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GLOBAL ENVIRONMENTAL JUSTICE GROUP

SCHOOL OF INTERNATIONAL DEVELOPMENT

Towards a just transition from coal in Australia?

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Abstract

Is a just transition from coal possible in Australia? Australia's domestic electricity remains coal-dependent and Australia remains the world's largest coal exporter. Australia's ability to achieve a just transition will also have significant implications for efforts to decarbonise in the Asia-Pacific and the world, both directly through the coal supply chains Australia is embedded in and enables, and indirectly through Australia's regional diplomacy and development aid. Through a detailed review of the academic and grey literatures and discourse analysis of over 350 media articles and 13 semi-structured interviews with key stakeholders, this report examines how a 'just transition' is being defined in Australia, explores the key challenges to achieving it, and considers next steps for Australian policymakers and stakeholder groups. Three of our researchers have contributed sections connecting their pre-existing research with the project objectives. Finally, three policy briefs are included which largely sit as standalone pieces (drawing on our findings), focussing on distinct but related aspects of the just transition in Australia: how just transition is currently understood, key barriers to a just transition, and Australia's role in stimulating or hindering a broader just transition in the Asia Pacific region.

Project Team

Gareth Edwards is an Associate Professor in the School of International Development, University of East Anglia, where he directs the Global Environmental Justice Group. In 2021-22 he is a Visiting Fellow at the Sydney Environment Institute (SEI). He holds a Leverhulme International Fellowship, through which he is investigating the interactions between climate justice discourses and the political economy of coal in Australia and India. His earlier work was instrumental in connecting questions of climate justice with urban climate change politics.

Clare Hanmer is a post-doctoral researcher at the University of East Anglia. Her recent work has been in the Centre for Climate and Social Transformations (CAST) developing a novel methodology for translating global climate targets into changes in everyday life. She worked for 10 years at the UK Carbon Trust, contributing to innovation support programmes and strategy development across a wide range of low carbon technologies. Subsequently she followed up her interest in the interaction of people and technology to create energy demand by completing a PhD which explored household reactions to a trial of hybrid heat pumps.

Susan Park is Professor of Global Governance in the Department of Government and International Relations at the University of Sydney. Acting Deputy-Director of SEI, she has worked with an SEI team analysing the impact of mining giant Santos in the northern New South Wales region of Narrabri, the public report of which was presented to the New South Wales government Independent Planning Commission. This built on extensive research undertaken by SEI fellows including Gemma Viney on the social impact of the mine and failures of environmental justice. Prof. Park and a multidisciplinary SEI team are currently investigating how the Pacific Islands are seeking to move beyond merely adapting to climate change towards mitigation through the adoption of renewable energy and how Australia can facilitate that shift.

Robert MacNeil is a Senior Lecturer in the Department of Government and International Relations at the University of Sydney and a fellow at SEI. His research is investigating the impact and efficacy of just transition narratives in coal communities and livestock farming regions throughout New South Wales and Queensland. This research has aimed at understanding why just transition ideas and strategies have failed to gain significant favour with the very workers and communities they have been designed to assist.

Milena Bojovic is a PhD candidate in the Discipline of Geography and Planning, in the School of Social Sciences at Macquarie University, Sydney, researching the future of the dairy industry in Aotearoa New Zealand. Drawing on transition studies, she is investigating how Aotearoa can

transition away from intensive dairy production in just and sustainable ways. Her research aims to identify the opportunities, barriers and challenges offered by different transition pathways, while also considering the justice implications for humans, non-humans and environments in an era of anthropogenic climate change.

Jan Kucic-Riker is a PhD candidate working between SEI and the University of Sydney Business School. His research considers the political economy of energy in Australia's low-carbon transition through the lens of community energy. With its emphasis on local ownership and control of energy resources, community energy attempts to not only decarbonize but democratize and decommodify systems of energy provision. Jan's research examines the competing discourses that underpin these struggles and the potential they hold for reclaiming social control over energy.

Dan Musil is a PhD candidate at Western Sydney University. Using a range of action research methodologies, Dan's research explores possibilities for low-carbon transition and transformation, with a focus on worker-ownership, economic democracy and the Latrobe Valley, where he lives. Dan has been engaged in work on just transitions for over a decade, including as Secretary of the Earthworker Cooperative – an initiative to build more just, democratic and sustainable economies in Australia and beyond.

