM) in financial year 2022-23.³

Governments, businesses and investors around the world are taking decisions to transition away from fossil fuel electricity generation and towards renewable energy sources. As global action accelerates, countries are carefully planning for their local and regional economies, workers and communities.

The energy transition is underway in Australia. Power generation companies have announced future closures of most coal-fired power stations in Australia and some gas-fired power stations. This trend may accelerate in coming years, due to market conditions and the age and reliability of some generators.

The government’s [2023 Employment White Paper](#) identified climate change and the net zero transformation as one of five forces that will shape Australia’s economy and labour market in the coming decades — changing the composition of our industries, workforce needs, and the nature of work itself.⁴

As part of this shift, the retirement of coal-fired and gas-fired power stations will affect workers in surrounding communities. Job losses will likely arise as stations close, both at the facilities themselves and in companies providing supplies and services to them. Communities are concerned there will be insufficient job opportunities available for retrenched workers based on previous closure events. Careful consideration is required to mitigate the risks of poor social and economic outcomes associated with long-term unemployment in regional communities that may result from facility closures.

Governments and businesses need to work cooperatively with workers to support the capacity of regions to thrive through the energy transition.

1.1 Affected energy workers and workforce

1.1.1 Coal-fired power stations

A significant proportion of Australia’s coal-fired power station fleet has retired in the last 15 years, with 11 stations ceasing operations since 2010. As of December 2023, Australia has 19 coal-fired power

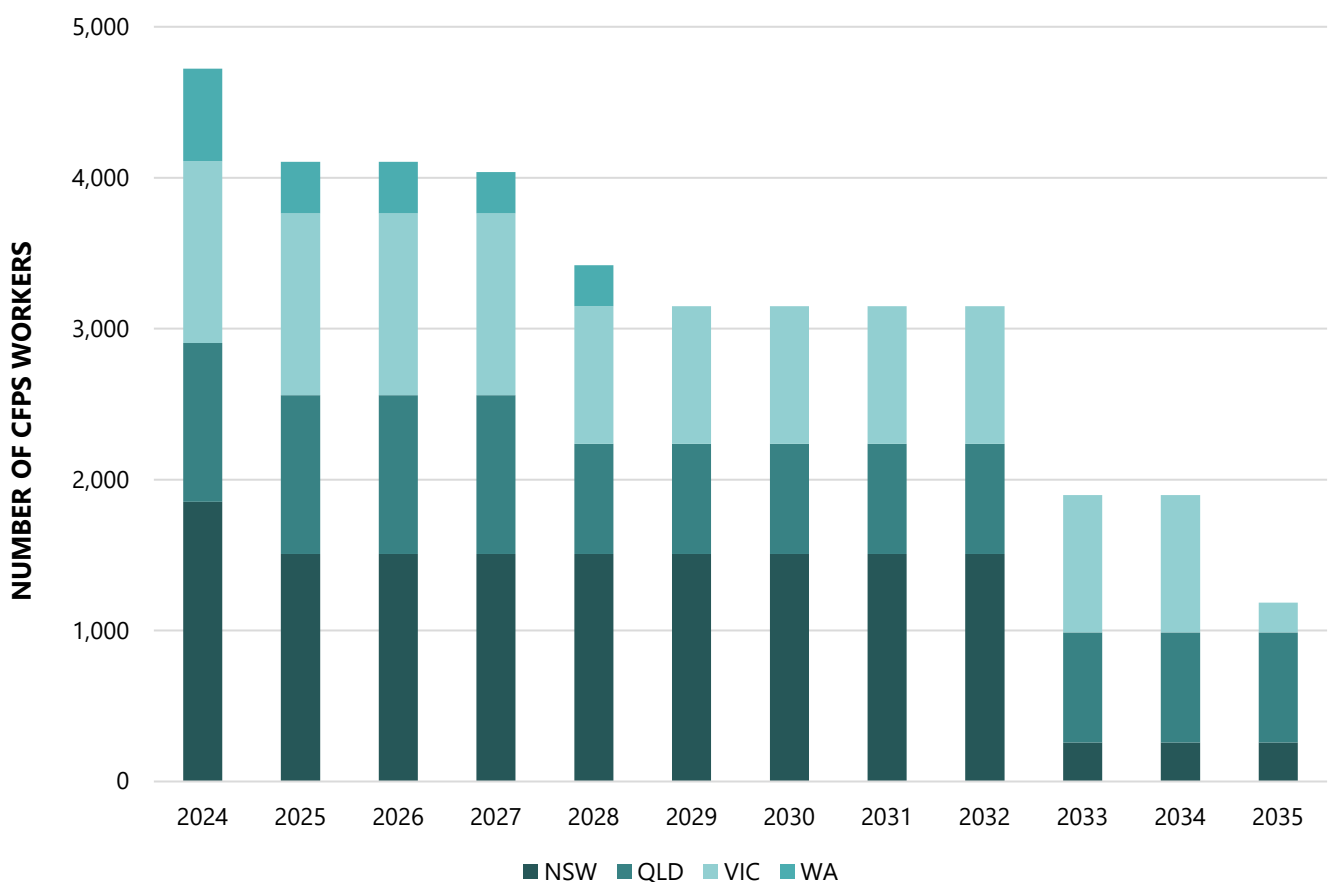
³ Australian Energy Market Operator, (Feb. 2024), [National Electricity Market Fact Sheet](#)

⁴ Commonwealth of Australia, (Sep. 2023), [Working Future: The Australian Government’s White Paper on Jobs and Opportunities](#)

stations in operation (listed in **Appendix A**). 17 power station owners have reported expected closure dates over the next 30 years, with 10 expected to close before the end of 2035.⁵

Using current coal-fired power station employment numbers, it is estimated that over 3,000 coal-fired power station workers will experience disruption to their employment due to announced closures over the next 12 years (see **Figure 1.1**). Evidence from NSW,⁶ Hazelwood Power Station in Victoria (now closed)⁷, and the United States⁸ suggests contractors comprise another 30 per cent of the workforce in coal industries (assumed throughout this analysis). Analysis of past closures from e61 Institute indicates that earnings loss following redundancy is significantly higher for workers in coal-fired power stations than other sectors, with these relative losses persisting over time.⁹

FIGURE 1.1 EXPECTED COAL-FIRED POWER STATION WORKFORCE TO 2035



Source: Figures are derived from coal-fired power station ongoing worker numbers using the Department of Climate Change, Energy, the Environment and Water’s [National Pollutant Inventory](#) (FY21-22)

⁵ Australian Energy Market Operator, (Jul. 2023), [Generation information](#); Government of Western Australia (2023), [Collie Community Fact Sheet](#)

⁶ Parliament of Australia, (Jan. 2023), [Employment trends in coal mining and the renewable energy sector](#)

⁷ Victorian Department of Jobs, Precincts and Regions, (Dec. 2021), [Submission to the Victorian Parliamentary Inquiry into the Closure of the Hazelwood and Yallourn Power Stations](#)

⁸ Public Utilities Fortnightly, (Jun. 2020), [How Many Coal-Dependent Jobs Are There and How Important Are They?](#)

⁹ e61, (Oct. 2023), [At the coalface: what happens to workers displaced by decarbonisation?](#)

Past experience suggests the unemployed cohort one year after a facility closure could be as large as one third of affected workers, meeting the definition of long-term unemployment by the Reserve Bank of Australia.¹⁰ Long-term unemployment can lead to worse economic and social outcomes,¹¹ including lower quality of life, financial hardship, and poor physical and mental health. Long-term unemployment can also become a self-reinforcing cycle, as long-term unemployed individuals face greater difficulty finding work, due to skill depreciation, loss of motivation, and labour market discrimination.¹²

1.1.2 Gas-fired power stations

Employment dynamics around scaling down coal-fired and gas-fired power generation will vary. Coal electricity generation (58 per cent of NEM supply)¹³ is more certain, with 17 of Australia's 19 coal-fired power stations scheduled to close over the next 30 years.¹⁴ Gas-fired power generation comprises a far smaller portion of NEM supply (5.5 per cent)¹⁵, employs less workers, and is likely to play a greater role in supporting reliability in the NEM as coal-fired power stations retire before receding. The Australian Energy Market Operator (AEMO) expects gas-fired generation, with pumped hydro and battery storage, will be critical to maintaining grid security and stability, particularly following unexpected outages or earlier than expected coal generation withdrawal.¹⁶

There are more than 70 grid-connected gas power plants in Australia, but only four have a workforce above 40 workers.¹⁷ Of those four, just one power plant has announced an expected closure date (Torrens Island Power Station B in 2026). As such, the overall employment impacts of gas-fired power station closures are expected to be smaller than coal-fired power station closures.

Given this, the Impact Analysis focusses on power stations with sizeable workforces and announced closure dates, which are predominantly coal-fired power stations.

1.1.3 Indirect worker impacts

In addition to direct job losses for workers at a power station, indirect job losses may also be anticipated when a facility closes. Job losses are likely at dependent suppliers — that is, businesses that rely on providing their products and services exclusively or predominantly to a closing power station, and that are unable to pivot to service other customers. Thermal coal mines that exclusively service a nearby power station are the clearest example of a dependent supplier that may be expected to close or significantly reduce output and workforce in response to the closure of that power station. Other

¹⁰ See the Port Augusta case study in Environment Victoria, (Oct. 2021), [Submission to the Victorian Parliamentary Inquiry into the Closure of the Hazelwood and Yallourn Power Stations](#) and the Mitsubishi case study in Browne-Yung et al., (Jun. 2019), [General Motor Holden's closure in Playford, South Australia: Analysis of the policy response and its implications for health](#)

¹¹ Burke et al, (2019), [Closures of coal-fired power stations in Australia: local unemployment effects](#); and Green F & Gambhir A. [Transitional assistance policies for just, equitable and smooth low-carbon transitions: who, what and how?](#)

¹² Jobs and Skills Australia, (Dec. 2021), [State of Australia's Skills 2021: now and into the future](#)

¹³ Australian Energy Market Operator, (Feb. 2024), [National Electricity Market Fact Sheet](#)

¹⁴ Australian Energy Market Operator, (Jul. 2023), [Generation information](#); Government of Western Australia (2023), [Collie Community Fact Sheet](#)

¹⁵ Australian Energy Market Operator, (Feb. 2024), [National Electricity Market Fact Sheet](#)

¹⁶ Australian Energy Market Operator, (Jun. 2022), [2022 Integrated System Plan](#)

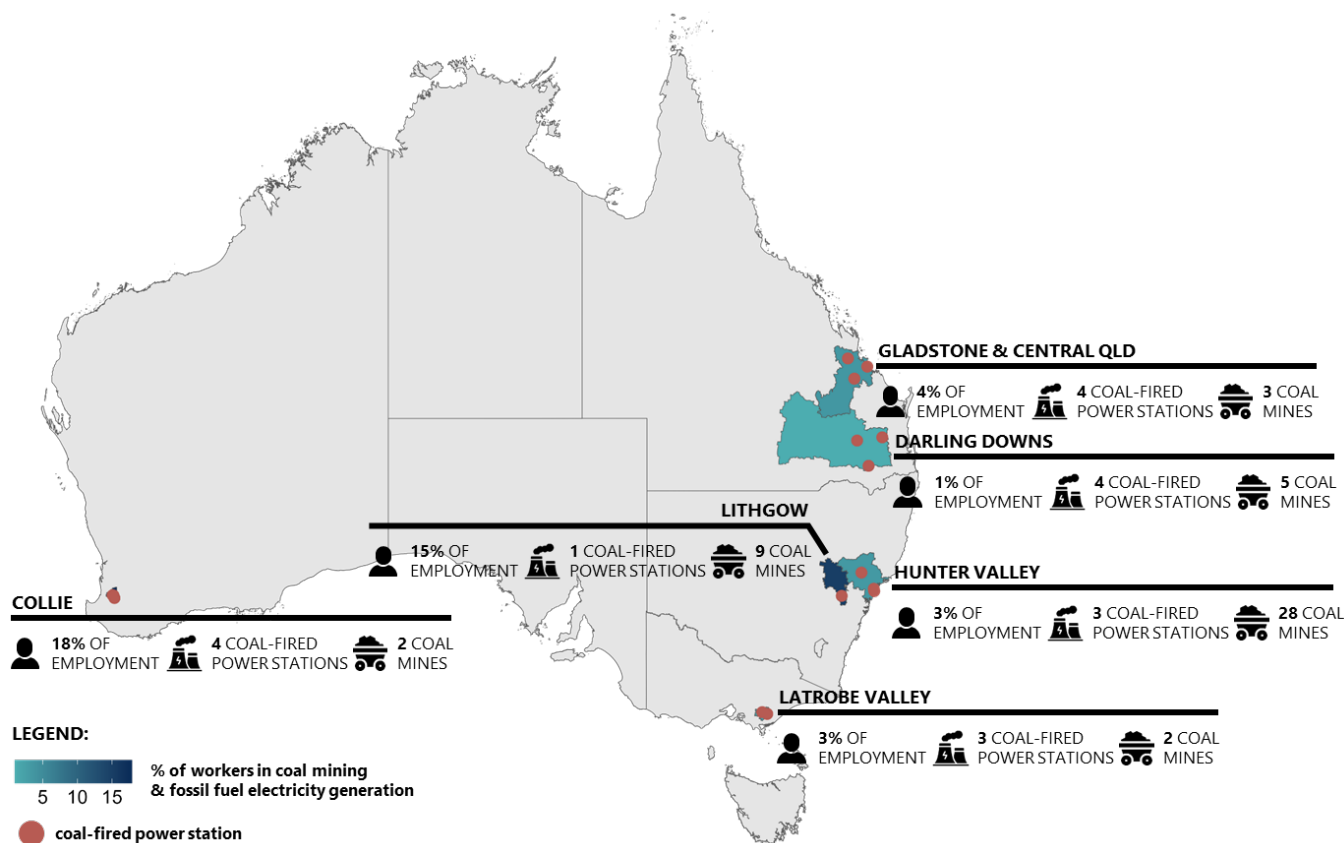
¹⁷ Department of Climate Change, Energy, the Environment and Water (FY21-22), [National Pollutant Inventory](#)

dependent suppliers may include specialist contractors who provide services to a generator or mine, particularly during regular maintenance cycles.

1.2 Impacts of closures on communities and regions

Coal-fired power stations and associated coal mines are located in six regions around Australia: Collie (WA), Latrobe Valley (VIC), Hunter Valley (NSW), Lithgow (NSW), Darling Downs (QLD), and Gladstone and Central QLD. The geographic boundaries of these regions for the purposes of this analysis are defined in **Appendix B**. Each region has a different exposure to the impacts of coal-fired power station closures, as measured by the percent of employment in coal mining and fossil fuel electricity generation (see **Figure 1.2**). The economic prospects of relevant regions, informed by employment, educational attainment, economic diversity, and income, vary greatly and diverge from national averages (see **Box 1.1** overleaf).

FIGURE 1.2 COAL-FIRED POWER STATION REGIONS



Source: Australian Bureau of Statistics (2021), [Population and Housing Census](#); Australian Energy Market Operator (13 July 2023), [Generation information](#); Geoscience Australia (2022), [Australian Operating Mines Map 2022](#)

Studies indicate that the most significant social impacts felt by communities experiencing closure of coal-fired power stations are linked to the prospect of unemployment and economic downturn, with the potential for negative effects on people’s livelihoods, identity, health, and quality of life.¹⁸ The concentration of coal-fired power stations in particular regional areas means that the employment and

¹⁸ Burke et al., (2019), [Closures of coal-fired power stations in Australia: local unemployment effects](#); and Green F & Gambhir A. [Transitional assistance policies for just, equitable and smooth low-carbon transitions: who, what and how?](#)

social impacts of power station closures can be heightened, compared to the impacts of similarly-sized employer closures in larger metropolitan areas.

BOX 1.1 ECONOMIC INDICATORS FOR COAL-FIRED POWER STATION REGIONS

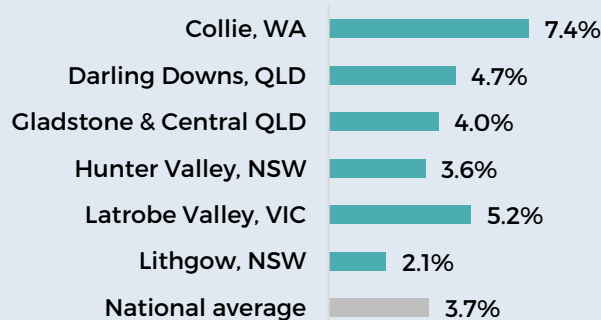
Evidence suggests worker outcomes are closely linked to a region’s local economic conditions and capacity to adapt to economic shocks. Coal-fired power station regions tend to have worse socioeconomic indicators relative to national averages, potentially exacerbating the costs of closures and the difficulties of economic transition. Notably, unemployment in Collie (7.4 per cent) is more than three percentage points higher than the national average (3.7 per cent) as at financial year 2022-23. The percentage of workers in low-skilled and semi-skilled occupations is higher than the Australian average for all regions, with Collie 17 percentage points higher than the national average.¹⁹

Greater industry variation, or ‘economic diversity’, strengthens a region’s resilience to industry-specific shocks by increasing the potential for workers to move to unaffected sectors. Economic diversity, as measured by the Hachman Index (zero to one, where one signifies economic diversity equal to Australia), is low for Collie (0.1 out of 1), Lithgow (0.2), and Darling Downs (0.3). Latrobe Valley (0.5) and Gladstone & Central QLD (0.6) fare better but are still largely reliant on relatively few industries. The Hunter Valley (including Newcastle), on the other hand, has considerable economic diversity (0.8).

While workers in coal mining and fossil fuel electricity generation industries earn more than the national average, pulling up average earnings in these regions, the high prevalence of single-income and primary-income earner households in these regions cause median household income to be below the national median (\$78,000), especially in Collie (\$51,000).

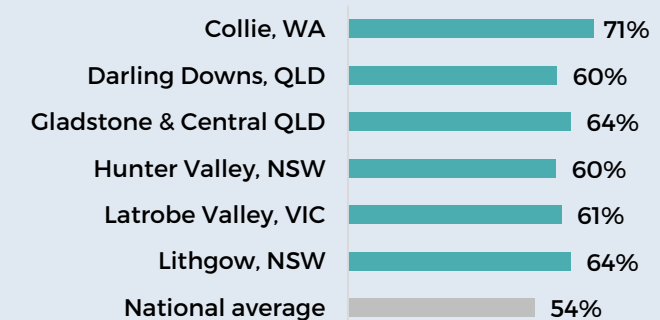
PANEL A: UNEMPLOYMENT

% of labour force that is unemployed



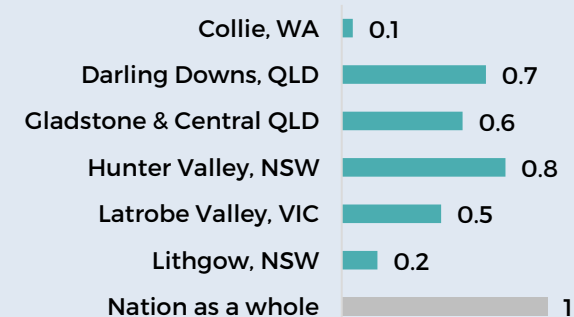
PANEL B: SKILL PROFILE

% of 15+ population in a low-skilled occupation



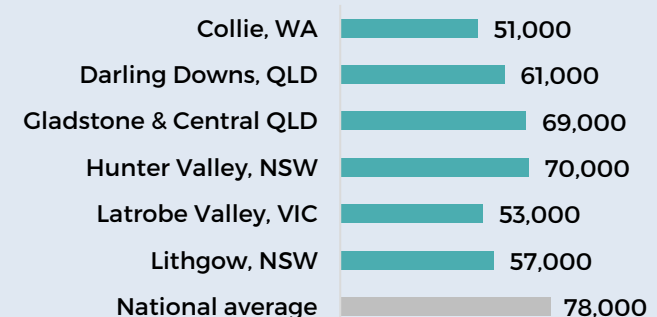
PANEL C: ECONOMIC DIVERSITY

Hachman index (0 to 1, where 1 is most diverse)



PANEL D: INCOME

Median household income (\$)



Source: Australian Bureau of Statistics (2021), [Population and Housing Census](#) and Jobs and Skills Australia, (Jun. 2023), [Small Area Labour Markets](#) where [Statistical Areas Level 2](#) are aggregated for each region as per **Appendix B**.