Gemma Viney is a PhD candidate in the Department of Government and International Relations at the University of Sydney, and a Research Assistant at SEI. Her PhD examines Australian experiences and articulations of environmental justice, with an emphasis on collaborative methodologies and participant action research. Her aim is to recentre community knowledge at the heart of environmental justice scholarship in Australia.

1. Introduction & Context

1.1 Scope & Objectives

The British Academy funded this project under its 'Just Transitions to Decarbonisation in the Asia-Pacific' Programme, supported by the Science Innovation Network and the UK's Department for Business, Energy & Industrial Strategy. This programme focussed on identifying "the potential disruption and opportunity of decarbonising economies and societies, and to recommend options and pathways for communities, workers, businesses, policymakers and the wider public" (Call Documents). The projects funded under the call were anticipated to build an evidence base to answer:

> How the notion of just transition is being defined and implemented, in particular by and for whom, and how this may be being contested?
>
> What are the challenges and pinch points socially, economically and politically that will need to be met for a just transition to take place in the Asia-Pacific, including China, India, Australia and Japan?
>
> How can this process be managed equitably, sustainably and in a socially just manner?
>
> What are the options and pathways for communities, workers, businesses, policymakers and the wider public to manage the potential disruption and deliver the opportunities of a just transition in the Asia-Pacific?
>
> (Call Documents)

Building on recent, current and new empirical research, three objectives were defined:

1. **Assemble evidence on how the 'just transition' from coal is currently being defined** in Australia;
2. **Identify the challenges Australia will have to overcome to implement a 'just transition' from coal**; and
3. **Advocate for a broadening of the 'just transition' concept** that engages with a wide variety of relevant stakeholders, moves beyond labour-market or single-industry perspectives and transcends national boundaries to help shape global efforts to justly achieve the climate action that is urgently needed.

1.2 Context for this report

40% of the world's heat and power still comes from coal (IEA, 2019) and Australia vies with Indonesia for the title of the world's largest exporter, as well as remaining heavily dependent on thermal coal for its baseload electricity (Edwards, 2019). However, things are changing fast. A

transition is clearly already underway in Australia's domestic power generation sector. In early 2022 as this report was being prepared, AGL announced an earlier closure date for the Loy Yang A coal-fired power station in the Latrobe Valley in Victoria, Origin Energy announced that its Eraring power station on the shore of Lake Macquarie in NSW—just north of Sydney and Australia's largest coal-fired generator—would close in 2025 as soon as legally possible, and a consortium led by Atlassian co-founder Mike Cannon-Brookes with capital from Brookfield Partners approached AGL with a takeover bid which explicitly called for more rapid transition away from coal-fired power.

Things are less clear with respect to Australia's coal exports, though. Scholars have argued that 80% of the world's remaining coal—and 95% of Australia's coal—must remain in the ground to limit global warming to under 2 degrees Celsius (McGlade and Ekins, 2015). But coal prices are currently at record highs in the seaborne coal market, and Australian governments and coal businesses argue that the quality of Australia's coal reserves and Australia's proximity to the Asian coal market mean Australian coal will be amongst the last to be extracted even in a context of declining global demand.

Internationally, there has been growing interest in the concept of a 'just transition'. The earliest articulations of 'just transition' emerged in the North American trade union movement in the 1980s and 1990s to articulate the demand that as polluting industries close down, the workers in those industries should not simply be cast aside, but that there should be explicit mechanisms deployed for re-training, re-employment, and the maintenance of dignity. It has since been expanded to capture the transition of energy systems away from fossil fuels in the context of climate change (UNEP et al., 2008; ILO, 2015), and gained some traction in the international climate negotiations with the launch of the Silesia Declaration at COP24 in Katowice, Poland in 2018 (UNFCCC, 2018). However, the Silesia Declaration attracted criticism on two grounds. Firstly, on the narrowness of the definition of 'just transition' in the text, which focusses only on the fossil fuel workforce, which it argues must be provided with "decent work and quality jobs"; and secondly, that only 50 of the assembled 200 countries signed the declaration, relegating it to a 'note' in the final text of the meeting (CarbonBrief, 2018).

Despite this, 'just transition' has rapidly risen in international public consciousness since 2018 as states have added ambition to their climate targets, with a growing number now committed to net zero emissions by 2050 or earlier. Accompanying this increased acceptance of the concept has been a growing acknowledgement that whilst a just transition must certainly provide for fossil fuel workers, there is a need to considerably broaden the definition of 'just transition' if we are to adequately address the climate change challenge (Stevis and Felli, 2016).

In Australia, governments have been slower to engage with just transition thinking than their international counterparts. Both major political parties—the Liberal-National Coalition and the Australian Labor Party (ALP)—have been staunch supporters of the mining industry for decades (Baer, 2016). Given that coal remains Australia's second largest export after iron ore, there is a strong perception that Australia is economically dependent on fossil fuels. Despite government rhetoric about a shift towards a COVID19 'gas-led recovery' (Saunders and Deniss 2021), coal also

remains the dominant fuel for Australia's domestic energy supply, with gas and renewables each contributing less than half of what coal supplies to the grid (Commonwealth of Australia, 2021a). Socially, while there is widespread public support for reducing Australia's reliance on fossil fuels (Quicke 2021), concerns over regional jobs are often raised. The ALP has tended to be more ambitious in addressing climate change than the Liberal-National Coalition, however the significance of unions as the 'traditional constituencies' of the ALP at both federal and state levels has led to have led to very mixed messages about the ongoing role of coal as an export commodity and in Australia's domestic electricity market.

Given that Australia is a rich country and a major coal exporter, the question of transition is both pressing and complex, and the concept of transition—let alone a 'just transition'—is politically charged. Coal mining has undeniably underpinned the wealth of particular regions and supported Australia's balance sheet. But it has not been without cost or controversy. Even for its proponents, the employment cycle of mining raises questions about the sustainability of regional communities, infrastructure and employment, as well as differential impacts on diverse communities including rural and Indigenous communities and other industries such as agriculture and tourism. Opposition to coal has been visible on grounds ranging from disruption of prime agricultural livelihoods (such as in the Hunter Valley region of NSW) to health and amenity for residents near mine sites, railways or ports. Overlying both are the significant GHG emissions associated with coal extraction and its ultimate combustion for energy or industrial processes. On the other hand, some Australian politicians and industry representatives have not been shy to use justice-based arguments to support their view that Australia should not transition away from coal at all. Some go as far as to argue that exporting Australian coal is essential to lift people out of poverty in countries such as India.