¹⁹ 'Low & semi-skilled' includes all occupations classified as levels 3 to 5 in the [Australian & New Zealand Standard Classification of Occupations](#)

While workers in coal-fired power stations and dependent suppliers may have skills that are transferable to other employment, new jobs are not always located near newly-closed coal-fired power stations, and may be difficult to find for older workers who are not used to changing employment. If alternative opportunities are slow to eventuate, and workers cannot relocate or commute to other jobs, longer-term unemployment can rise. Data indicates past closures of coal-fired power stations in Australia led to a 0.7 percentage point increase in local unemployment, which extends past the initial months of the closure.²⁰

Research findings indicate that in addition to direct job losses, when industrial facilities close, surrounding communities experience indirect losses due to the reduced demand for local services and commodities.²¹ Communities can also experience deterioration of social support networks and structures, a loss of attachment to place and traditions, loss of social identity, and adverse physical and mental health impacts.²² As populations start to decline, communities can cross critical thresholds where they lose local support services, further compounding difficulties.²³

As such, the shift away from industries that have powered local economies for generations to emerging industries, such as the clean energy sector, needs to be proactively managed to assist regional communities and smooth the economic and social transition. Many workers from closing power stations and coal mines will be seeking further training or retraining for careers in new industries. However, the location and timing of new opportunities may not align with where job losses have occurred, and therefore a wider workforce and community transition approach will be required.

1.2.1 Timing of closure announcements

Negative employment and other social impacts can be exacerbated where power station closures are poorly planned or executed with a short lead time. Some facility operators in Australia have previously been criticised for not providing sufficient notice of closure. For example, the owner of the Hazelwood power station in Victoria announced in November 2016 that the station would close in March 2017, providing just under five months' preparation time prior to closure. This led to significant impacts on the local community, as well as impacts on the Australian electricity market, which may have been mitigated with additional lead time and preparation.

Subsequent to the Hazelwood closure, additional market rules have been put in place to reduce the risk of sudden power station closures. NEM generators are now required to provide AEMO at least 42 months' advance notice of their intention to close, unless granted an exemption by the Australian Energy Regulator (AER).²⁴ AEMO also publishes longer-term expected closure dates for NEM generators.

²⁰ Burke et al., (2019), [Closures of coal-fired power stations in Australia: local unemployment effects](#)

²¹ Ibid.

²² Green, F & Gambhir, A, (Aug. 2019), [Transitional assistance policies for just, equitable and smooth low-carbon transitions: who, what and how?](#)

²³ Morris AC et al., (Jul. 2019), [The Risk of Fiscal Collapse in Coal-Reliant Communities](#)

These broader community impacts are largely outside the scope of this analysis, which focuses primarily on direct employment impacts associated with power station closures. The analytical methodology is described further in **Chapter 4**.

²⁴ When considering whether to grant an exemption, the AER may consider factors including: the reliability and security impact of the generator's early exit; plans for replacing the capacity being retired, if any; and whether the application for exemption is necessitated by urgent and unforeseen circumstances. See: [AER Generator notice of closure exemption guideline](#).

This longer mandated lead time for the announcement of power station closures provides greater opportunity for the development of targeted and proactive workforce transition supports to help directly affected workers and their families. However, there remains some uncertainty as to how the schedule of generator closures will progress over time. This means that the timing and implementation of any government actions to support communities as these facilities close will also need to adapt over time, in response to circumstances as they eventuate.

Unlike NEM generators, coal mines are not required to publicly announce their anticipated closure dates. As such, there is more uncertainty about the timing of thermal coal mine closures in Australia. The *Fair Work Act 2009* (Fair Work Act) requires any employer retrenching 15 or more staff to give 'formal written notification' to Centrelink 'as soon as practicable'.

1.3 Existing supports for workers at closing power stations and associated mines

Support mechanisms delivered by government and employers are available for workers who are made redundant when a facility closes. A brief summary of these measures is as follows.

1.3.1 Commonwealth supports for workers

The Australian Government offers a number of supports for workers who are facing retrenchment, including workers affected by transition events such as large business closures. These are summarised at **Table 1.1**. The Department of Employment and Workplace Relations (DEWR) has responsibility for delivery of the majority of these supports.

TABLE 1.1 EXISTING AUSTRALIAN GOVERNMENT PROGRAMS AND SERVICES

PROGRAM	DESCRIPTION
Transition Support Network	<ul style="list-style-type: none"> Provides on-the-ground support that coordinates the local response to large closures or redundancies to support affected workers when companies restructure or close. Connects employers and their workers with relevant programs and services, including redundancy information, mental health supports and relevant financial services.
Local Jobs Program	<ul style="list-style-type: none"> Supports the development and implementation of tailored approaches to accelerate reskilling, upskilling and employment and respond to local labour markets. Four employment regions have recently received additional on-the-ground resources to plan for and optimise future opportunities focused on the shift to a net zero economy.
Workforce Australia Employment Services	<ul style="list-style-type: none"> Workforce Australia is an Australian Government employment service open to all Australian individuals and businesses. DEWR partners with a network of providers to deliver personalised support to individuals and employers.
Early Access Initiative	<ul style="list-style-type: none"> Provides retrenched workers and their partners support to re-enter the workforce as soon as possible, including help with resumes, job applications and interview skills, advice on searching for a job, and information about local job vacancies. This is available from up to three months prior to retrenchment.

Career Transition Assistance	<ul style="list-style-type: none"> Helps mature age participants aged 45 years and older to identify their existing skills and how they might be able to transition into other jobs or industries, including those in renewable energy industries.
Skills Checkpoint for Older Workers Program	<ul style="list-style-type: none"> The Skills Checkpoint Program is available to workers aged 40 years and older and provides career advice and guidance for workers who have not been referred to or registered with an Australian Government employment services provider to transition to a new role.
Skills for Education and Employment	<ul style="list-style-type: none"> Helps eligible people improve their reading, writing, maths and computer skills. Training is tailored to the abilities and goals of individuals.
National Careers Institute	<ul style="list-style-type: none"> Connects Australians to national careers information and resources, promoting informed career pathway choices that align with workforce demand, supporting Australians to realise their aspirations as part of a person's life-long learning.
Self-Employment Assistance	<ul style="list-style-type: none"> Helps individuals establish and operate a small business by understanding self-employment, testing a business idea, developing or adjusting a business plan, and keeping it viable.

These Australian Government supports are predominantly available as general programs that apply to workers across the labour market. While some of the programs provide support for workers affected by transition events, including large business closures, current employment supports are generally not targeted to supporting workers affected by the net zero transition. They are geared toward assistance once workers have received an official redundancy letter, and generally not sooner than three months prior to retrenchment. These notice periods mean that workers often do not have optimal time to re-train or re-skill.

In consulting with regional bodies, employers and unions, the Agency heard the need for more targeted Australian Government supports to meet the specific needs of workers in power stations and associated facilities that will close due to the major structural changes which will occur in those communities through the net zero transition.

DEWR and the Agency are reviewing workforce transition support initiatives to identify what additional measures may be required to support workers and communities through energy system changes, in consultation with other relevant Australian Government agencies.

1.3.2 Worker transition supports provided by closing facilities

Historically, the supports provided by coal-fired power stations to workers have varied considerably. Supports may vary by facility and depending on timeframes from announcement to closure.

In recent times, companies have provided more proactive workforce supports. For example, upon the closure of AGL Energy's Liddell Power Station in the NSW Upper Hunter region earlier in 2023, AGL

announced it had met its commitment of no forced redundancies for workers, with interested workers transferred to the nearby Bayswater Power Station.²⁵

EnergyAustralia's \$10 million 'Power Your Future' transition program supports Yallourn power station workers, including contractors, to access supports and services ahead of the planned station closure in mid-2028. The program supports include personalised career plans, training support, individual career coaching, financial advice and planning, small business seed funding, job application assistance, and links to employment opportunities.²⁶

As part of the 'Power Your Future' program, on 20 October 2023 EnergyAustralia and Elanora Offshore announced a program to further support Yallourn power station workers to retrain for work in the proposed offshore wind project and secure future employment.²⁷ The program includes information sessions, skills matching, and work placement opportunities. Initial roles in the project planning phase of Elanora Offshore would be expected to be available from 2025, with roles to be released in construction and operations from 2027.

The potential for redeployment to another power station within the same corporate group, as happened with Liddell, will become increasingly difficult as more power stations close. For example, with the exception of Queensland Government-owned assets, remaining coal generators located in the same region in the NEM are now owned by different operators.²⁸

1.3.3 State-based worker transition supports

State governments have provided support and investment during past facility closure events, in partnership with privately-owned coal fired power station operators. For example, the Victorian Government provided a significant support package for workers impacted by the closure of Hazelwood power station and the Latrobe Valley region in 2016.²⁹ Immediate steps to support workers affected by the Hazelwood closure included the establishment of the Worker Transfer Scheme and Worker Transition Service, which are discussed in further detail in **Chapter 4**.

More recently, AGL and Energy Australia have entered into transition agreements relating to arrangements for the operation, maintenance and retirement of the Loy Yang A and Yallourn Power Stations, respectively. The worker transition packages, in partnership with the Victorian Government, will help retrain, reskill and find new work opportunities for their staff locally.³⁰

²⁵ AGL, (Apr. 2023), [AGL's Liddell Power Station closes after 52 years of operation](#)

²⁶ EnergyAustralia, (Nov. 2022), [EnergyAustralia helps Yallourn workers prepare for life after coal](#)

²⁷ EnergyAustralia, (Oct. 2023), [EnergyAustralia and Elanora Offshore partner to secure jobs and training for Yallourn workers in offshore wind](#)

²⁸ For example, in the Latrobe Valley, Yallourn is operated by Energy Australia, AGL operates Loy Yang A and Alinta operates Loy Yang B.

²⁹ Wiseman, J et al., (Nov. 2020), [After the Hazelwood coal fired power station closure: Latrobe Valley regional transition policies and outcomes 2017-2020](#)

³⁰ Premier of Victoria, (Aug. 2023), [Agreement Secures Transition For Loy Yang A](#) and Energy Australia (Mar. 2021) [Energy Australia powers ahead with energy transition](#)

State governments have also made commitments to support workers at state-owned coal-fired power stations and facilities in Queensland and Western Australia. This includes the \$150 million Job Security Guarantee, as outlined in the Queensland Energy and Jobs Plan, to support workers in publicly owned coal-fired power stations by providing security and support to workers in relation to employment matters, including, for example, providing training for, or access to, employment opportunities within the energy sector or other career pathways.³¹

Additionally, the Western Australian Government launched a \$547.4 million 'Collie Transition Package' which aims to attract new and emerging industries to the Collie region, and provide support and advice for workers and businesses impacted by the scheduled closures. The package includes \$16.9 million to expand the Collie Jobs and Skills Centre, which offers free training and employment advice to impacted workers. Similarly, Synergy Australia's Workforce Transition Program includes working with each employee to develop their own personalised Individual Transition Plan. Each plan includes tailored support, services and resources to help them transition along one of the following pathways: retirement, new role within Synergy, and further opportunities beyond Synergy.³²

1.4 Workforce planning, skills and training

Two recent government reports, *Working Future: The Australian Government's White Paper on Jobs and Opportunities* (the 2023 Employment White Paper) and Jobs and Skills Australia's (JSA) report *The Clean Energy Generation: Workforce needs for a net zero economy* (Clean Energy Capacity Study), have highlighted the employment opportunities that will be created as Australia transitions to net zero, and the challenges of developing Australia's workforce with the skills required to meet these opportunities.

The Employment White Paper notes that changes associated with net zero transformation are generating pronounced shifts in demand for particular skills, including trades and engineering, as well as amplifying global competition for expertise. It notes that meeting these skills needs will be critical to delivering on emissions reduction commitments and realising the economic opportunities of the net zero transformation.³³

Modelling undertaken for the JSA Clean Energy Capacity Study forecasts workforce requirements against expectations of skills supply under three different pathways for Australia's transition to net zero. Under a central decarbonisation scenario, demand for 38 critical clean energy occupations is likely to increase by around 15 per cent in the next seven years. This represents an increase of almost 240,000 workers by 2030 in these occupations.³⁴

Much of the change in industry and workforce composition associated with the transition to net zero will be concentrated in regional areas. Many of these regions have relatively low industrial diversity, high concentration of related emissions-intensive industries, and lower capacity to adapt to changes.³⁵ But the

³¹ Queensland Government Department of Energy and Public Works, (Oct. 2023), [Queensland Energy and Jobs Plan: Workers](#)

³² Synergy, (2023), [Muja Power Station Workforce Transition Program](#)

³³ Commonwealth of Australia, (Sep. 2023), p.3, [Working Future: The Australian Government's White Paper on Jobs and Opportunities](#)

³⁴ Jobs and Skills Australia, (Oct. 2023), p.156, [The Clean Energy Generation: Workforce needs for a net zero economy](#)

³⁵ Commonwealth of Australia, (Sep. 2023), p.114, [Working Future: The Australian Government's White Paper on Jobs and Opportunities](#)

JSA Clean Energy Capacity Study modelling also shows many of the new jobs that emerge through the net zero transition will be in regions where new, clean industries will at least partially replace high emissions industries.

There will be skilling and reskilling opportunities for people in these communities to help them move from traditional industries to emerging ones, with workers in some specific occupations likely to require more support than others, as noted in JSA's analysis:

Transitioning industries employ a diverse range of workers. Many generalist occupations, like accountants and truck drivers, are also employed in high numbers in growing industries. Other occupations, like Power Generation Plant Operator, have limited employment prospects outside transitioning industries and are therefore at greater risk.³⁶

The JSA study identified a range of existing and potential employment transition pathways for workers in the largest fossil fuel electricity generation occupations; with common pathways shifting into roles as Earthmoving Plant Operators, Electrical Linesworkers and Fire Protection Equipment Technicians.³⁷

As the net zero transition accelerates, workers in emissions-intensive industries in regional Australia will need access to employment and training support to take advantage of new clean energy industries; while noting that transitioning into the clean energy sector will not be the most appropriate or desired employment pathway for all workers. JSA's analysis emphasises that targeted, localised and individualised supports will be needed to drive successful outcomes for workers and their communities.³⁸

The JSA Capacity Study also shows that expected workforce changes across regions is not uniform under various scenarios of Australia's transition path to net zero, and that different assumptions around the transition path will play out differently across regions and across time. This highlights the need for active planning and involvement of government to help direct investment into key regions, as well as delivering skills and training initiatives in the right places, at the right times.

1.4.1 Announced workforce planning and skills initiatives

The government has announced a number of workforce planning and skills initiatives relevant to the net zero transition, including:

- The development of a National Energy Workforce Strategy, led by the Department of Climate Change, Energy, the Environment and Water (DCCEEW).
- A New Energy Apprenticeships Program, under which from 1 January 2023 Australian apprentices working in one of 40 clean energy occupations listed on the Australian Apprenticeships Priority List are eligible to receive up to \$10,000 over four years, as well as additional career supports.
- The inclusion of Clean Energy and Net Zero transformation of the economy as a national priority area under the National Skills Agreement released in October 2023.

³⁶ Jobs and Skills Australia, (Oct. 2023), p.13, [The Clean Energy Generation: Workforce needs for a net zero economy](#)

³⁷ Jobs and Skills Australia, (Oct. 2023), p.13 and 143-147, [The Clean Energy Generation: Workforce needs for a net zero economy](#)

³⁸ Jobs and Skills Australia, (Oct. 2023), p.13, [The Clean Energy Generation: Workforce needs for a net zero economy](#)

1.5 Availability of data and literature to inform impact analysis

This Impact Analysis has been usefully informed by literature from government agencies, academics, regional bodies, international organisations, and relevant companies about the impacts of coal-fired power station closures on workers, communities and regions.

The analysis considers many useful submissions from public, private, and not-for-profit organisations to the Victorian Parliamentary inquiry into the closure of the Hazelwood and Yallourn power stations³⁹ and the Commonwealth Senate inquiry into the retirement of coal-fired power stations.⁴⁰ Assessments and analysis of interventions and outcomes from closures in comparable industries have also been considered, particularly those relating to the car manufacturing and defence industries.

The analysis draws upon the substantive evidence base around the indirect social and economic effects of long-term, large-scale unemployment at the individual, household, and community levels. International experience around coal industry closures, especially in the United Kingdom, United States, and Germany, has also been used to inform the analysis' assumptions and understanding of the varying suite of worker transition supports.

The Agency has leveraged existing data sources in developing this Impact Analysis, including:

- employment data self-reported by high-emitting employers to DCCEEW's National Pollutant Inventory⁴¹
- expected closure dates of facilities reported by coal-fired power stations to the Australian Energy Market Operator⁴²
- coal mine data from Geoscience Australia's Australian Operating Mines Map 2022⁴³
- relevant labour market and demographic data from the Australian Bureau of Statistics, including the 2021 Population and Housing Census⁴⁴ and Counts of Australian Businesses⁴⁵
- Small Area Labour Market⁴⁶ data published by Jobs and Skills Australia to understand local labour market trends
- information on program participation and uptake from DEWR regarding Commonwealth programs to support workers facing retrenchment, and
- information gathered from consultations with stakeholders (discussed further in **Chapter 5**).

There are some limitations to this data. These include:

³⁹ Victorian Department of Jobs, Precincts and Regions, (Dec. 2021), [Submission to the Victorian Parliamentary Inquiry into the Closure of the Hazelwood and Yallourn Power Stations](#)

⁴⁰ Commonwealth Senate Inquiry, (Mar. 2017), [Submissions to the inquiry into the retirement of coal fired power stations](#) Commonwealth Senate inquiry, (Mar. 2017), [Submissions to the inquiry into the retirement of coal fired power stations](#)

⁴¹ Department of Climate Change, Energy, the Environment and Water, (2023), [National Pollutant Inventory](#)

⁴² Australian Energy Market Operator, (Sep. 2023), [NEM Generation information](#)

⁴³ Geoscience Australia, (2022), [Australian Operating Mines Map 2022](#)

⁴⁴ Australian Bureau of Statistics, (2021), [2021 Population and Housing Census](#)

⁴⁵ Australian Bureau of Statistics, (Aug. 2023), [Counts of Australian Businesses](#)

⁴⁶ Jobs and Skills Australia, (Nov. 2022), [Small Area Labour Markets](#)

1. Limitations in the availability of granular data to model business impacts, including the number of exclusive and new suppliers unable to pivot to future industries. The ABS business count data referenced above has precluded a more detailed synthesis of business size in this Impact Analysis as the data is grouped into small (less than 20 employees), medium (20-199 employees), and large businesses (200+ employees). Ideally, the quantitative analysis would have used more granular data on the size of relevant businesses in key regions, but such data was unavailable.
2. Scarcity of data from closures other than the Hazelwood power station closure. In absence of many examples of a legislated redeployment plan (policy Option 3 in this Impact Analysis), assumptions had to be made around the expected participation and uptake rates by employers and workers using previous unlegislated schemes. Uptake of the unlegislated plan (policy Option 2) is based largely on the uptake of the scheme used to support workers in the Hazelwood power plant closure.
3. Lack of available data on certain impacts. If more data was available, more detailed analysis of the impacts could be undertaken – especially around unquantified impacts such as the social benefits for workers, families and communities of redeployment plans.

These data limitations have shaped the analytical method used to assess impacts in this analysis. If more data and more suitable data were available, a full cost benefit analysis could have been used.

The Agency will monitor updates to existing data sources and the development of new data sources that may be relevant to the analysis. The Agency will also gather further data to assist with implementation of the preferred policy option. See **Chapter 7** for more information on how monitoring, evaluation and learning of the preferred option may provide additional data.

2 The need for government action to support worker transition

This chapter outlines the reasons why government intervention is needed to assist workers in closing industrial facilities through the transition to net zero. It discusses the objectives and desired outcomes of potential policy interventions in this area, as well as potential barriers to achieving these outcomes.

2.1 Rationale for government intervention

The scale of the net zero transformation will be one of the largest workforce transition events in Australia's history. As such, it requires a concerted and coordinated response, with the Australian Government working in conjunction with business, states and territory governments, and regional communities.

The Employment White Paper notes that there is an important role for government in creating an environment that enables people and business to plan and flexibly respond to changing circumstances, especially where structural change is geographically concentrated, and where changes occur in regions with lower industrial diversity.⁴⁷ It notes:

*Large shifts in industry composition can disrupt local labour markets. Equipping workers with the tools they need and supporting them into new opportunities can minimise these disruptions, and are particularly important for regions that have a narrow economic base. Clearly articulating long-term policy objectives can also help the private sector invest with confidence, and workers to plan for their future and to invest in their skills. Coordination between workers, all levels of government, businesses and unions can result in better support for people to find future employment opportunities.*⁴⁸

There is a clear need for government to work with employers in emissions-intensive industries to ensure clear planning and support for workers. The key reasons for government intervention are broadly summarised as follows.

2.1.1 Recognition of the role of government in decarbonisation and the net zero transformation

In 2022, the Australian Government legislated Australia's greenhouse gas emission targets to reach net zero by 2050, and to reach emission levels of 43 per cent below 2005 levels by 2030.

The Australian Government has also committed to developing a Net Zero 2050 plan and 2035 emissions reduction targets, to establish pathways for Australia's transition to a net zero economy. The Net Zero

⁴⁷ Commonwealth of Australia, (Sep. 2023), p.42, [Working Future: The Australian Government's White Paper on Jobs and Opportunities](#)

⁴⁸ Commonwealth of Australia, (Sep. 2023), p.43, [Working Future: The Australian Government's White Paper on Jobs and Opportunities](#)

plan will help Australia maximise the benefits of the global transition to net zero, provide certainty through long-term policy and help drive investments in low-emissions and renewable technologies. The plan will be supported by the development of six sectoral decarbonisation plans which, between them, cover all major components of the economy.⁴⁹

As the global shift to net zero continues, the Australian Government is committed to ensuring that no-one is left behind, including by supporting workers in emissions-intensive sectors to access new employment, skills and support.

2.1.2 Supporting an 'orderly' transition pathway

Australian Government support for workers whose employment will be disrupted by power station closures, as part of efforts to create an 'orderly' transition pathway to a net zero economy, is consistent with Australia's commitments under international agreements.

In 2015, Australia became a signatory to the Paris Agreement under the United Nations Framework Convention on Climate Change⁵⁰, which notes:

*...the imperatives of a just transition of the workforce and the creation of decent work and quality jobs in accordance with nationally defined development priorities.*⁵¹

The Australian Government has since joined dozens of countries around the world developing plans in response to the Paris Agreement. Several countries, particularly in Europe, have established dedicated national and regional transition strategies and institutions.

The proper management of this economic transformation is essential for ensuring an orderly transition. Without appropriate planning and supports, the risks increase of a less orderly transition, characterised by more sudden facility closures, energy system instability, and community disruption in affected regions. Assisting transitioning workers and communities appropriately is critical to smooth the economic transition and make for an 'orderly' transition pathway for workers and communities.

2.1.3 Ensuring even provision of worker supports as facilities close

Past experience has shown that in the absence of government intervention, workers may not receive adequate levels of support when fossil fuel generators and dependent businesses close. In some cases, power stations with closure dates later this decade are already undertaking significant planning and have committed funds to support workforce transition initiatives (as noted at **section 1.3**).

It is not yet clear, however, whether supports provided by closing employers will be consistent across the range of power stations and associated mines that will close over the coming decades, particularly in the event that closure schedules of any of these facilities need to be brought forward. Existing supports are

⁴⁹ Department of Climate Change, Energy, the Environment and Water, (Aug. 2023), [Net Zero](#)

⁵⁰ Department of Climate Change, Energy, the Environment and Water, (Nov, 2023), [International climate action](#)

⁵¹ United Nations Framework Convention on Climate Change, (Dec 2025), [Paris Agreement](#)

generally focused on direct employees of closing facilities, with support more limited for employees of contractors and supply chain businesses.

Employer supports offered by closing facilities are necessary to ensure workers have the opportunity to prepare adequately for their employment transition. These employer supports can be targeted to assist workers with access to skills, training and career planning initiatives, as well as financial planning services and other transition supports.

In this context, part of government's role includes putting legal and regulatory standards in place to create baseline expectations for actions employers should take to support their workers when facilities close. Targeted government initiatives to support workers directly can also complement employer-facilitated programs, to fill gaps and ensure a consistent and coordinated approach to addressing the impacts of facility closure events for affected communities. Governments can focus on areas not easily addressed by closing employers, such as supports aimed at facilitating the matching of workers with new employment opportunities.

Australian Government involvement can assist in bringing together stakeholders to ensure that the responsibility for supporting affected communities is shared across all relevant parties, including closing employers, other industrial employers in the relevant region, state and territory governments, local governments, and community organisations. This co-ordination can also assist in identifying regional skills needs and sequencing activities like investment, to ensure new jobs are available when workers are retrenched.

The Australian Government can set legislative frameworks and baseline standards to apply across jurisdictions in Australia, while retaining a degree of flexibility to respond with additional tailored measures in negotiation with state governments and impacted communities, in response to the regional circumstances of a closure. In circumstances where employers or state governments are already providing comprehensive supports for transitioning workers – such as under the Queensland Government's Energy and Jobs Plan (noted at **Section 1.3.3**) – no further intervention by the Australian Government may be needed.

2.1.4 Sustaining appropriate workforce levels at power stations in the lead-up to closure

Power stations must maintain their workforce up to the time of facility closure in order to ensure safe operation of the facility and proper management of decommissioning processes. A risk for power station operators in the lead-up to closure is that some workers may begin to seek employment opportunities elsewhere – in particular those with less tenure and accrued redundancy benefits – leaving the facility without adequate staffing to operate safely until closure.

Government assistance, through the establishment of structural worker transition supports such as pooled redeployment plans, can help provide greater certainty about workers' future employment prospects, which means they will be more likely to remain with the closing facility until their job is no longer needed.

2.1.5 Maintaining a skilled workforce in key regions

Studies including the JSA Clean Energy Capacity Study indicate regions that currently host coal-fired power stations and associated coal mines will be key areas for hosting new facilities and infrastructure in emerging industries such as clean energy, low-carbon advanced manufacturing, and mining and processing of critical minerals.

As coal-fired power stations close, there is a clear need to keep skilled workers in these regions engaged in the workforce, with adequate job-to-job transfer prospects wherever possible. This will help ensure these regions are able to attract investment, avoid labour bottlenecks, and maximise new industrial opportunities as they emerge.

2.2 Objectives of policy responses to support workers in closing facilities

A key part of the Agency's role in promoting orderly and positive economic transformation across Australia as the world decarbonises is to support workers in emissions-intensive facilities access new employment, skills and opportunities.

These supports will be most immediately required for workers at closing coal-fired power stations, a small number of closing gas-fired power stations, and dependent employers such as coal mines that exclusively supply local coal-fired power stations. At a high level, the objectives of policy responses to support workers at closing facilities are:

- minimising involuntary unemployment when facilities close
- maximising opportunities to transition into similar employment
- providing appropriate supports, training and skills to impacted employees, and
- using to the best extent the skills and experience of employees.

Successfully implementing policy responses to support workers will help minimise the potential negative economic and social impacts of facility closures. Where these facilities represent major local or regional employers, it is particularly important to implement policy responses that mitigate local unemployment impacts in the immediate period following a closure.

Support measures should ideally be targeted towards workers who are most at-risk of poor long-term employment outcomes, by giving them a clear pathway to plan for, and access, alternative employment.

It is also important that closing facility owners continue to contribute to support mechanisms for their workers when facilities close, and that the design and delivery of government policy responses does not detract from the responsibilities employers have towards their workers.

Delivering transition supports to workers also needs to be accompanied by broader support for investment in new industries, in order to build upon existing regional capacity to diversify and strengthen regional economic outcomes.

Delivery of worker transition policies can be supported by data collection and information gathering to understand the longitudinal impacts of power station closures on affected businesses, workers and communities. Tracking the labour market destinations of displaced workers, both for those who remain in the region and those who leave after the closure of a power station, may also help to refine policy responses over time.

2.2.1 Potential barriers to achieving desired objectives

The shift to net zero presents economic opportunities for Australia, but also carries risk for some workers, businesses and communities, as existing emissions-intensive industries transform or phase out. An orderly transition is dependent on factors including:

- investment in new industries to create jobs in a region
- utilising long lead-times to upskill and retrain the workforce
- meeting local needs through community partnerships, and
- communicating about future workforce needs and opportunities to support employers and workers.

Recognising the need for a more coherent and coordinated approach, the Agency will work to ensure those affected can seize the opportunities of Australia's net zero transformation.

3 Policy options for consideration

This chapter provides an overview of potential policy responses to support workers at closing coal-fired power stations, gas-fired power stations and dependent employers, drawing on international examples. It outlines the policy options considered for the purposes of this analysis.

3.1 Overview of potential policy responses

There has been a significant body of research in Australia and internationally into ‘transitional assistance policies’ that aim to limit the impacts of industry phase-out in regional communities. The four categories of policy instruments shown in **Table 3.1** were identified in a literature review of transitional assistance policies undertaken by Green and Gambhir in 2020.⁵²

TABLE 3.1 CATEGORIES OF POLICY INSTRUMENTS

INSTRUMENT	DESCRIPTION
Financial compensation	<ul style="list-style-type: none"> Financial compensation is a commonly used tool to help limit the economic impacts associated with unemployment, and can come in the form of grants, subsidies, capacity building, in-kind support services, redundancy packages and welfare payments. This method is not sufficient on its own. Studies have found that workers who received lower redundancy payments alongside relocation and capacity building initiatives (e.g., workplace training, paid relocation) systematically fared better than those who received higher redundancy payments and initiatives without other supports.⁵³
Exemption tools	<ul style="list-style-type: none"> Strategic use of regulatory and legal exemptions from climate change laws and policies can be used to ease transitional impacts for resource-dependent communities, including by enabling incumbent businesses to extend operations. Examples include tax exemptions for specific companies/industries, temporary relief from liability, or a delay in enforcing a new policy. These exemptions can offer full or partial relief from compliance with laws and regulations that are implemented as part of a climate action regime.
Structural adjustment assistance	<ul style="list-style-type: none"> Structural adjustment assistance aims to aid individuals in adapting to new economic conditions caused by structural change. This assistance can involve conditional monetary payments and in-kind support, such as retraining. Examples of structural adjustment assistance include the US Partnerships for Opportunity and Workforce and Economic Revitalization (POWER) Initiative, Scotland’s Oil Workers Transition Fund, Canada’s Coal Workforce Transition Fund and the Dutch Government’s facilitation in the Limburg region that focused on retraining in sectors with economic demand and educating the next generation to minimise intergenerational inequities.
Comprehensive adaptive support	<ul style="list-style-type: none"> Comprehensive adaptive support encompasses financial and non-financial measures to assist individuals, businesses and communities in adapting comprehensively to structural changes. These tools aim to aid relevant communities in adjusting not only financially but also in various other aspects to cope with the new circumstances resulting from structural change, and can include counselling and social services. It may also include worker transfer schemes and initiatives such as locally targeted public investment in line with decarbonisation goals.

⁵² Green F, Gambhir A, [Transitional assistance policies for just, equitable and smooth low-carbon transitions: who, what and how?](#)

⁵³ Ben Caldecott et al., (2017), [Lessons from previous ‘Coal Transitions’ High-level Summary for Decision-makers](#)

3.2 Scoping policy options for this impact analysis

The options selected in this analysis have been chosen carefully to target the specific circumstances facing workers at closing coal-fired power stations, gas-fired power stations, and their dependent suppliers in Australia. The policy options considered in this analysis do not attempt to address the full range of issues associated with the net zero transformation. Consideration of broader transition initiatives, such as additional supports for workers at other emissions-intensive facilities that face transformation or closure as the world decarbonises, are beyond the specific scope of this analysis. These issues will continue to be closely considered by the Government to ensure workers and communities are supported holistically as the net zero transition continues.

3.2.1 Three options selected for consideration

The following policy objectives, outlined in **Section 2.2**, have been used by the Agency to select options for consideration:

- minimising involuntary unemployment when facilities close,
- maximising opportunities to transition into similar employment,
- providing appropriate supports, training and skills to impacted employees, and
- utilising to the best extent the skills and experience of employees.

The three policy options selected for consideration in this analysis are:

- **Option 1:** a 'status quo' option, in which existing supports for workers are relied on, with no further intervention from the Australian Government
- **Option 2:** implementing a pooled redeployment policy for workers at closing coal-fired power stations, some gas-fired power stations and dependent suppliers, with all parties participating voluntarily
- **Option 3:** implementing a pooled redeployment policy for workers at closing coal-fired power stations, some gas-fired power stations and dependent suppliers, underpinned by a legislative framework that:
 - includes the ability to require closing power station operators and their dependent suppliers to participate in pooled redeployment arrangements, and
 - requires participating closing employers and dependent suppliers to take certain types of actions to support employees to achieve employment outcomes including participation in the redeployment pool, subject to their operational requirements.

Analysis of a 'status quo' option will enable consideration of how current supports provided to workers compare with other possible policy responses.

Options related to pooled redeployment are included because of their relevance as a potential response to meet the stated policy objectives. These types of policies are designed to help smooth the impacts when a facility closure results in a large number of workers with similar skills and experience simultaneously entering the job market in small, concentrated regional economies. Pooled redeployment

and worker transfer schemes have been a feature of some international transition experiences, and have been utilised at the state level in Australia, most notably during the Hazelwood power station closure in 2017. They are not a typical feature of Australian Government employment support programs, but have the potential to complement other initiatives.

Two options relating to pooled redeployment are analysed to help predict how the outcomes may be affected under a model where employer participation is purely voluntary, and a model that incorporates the ability to require employer participation in certain circumstances and places mandated obligations on closing employers to provide certain levels of support for their employees.

3.3 Option 1 – Rely on existing labour market conditions and supports (status quo case)

This policy option involves relying on existing policy supports and general labour market conditions to deliver suitable outcomes for workers in coal-fired power stations, some gas-fired power stations and dependent suppliers when these facilities close.

As outlined in **Section 1.3**, there are a range of existing support programs and services that can be delivered to workers when industrial facilities close, including from closing employers, the Australian Government and state and territory governments. These supports can include access to information on financial and wellbeing supports, individual career guidance and retirement planning, skills and training support, assistance with searching for new employment, and access to unemployment benefit payments.

Provision of these kinds of supports is likely to vary depending on the particular circumstances of each closing employer, the lead time between closure announcement and closure date, the location of a facility (given that support measures from state governments are not uniform across Australia), and prevailing economic conditions at the time of closure. For the purposes of this analysis the existing support programs and services outlined in **Section 1.3** are assumed to be in place under Option 1.

As noted in **Chapter 1**, in consulting with regional bodies, employers and unions, the Agency has heard the need for more targeted Australian Government supports to meet the specific needs of workers in coal-fired power stations, some gas-fired power stations and associated businesses that will close through the net zero transition. Existing supports may be delivered too late, may not have the required scale, and may not be sufficiently targeted to local circumstances to support workers affected by this transition.

The Agency received feedback from one privately-owned power station operator that while these employers are well-placed to offer their workers access to training, career counselling and related supports in the lead-up to facility closure, assistance for workers in finding and transitioning to their next career role is a challenge, and that additional programs may assist in meeting this need. This was similar to feedback from companies and industry peak bodies that regionally based employers often find it difficult to identify and recruit regionally based, skilled employees.

As discussed further in **Chapter 4**, employment outcomes are likely to be worse for workers at closing employers in the absence of additional government policy interventions, with more workers subject to long-term unemployment and the associated economic and social costs. Communities would also be impacted by the closure of a primary employer in the region and loss of local income, leading to upticks in regional unemployment, reduced consumption from local businesses, and flow-on effects to broader economic prosperity and social cohesion. Without targeted facilitation, there is also likely to be a level of employment scarring particularly for older workers who may never re-enter the workforce. On the other hand, regulatory and administrative costs for government and large businesses would be lower under the status quo scenario, relative to implementing additional Australian Government legislated policy responses.

3.4 Option 2 – Pooled redeployment arrangements

To support workers in closing coal-fired power stations, gas-fired power stations and associated facilities, the Australian Government could consider introducing a pooled redeployment policy for relevant workers.

Pooled redeployment and worker transfer schemes have been a feature of some international transition experiences, and have been utilised at the state level in Australia, most notably during the Hazelwood power station closure in 2017.

Pooled redeployment could be used to connect closing coal-fired power stations or gas-fired power stations ('closing employers') and their dependent suppliers such as captured coal mines (termed 'dependent employers' in this analysis) with employers who could provide job opportunities for affected workers ('receiving employers').⁵⁴

The key steps and features of how pooled redeployment arrangements could be implemented are outlined as follows.

3.4.1 Selection of facilities for a Commonwealth-facilitated pooled redeployment plan

Pooled redeployment arrangements would be initiated no later than 24 months ahead of when a coal-fired power station or gas-fired generator is scheduled to close, either in line with NEM generators' obligation to inform the Australian Energy Market Operator of intended closure at least 42 months in advance, or upon the announcement of a sooner closure date.⁵⁵

The Authority would undertake an assessment process to decide whether a particular closure necessitates Australian Government involvement via the facilitation of a pooled redeployment scheme

⁵⁴ Note on terminology: the term 'closing employer' is used in this analysis to describe the operator of power station that will close, even if the facility owner or parent company will continue undertaking other business activities.

⁵⁵ For facilities with upcoming closures announced within the next two years (for example, Eraring Power Station which has a scheduled closure date in 2025), work on a pooled redeployment initiative would commence with the establishment of the Net Zero Economy Authority.

for that facility. The Authority would have regard to the following factors when considering whether to establish a pooled redeployment scheme:

- the existing supports that are available to assist employees to find other employment (including through programs run by their employers and any state government programs)
- the number of employees involved
- the capacity of closing employers to redeploy their employees in other business operations, and
- the capacity of the local labour market to absorb those workers in the absence of a pooled redeployment plan.

3.4.2 Initiation of pooled redeployment at a closing facility

When the Authority has assessed that a pooled redeployment plan is needed in relation to an upcoming closure, it would seek agreement from the closing power station operator to initiate a pooled redeployment plan. Importantly, if a closing power station operator did not agree to participate in a pooled redeployment plan, there would be no other mechanism to facilitate redeployment of workers from the closing employer to receiving employers – in this scenario, Option 2 could not be implemented, and the status quo (Option 1) would continue to apply, leading to poorer outcomes for workers.

Once the agreement of a closing employer has been secured, the Authority would work with the closing power station operator to identify any dependent employers that are also likely to close in the same timeframe as a direct result of the power station closure, for potential inclusion in a pooled redeployment plan. This could include captured coal mines that solely supply a closing coal-fired power station and are unable to pivot to other markets, and other businesses such as labour hire companies or service contractor firms with employees whose primary place of work is at the relevant closing facility and who are likely to lose their jobs as a result of the closure.

Under Option 2, dependent employer participation is purely voluntary – meaning that these employers could choose not to participate in a redeployment plan, which would leave their employees without access to this pathway to securing their next job.

Once the Authority has identified closing and dependent employers willing to participate in a pooled redeployment plan, it would work with this group of employers to determine how many of their employees may wish to participate in a redeployment plan in order to transition to a new job, and ascertain information about what future roles these employees may be suited for. Participation in pooled redeployment by employees at closing employers would be voluntary at all stages.

The Authority would request that closing and dependent employers provide information and support to their employees to help them make an informed decision on their participation and subsequently secure redeployment with a receiving employer. But employees could choose not to participate, and even if they have chosen to participate, could accept employment outside of the receiving employers, or decide not to accept an offer of redeployment.

3.4.3 Identification of a 'community of interest' of participating employers

A 'community of interest' would be a group of employers consisting of the relevant closing employers (a coal-fired or gas-fired power station plus identified dependent suppliers) and 'receiving employers' that could potentially receive employees from closing employers in a pooled redeployment plan.