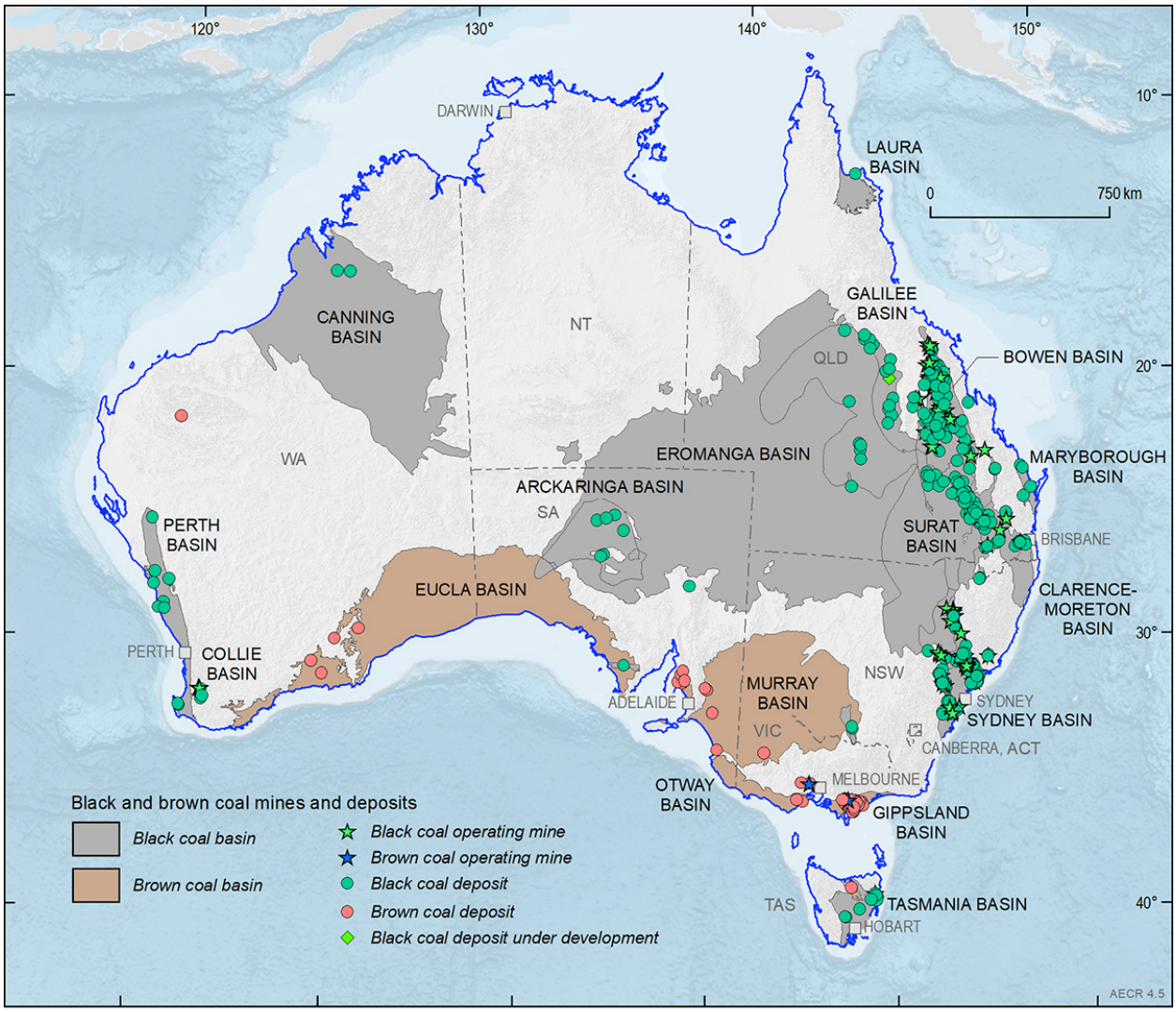
Australia's international neighbours in small Pacific Island states have been clear that large carbon emitters such as Australia must acknowledge their contribution to global warming. The failure of the Australian government to advance more ambitious climate targets at COP26 in November 2021 and its willingness to continue to oppose the closure of aging domestic coal-powered electricity plants represents a significant hurdle for Australia's current diplomatic positioning in the 'Indo-Pacific' (Wallis 2021). Not only does this highlight how Australia is increasingly isolated from major powers like the US, China, and Japan in its climate ambitions, it also underscores the contradictory position of Australia investing in its Pacific Step-Up. The Step-Up is part of Australia's development aid that is injecting almost A$1 billion per annum into the region (currently 36% of its ODA budget) to protect Australia's strategic interests (Commonwealth of Australia 2021b), but this is juxtaposed against a persistent failure to recognise the existential concern of its Pacific neighbours resulting from sea level rise and increasing extreme weather events from global warming. Moreover, Australia plays a central role as a supplier to the Asian seaborne thermal coal market (including to China, Japan, and India), the key region which will determine coal's long-term future in the context of climate change. With states like China committing to net zero by 2060, the ability of Australia to justly transition away from coal has significant implications for the shape of any just transition in the Asia-Pacific

region. It bears further investigation as to whether a 'just transition' for workers at Australia's coal mines could prolong coal export supply chains in ways that could both lock in global warming and its effects for millions of people in both Australia and abroad, not to mention future generations.

In this context it is urgent that we (1) understand how the notion of a 'just transition' is being defined in Australia; (2) identify the challenges Australia will have to overcome to implement a just transition; (3) broaden the definition of just transitions; and (4) enrol a much more diverse set of actors into just transition thinking in Australia.

1.3 Coal in Australia

To begin, it is important to understand the Australian context. Coal is Australia's largest energy resource (Commonwealth of Australia, 2021b). Globally, Australia accounts for 13% of the total world economic resources for coal, with the third largest coal reserves in the world. Australia is the world's fifth largest coal producer, and the second largest exporter of coal, with coal averaging 14% of total export values between 2015-2019 (Cunningham et al., 2019). Most coal in Australia can be categorised as either black or brown coal, largely determined by the density and amount of carbon and moisture in the coal. This also denotes quality as it determines the energy content and amount of processing required to burn the coal, and thus its value as a fuel. A recent map of Australia's coal deposits and operating mines is shown in Figure 1.



Source: Geoscience Australia.

Figure 1: Australia's coal reserves and operating mines as at 2019.
Reproduced from Geoscience Australia (2021).

In Australia, anthracite, bituminous and sub-bituminous coal are referred to as 'black coal', and represent coal with a higher energy content and lower moisture content which is suitable for use as either thermal coal for electricity production or metallurgical coal in iron and steel industries (Commonwealth of Australia, 2021b). Black coal is used both domestically and as a valuable export resource, with Australia variously the second largest or largest exporter of thermal coal according to IEA estimates (Edwards, 2019; IEA, 2021). Black coal reserves are located in all states except Victoria, but the largest reserves are located in NSW and Queensland.

In Australia, lignite is referred to as 'brown coal' and is distinguished by its colour, lower energy content than black coal, and higher moisture content which means it requires further processing and produces less energy per tonne. Brown coal is currently only mined in Victoria (predominantly in the Latrobe Valley) where it is used for domestic electricity generation, generating the majority of the state's electricity (Commonwealth of Australia, 2021b). While it

contributed 12.7% the country's electricity generation in 2019/20 (Commonwealth of Australia, 2021a), the proportion of domestic electricity generation from brown coal has been in near constant decline since 2008 and has decreased every year for the past 10 years.

This short description of Australia's coal reserves highlights the first key division within Australia's coal industry. On one hand, brown coal is used almost entirely for domestic electricity generation, where it is competing with—and increasingly being replaced by—energy sources with considerably lower greenhouse gas emissions profiles, including gas and renewable energy. Black coal, on the other hand, is mainly exported for thermal power generation or metallurgical processing overseas, and is still seen in some quarters as a cornerstone of Australia's export industry.

Despite the historical significance of coal as the source of Australia's domestic electricity, the coal sector is overwhelmingly export-oriented, reaching a record high in 2018/2019, when approximately 70% of Australian coal and coal products were exported (Commonwealth of Australia, 2020). This contrasts with a global coal sector that had been stagnant for years since peaking in 2013 (Edwards, 2019), reflecting a broader trend towards power generation from natural gas in the near-term transition and renewables in the longer term (IEA, 2020). Since the early 2000s, the steady demand for Australian coal exports has been generated by developed Asian economies such as Japan and South Korea, enhanced by a rapid growth in exports to China and India. The resilience of Australia's coal export sector has rested on growth in energy demand from Asia, the one region in the world where the IEA still foresees growth in consumption (IEA, 2021), and demand from Asia drove Australian coal exports to an all-time high in 2019.

The last few years have witnessed unprecedented instability in global energy and fossil fuel markets as the Covid-19 pandemic reshaped demand. In 2020-21 however, Australia's coal exports declined sharply both in the response to the Covid-19 pandemic and the commitments of China, South Korea, and Japan to stop funding overseas coal projects and production by the end of 2021 (Cunningham et al., 2019) and pledging net zero targets by 2050 and 2060. The growing tensions between Australian and China led to China imposing an unofficial ban Australian coal imports in late 2020, and despite optimism from the Australian coal industry that this would be relaxed due to increasing supply pressure in China, a recent decision by Indonesia to once again open exports to China appears to have tempered that hope (Smith and Connors, 2022). Despite global and national trends away from coal, in addition to increased pressure from climate targets and trade bans from leading coal importers, Australia remains committed to expanding the coal industry and is projecting a return to form of the global coal market in 2022-23 as Asian economies 'return to normal conditions'.