The Authority would identify potential receiving employers to participate in the community of interest. It would engage with local business chambers, unions and community organisations to inform them about the creation of a pooled redeployment plan for workers at a closing power station and relevant dependent employers. Receiving employers would most likely be businesses in the same or similar industries, in the same geographic area as the closing employers.

The Authority would seek voluntary expressions of interest from businesses to participate in a community of interest as closing, dependent and receiving employers. For those that agree to participate, the Authority would also seek information on their current workforce, and information on the number, nature and location of jobs that those employers may be able to offer to employees of the closing employers or dependent employers.

3.4.4 Supporting receiving employers to create job vacancies

Once receiving employers have agreed to participate in a community of interest, they would have the opportunity to augment and refresh their workforce by gaining access to the pool of workers seeking redeployment from closing employers in the community of interest.

For some employers that are already looking to expand their workforce, access to this pool of workers would be sufficient incentive to participate in the community of interest. However, for receiving employers that are not already looking to expand their workforce, financial support from the Australian Government would also be available to assist in creating additional job vacancies and bringing on new workers. This could include through helping fund early retirement payments, targeted at existing workers of receiving employers who would ordinarily be likely to leave the workforce in the near future.

For receiving employers that wish to make use of early retirement processes, they would seek expressions of interest in early retirement from their existing employees, to create job vacancies for affected workers at closing employers. Where employees express interest in early retirement, receiving employers would decide whether to accept those applications, or not, based on their operational and business needs. Departing employees at receiving employers in the community of interest would leave their job at a time negotiated with their employer, based on when a transferring employee from a closing employer can be redeployed into that role and any other operational requirements.

Where applications for early retirement are accepted by a receiving employer, the departing employee would receive any leave entitlements owing, as well as an early retirement payment.

In order to incentivise receiving employers to participate in a community of interest, government would contribute up to 100 per cent of early retirement costs. Financial support from government will help

reduce costs of early retirement payments or other incentives for employers in the community of interest, supporting them to accept more applications and create more job opportunities for employees in closing employers.

For receiving employers that receive Australian Government payments, the Government would attach relevant conditions to funding agreements for these payments to ensure that they facilitate the objectives of the policy. For example, the Australian Government would require a receiving employer to fill any vacancies created through government-supported early retirements with a worker from the redeployment pool.

3.4.5 Transfer of workers from closing employers to receiving employers

In order to facilitate the transfer and redeployment of workers from closing employers to receiving employers, information about the skills, experience and interests of employees at closing facilities who agree to participate in pooled redeployment would be shared with receiving employers in the community of interest, via the Authority. Receiving employers would then be able to engage with participating employees and their employer, and make offers of future employment. The timing of redeployment would be agreed between the closing and receiving employer, based on the business needs of the closing employer and when the employee's role is no longer required.

3.4.6 Finalisation of a community of interest

If participating workers from a closing employer do not gain employment through the pooled redeployment plan by the time their role is no longer required, they would be made redundant as per normal arrangements under industrial legislation, and would be eligible for Australian Government employment services consistent with existing arrangements.

The community of interest and pooled redeployment plan would cease to operate at an agreed time following closure of the relevant power station.

3.5 Option 3 – Pooled redeployment arrangements with a legislated framework and mandated employer supports

This policy option would involve implementing pooled redeployment in the lead up to the closure of coal-fired power stations and gas-fired power stations with the same broad features as Option 2, but with the addition of a legislated framework to underpin the plan.

This legislative framework would outline a formal process for determining closing employer and dependent employer participation in communities of interest, allow those employers to be compelled to participate, and create certain legislated obligations on participating closing and dependent employers that would not be present under Option 2. It would also introduce a role for the Fair Work Commission

(FWC) in formally determining the closing employers and dependent employers comprising a community of interest, and be given the power to make certain orders in relation to employer obligations.

Unlike Option 2, this policy model would require legislative change to implement.

The key differences under Option 3, relative to Option 2, are outlined as follows.

3.5.1 Legislated process for establishing a community of interest and determining closing and dependent employer participation

Following a power station closure announcement, the Authority would undertake an assessment of whether a pooled redeployment plan is needed, having regard to a set of legislated factors (broadly, the same factors as the Authority would have regard to under Option 2, as outlined in **Section 3.4.1**).

The Authority would work to identify relevant closing and dependent employers for formal inclusion in a community of interest. The legislative framework would set out criteria for which kinds of employers can be included as closing employers and dependent employers in a community of interest.

Dependent employers would be companies that have a commercial relationship with a closing employer, employ staff who primarily work at the site of a closing employer or at a dependent mine, and will likely cease a substantial part of their business operations in the same geographic area as a closing power station as a direct result of the eventual closure of the power station. This is likely to capture some major service contracting companies that provide significant numbers of workers to coal-fired and gas-fired power stations and associated mines.

The Authority would work with potential closing and dependent employers to facilitate a voluntary approach to participation in the community of interest, and if any potential closing and dependent employers are reluctant to participate, the Authority would be required to consult with them and ascertain reasons why the employer would be unwilling to participate voluntarily.

Once the Authority is satisfied that a pooled redeployment plan is needed, and has identified a prospective list of all closing and dependent employers for inclusion in the community of interest, it would make an application to the FWC, which would be given powers to determine which closing and dependent employers are included, according to statutory criteria including the:

- existing supports that are available to assist employees to find other employment (including through programs run by their employers and any state government programs);
- number of employees involved;
- capacity of closing employers to redeploy their employees in other business operations; and
- capacity of the local labour market to absorb those workers in the absence of a pooled redeployment plan.

If all employers identified by the Authority are participating voluntarily, the FWC could determine the community of interest 'on the papers'. If some employers have not been included voluntarily, the FWC could seek submissions and/or hold hearings involving the Authority, affected businesses and individuals, and relevant unions to inform its determination. All closing and dependent employers identified for inclusion in the community of interest would have the opportunity to contest their inclusion through the

FWC, and the ability to contest their ongoing inclusion in certain circumstances, such as a material change in their operational or financial circumstances.

Once the FWC has formally determined the community of interest, participation in the plan is binding on closing and dependent employers included in the determination (obligations are set out below).

Under Option 3, the approach taken in identifying potential receiving employers to participate would operate in the same way as per **Section 3.4.2** under Option 2, with the Authority seeking voluntary expressions of interest, focusing on large businesses in the same geographic region in similar industries, or with similar employee skill sets, as the closing and dependent employers.

3.5.2 Obligations on participating closing and dependent employers

While pooled redeployment plans would be intended to operate on a voluntary basis to the fullest extent possible, this policy option would also include some enforceable obligations on closing and dependent employers participating in a community of interest. As under Option 2, participation by workers in pooled redeployment would remain voluntary.

Closing and dependent employers included in a community of interest would be required to offer relevant transition supports to their employees, including by offering employees the opportunity to participate in pooled redeployment and facilitate their taking up a role with a receiving employer. The specific obligations on closing and dependent employees would be to:

- cooperate with the Authority in the development of redeployment arrangements
- seek expressions of interest from employees to participate in the redeployment pool
- provide information to employees to assist them to make informed decisions in relation to the redeployment pool
- provide paid leave and/or flexible working arrangements to employees for the purpose of participating in training, receiving support and advice or seeking employment
- contribute towards the provision or cost of relevant training and advice
- permit employees to receive advice and support from an employee organisation that is entitled to represent the industrial interests of the relevant employees concerning training and employment, and
- take steps to redeploy employees in the pooled redeployment scheme to a receiving employer, including by providing all relevant information to the receiving employee

The level of support provided under these obligations would be subject to the reasonable operational requirements of businesses. For example, a closing employer would be required to provide employees with paid time off or flexible working arrangements to receive relevant training, but the level of support

provided (e.g. the number of hours provided for training) would be assessed on what is reasonable in that employers' circumstances, based on their operational requirements.

3.5.3 Monitoring and ensuring compliance with employer obligations

The Authority would have a function to facilitate and monitor employer compliance with their obligations under pooled redeployment plans. This would include providing information on how employers can meet their obligations.

While the Authority would prioritise working cooperatively with employers to facilitate compliance, the Authority, as well as relevant individuals and unions, would have standing to seek orders from the FWC in the event of a dispute over whether an employer is meeting its obligations. The legislative framework would include safeguards to ensure that such claims do not impose unjustifiable cost, complexity or delays for parties. The FWC also holds general powers to dismiss applications that are frivolous, vexatious or without merit.

Non-compliance with FWC orders would be a civil remedy provision, contravention of which would attract a civil penalty enforceable through the Federal Court of Australia.

3.5.4 Recognition of existing programs and supports

As noted in **Chapter 1**, several power stations with upcoming closure dates are already providing significant transition support programs for their employees. Actions taken by employers under these programs would likely meet many of their obligations outlined in **Section 3.5.2**.

As such, the legislative framework for Option 3 would enable these types of programs or agreements to be recognised in part or in full. This would include a requirement for the FWC to take account of supports that employers are already offering, when considering whether their obligations are being met. It would also allow the FWC to formalise the expectations of all parties, and recognise plans that already exist, by issuing:

- an order outlining the agreed supports to be offered by closing or dependent employers. This would allow all relevant unions and employers to come to a common understanding of what specific supports the employer will provide and provide a simple process to have this formalised through the FWC.
- a determination by exercising its conciliation and arbitration powers that clearly outlines how an employer may exercise reasonable efforts when agreement between unions and employers can't be reached.

3.6 Consideration of alternate policy parameters

In developing Options 2 and 3 for consideration, alternate policy parameters were also considered. In particular, a variation of Option 3 was explored under which the proposed legislative framework would also have included the potential for receiving employers to be compelled to participate in pooled

redeployment plans, in circumstances where there was insufficient voluntary participation from receiving employers to meet demand for new jobs from closing employer employees.

This option was not pursued for full consideration in this analysis, due to the level of additional regulatory burden it may have placed on receiving employers. Stakeholder consultations (discussed further in **Chapter 5**) also indicated that there is significant interest from potential receiving employers to participate voluntarily in initiatives like pooled redeployment schemes at the present time, due to skills and labour shortages.

Another option explored but not fully considered for this analysis was a variation of Option 2, in which the level of government incentives and/or payments are increased in order to achieve a higher estimated participation rate of employers and employees, commensurate with the participation rates achieved with a legislated framework under Option 3. This would incur significantly higher costs to government than the version of Option 2 considered in this analysis.

As noted at **Section 3.2** above, policy responses designed to assist more broadly with the skills and workforce challenges associated with the transition to net zero (beyond workers directly associated with fossil fuel electricity generation) are not within scope of this analysis.

4 Likely net benefit of policy options

This chapter outlines the benefits and costs for each of the three options proposed and estimates the net present value (NPV) for the two pooled redeployment plan options.

4.1 Summary

When unquantified impacts are taken into account, Option 3 is estimated as the most preferable option with the highest overall NPV, followed by Option 2 and then Option 1 (the status quo).

The unlegislated and legislated pooled redeployment plans have a range of impacts that could not be quantified. The unquantified impacts of the plan are largely benefits and affect almost all stakeholders. These unquantified impacts include:

- the benefit to closing power stations and dependent employers of greater certainty around their workforces in the lead-up to facility closures, and government assistance in finding job opportunities for their workers;
- the benefit to receiving employers of access to a pool of skilled workers;
- the social, health and welfare benefits for workers, families and communities of maintaining ongoing employment, including reduced labour market scarring over time; and
- the benefits to regions of maintaining their social cohesion, employment and identity.

The unquantified benefits of the plan are driven by the number of workers that are transferred by the plans.

The overall NPVs of both Option 2 and Option 3 are positive when unquantified impacts are taken into account. Option 3 is expected to have significantly greater unquantified benefits than Option 2, as more than two and a half times as many workers are successfully transferred under Option 3 than under Option 2.

The assumed participation, success and overall transfer rates are summarised in **Table 4.1** below. More detail around the unquantified and overall impacts of considered policy options is in **Section 4.8** and summarised in **Table 4.6** and **Table 4.8**.

TABLE 4.1 KEY ASSUMPTIONS AROUND PARTICIPATION IN PLANS

Rate	Description	Option 2: Pooled redeployment plan (unlegislated)	Option 3: Pooled redeployment plan (legislated)
Worker participation rate ⁵⁶	Percentage of total closing employer workforce that seek to participate in pooled redeployment	51%	60%
Participant success rate	Of those who participate, percentage of workers transferred to new job through plan	39%	85%
Overall worker transfer rate ⁵⁷	Of the total closing employer workforce, percentage transferred to new job through plan	20%	51%

Table 4.2 summarises the impacts which could be quantified in this analysis. The total quantified NPV over 11 years from 2024-25 to 2034-35 is estimated at -\$16.3 million for Option 2 and -\$33.1 million for Option 3, inclusive of regulatory costs. The overall quantified negative NPV of Option 3 is around twice as large as the overall quantified negative NPV of Option 2, but this is expected to be more than offset by the greater unquantified benefits of Option 3. Annualised, the NPV is -\$1.5 million per annum for Option 2 and -\$3.0 million per annum for Option 3. To estimate the impact on stakeholders, outcomes under Option 2 and Option 3 are quantified relative to the status quo (Option 1). As such, the NPV for Option 1 is not quantified. The overall quantified impact of the plans are driven by the cost for the government to administer the plan and the regulatory costs faced by businesses that participate.

Under both options, individuals are expected to experience a quantified net benefit due to the improved employment outcomes relative to the status quo. This effect is greater under Option 3 than under Option 2 driven by greater participation in the community of interest and higher rates of placement for directly affected workers. The flow-on effects of sustained employment for communities, including small businesses, have not been quantified in the analysis but are expected to deliver considerable benefits beyond those accruing to directly affected workers.

When only considering the quantified impacts, closing and receiving employers, and government are expected to experience a net cost from the proposal in each option, predominantly driven by the need to fund early retirement packages and other plan delivery costs. These costs are greater under Option 3 than under Option 2 due to the scale of the plan with higher participation and the compulsory element.⁵⁸

⁵⁶ Of the 40-49 per cent who do not participate, most will be in a position to retire when their facility closes and some will independently find alternative employment.

⁵⁷ This is the product of the worker participation rate and participant success rate. The higher overall worker transfer rate under Option 3 is driven by the higher participant success rate.

⁵⁸ If the successful transfer rate of Option 3 was to be achieved through an unlegislated plan, the cost to government and employers would be much greater than those estimated under Option 2.

TABLE 4.2 ESTIMATED QUANTIFIED NET PRESENT VALUE OF POLICY OPTIONS RELATIVE TO OPTION 1

	NET PRESENT VALUE
Option 2: Pooled redeployment plan (unlegislated)	-\$16.3 million
Closing and receiving employers	-\$3.6 million
<i>Of which: regulatory costs</i>	-\$3.6 million
Closing employer employees and receiving employer employees	+\$40.5 million
Government	-\$53.2 million
<i>Participant success rate (drives unquantified benefits)⁵⁹</i>	39%
Option 3: Pooled redeployment plan (legislated)	-\$33.1 million
Closing and receiving employers	-\$22.8 million
<i>Of which: regulatory costs</i>	-\$10.7 million
Closing employer employees and receiving employer employees	+\$119.4 million
Government	-\$129.7 million
<i>Participant success rate (drives unquantified benefits)</i>	85%

4.1.1 Quantifying regulatory costs

The quantified NPV for each option includes regulatory costs estimated consistent with the Office of Impact Analysis (OIA) regulatory burden measurement framework, defined as the costs imposed on businesses, community organisations, and individuals due to new policies or changes to existing policies.⁶⁰ Regulatory costs include the costs incurred by entities to demonstrate compliance with the policy ('administrative costs') and deliver outcomes sought by the policy ('substantive compliance costs'). Under Option 2 and Option 3, administrative compliance costs and substantive compliance costs for closing and receiving employers are quantified. The total annual regulatory burden for employers under Option 2 is \$0.5 million and the total annual regulatory burden for employers under Option 3 is \$1.5 million.⁶¹

Although the plan is voluntary under Option 2 and government would not compel businesses to participate, regulatory costs remain present due to the associated administrative costs. Activities included under the regulatory burden for closing and receiving employers in Option 2 include identifying and

⁵⁹ The participant success rate is an input into the model that illustrates the scale of the unquantified benefits under Option 2 and Option 3.

⁶⁰ Commonwealth Office of Impact Analysis, (Jul. 2023), [Regulatory Burden Measurement Framework](#)

⁶¹ Under Option 2 and Option 3 there are dozens of employers impacted every year. The annual regulatory burden for each individual closing and receiving employer is much lower than that stated here.

engaging interested employees, educating employees on the plan, engaging with government and the community of interest, and soliciting professional services, such as legal advice where required. Under Option 3, closing employers have higher regulatory costs while receiving employers have the same regulatory costs as under Option 2.⁶²

Employees who participate in the plan may experience a regulatory burden from their engagement under Options 2 and 3, but are excluded from the quantitative estimate. The regulatory cost for individuals is expected to be small and, compared to the status quo, employees would benefit from lower search costs associated with finding alternate employment due to the jobs and skills matching services being offered by government. This is assumed to offset the small regulatory burden equally.

4.2 Approach

Net benefits of the two options have been estimated using a combination of quantitative and qualitative analysis. The analytical framework selected is an abridged cost benefit analysis (CBA), a process used to systematically evaluate all impacts of a proposal on the community and economy, expressing the gains and losses in monetary terms to the extent possible.

The analysis uses an abridged CBA as the most appropriate way to consider the distribution of costs and benefits among stakeholders. Other alternative analytical frameworks were considered. In particular, the regulatory burden measurement framework, which restricts analysis to administrative and compliance costs for each stakeholder group, has not been used due to its exclusion of non-compliance and enforcement costs, which are integral to the findings of the analysis. An approach reliant on the regulatory burden measurement framework would significantly underestimate costs and benefits to stakeholders. As above, these factors explain important differences between Options 2 and 3.

The adopted approach differs from a CBA in that it limits quantification to the direct costs and benefits to each impacted stakeholder group, and does not always seek to monetise non-financial gains. The abridged approach has been selected due to the availability of data and relative size of the affected cohort to the size of the economy (less than 0.1 per cent of the labour force).⁶³ Despite the limited macroeconomic effects of the proposed policy, the potential impacts to local regions and communities surrounding power stations identified in **Chapter 1** would be notable. As such, indirect and distributional effects have been identified qualitatively and substantiated with available literature and evidence throughout **Chapter 4** to the extent possible.

For the purpose of this analysis, it is assumed that any pooled redeployment plan would operate from 2024-25 to at least 2034-35. This time period supports a robust policy assessment across a range of closure instances, including in different regions and with different employment figures. While a longer timeframe would capture additional closures, there is considerable uncertainty in determining employer

⁶² The regulatory costs for closing and receiving employers under Option 2 and for receiving employers under Option 3 are outweighed by their unquantified benefits. The overall impacts are net positive for them to voluntarily participate.

⁶³ Total employees for in-scope facilities (DCCEEW, FY21-22, [National Pollutant Inventory](#)), as a proportion of the Australian labour force as at June 2022 (Australian Bureau of Statistics, [Labour Force, Australia](#)).

and employee decision-making beyond 2034-35. A shorter time period would capture too few facility closures to reasonably estimate the impact of the proposal. This is particularly the case where the nature of employment in coal-related industries is likely to have changed by this time.

In the presentation of final results, a constant discount rate of seven per cent is assumed to estimate the NPV to each stakeholder group under each policy option, the standard rate used for all Australian Government CBAs.⁶⁴ Consideration of the sensitivity of results to the discount rate assumption and estimated impacts under a 4 per cent and 10 per cent assumption is considered in **Section 4.8.1**. In line with the proposed policy, pooled redeployment will be administered in the lead up to power station closures. Relevant costs and benefits relating to each instance of a closure are estimated, aggregated to reflect a total position across the time horizon.

Further detail on the assumptions underlying the analysis is included at **Appendix C**.

4.3 Stakeholders

Table 4.3 outlines the identified stakeholders likely to be impacted under the three options.

TABLE 4.3 STAKEHOLDER GROUPS

STAKEHOLDER	DESCRIPTION
Closing employers	Employers that own power stations and dependent employers (in particular, associated coal mines), including large businesses (power stations and coal mines) and some medium to large enterprises (other dependent employers). ⁶⁵
Receiving employers	Employers in the same or related industries in the area, including mining, manufacturing, construction, energy, and transport. Receiving employers are expected to be mostly medium to large enterprises.
Closing employer employees	Employees employed by closing employers at the time of closure that would be eligible for participating in a pooled redeployment plan.
Receiving employer employees	Employees employed by receiving employers at the time of closure that could be eligible for early retirement under a pooled redeployment plan.
Government	Commonwealth, state and territory, and local government entities.
Community	The population and stakeholders in the regional area of the closing employer, including small businesses.

The impact on employers and employees who do not directly interact with the plan have not been included in the analysis.

⁶⁴ Office for Impact Analysis, (Jul. 2023), [Cost Benefit Analysis guidance note](#)

⁶⁵ This category includes the kinds of dependent employers described at **Section 3.4.2**.

4.3.1 Closing employers

The analysis considers all coal-fired power stations expected to close by end-2035 and all gas-fired power stations with significant workforces closing by end-2035 to be potentially in-scope. Power stations with an expected closure outside of the specified time horizon are excluded from the analysis.

Under Options 2 and 3, the Authority CEO will assess whether a pooled redeployment plan is needed in response to an upcoming power station closure, informed by a number of relevant factors (as outlined in **Chapter 3** at **Sections 3.4.1** and **3.5.1**).⁶⁶ On this basis, the analysis makes the following additional assumptions about closing employers:

- State-owned coal-fired power stations in Queensland and Western Australia are assumed to be out-of-scope for the purpose of this analysis, as workers at these facilities are covered by significant transition support measures in place under current state government policy settings (as detailed in **Chapter 1**)
- Only one gas-fired power station (Torrens Island B) is assumed to be in-scope for the purpose of this analysis, as it is the only gas-fired power station with an announced closure by end-2035 that employs more than 25 workers.

A list of power stations included as in-scope for this analysis is at **Table 4.4**.

TABLE 4.4 POWER STATIONS IN-SCOPE FOR THIS ANALYSIS

FACILITY	REGION	EXPECTED CLOSURE YEAR
Eraring Power Station	Hunter Valley	August 2025
Torrens Island B	South Australia	2026
Yallourn Power Station	Latrobe Valley	2028
Bayswater Power Station	Hunter Valley	2033
Vales Point Power Station	Hunter Valley	2033
Gladstone Power Station	Gladstone	2035
Loy Yang Power Station A	Latrobe Valley	2035

Source: Australian Energy Market Operator (13 July 2023), [Generation information](#).

It is expected that some thermal coal mines may close as coal-fired power generation winds down in Australia. While many of Australia's thermal coal mines will continue to operate and sell to international markets, some are more limited in terms of export infrastructure and export viability. Coal mine closures will be dependent on market conditions and individual business decision-making.

⁶⁶ As noted in **Chapter 3**, the factors that the Authority would have regard to when considering whether to establish a pooled redeployment scheme are: the existing supports that are available to assist employees to find other employment (including through programs run by their employers and any state government programs); the number of employees involved; the capacity of closing employers to redeploy their employees in other business operations, and the capacity of the local labour market to absorb those workers in the absence of a pooled redeployment plan. Under Option 3, the FWC would also have regard to these factors when considering whether to formally include a closing or dependent employer in a community of interest determination.

At the time of this Impact Analysis, there is limited indication as to which captured coal mines may close as a result of coal-fired power station closures (noting that coal mines are not required to report any intended closure date). For the purpose of this analysis, it is assumed four coal mines directly supplying to these coal-fired power stations close when the associated power station closes. Employees at these coal mines would be eligible to participate in the plan.

Power stations also have a number of additional dependent employers related to their operations, as noted at **Section 3.4.2**. Our analysis assumes that, on average, each power station will have one dependent supplier captured by the unlegislated plan and three dependent suppliers in the legislated plan.⁶⁷

4.3.2 Receiving employers

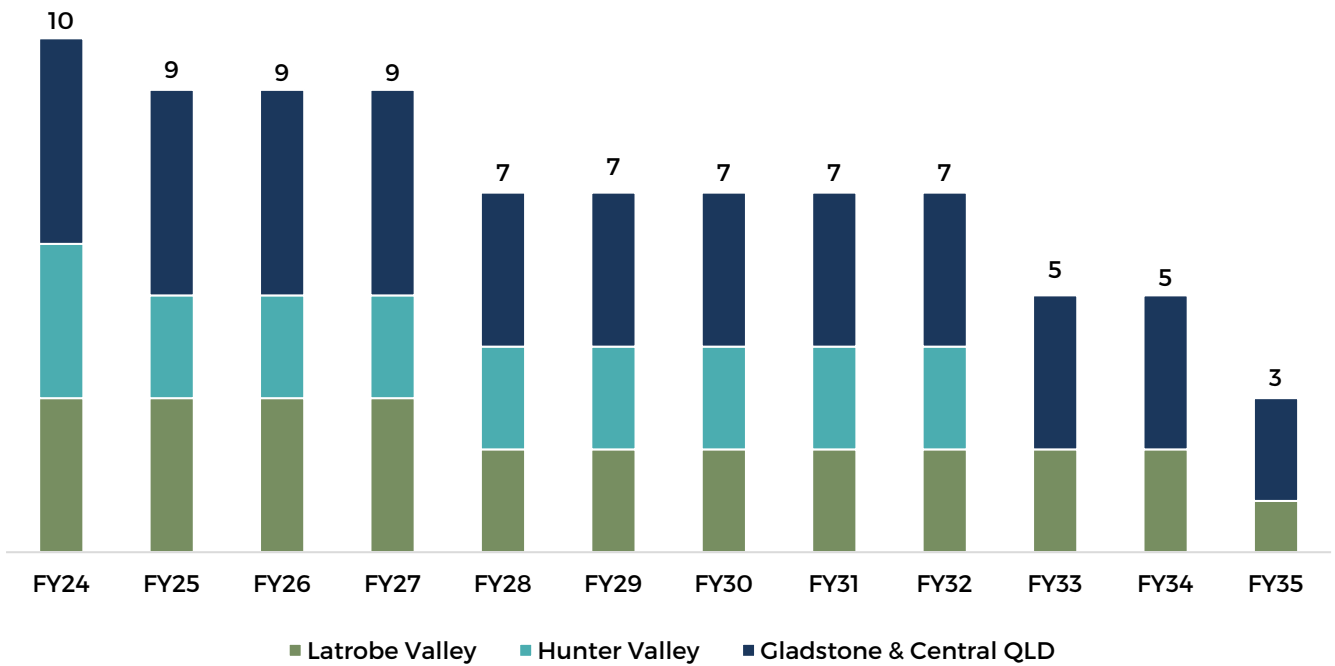
The proposed policy indicates that the Authority would prioritise identifying possible receiving employers from the same industry or employers in 'like' industries in the same geographic region. The analysis estimates the potential pool of receiving employers to identify the potential community of interest, and by result, potential destinations for closing employee workers seeking alternate employment. The following factors are considered:

- For coal-fired power stations and coal mines (coal sector) workers, employee decision-making is likely to balance higher coal-related incomes and their existing skills with longer-term considerations around prospects within the coal industry, particularly in the later years of the analysis where the number of coal-fired power stations decreases. This effect is weaker for gas-fired power stations as they, on average, earn lower wages than coal sector workers.⁶⁸
- Geography will have some implications on redeployment options within the same industry. The number of coal-fired power stations and coal mines vary considerably across Latrobe Valley, Gladstone and Central Queensland, and Hunter Valley, and these will change over time. For example, by 2035, there will no longer be operational coal-fired power stations in the Hunter Valley and just one in the Latrobe Valley (see **Figure 4.1**).

⁶⁷ It is assumed that each power station will participate in the plan under Option 2 and Option 3. There is a risk that some coal power stations do not participate under Option 2's unlegislated plan. If this risk eventuated, the overall benefit of Option 2 would be lower than estimated.

⁶⁸ Australian Bureau of Statistics, average weekly earnings, November 2023.

FIGURE 4.1 COAL-FIRED POWER STATION FACILITIES BY REGION TO 2035



Source: Australian Energy Market Operator (13 July 2023), [Generation information](#).

Analysis of these drivers indicates that, over time, it is reasonable to assume a relatively equal balance of redeployment in coal-related jobs and alternative industries for coal sector workers.

Additional information on community of interest assumptions relating to each policy option is provided in **Section 4.5**, **Section 4.6** and **Section 6.1**.

4.3.3 Government

Impacts for Government include impacts to Commonwealth, state and territory, and local government entities. As of March 2024, decisions around the source of expenditure to subsidise government payments to assist receiving employers create vacancies (the largest component of government impacts) in the plan have not been finalised. This decision will affect how Government impacts will be distributed across levels of government. For example, under a model where costs are equally shared between the Commonwealth and State levels of Government, overall government impacts would be almost equally spread across Commonwealth and State governments.

4.3.4 Out-of-scope stakeholders

Impacts on out-of-scope employers and employees are not included in the analysis as the net impact on these stakeholders are expected to be minor. Stakeholders outside of the scope of the analysis and the anticipated impact on them, under Option 2 or Option 3 compared to the status quo, are considered below:

- Employers in affected regions that are not closing employers or receiving employers: are likely to benefit from greater certainty around workforce and lower search costs.

- Employees in affected regions that do not work for closing employers or receiving employers: are likely to benefit from greater economic prospects and social cohesion within the region.
- Existing and prospective workers: may experience a minor cost if recipient employer employees who participate in the plan seek another job (rather than retiring) and compete with this cohort.

If the gender composition of those employees who participate in the plan is different to those above, the plan may have gender impacts within the affected regions.

4.4 Option 1: status quo

Under the status quo, the closing employer, Australian Government and state governments offer supports in line with existing approaches, as discussed in **Section 1.3**, without a pooled redeployment plan.⁶⁹ Outcomes under the status quo are estimated to give a baseline that can be compared against outcomes under other options.

4.4.1 Stakeholder outcomes under the status quo

To quantify the costs and benefits under Options 2 and 3, the potential outcomes for each stakeholder group under the status quo must be established. Past experiences indicate fragmented stakeholder outcomes, linked closely to national and local economic and labour market conditions at the time of the closure.⁷⁰ Assumptions under the status quo are informed by the range of past experiences to the extent possible.

Under the status quo option, **closing employers** would lay-off their workforces at the time of facility closure (noting some may be retained for a fixed period to support decommissioning and site remediation activities). All leave and genuine redundancy entitlements would be paid in line with the relevant industrial instrument. The closing employer would likely allocate funding to provide some worker transition support services. As discussed in **Chapter 1**, some employers have already announced extensive transition programs, such as Energy Australia and AGL. The analysis assumes closing employers provide transition support under all three options, but these are unlikely to include formal redeployment plans.

Direct effects for **receiving employers** are likely to be minimal under the status quo. The receiving employer would benefit from the increase in local labour supply at the time of closure, making it easier to fill vacancies. For simplification, the analysis assumes existing vacancies at receiving employers are filled by employees from closing employers in the community of interest equally under all three options.

Closing employer employees would be made redundant at the time of closure, noting a small cohort may be retained for a fixed period to support decommissioning and site remediation activities. It is assumed, for the purpose of this analysis, that all workers end their employment with the power station,

⁶⁹ The impact of supports in **Section 1.3** have not been assessed in this analysis as they are assumed to be present and have a net zero impact on the relevant stakeholders i.e. government supports are assumed to have the same impact under the status quo, unlegislated plan and legislated plan.

⁷⁰ Burke et al, (2019), [Closures of coal-fired power stations in Australia: local unemployment effects](#)

coal mine or dependent supplier at the time of closure. Employees would need to invest the time, energy, and resources associated with finding alternative employment ('search costs'). Accrued leave and redundancy entitlements would be paid out to employees in line with enterprise agreements (or other applicable industrial instrument).

Employment outcomes for these employees include securing alternative employment, becoming unemployed, or exiting the labour force, including to retire. Employees that do not secure alternative employment, or exit the labour force, would lose their income at the time of closure. The analysis considers past experiences in power stations, coal mines, and comparable industries to identify the expected impacts to stakeholders in the absence of a redeployment plan.

The Port Augusta case study in **Box 4.1** suggests the unemployed cohort one year after a facility closure could be as large as one third of affected employees. Further evidence can be gleaned from the manufacturing industry. Between 2016 and 2017, three multinational car manufacturers (Ford, Toyota, and Holden) closed operations in Australia resulting in an estimated loss of 4,305 jobs.⁷¹ Out of this affected cohort in the automotive industry, 45 per cent were unemployed three months after closure and 16 per cent were unemployed after a year.

BOX 4.1 NORTHERN COAL-FIRED POWER STATION AND LEIGH CREEK MINE CLOSURE

The Northern Power Station and associated Leigh Creek Coal Mine in Port Augusta, South Australia, operated and maintained by Alinta Energy, closed in 2016 and 2015, respectively. Approximately 440 ongoing employees were employed at these facilities at the time.⁷² An estimated one third of these employees secured new jobs in the area, one third left the workforce, and the residual relocated to look for employment.⁷³

The employer, with support from the Australian Government, and Government of South Australia provided some transition support. Alinta funded a \$3.5 million package of support services, including retraining and reskilling assistance, financial advisory services, career counselling, and wellbeing support.⁷⁴ The state government provided career and job services, established a regional grant program for local businesses to stimulate job creation, and employed some affected employees in the state public service.

A longitudinal survey of employees following the closure of the Mitsubishi plant in Tonsley, South Australia in 2008 found one third of the affected workforce were unemployed or underemployed after three years.⁷⁵

⁷¹ DEWR, (May 2020), [The Transition of the Australian Car Manufacturing Sector](#)

⁷² Government of South Australia, (Nov. 2016), [Submission to the Federal Senate Inquiry into the Retirement of Coal Fired Power Stations \(Attachment 3\)](#)

⁷³ Environment Victoria, (Oct. 2021), [Submission to the Victorian Parliamentary Inquiry into the Closure of the Hazelwood and Yallourn Power Stations](#)

⁷⁴ Alinta Energy, (Nov. 2016), [Submission to the Federal Senate Inquiry into the Retirement of Coal Fired Power Stations](#)

⁷⁵ Browne-Yung et al., (Jun. 2019), [General Motor Holden's closure in Playford, South Australia: Analysis of the policy response and its implications for health](#)

As established in **Chapter 1**, closing employer employees that experience long-term unemployment could lead to worse economic and social outcomes, including lower quality of life, financial hardship, and poor physical and mental health.

Under the status quo, closing employer employees would likely suffer a significant reduction in earnings. e61 Institute estimates this could be as large as 69 per cent in the year after the closure, much greater than other industries.⁷⁶ The older age profile, high prevalence of job-specific roles that are difficult to translate to new industries, and high incomes relative to skill level engendered by strong collective bargaining in coal industries will likely make it difficult for employees to maintain their current income if redeploying to a new industry. The fall in earnings is taken as a given in the analysis as Options 2 and 3 are measured relative to the status quo. As indicated in **Section 4.3**, of the employees that secure alternative employment, the analysis assumes across all three options that around half move within the same industry (earnings are maintained) and half relocate to a similar industry (earnings fall).

Receiving employer employees are not expected to be materially affected by the closure of a power station under the status quo.

Under the status quo option, there would be increased participation in **Australian Government programs** that support workers facing retrenchment (outlined in **Chapter 1**). The **state governments** would likely provide some worker transition support services as outlined in **Chapter 1**. The analysis assumes the state government provides transition support under all three options. **All levels of government** would likely experience public scrutiny, with some criticism for not securing alternative employment for affected employees.

While workers in power stations and local suppliers have skills that are transferable, new jobs are not always present or accessible in the same location without government support. Under the status quo, the broader **community** would experience flow on effects from an abrupt increase in local unemployment, including direct job losses, reduced demand for local goods and services, loss of human capital from emigration and increased social disadvantage. Government intervention that helps to maintain employment for affected employees will ease these impacts on the broader community. It is likely that further social impacts from closures of power stations will arise, including potential loss of community identity and social cohesion.⁷⁷ Without government support, facility closures can lead to generational unemployment in regional communities.

4.5 Option 2: unlegislated pooled redeployment arrangements

4.5.1 Summary

The unlegislated pooled redeployment plan has a range of quantified and unquantified impacts. Several benefits of the plan have not been quantified in the analysis. The total quantified NPV of Option 2, the

⁷⁶ e61, (Oct. 2023), [At the coalface: what happens to workers displaced by decarbonisation?](#)

⁷⁷ Burke, P et al., (Jan. 2019), [Closures of coal-fired power stations in Australia: local unemployment effects](#)

unlegislated plan, is -\$16.3 million, including regulatory costs. The distribution of the quantified net cost, across closing and receiving employers, employees, and government is summarised in **Table 4.5**.

While indirect effects have been identified and acknowledged through this section, they are not quantified within this option. In particular, the additional benefits to communities of sustained employment and demand for goods and services are not quantified here. The potential indirect effects are identified and described qualitatively within this chapter.

As discussed in **Section 4.1**, the plan is voluntary under Option 2 and the Australian Government would not compel businesses to participate. Regulatory costs, in this instance, refer to the administrative costs for closing and receiving employers associated with participating in the plan (e.g. time taken to identify employees, educate on the plan, work with government and other parties).

TABLE 4.5 ESTIMATED QUANTIFIED NET PRESENT VALUE OF OPTION 2 INCLUDING REGULATORY COSTS RELATIVE TO OPTION 1

STAKEHOLDER	NET PRESENT VALUE
Receiving and closing employers	-\$3.6 million
<i>Of which: regulatory costs</i>	-\$3.6 million
Closing and receiving employer employees	+\$40.5 million
Government	-\$53.2 million
Total	-\$16.3 million
<i>Participant success rate (drives unquantified benefits)</i>	39%

The overall quantified impact of the unlegislated plan is driven by government costs to administer the plan and regulatory impacts to receiving and closing employers.

The positive quantified NPV for employees is driven by better outcomes for closing and receiving employer employees under the plan relative to the status quo. A greater number of closing employer employees secure alternate ongoing employment through the plan, reducing unemployment. Receiving employers are better off from taking up early retirement packages and experiencing greater leisure time from early retirement, more than offsetting the cost of forgone income from retiring early.⁷⁸ The benefit to closing and receiving employer employees is largely driven by the positive net present value associated with receiving employer employees (+\$30.3 million), with the remainder net present value being associated with closing employer employees maintaining employment (+\$10.3 million).

The negative quantified NPV for employers is explained by the regulatory costs associated with delivering and participating in the plan. The negative quantified NPV for government is explained by

⁷⁸ This Impact Analysis assumes single year effects, which have implications for benefits to workers. For example, the benefits associated with improved employment outcomes for closing employer employees are only captured for one year. On the other hand, the value of retirement package and leisure time relative to foregone earnings is currently only captured within the year. This approach has been taken to simplify modelling. Under an alternate assumption that examines effects over a longer period, the magnitude of impacts would increase, but dynamics between workers, businesses and government would be expected to remain consistent with the presented analysis.

costs associated with funding early retirement payments and administering the plan. Regulatory costs are greater for receiving employers than closing employers due to the greater need for receiving employers to engage with government to administer early retirement payments and additional legal advice required to participate in the plan. While there are a number of benefits to employers, none of the benefits are able to be quantified in the analysis. These are discussed further at **Section 4.8**.

As quantified benefits to employees do not offset the quantified costs to employers and government, the total quantified NPV for all stakeholders under Option 2 is negative. Notably, early retirement packages do not contribute to the negative NPV overall as the packages are a direct transfer from government and employers to receiving employer employees. As such, the negative quantified NPV is entirely explained by the regulatory and administrative costs to employers and government that do not exist under the status quo (Option 1).

4.5.2 Unlegislated redeployment plan case studies

The analysis outlines various approaches to unlegislated pooled redeployment and redundancy plans. In 2012, Swanbank B coal-fired power station in Ipswich, Queensland, owned by the state government-owned enterprise, CS Energy, closed. Two years prior to closure, all power station employees were guaranteed new jobs across CS Energy, including in an associated gas-fired power station (Swanbank E).⁷⁹

Following the stand down of the Attack Class Submarines program by Naval Group Australia, around 350 employees were due to be laid off. To redeploy these skilled employees, a Sovereign shipbuilding talent pool was created in 2021. Employees were job-matched to roles in similar projects, including upgrading Collins-class submarines, or placed in roles with overseas shipbuilders or governments.⁸⁰

The closure of the Hazelwood coal-fired power station in Latrobe Valley, Victoria in 2017 is the most relevant and recent case study of an unlegislated pooled redeployment plan, providing useful evidence to inform analysis assumptions (see **Box 4.2**). The type of support that was provided by the Victorian Government's redeployment scheme is the most similar to the support provided under the unlegislated and legislated redeployment plan.

BOX 4.2 HAZELWOOD COAL-FIRED POWER STATION WORKER TRANSFER SCHEME

Hazelwood's Worker Transfer Scheme facilitated the redeployment of skilled Hazelwood employees to other coal-fired power stations in the Latrobe Valley. The Government of Victoria negotiated an agreement between Hazelwood power station (owned by Engie and Mitsui & Co) and the coal-fired power stations at Yallourn (EnergyAustralia), Loy Yang A (AGL), and Loy Yang B (Engie), with input from relevant regional unions. The Victorian Government provided \$22 million under the scheme to affected employees and businesses with the

⁷⁹ CS Energy, (Mar. 2010), [Future of Swanbank B Power Station announced](#)

⁸⁰ Shepherd, T, (Nov. 2021), [Australia promises jobs to workers stranded by scrapping of French submarine deal](#)

objective of subsidizing 150 early retirement packages at receiving employers to create vacancies for employees from Hazelwood power stations.

Under the scheme, 230 employees at the receiving power stations expressed an interest in taking up an early retirement package. The receiving employers approved 90 of these requests, creating 90 vacancies for incoming Hazelwood employees.⁸¹

4.5.3 Stakeholder outcomes under an unlegislated pooled redeployment plan

The administration of an unlegislated pooled redeployment plan would impact each identified stakeholder group differently. This section identifies costs and benefits under Option 2 relative to the status quo. It does not explicitly capture outcomes assumed to occur equally under all policy options, for example, closing employers paying redundancy entitlements to all employees.

Under Option 2, **closing employers** would work with government and receiving employers to identify employees that want to participate in the plan and help them secure redeployment to another job. They would benefit from greater certainty around workforce retention in the lead-up to a facility closure, coordinating mutually beneficial start dates with receiving employers.

However, closing employers would incur administrative costs associated with delivering the plan (included under regulatory costs), including educating employees on the plan, running processes to determine interest, engaging with government and receiving employers, record keeping and information and data sharing. Closing employers may also need to seek legal advice on plan participation or entering into an agreement with government, such as a Memorandum of Understanding that set out expectations for their participation. As such, some closing employers are assumed to incur legal costs and other costs associated with drafting, negotiating, and complying with these agreements with government.

Under Option 2, **receiving employers** would voluntarily participate in a pooled redeployment plan. Receiving employers could use the pool to fill vacancies, saving on advertising and recruitment costs. While new, younger employees could generate long-term productivity benefits, receiving employers may perceive some risks associated with the retirement of experienced staff in order to create additional vacancies. Some social licence benefit would also be expected for receiving employers who job opportunities for closing employer employees.

Receiving employers would incur onboarding costs and need to provide some on-the-job training to new employees. Further, receiving employers would incur administrative costs to participate in the plan (included under regulatory burden), such as administering an early retirement processes. Regulatory costs include the need for some employers to seek legal advice on plan participation or entering into an agreement with government.

⁸¹ Government of Victoria, (Jun. 2022), [Inquiry into the closure of the Hazelwood and Yallourn power stations](#)

Under an unlegislated redeployment plan, more **closing employer employees** would secure alternate ongoing employment and associated income compared to the status quo, leading to improved economic and social outcomes. These improved outcomes include unquantified long term benefits from reduced labour market scarring and fewer workers moving on to long term unemployment benefits. While employees would benefit from lower search costs associated with finding alternate employment, these are assumed equivalent to the time taken to engage meaningfully with the plan and consider opportunities for redeployment.

Under the pooled redeployment plan, **receiving employer employees** wanting to participate in the plan through early retirement arrangements will need to express interest, engage with and understand the plan. Those that access the early retirement package would receive a one-off early retirement payment, funded by the receiving employer and the government, which would otherwise be unavailable to them.

The net benefit to receiving employer employees is closely linked to assumptions on what these employees would have done in absence of the plan. The analysis could assume employees that opt for early retirement under the plan would have retired at the same time under the status quo, so the net benefit of the plan for these stakeholders would be equal to the early retirement package. However, if the analysis assumed the offer of an early retirement package incentivises employees to change their behaviour and bring forward their retirement, then the net benefit of the plan must also consider the forgone income from earlier-than-expected retirement and the value of an individual's leisure time that otherwise would have been spent working⁸². The analysis seeks to balance these propositions by assuming some receiving employer employees bring forward their retirement.

Relative to the status quo, social security expenditure for the **Australian Government** would be lower under Option 2 as receipt of income supports payments (e.g. JobSeeker) and participation in associated services (e.g. Workforce Australia) is lower. Relative to the status quo, income tax revenue collected from in-scope individuals would decrease as the income (and associated tax revenue) of receiving employer workers who find other jobs is not included in the scope of the analysis, and this impact outweighs the increase in tax revenue from closing employer employees who maintain employment⁸³. Under a successfully administered plan, **all levels of government** would likely experience positive reputational benefits, particularly the Australian Government for funding and administering the plan. These reputational benefits would stem from providing better support for worker transition and more consistency with Australia's global commitments to a 'just transition' under the Paris Agreement.

The Authority's resourcing and administered expenditure for the Australian Government would be higher relative to the status quo. Increased resourcing would support the development, implementation, administration and stakeholder engagement associated with the pooled redeployment plan. Administered expenditure would be higher to subsidise early retirement packages, albeit somewhat

⁸² For receiving employer employees who participate in the plan and retire, leisure time is assumed to be valued at \$36 per hour. The value of leisure time for the retiring cohort is compared to the income that the cohort otherwise would have earned if they continued working.

⁸³ The company tax revenue paid by closing employers and receiving employers is not expected to be impacted by the unlegislated plan.

offset by lower welfare expenditure as receipt of income supports payments and participation in associated services would be lower.

Communities would experience benefits under Option 2. Local employment would be higher relative to the status quo, helping to sustain economic and social conditions within the community and surrounding region. As more affected employees retain ongoing employment and associated income, small businesses would benefit from higher consumption relative to the status quo. Less emigration from the region and likely less loss of community identity are also expected, helping to maintain regional prosperity and social cohesion. Communities would also experience social benefits as fewer workers move on to long term unemployment benefits and there are reduced labour market scarring impacts.

The costs and benefits to each stakeholder under an unlegislated redeployment plan are summarised in **Table 4.6**. To the extent possible, direct effects have been quantified in the analysis; costs and benefits that are unquantified are described qualitatively as per OIA guidance.⁸⁴ Since there are more unquantified benefits than unquantified costs, it is likely that if these unquantified impacts were quantified the net present value of the plan would be higher.

TABLE 4.6 COSTS AND BENEFITS OF OPTION 2 RELATIVE TO STATUS QUO

STAKEHOLDER	IMPACT	DESCRIPTION	QUANTIFIED	UNQUANTIFIED
Closing employers	Costs	Administrative costs of participating in the plan.	<input checked="" type="checkbox"/>	
	Benefits	Greater certainty around workforce retention in the lead-up to facility closure.		<input checked="" type="checkbox"/>
Receiving employers	Costs	On-the-job training to address any skills gaps between incoming workers and vacancies.		<input checked="" type="checkbox"/>
		Administrative costs of participating in the plan.	<input checked="" type="checkbox"/>	
	Benefits	Lower search costs to fill vacancies.		<input checked="" type="checkbox"/>
Closing employer employees	Costs	Employees that would have experienced long-term unemployment under status quo forfeit associated income support payments.	<input checked="" type="checkbox"/>	
	Benefits	More affected employees secure alternate employment than the status quo, maintaining ongoing income.	<input checked="" type="checkbox"/>	
		Ongoing employment for closing employer employees that participate in the plan will maintain current health, welfare, and social outcomes.		<input checked="" type="checkbox"/>

⁸⁴ Commonwealth Office of Impact Analysis, (Jul. 2023), [Cost Benefit Analysis](#)

STAKEHOLDER	IMPACT	DESCRIPTION	QUANTIFIED	UNQUANTIFIED
		Benefit of on-the-job training to address any skills gaps between incoming workers and vacancies.	<input checked="" type="checkbox"/>	
Receiving employer employees	Costs	Employees that take up early retirement forgo salary (and superannuation contributions) they would have otherwise received, depending on retirement assumptions.	<input checked="" type="checkbox"/>	
	Benefits	Employees that take up early retirement receive a one-off tax-favourable payment that would otherwise unavailable to them.	<input checked="" type="checkbox"/>	
Government	Costs	Greater expenditure to subsidise early retirements.	<input checked="" type="checkbox"/>	
		Costs to develop, administer, communicate, and monitor the plan.	<input checked="" type="checkbox"/>	
		Less tax revenue from receiving employer workers who participate in a pooled redeployment plan and exit the labour force	<input checked="" type="checkbox"/>	
	Benefits	Lower welfare expenditure due to less unemployed workers.	<input checked="" type="checkbox"/>	
		More tax revenue from closing employer workers who maintain employment	<input checked="" type="checkbox"/>	
		Positive reputational benefits if plan is successful.		<input checked="" type="checkbox"/>
Community	Costs	No costs under this option relative to the status quo.		
	Benefits	Regional economic prospects improve as more employees secure alternate employment, increasing household income and consumption. Reduced labour market scarring also have long term regional benefits.		<input checked="" type="checkbox"/>
		Social cohesion is supported by lower unemployment, emigration and loss of community identity.		<input checked="" type="checkbox"/>

4.6 Option 3: legislated pooled redeployment arrangements

4.6.1 Summary

Similar to Option 2, the legislated pooled redeployment plan has unquantified and quantified impacts. The overall quantified impact of the unlegislated plan is driven by government costs to administer the

plan and regulatory impacts to businesses. Several benefits of the plan have not been quantified in the analysis.

The total quantified NPV of Option 3, the pooled redeployment plan underpinned by a legislative framework, is -\$33.1 million, including regulatory costs. The distribution of the net cost, across closing and receiving employers, employees, and government is summarised in **Table 4.7**.

In comparison to Option 2, the analysis assumes greater participation by receiving employers under a legislated model. Greater receiving employer participation would create more job vacancies, resulting in more employment opportunities for closing employer employees and enhancing the benefits for employees identified under Option 2. The flow-on effects for communities have not been quantified but are expected to deliver notable unquantified benefits. The presence of legislated obligations and enforcement processes for closing employers in the legislated model drives higher employer and employee participation, which lead to higher government administration costs and regulatory costs for closing employers when compared to costs under Option 2. As with Option 2, the quantifiable benefit to closing and receiving employer employees is largely driven by the benefits to receiving employer employees.

The regulatory burden under Option 2 is \$10.7 million, split between closing and receiving employers. As discussed in **Section 4.1**, regulatory costs, in this instance, refer to the administrative costs for closing and receiving employers associated with participating in the plan and are greater for receiving employers than closing employers. The total regulatory burden is greater under Option 3 relative to Option 2 as more employers are assumed to participate in the plan and there are additional compulsory obligations associated with closing employer participation.

TABLE 4.7 ESTIMATED QUANTIFIED NET PRESENT VALUE OF OPTION 3 INCLUDING REGULATORY COSTS RELATIVE TO OPTION 1

STAKEHOLDER	NET PRESENT VALUE
Closing and receiving employers	-\$22.8 million
<i>Of which: regulatory costs</i>	-\$10.7 million
Closing and receiving employer employees	+\$119.4 million
Government	-\$129.7 million
Total	-\$33.1 million
<i>Participant success rate (drives unquantified benefits)</i>	85%

Closing employers would also experience costs associated with contributing to the cost of on-the-job re-training and providing additional leave for staff to attend this training.

4.6.2 International experience

International experience provides useful examples of insufficient and best practice policy interventions.

In the United States, the lack of success in Appalachian structural adjustment policies following the decline of coal mining in the 1990s has been attributed to inadequate planning, funding, and coordination by government.⁸⁵ In the United Kingdom, coal mining declined significantly in the 1980s, precipitating long-term, pervasive unemployment in coal-reliant regions, which has been attributed in part to a series of unsuccessful economic diversification policies.⁸⁶

On the other hand, Germany's deliberate, systematic down scale of its substantive coal industry over 60 years provides useful experience relevant to a legislated pooled redeployment plan (see **Box 4.3**).

BOX 4.3 GERMANY'S COAL INDUSTRY TRANSITION

In the 1960s, the Federal Republic of Germany scaled down coal production, a major source of economic activity and employment, as the influx of cheaper foreign coal and oil made expensive domestic production less competitive. At its peak in 1957, the industry employed more than 607,000 employees, roughly 3 per cent of all employees.⁸⁷ As of 2018, the industry employed around 4,000 employees, less than 0.01 per cent of employees.⁸⁸ During the transition, Germany introduced legislation that sought to minimise the risk of economic, social, and environmental fallout from the production decline.

In 2007, the German Government committed to closing the last eight thermal coal mines and phasing out all subsidies for the coal industry by 2018. For employees who wanted to retire, the German Government subsidised early retirement packages for up to five years, offering a fixed contribution of €5,160 euros (approximately AUD\$8,250)⁸⁹ per annum to each package.⁹⁰ The closing employer contributed any residual amount required to make the total package equal to 60 per cent of the worker's salary at the time of closure.

For employees who wanted to continue working, the government supported redeployment of over 10,600 employees from closing mines to active mines between 2008 and 2018.⁹¹ Eighteen months in advance of the last coal mine closure in 2018, alternate employment had been secured for a majority of the workforce.⁹²

4.6.3 Stakeholder outcomes under a legislated plan

The outcomes of a legislated pooled redeployment plan for each stakeholder group are mostly consistent with an unlegislated model. This section sets out any deviations of outcomes under Option 3 from Option 2.

⁸⁵ Industrial Relations Research Centre University of New South Wales, (Oct. 2018), [The Ruhr or Appalachia? Deciding the future of Australia's coal power workers and communities](#)

⁸⁶ Industrial Relations Research Centre University of New South Wales, (Oct. 2018), [The Ruhr or Appalachia? Deciding the future of Australia's coal power workers and communities](#)

⁸⁷ Coal Industry Statistics, (Jan. 2019), [Total employees by district](#); ifo Institute for Economic Research, (May. 1997), [Labour Market Studies](#)

⁸⁸ Coal Industry Statistics, (Jan. 2019), [Total employees by district](#); German Federal Statistical Office, (Jan. 2019), [2018: continued increase in employment](#)

⁸⁹ Assuming an exchange rate of 1 EUR to 1.60 AUD.

⁹⁰ Resources for the Future and the Environment Defense Fund, (Nov. 2021), [German Just Transition: A Review of Public Policies to Assist German Coal Communities in Transition](#)

⁹¹ Industrial Relations Research Centre University of New South Wales, (Oct. 2018), [The Ruhr or Appalachia? Deciding the future of Australia's coal power workers and communities](#)

⁹² Construction, Forestry, Mining & Energy Union, (Nov. 2016), [Submission to the Commonwealth Senate Inquiry on the Retirement of coal power stations \(18.1 Supplementary to submission 18\)](#)

A legislated plan would empower the FWC to make legal determinations in limited circumstances to compel **closing employers** to participate in the community of interest, and would require participating closing employers to meet legislated obligations to support their employees. This includes closing employers facilitating re-training of their staff, including contributing to the cost of re-training and providing additional leave for relevant staff. As this would lead to closing employer employees being better trained under the legislated scheme, more **receiving employers** would participate in a community of interest. They would also participate more meaningfully, leading to an increased number of early retirements, and more vacancies for incoming closing employer employees. Due to higher participation, expenditure by Government on early retirement packages would increase.

Likewise the cost of subsidising early retirement packages would increase for **government**. In addition, the costs to the Australian Government of administering and enforcing a legislated plan would increase. Notably, under the legislated redeployment plan, the FWC would have departmental and administrative costs under Option 3 not present under Option 2. These additional costs are included in the impact of the legislated redeployment plan on government. As with the unlegislated plan, overall tax revenue would decrease as the cost of less income tax revenue from receiving employer workers outweighs the tax revenue benefit from closing employer workers who maintain employment.

Under a legislated redeployment plan, more **closing employer employees** would secure alternate ongoing employment, with receiving employers, leading to improved economic and social outcomes. Closing employer employees would also benefit from re-training support. More early retirement packages would be offered to **receiving employer employees** to create job vacancies for closing employer employees. In the analysis, this is the predominant factor driving the greater positive net benefit for closing and receiving employer employees compared to Option 2.

The higher success rate and improved employment outcomes for affected employees would generate further indirect benefits for small businesses and the **community** in the region.

Regulatory costs for closing and receiving employers

Regulatory costs would increase for **closing employers** under a legislated plan due to higher participation by employees and legislated obligations for their participation in pooled redeployment plans. The costs associated with seeking legal advice would be higher under Option 3 relative to Option 2. The regulatory costs for **receiving employers** would be the same as under Option 2.

Closing employers would need to allocate more time and resources to comply with their legislative obligations relative to Option 1 and Option 2. For a small cohort of employers, failure (or perceived failure) to comply with the expectations of the plan could lead to proceedings at the FWC, adding further regulatory and administrative costs. The increase in regulatory costs for closing employers underpins the negative net benefit for businesses under Option 3.

The costs and benefits accruing to each stakeholder group, in addition to Option 2, are outlined in **Table 4.8**. Similar to Option 2, since there are more unquantified benefits than unquantified costs, it is likely that if unquantified impacts were quantified the net present value of the plan would be higher.

TABLE 4.8 COSTS AND BENEFITS OF OPTION 3 IN ADDITION TO OPTION 2⁹³

STAKEHOLDER	IMPACT	DESCRIPTION	QUANTIFIED	UNQUANTIFIED
Closing employers	Costs	Greater administrative costs of participating in the plan due to higher participation.	<input checked="" type="checkbox"/>	
		Cost of facilitating on-the-job training to address any skills gaps between incoming workers and vacancies.	<input checked="" type="checkbox"/>	
		Noncompliant receiving employers would need to finance the administrative, legal, and reputational costs associated with noncompliance.		<input checked="" type="checkbox"/>
	Benefits	No additional benefits relative to Option 2.		
Receiving employers	Costs	Greater regulatory costs due to higher participation.	<input checked="" type="checkbox"/>	
		No longer need to fund on-the-job training to address any skills gaps between incoming workers and vacancies. No additional costs relative to Option 2.		<input checked="" type="checkbox"/>
	Benefits	No additional benefits relative to Option 2.		
Closing employer employees	Costs	No additional costs relative to Option 2.		
	Benefits	More affected employees secure alternate employment than Option 2, maintaining an ongoing income.	<input checked="" type="checkbox"/>	
		More indirect benefits from ongoing employment relative to Option 2.		<input checked="" type="checkbox"/>
Receiving employer employees	Costs	More early retirement packages would be offered and taken up, reducing individual incomes.	<input checked="" type="checkbox"/>	
	Benefits	More employees take up early retirement and receive a one-off tax-favourable payment that would otherwise unavailable to them.	<input checked="" type="checkbox"/>	
Government	Costs	Greater administrative and regulatory expenditure to deliver the plan and less tax revenue from receiving employer workers	<input checked="" type="checkbox"/>	
	Benefits	More tax revenue from closing employer workers who maintain employment	<input checked="" type="checkbox"/>	
Community	Costs	No additional costs relative to Option 2.		
	Benefits	Flow-on benefits from less unemployed employees are greater relative to Option 2.		<input checked="" type="checkbox"/>

⁹³ This table identifies the additional costs and benefits of Option 3 relative to Option 2. As the successful transfer rate of Option 3 is much higher than that of Option 2, the magnitude of most costs and benefits identified under both options are expected to be much higher under Option 3.

The assumptions used to quantify the net benefit under each of the three options is set out in **Appendix C**. These assumptions impact the number of employers and workers affected, the value of early retirement benefits and assumed labour force decisions of workers under each of the three options.

4.7 Gender impacts

Compared to the status quo, the unlegislated and legislated plans would provide direct support to women employed in closing employers. Most direct benefits would flow to male workers, reflecting the gender composition of industries covered by the plan. However, while industrial closures can have significant localised and regional impacts, in the context of the Australian labour market the overall number of workers affected is small. Total ongoing employee numbers for in-scope facilities in the unlegislated and legislated plans represented less than 0.1 per cent of the labour force in the 2021-22 financial year.

2021 Census data indicates the labour force in closing employers and coal industry recipient employers are dominated by men. In 2021, women accounted for around 16 per cent of coal mining and 19 per cent of fossil fuel electricity generation workers. The closure of coal mining and fossil fuel generation facilities will have direct impacts on women working at these facilities, as well as impacts on women living in households affected by closures.

Women comprise a greater proportion of recipient employer workers in alternative industries. 2021 Census data indicates women comprise 39 per cent of workers in clean energy generation, 30 per cent in manufacturing, **Error! Bookmark not defined.** 26 per cent in electricity, gas, water and waste services, 19 per cent in mining and 15 per cent in construction.

4.8 Comparison of impacts of different options

The appropriateness of each of the identified policy options was assessed by comparing the quantified and unquantified impacts of the unlegislated and legislated pooled redeployment plans relative to the status quo.

When only considering the quantified impacts of Options 2 and 3, both options are a negative net present value when compared to the status quo (see **Table 4.2**). However, unquantified impacts should also be considered when assessing the merits of the different options. The unquantified impacts of Option 2, relative to the status quo, are summarised in **Table 4.9** below.

TABLE 4.9 UNQUANTIFIED IMPACTS IN OPTION 2, RELATIVE TO OPTION 1

STAKEHOLDER	IMPACT	DESCRIPTION
Closing employers	Benefits	Greater certainty around workforce retention in the lead-up to facility closure.
Receiving employers	Costs	On-the-job training to address any skills gaps between incoming workers and vacancies.
	Benefits	Lower search costs to fill vacancies.
Closing employer employees	Benefits	Ongoing employment for closing employer employees that participate in the plan will maintain current health, welfare, and social outcomes.
		Benefit of on-the-job training to address any skills gaps between incoming workers and vacancies.
Government	Benefits	Positive reputational benefits if plan is successful.
Community	Benefits	Regional economic prospects improve as more employees secure alternate employment, increasing household income and consumption.
		Social cohesion is supported by lower unemployment, emigration and loss of community identity.

The overall net present value of Option 2 has been assessed to be likely to be positive. The unquantified net cost to receiving employers of on-the-job training to address skill gaps is likely to be outweighed by the unquantified net benefits to receiving employers and other stakeholders. This means that the overall net present value of Options 2 is more positive than the net present value of only the quantified impacts of Option 2.

Further, the benefits of the unquantified impacts of Option 2 have been assessed to be very likely to outweigh the negative quantified net present values. The flow-on effects of sustained employment for communities, including small businesses, have not been quantified in the analysis but are expected to deliver considerable benefits beyond those accruing to directly-affected workers. These economic and social benefits to regional communities are important to maintaining the economic prosperity of Australians who live in the regions, enabling Australia to better harness the opportunities in these regions in the net zero transition. As mentioned in **Section 2.1.6**, providing support for worker transition is consistent with Australia’s global commitments under the Paris Agreement to a just transition during the net zero transformation of the economy. Option 2 is more consistent with global commitments than the status quo, improving the government’s reputation and strengthening public support for the net zero transition.

The overall net present value of Option 3 is expected to be more positive than that of Option 2. The unquantified impacts in Option 3 relative to Option 2 are summarised in **Table 4.10**. Although the quantified impact of Option 3 is more negative than Option 2, the effect of the unquantified impacts for closing employer employees and the community are expected to be greater under this Option. As previously noted, the unquantified benefits to the community of redeployment plans are expected to be

significant, and these will be amplified due to greater participation in the plan under this Option. It is expected that unquantified non-compliance costs under Option 3 are likely to be minor.

TABLE 4.10 UNQUANTIFIED IMPACTS IN OPTION 3, RELATIVE TO OPTION 2

STAKEHOLDER	IMPACT	DESCRIPTION
Closing employers	Costs	Noncompliant closing employers would need to finance the administrative, legal, and reputational costs associated with noncompliance.
Receiving employers	Benefits	No longer need to fund on-the-job training to address any skills gaps between incoming workers and vacancies.
Closing employer employees	Benefits	More indirect benefits from ongoing employment relative to Option 2. All employees at in-scope closing employers will be able to participate (which is not guaranteed under Option 2, as closing employer participation is voluntary).
Community	Benefits	Flow-on benefits from less unemployed employees are greater relative to Option 2.

4.9 Sensitivity analysis

4.9.1 Alternate discount rate analysis

The discount rate is the factor used to estimate the present value of future impacts. It is a measure of how the value of impacts vary between the present and the future. In this analysis, a seven per cent discount rate was used, which is the standard rate used for all Australian Government CBAs. The estimated impact of the unlegislated and legislated pooled redeployment plan under lower and higher discount rates is described below.

Table 4.11 presents the impact of an unlegislated and legislated pooled redeployment plan under a four per cent discount rate. Under a four per cent discount rate, the overall estimated impact of both plans is greater than under a seven per cent discount rate as the value of discounted impacts towards the end of the time horizon are higher. The present value of the benefit to workers and the cost to employers and government is estimated to be higher than with a seven per cent discount rate under both the legislated and unlegislated plans.

TABLE 4.11 SENSITIVITY ANALYSIS WITH 4 PER CENT DISCOUNT RATE

NET PRESENT VALUE	
Option 2: Pooled redeployment plan (unlegislated)	-\$18.7 million
Closing and receiving employers	-\$4.2 million
<i>Of which: regulatory costs</i>	-\$4.2 million
Closing employer employees and receiving employer employees	+\$48 million
Government	-\$62.5 million
Option 3: Pooled redeployment plan (legislated)	-\$38.3 million
Closing and receiving employers	-\$26.8 million
<i>Of which: regulatory costs</i>	-\$12.7 million
Closing employer employees and receiving employer employees	+\$140.8 million
Government	-\$152.3 million

Table 4.12 presents the impact of an unlegislated and legislated pooled redeployment plan under a ten per cent discount rate. Under a ten per cent discount rate, the overall estimated impact of both plans is less than under a seven per cent discount rate as the value of discounted impacts towards the end of the time horizon are lower. The present value of the benefit to workers and the cost to employers and government is estimated to be lower than with a seven per cent discount rate under both the legislated and unlegislated plans.

TABLE 4.12 SENSITIVITY ANALYSIS WITH 10 PER CENT DISCOUNT RATE

NET PRESENT VALUE	
Option 2: Pooled redeployment plan (unlegislated)	-14.3 million
Closing and receiving employers	-3.1 million
<i>Of which: regulatory costs</i>	-3.1 million
Closing employer employees and receiving employer employees	+\$34.7 million
Government	-45.9 million
Option 3: Pooled redeployment plan (legislated)	-28.8 million
Closing and receiving employers	-19.8 million
<i>Of which: regulatory costs</i>	-9.2 million
Closing employer employees and receiving employer employees	+\$102.8 million
Government	-111.9 million

5 Consultation during policy design

Since the establishment of the Agency on 1 July 2023, it has consulted over 180 stakeholder groups covering the breadth of the Agency's functions. This has included visits to Gladstone and Central Queensland, the Latrobe Valley and Gippsland, Newcastle and the Hunter and south-west Western Australia. Stakeholders engaged include other Australian Government agencies, state and territory governments, local governments, unions, First Nations groups, industry, investors, academic, and NGOs and community groups.

The Agency, in collaboration with DEWR, also undertook specific consultations with energy sector representatives, including businesses in the affected communities, and the union movement on net zero worker transition supports. Feedback from these consultations informed the final proposed models for Options 2 and 3 in this analysis.

Other feedback and reports about the net zero transition have also informed policy design. These include submissions and public commentary on the development of the role of the Net Zero Economy Authority, as well as research on employment and workforce matters in the sector and impacts of the transition on workers, families and communities.

In developing policy options, the Agency has taken account of prior feedback and recommendations put forward by key stakeholders, including Australian Government agencies, state and local governments, employers and unions, on the supports that exist to help workers affected by transition events. Similar discussions have been held to discuss possible future arrangements for workers affected by the net zero transition. This has helped shape the Agency's thinking on what supports are needed to help workers navigate the transition, and the proposed Authority's role in supporting worker transitions.

The Net Zero Economy Agency's Advisory Board, whose membership comprises experts across a range of areas relevant to the net zero transition, has also been engaged in discussing the transition for workers, including options for pooled redeployment of workers, alongside other design elements of the Authority. The Advisory Board provides advice to the Chair and Chief Executive Officer of the Agency, and supports the Agency to achieve its functions with a focus on organisational strategy, performance and development.⁹⁴

The Agency has also worked with other relevant Australian Government agencies, particularly DEWR, to consider policy options to support worker transition, including pooled redeployment plans, and supporting related work across government.

⁹⁴ Information on the Advisory Board can be found at: <https://www.pmc.gov.au/netzero/our-leadership>.

5.1 Stakeholder feedback on policy design

Through the targeted consultation process on net zero worker transition supports and options including pooled redeployment, the Agency has incorporated feedback and advice from stakeholders on policy design. A focus of these consultations was to engage with:

- large electricity gentailers – primarily power station operators who would nominally be ‘closing employers’ under the terminology used in Options 2 and 3
- energy network and distribution companies – who may be likely to become ‘receiving employers’ under the terminology used in Options 2 and 3
- some large industrial customers – who may be likely to become ‘receiving employers’ under the terminology used in Options 2 and 3
- industry and business peak bodies, and
- the trade union movement.

These consultations have indicated broad support for the establishment of a pooled redeployment framework to connect workers in closing power stations with potential vacancies. The Agency and DEWR also sought views on broader worker transition supports that could complement pooled redeployment by helping workers make informed decisions about their future and access new opportunities.

Roundtables and individual meetings with these stakeholders have informed policy design considerations for pooled redeployment options, as well as eliciting broader feedback on how government can support workers and communities through the net zero transition. The process included asking targeted questions on issues relating to pooled redeployment policy, including the scope and composition of a ‘community of interest’, and possible obligations on employers under this model.

A summary of key points raised from these consultations, and how those have informed policy design, is outlined in **Table 5.1**.

TABLE 5.1 – Consultation themes and outcomes

Theme	Key messages	Consideration in final policy design
Holistic support for workers, including skills and training	Industry are concerned with the impact of generator closures on small and medium businesses. They also see the need for additional support to enable a successful and seamless transition for workers into new opportunities, particularly for regions where there are limited alternate employment opportunities. Employers want to see skills mapping to ensure new opportunities can be identified for workers, and to better target additional skills and training supports that may be needed.	Communities of interest will include a broader scope of receiving employers compared to the Hazelwood Scheme which was targeted primarily at other coal generators. Government will consider whether pooled redeployment options could be complemented by other expanded employment supports.
Coordination	Stakeholders want government supports to be coordinated, and not duplicative, to ensure that employers, workers and families can easily navigate all	Communities of interest will be a mechanism for identifying areas of common interest and collaboration

	region-specific supports, including any pooled redeployment programs.	including regional skills needs and sequencing issues (i.e. ensuring worker transition takes account of business needs). NZEA to work closely with DEWR, employers and state & local governments in developing program and policy guidelines.
Scope	Unions and some employers want gas-fired power stations to be considered for pooled redeployment arrangements, particularly where large workforces are affected.	Scope of Options 2 and 3 broadened, from focusing solely on closing coal-fired power stations, to include some closing gas-fired power stations.
Incentives	Employers want incentives for receiving employers to take on displaced workers, including for voluntary redundancies and onboarding costs, where possible.	Government contributions towards early retirement payments (or other incentives) can be used to help receiving employers.
Employer obligations	Employers want to limit any additional obligations or regulatory burden for receiving employers, and recognition of existing initiatives underway to support workers by closing employers. Union movement wants to ensure that employers must provide sufficient supports for their employees when facilities close.	Mandatory obligations determine a standard set of supports which all employees of closing and dependent employers should receive. Flexible approach to obligations to reflect operational requirements of businesses, and an ability to acknowledge individual businesses plans & programs that are already in place.
Recruitment and selection of employees	Employers want receiving employers to retain the ability to choose, assess and recruit candidates from the redeployment pool, and have final right to determine who they hire. Employers see pooled redeployment as an important way to identify regionally based skilled workers who can help them address significant workforce shortages.	Employers will retain ultimate discretion over their employment decisions.

5.1.2 Plans for further engagement

The Agency, working closely with DEWR, will continue to consult with relevant businesses, peak bodies, unions, state governments and regional bodies as the preferred policy option is refined and implemented.

6 Preferred policy design and implementation pathway

This chapter outlines which policy option of those analysed is recommended, and discusses how the preferred policy can be implemented.

6.1 Recommended policy option

The findings of the analysis support pursuing Option 3 – that is, establishing a legislated framework for the implementation of pooled redeployment plans when fossil fuel power stations and their dependent suppliers close, including enforceable obligations on closing and dependent employers participating in the arrangements. Receiving employers would participate voluntarily including discretion on who they employ. These plans would be complemented by other Australian Government employment supports.

While both Options 2 and 3 are expected to have an overall net benefit (see **Section 4.8**), Option 3 is expected to deliver the greatest benefit to workers and communities. The selection of Option 3 as the preferred option is consistent with the suggestion in the *Australian Government Guide to Policy Impact Analysis* that the default 'decision rule' should be for the policy option with greatest expected net benefit to be recommended.

6.1.2 The status quo (Option 1) is insufficient

The analysis shows that compared with Option 2 and Option 3, the 'status quo' scenario presented in Option 1 does not offer sufficient comfort that workers in privately-owned power stations will receive adequate supports when those stations close.

Data from past closures, as well as feedback received from stakeholders during the policy development process, indicates that Option 1 may not be able to prevent long-term unemployment outcomes for some workers, which could have a range of broader negative economic and social impacts in local communities. This would not meet the policy goals outlined in **Chapter 2** of this analysis.

Net zero transition represents a significant economic transformation, particularly for workers and communities closely linked with energy-intensive industries. Current workforce transition supports need to be complemented to minimise the concentrated impacts which will occur. A new way of dealing with closures of coal-fired power stations, gas-fired power stations and dependent employers, featuring an expanded range of specifically targeted supports, is needed in order to respond to the scale of the transition.

In short, additional policy measures are needed to help workers and communities that will be affected by the closure of coal-fired power stations and their dependent suppliers to achieve better outcomes.

6.1.3 An unlegislated pooled redeployment plan may not assist enough workers

An unlegislated pooled redeployment plan (Option 2) is expected to have a positive net present value, when quantified and unquantified factors are accounted for (as described in **Section 4.8**). However, participation rates, and the flow-on benefits for workers and communities associated with higher participation, are expected to be lower under Option 2 than for a legislated scheme (Option 3). The biggest risk with Option 2 is the inability to compel closing and dependent employers to participate. If they choose not to, the benefits of Option 2 are likely to be lower and more in line with the status quo.

The analysis assumes participation of receiving employers under an unlegislated plan (where all employer participation is purely voluntary) is around five employers per closure, on average over the time period to 2035. This assumption is based on several factors, including having reference to the unlegislated Worker Transfer Scheme to support workers through the Hazelwood power station closure (which included three 'receiving employers'), and feedback from recent stakeholder consultations.

The Agency received strong feedback that at the present time, many relevant employers are experiencing skills and workforce shortages, which indicates there could be strong interest in the near-term from potential receiving employers in relevant regions to access a pool of workers from closing power stations. However, over the longer-term, as labour market conditions fluctuate, it may be difficult to secure sufficient receiving employer participation under an unlegislated model, particularly for closure events in regions with low economic diversification.

In these cases, vacancies created by receiving employers in a community of interest may be unlikely to reach the critical mass required to absorb all interested closing employer employees, restricting the number of employees at closing facilities able to successfully redeploy and avoid long-term unemployment. Under the unlegislated scheme associated with the Hazelwood closure in Victoria in 2017, 16 per cent of affected workers were unemployed two years after the closure.⁹⁵ A full voluntary model also relies entirely on the goodwill of closing employers to offer relevant transition supports to their workers and participate meaningfully in pooled redeployment arrangements. While some operators of power stations with upcoming closure dates are already providing good supports for their workforce, it is not certain that this level of support from employers will be uniform as the schedule of closure events progresses over time.

6.1.4 A legislated plan would provide greater benefits for affected workers and communities

Under a legislated model as proposed in Option 3, closing and dependent employers are more likely to participate in the plans and engage constructively with the Authority on pooled redeployment arrangements from an early stage, given that the FWC will ultimately have backstop powers to compel participation from these employers.

⁹⁵ Victorian Department of Jobs, Precincts and Regions, (Dec. 2021), [Submission to the Victorian Parliamentary Inquiry into the Closure of the Hazelwood and Yallourn Power Stations](#)

Once participating in a community of interest, these employers will be required to provide meaningful transition supports to their workers, including access to relevant training, career advice and financial support to help workers achieve employment outcomes when their role at the closing facility finishes. This will help better prepare the workforce at closing facilities, and make them more attractive prospective employees for receiving employers.

This in turn is likely to drive increased interest and participation from receiving employers, relative to an unlegislated model, and lead to greater rates of success in transferring employees from closing to receiving employers. This would lead to higher levels of ongoing employment and flow on economic and social benefits for families and communities. These benefits are not fully quantified in the analysis approach - though evidence from past experiences around industrial closures show they are significant.

As such, Option 3 represents the preferred option to meet the policy goal of minimising the number of unemployed workers when power stations close. While there is a slight increase in quantified net costs for Option 3 compared to Option 2, Option 3 provides substantially greater benefits for affected workers, which will provide better outcomes for affected communities. To the extent that net costs for Option 3 are driven by costs to government, this represents a modest and reasonable investment to protect affected workers and communities from the negative impacts of a disorderly transition, and maintain social licence for the energy transition.⁹⁶

6.2 Policy implementation

Implementing Option 3 will require the passage of legislation to establish the framework for forming communities of interest and introducing obligations on relevant employers, as well as enabling the Authority and FWC to perform relevant functions in relation to the plan. The legislative framework is due to be introduced into Parliament in the first half of 2024 as part of a broader legislative package to establish the Authority, with the commencement of the legislation targeted by the start of 2025 at the latest.

Once this legislative framework is in place, the Authority will be able to formally commence working with relevant power stations with announced closure dates to start identifying employers that may be able to participate in a community of interest, and sequentially move through the steps involved in the pooled redeployment plan.

The event-based nature of this policy, linked to specific facility closures, means implementation activities will be spread out over a number of years, in accordance with the announced schedule of relevant coal-fired power station closures. The first power station closure that would be in-scope for a pooled redeployment plan under this policy option is Eraring Power Station, which has a scheduled closure date of August 2025. The Authority would seek to commence working with Origin Energy as soon as

⁹⁶ While costs to government under the preferred option (Option 3) have been estimated, the Government has not agreed the final budgetary impact at the time of publishing the impact analysis. The budgetary impact of the proposal will be subject to final Government consideration.

practicable following the passage of legislation in relation to establishing a community of interest around the Eraring closure.

The success of implementing this policy will rely on the Authority liaising regularly and openly with employers and other relevant stakeholders, including other Australian Government agencies, state and local governments, unions, and regional bodies. It will require employers to engage in good faith with their obligations towards workers, as part of a shared commitment with government to work together in managing the net zero transition.

The plan framework needs to be put in place as part of the establishment of the Authority to enable it to implement a redeployment scheme to support the closure of Eraring Power Station in 2025. An early statutory review will however allow more extensive consultation on the design of the plan with both unions and employers, and enable changes, if required, prior to other generation closures.

6.2.1 Challenges and risks to implementation

As noted at **Section 2.2.1**, an orderly transition to a net zero economy for workers and regions is dependent on a range of factors. These factors are relevant when considering challenges and risks that could impede the successful implementation of Option 3. Potential implementation challenges and risks are identified at **Table 6.1**.

TABLE 6.1 CHALLENGES AND RISKS TO IMPLEMENTATION OF OPTION 3

Challenge or risk	Description and proposed management
<p>Insufficient receiving employer participation in a community of interest</p>	<p>Participation of receiving employers is voluntary, meaning that the success of each community of interest will depend heavily on attracting sufficient interest from receiving employers provide the needed volume of roles required to redeploy employees from closing employers.</p> <p>Consultation feedback indicates that pooled redeployment can help to lower search costs and address critical skills shortages currently being experienced by potential receiving employers, however this will need to be closely monitored over time as regional labour market conditions evolve.</p> <p>The Authority will work closely and collaboratively with potential receiving employers in a region in the lead-up to establishing a community of interest (including by convening regional forums and helping to maximise the reputational benefits for companies that are willing to take on workers from closing facilities).</p> <p>Proactive job and skill matching undertaken by the Authority and Government contributions towards incentives such as early retirement payments, to assist receiving employers create vacancies for new workers, will also incentivise receiving employer participation in circumstances where this is attractive to those employers.</p>

Lack of available jobs in key regions

Successfully redeploying closing employer workers is dependent on there being sufficient jobs available in the local region, that are appropriate for these workers to move to – noting that many power stations are located in regions which currently have low economic diversity.

To help address this issue, one of the proposed functions of the Authority will be to facilitate public and private sector participation and investment in net zero transformation initiatives, including by working with other Commonwealth bodies, state governments and project proponents to catalyse investment in new projects in regions affected by generator closures creating new employment opportunities for displaced workers.

Closure schedule timelines are not certain and could influence worker outcomes

Notwithstanding the general requirement for NEM generators to provide 42 months’ notice of their proposed closure date, there is a risk that some generators may still close with shorter notice periods. If shorter notice periods eventuate, this will limit the time available for workers to undertake training and prepare for new roles, which could lead to poorer redeployment outcomes.

The Authority will help manage this issue by proactively working with other government bodies and generators to keep apprised of any possible changes to generator closure schedules. The Authority will engage with generators at an early stage in the years leading up to their announced closure dates, to understand what programs they are proposing to offer to their workers and address any potential issues at the earliest opportunity.

Availability and access to relevant retraining opportunities

Adequately preparing workers at closing employers for new roles will be dependent on there being sufficient access to relevant training and skills opportunities, available at the right time and in the right locations for these workers. Mandatory obligations on closing employers will assist with this.

The Government is also proactively addressing issues relating to skills and training pathways for the net zero transition, as outlined at **section 1.4.1**. The Authority will work with other areas of Government to ensure that these initiatives can help support workers participating in pooled redeployment arrangements.

6.2.2 Broader implementation context

Implementation of pooled redeployment should be viewed as an additional support for a specific cohort of workers at closing power stations and dependent suppliers that the Agency knows will be significantly impacted by the net zero transition. It would be additional to the general Australian Government employment services and transition supports that are available to all Australian workers.

The Australian Government is also actively considering what other worker transition supports could be made available to workers impacted by the net zero transition. DEWR is currently considering the best arrangements for workforce transition supports through the energy transition, in close consultation with the Agency.

7 Evaluation of the chosen option against success metrics

This chapter discusses avenues for measuring and monitoring the success of the preferred policy option, Option 3, involving establishing a legislated framework for the implementation of pooled redeployment plans when coal-fired power stations, gas-fired power stations and their dependent suppliers close. This includes data collection and reporting activities, as well as a proposed statutory review to be conducted 12 months after the establishment of the Authority.

7.1 Measuring the outcomes of policy responses

There is a strong case for ongoing evaluation and an evidence-based approach to monitoring outcomes during industry transition events. This is important when considering the net zero transition because closure events will be spread out over a significant number of years and in a geographically disparate way. This presents an opportunity for supports to be refined over time, based on the outcomes of earlier closure events. In some regions, several facilities will close over a prolonged period of time, and the cumulative impacts of these closures also need to be considered.

The most direct way to measure the success of transition support measures for workers at these facilities is to track employment outcomes for this cohort. This can include mapping the intentions of workers when facilities are close to closure (noting that not all workers may wish to find new employment, such as those at or nearing retirement age), and tracking how many workers successfully transition to other employment over time. Relevant indicators may include:

- lead time for workers finding new roles (including periods of temporary unemployment)
- skills and training outcomes for these workers (including enrolment and completion rates)
- the occupations and employers to which workers move
- earnings of workers in new roles, relative to their previous role, and
- durability of new employment outcomes (i.e. long term placement in new roles/occupations).

As noted earlier, research has shown that closures of coal-fired power stations in Australia have led to a 0.7 percentage point increase in local unemployment, which extends past the initial months of the closure.⁹⁷ There is also some data available in relation to individual power station closures, such as the Hazelwood Worker Transfer Scheme that was implemented following in 2017. These provide some historical reference points when monitoring local outcomes following future closures.

⁹⁷ Burke P et al., (Jan. 2019), [Closures of coal-fired power stations in Australia: local unemployment effects](#)

7.2 Measuring success for pooled redeployment arrangements

A successful pooled redeployment plan would meet the objectives in **Section 2.2**, and could consider evaluation questions such as how successful the plan is at:

- minimising involuntary unemployment when facilities close
- maximising opportunities to transition into similar employment
- providing appropriate supports, training and skills to impacted employees, and
- using to the best extent the skills and experience of employees.

Activities during program implementation would allow the Authority to track initial employment outcomes for workers involved in pooled redeployment. For instance, the Authority could monitor the progress of redeployment activities, including by collecting information from employers to measure how many workers have successfully transferred jobs under each community of interest.

Additionally, the Authority would also gather qualitative information from stakeholders as the plans are delivered to help inform the evaluation of this policy and future implementation. This will enable the Authority to evaluate the success of the arrangements and refine implementation approaches.

The Authority would also develop and execute a Monitoring, Evaluation and Learning (MEL) framework to monitor and evaluate the Authority's work, which may include the extent to which the pooled redeployment plan supports workers in affected communities to take up new opportunities. This framework will include measures and indicators, and approaches to data collection to inform evaluation activities. This will help the Agency to evaluate, learn and adapt if necessary the pooled redeployment scheme to ensure it meets its goals. The Authority's MEL framework will include a program logic and evaluation questions to evaluate authority effectiveness.

7.2.1 Formal statutory review of legislative and operational framework

The bill to establish the legislative framework for the policy will include provision for a formal statutory review of the legislation and operational framework. This is intended as an early review to identify any issues raised during the initial 12 months' of the Authority's work in relation to the pooled redeployment policy, and consider the likely effectiveness of the legislative framework.

The review will be able to consider the overall scope of the scheme, as well as potential impacts of business compulsion and mandatory obligations, and the Fair Work Commission's role.

7.2.2 Information gathering to monitor program uptake and success

During implementation, the Authority will be able to monitor the progress by actively engaging with the parties involved. For example, during the course of identifying a 'community of interest', and overseeing the delivery of a pooled redeployment plan, including the transfer of workers from closing employers to receiving employers, the Authority could gather information:

- from closing employers, including on the number of their employees that apply to participate in the pooled redeployment plan, and information about those workers' skills and experience
- from receiving employers that accept Australian Government payments under the scheme, including on:
 - the number of workers that apply for, and are approved to take up early retirement packages through the plan, and
 - the number of closing employer employees who successfully transfer into positions at receiving employers.
- from stakeholders that are out of scope of the impact analysis (covered in **Section 4.3.4**)

The information gathered by the Authority would enable it to directly measure how successful pooled redeployment plans are in facilitating direct job-to-job transfers for workers at closing power stations. The information could be used on an ongoing basis and during evaluations to consider course-correction decisions and fill in data limitations.

Evaluations would be undertaken by the Authority or external parties commissioned by the Authority to provide independent advice. The Authority could develop specific metrics in this regard, which could include:

- participation of receiving employers in a plan (that is, the number of places that are created, and filled, at each participating receiving employer)
- The number of workers redeployed under each plan, and
- Remuneration and retention rates for these worker following transfer.

The Authority would also be able to gather information on what support and training programs are offered by closing employers to their employees, and training initiatives from receiving employers for new workers that are transferred.

The Authority could also consider collecting data for impacts which are not currently able to be quantified (e.g. the benefits of reductions in long term unemployment for leaving workers) in this process to improve decision-making in the future.

Additionally, the Authority could seek to work with other relevant Australian Government agencies in order to assess the outcomes of pooled redeployment plans. This could include working with DEWR to monitor the uptake of other Australian Government supports for retrenched workers from closing facilities, and utilising broader data sets such as regional labour force data from the ABS to augment information collected directly by the Authority. Outcomes would need to be assessed in the context of the broader regional economic environment during and after particular facility closures.

The Authority would also continue to engage with employers, unions and other regional stakeholders as part of its broader worker transition function. This will help inform how the pooled redeployment is implemented over the course of the net zero transition.

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Appendix A

Table of coal-fired power station closures

FACILITY	REGION	EXPECTED CLOSURE YEAR	SCOPE FOR THE PURPOSES OF THIS ANALYSIS
Muja Power Station C	Collie	Apr-2025	Out-of-scope , significant state government supports already in place
Eraring Power Station	Hunter Valley	Aug-2025	In-scope
Collie Power Station	Collie	Oct-2027	Out-of-scope , significant state government supports already in place
Callide Power Station B	Central QLD	2028	Out-of-scope , significant state government supports already in place
Yallourn Power Station	Latrobe Valley	2028	In-scope
Muja Power Station D	Collie	Oct-2029	Out-of-scope , significant state government supports already in place
Bayswater Power Station	Hunter Valley	2033	In-scope
Vales Point Power Station	Hunter Valley	2033	In-scope
Gladstone Power Station	Gladstone	2035	In-scope
Loy Yang Power Station A	Latrobe Valley	2035	In-scope
Tarong Power Station	South Burnett	2036	Out-of-scope , beyond time horizon
Tarong North	South Burnett	2037	Out-of-scope , beyond time horizon
Mount Piper Power Station	Lithgow	2040	Out-of-scope , beyond time horizon
Kogan Creek Power Station	Darling Downs	2042	Out-of-scope , beyond time horizon
Stanwell Power Station	Central QLD	2043-46	Out-of-scope , beyond time horizon
Loy Yang Power Station B	Latrobe Valley	2047	Out-of-scope , beyond time horizon
Millmerran Power Station	Darling Downs	2051	Out-of-scope , beyond time horizon
Callide Power Station C	Central QLD	Not provided	Out-of-scope , No closure time provided
Bluewaters Power Station	Collie	Not provided	Out-of-scope , No closure time provided

Source: Australian Energy Market Operator, (Jul. 2023), [Generation information](#); Government of Western Australia (2023), [Collie Community Fact Sheet](#)

Appendix B

Geographic regions surrounding coal-fired power stations

Each region surrounding coal-fired power stations is created by grouping Statistical Areas Level 2 (SA2s) as defined by the Australian Bureau of Statistics' [Australian Statistical Geography Standard Edition Three](#).

COLLIE	GLADSTONE & CENTRAL QLD (CONT.)	HUNTER VALLEY (CONT.)	LATROBE VALLEY (CONT.)
Collie	Parkhurst - Kawana	Muswellbrook	Traralgon - East
DARLING DOWNS	Rockhampton - West	Muswellbrook Surrounds	Traralgon - West
Cambooya - Wyreema	Rockhampton City	Narara	Yallourn North - Glengarry
Chinchilla	Rockhampton Surrounds - East	Newcastle - Cooks Hill	LITHGOW
Clifton - Greenmount	Rockhampton Surrounds - West	Newcastle Port - Kooragang	Lithgow
Crows Nest - Rosalie	South Trees	Niagara Park - Lisarow	Lithgow Surrounds
Darling Heights	Telina - Toolooa	Ourimbah - Fountaindale	Mudgee
Drayton - Harristown	The Range - Allenstown	Point Clare - Koolewong	Mudgee Surrounds - East
Gowrie (Qld)	West Gladstone	Raymond Terrace	Mudgee Surrounds - West
Highfields	HUNTER VALLEY	Redhead	
Jondaryan	Adamstown - Kotara	Rutherford (North) - Aberglasslyn	
Kingaroy	Avoca Beach - Copacabana	Rutherford (South) - Telarah	
Kingaroy Surrounds - South	Bateau Bay - Killarney Vale	Saratoga - Davistown	
Lockyer Valley - West	Belmont - Bennetts Green	Scone	
Middle Ridge	Belmont South - Blacksmiths	Scone Surrounds	
Miles - Wandoan	Beresfield - Hexham	Seaham - Woodville	
Millmerran	Blue Haven - San Remo	Shortland - Jesmond	
Nanango	Bolton Point - Teralba	Singleton	
Newtown (Qld)	Bonnells Bay - Silverwater	Singleton Surrounds	
North Toowoomba - Harlaxton	Box Head - MacMasters Beach	Stockton - Fullerton Cove	
Pittsworth	Branxton - Greta - Pokolbin	Summerland Point - Gwandalan	
Rangeville	Budgewoi - Buff Point - Halekulani	Swansea - Caves Beach	
Roma	Calga - Kulnura	Tea Gardens - Hawks Nest	
Roma Surrounds	Cessnock	Tenambit - East Maitland	
Tara	Cessnock Surrounds	Terrigal - North Avoca	
Toowoomba - Central	Charlestown - Dudley	The Entrance	
Toowoomba - East	Chittaway Bay - Tumbi Umbi	Thornton - Millers Forest	
Toowoomba - West	Dungog	Toronto - Awaba	
Wambo	East Maitland - Metford	Toukley - Norah Head	
Wilsonton	Edgeworth - Cameron Park	Tuggerah - Kangy Angy	
GLADSTONE & CENTRAL QLD	Erina - Green Point	Umina - Booker Bay - Patonga	
Banana	Glendale - Cardiff - Hillsborough	Valentine - Eleebana	
Berserker	Gorokan - Kanwal - Charmhaven	Wallsend - Elermore Vale	
Biloela	Gosford - Springfield	Wamberal - Forresters Beach	
Bouldercombe	Hamilton - Broadmeadow	Wangi Wangi - Rathmines	
Boyne Island - Tannum Sands	Jilliby - Yarramalong	Waratah - North Lambton	
Callemondah	Kariong	Warners Bay - Boolaroo	
Clinton - New Auckland	Kincumber - Picketts Valley	Warnervale - Wadalba	
Emu Park	Kurri Kurri - Abermain	West Wallsend - Barnsley - Killingworth	
Frenchville - Mount Archer	Lake Munmorah - Mannering Park	Wickham - Carrington - Tighes Hill	
Gladstone	Lambton - New Lambton	Williamstown - Medowie - Karuah	
Gladstone Hinterland	Lemon Tree Passage - Tanilba Bay	Woy Woy - Blackwall	
Glenlee - Rockyview	Maitland	Wyoming	
Gracemere	Maitland - North	Wyong	
Kin Kora - Sun Valley	Maryland - Fletcher - Minmi	LATROBE VALLEY	
Lakes Creek	Mayfield - Warabrook	Churchill	
Mount Morgan	Merewether - The Junction	Moe - Newborough	
Norman Gardens	Morisset - Cooranbong	Morwell	
Park Avenue	Mount Hutton - Windale	Trafalgar (Vic.)	

Appendix C

Assumptions used to quantify the net benefit of three options

The below tables set out the assumptions utilised in the modelling of direct costs and benefits to the relevant stakeholder groups under the three policy options considered as part of this Impact Analysis.

TABLE C.1 COMMON ASSUMPTIONS, ALL POLICY OPTIONS

ASSUMPTION	JUSTIFICATION	VALUE
Analysis parameters		
Time horizon	This balances uncertainty around how ongoing the policy will be with the need to appropriately capture the full breadth of the impact across Australia and across the time period	2024 - 2035
Discount rate	Standard Office for Impact Analysis (OIA) assumption	7%
Closing employers		
Share of closing employer workforce that are contractors	Based on the proportion of contractors reported by 1 in-scope coal-fired power station and three coal mines	30%
Employees		
Salary at power station and/or coal mine	Calculated by multiplying the average weekly income for workers aged 55-64 in coal mines and coal-fired power stations by 52 weeks.	\$151,051
Remuneration at power station and/or coal mine	As above, with 12% employer superannuation contributions	\$169,177
Average salary at non-energy receiving employers	Average weekly earnings across Australia in all industries, to reflect salary outcomes at non-coal employers	\$95,581
Average remuneration at non-energy receiving employers	Average remuneration across Australia, including 12% superannuation contributions	\$107,051
Jobseeker payment	For those who become unemployed, the current Jobseeker rate of \$802.50 per fortnight for a single with dependent child is assumed.	\$20,865
Tenure at closing employers	Average tenure for workers in coal-related jobs, informed by Australian Bureau of Statistics, Job Mobility.	8 years
Proportion of closing employer employees that move to energy related jobs (if remain employed)	Redeployments are estimated for each closure event, and averaged over the time horizon. It is assumed workers will prioritise a same industry transfer if given the choice, as salaries are higher on average and less re-training is likely required. In the early years, more workers are expected to remain within the coal industry than in later years, as the number of remaining coal-fired power stations decreases.	47%
Proportion of closing employer employees that move to non-energy related jobs (if remain employed)		53%
Value of leisure time	Office for Impact Analysis assumption used across all scenarios	\$36 per hour

ASSUMPTION	JUSTIFICATION	VALUE
<i>Closing employer employee outcomes</i>		
Employed in absence of plan	Assumptions derived from industrial facility closures.	76%
Unemployed in absence of plan	Assumptions derived from industrial facility closures.	22%
Retired in absence of plan	Assumptions derived from industrial facility closures.	3.0%

Table C.2. sets out assumptions that vary by policy option within the modelling.

TABLE C.2 POLICY ASSUMPTIONS

ASSUMPTION	JUSTIFICATION	OPTION 2	OPTION 3
<i>Early retirement packages</i>			
Average tenure, energy-related jobs	Average tenure for 55-64 year olds in coal-related jobs, informed by Australian Bureau of Statistics, Job Mobility.	14 years	14 years
Average tenure, all industries	Average tenure for 55-64 year olds in all industries, informed by Australian Bureau of Statistics, Job Mobility.	8 years	8 years
Early retirement package benefit	This package is common across the energy sector, including historical schemes for AGL Loy Yang, Engie Loy Yang, and Energy Australia Yallourn.	3 weeks per year of service up to 52 weeks	
<i>Community of interest</i>			
Number of receiving employers in community of interest	Informed by Hazelwood power station closure, analysis of the number of medium to large enterprises in the relevant regions, and feedback from stakeholder consultations.	5	8
<i>Closing employer employee transitions</i>			
Worker participation rate	Workers more likely to participate in scheme if obligations of closing employer is backed by legislation	51%	60%
Participant success rate	Legislated obligations on closing employers support much stronger likelihood of affected employees being transferred to new employment.	39%	85%
Overall worker transfer rate	Legislated obligations on closing employers support much stronger likelihood of affected employees being transferred to new employment.	20%	51%
Average no. of days of leave provided to workers to undertake transition leave	Government departments provide a max of 5-6 hours per week of study allowance. This equates to 7-8 days per year.	N/A	10

ASSUMPTION	JUSTIFICATION	OPTION 2	OPTION 3
Average proportion employer provides towards training	Feedback from stakeholder consultations (including data that one power station is currently providing \$5000 per employer to cover training costs).	N/A	50%
Average training cost		N/A	\$10,000
<i>Receiving employer employee decision-making</i>			
% Retire in absence of plan	Analysis of intention to retire from the labour force. ABS, Retirement and Retirement intentions, 2020-21	5%	5%
% Move jobs in absence of plan	Job mobility within last 12 months per year for those aged 45 to 64, ABS Job Mobility	5.9%	5.9%
% Accept package and retire 1-3 years earlier	Analysis of costs and benefits of accepting retirement package, the value of gained leisure time and cost of foregone earnings.	43%	43%
% Accept package and subsequently find alternate employment	Analysis of relative benefits between retirement and finding alternate employment subsequent to accepting retirement package.	45%	45%
% Accept package to leave labour force, subsequently become a job-seeker and unemployed for <1 year	Analysis of benefits of genuine early retirement package (with favourable tax treatment) to workers, relative to no income. A small number of employees may subsequently choose to re-enter the labour force.	2%	2%