Australia did belatedly pledge to achieve net-zero emissions by 2050 after coming under intense diplomatic pressure in the run-up to COP26 in Glasgow in 2021. However, the government stressed that this does not include any immediate plans to limit fossil fuels, nor a long term intent to transition fully away from coal production. This is in part due to ongoing narratives suggesting that coal production is a fundamental part of the nation's economy. Recent estimates put direct

employment by the coal mining industry at approximately 41,000, with a broader 150,000 working in jobs related to coal (Quince, 2021).

2. Methodology for data collection and analysis

This section outlines the key methodologies employed to analyse the empirical data collected in the project, which consisted of 355 media articles mentioning 'just transition', a series of grey reports on the topic, and semi-structured interviews with key stakeholders.

One major limitation of our methodology was that our search terms for the literature and media articles explicitly mentioned 'just transition'. Whilst we did run ancillary searches to test our search terms, a major finding of the interviews which emerged after the media and documentary analysis was completed was that 'just transition' is not a term widely used in Australia. This means our literature and media searches likely only captured a small and particular subset of the public discourses related to just transition. Further study would be required to broaden the search term and use other terms which have been used more widely in Australia.

2.1 Coding

An overarching coding framework was developed for the report to pull together and analyse information across different sources. The aim was to use a consistent taxonomy while remaining flexible about the details of the application to different sources. The codes used are shown in Table 1. Key themes were the collection of definitions of 'just transition' and classification of attitudes to just transition as positive, negative, or neutral. The classification of actors included the identification of document authors and of the subjects of concern. Just transition actions or the implications of a transition were classified according to international, national, state, or local scales.

Table 1: Coding taxonomy

Level 1	Level 2	Explanation
define	JT	Any definition of 'just transition'
tone	JTpositive	Clear positive sentiment towards JT
tone	JTnegative	Clear negative sentiment towards JT
tone	JTneutral	No clear sentiment towards JT, neutral reporting of opinions
advice	JTOpportunity	Specific opportunities for (or of) JT identified
advice	JTChallenge	Specific challenges or barriers to JT identified
advice	JTProposal	Specific practical actions suggested to achieve JT
scale	local	Scale at which JT is discussed
scale	state	Scale at which JT is discussed

Level 1	Level 2	Explanation
scale	national	Scale at which JT is discussed
scale	international	Scale at which JT is discussed
actor	GovLocal	Main actors mentioned as responsible for/ obstructing/ debating JT
actor	GovState	Main actors mentioned as responsible for/ obstructing/ debating JT
actor	GovFederal	Main actors mentioned as responsible for/ obstructing/ debating JT
actor	Industry	Include coalMining, powerGen; coalService
actor	Finance	banks, insurance companies and other financial institutions/ investors
actor	LabourMvt	Unions and those speaking on behalf of workers
actor	EnvironMvt	Environmental campaigners, conservation organisations
actor	Community	School and student activists and local community representatives
author	journalist	
author	academic	
author	thinkTank	Knowledge-focussed rather than environmental campaigning NGOs
author	union	
author	environmentalist	
author	politician	
author	industry	senior industry figures, industry-authored reports
author	govt	government documents, also items by MPs and other politicians
author	public	letters to the editor by individuals with no clear affiliation
medium	letter	
medium	mainstream	
medium	local	
medium	journalPaper	
medium	greyReport	

Using this coding taxonomy, we analysed three qualitative data sources.

2.2 Analysis of media articles

To understand public discourses of 'just transition' in Australia we initially analysed media articles from Australian newspapers. We initially conducted a search in ProQuest through the Australian New Zealand Newsstream but then broadened our search to include all 16 of ProQuest's databases. Our searches were filtered by document type "newspapers" and location "Australia", searching for "just transition", "Australia" and "coal" in the full text of the articles. We trialed a

number of search configurations. Our first search for "just transition" AND "Australia" OR "coal" retrieved over 52,000 articles. We ran several related searches of the same database for comparative purposes, adding and removing the different filters as well:

- Keeping the original filters, we removed "coal" and "Australia" to include only mentions of "just transition" which retrieved 1,766 results, with the first mention of the term "just transition" appearing in 2002;
- Keeping the original filters, we ssearched for "just transition" AND "fossil fuel" retrieved 201 results (including duplicates);
- Removing "Australia" from the search terms (i.e. searching for "just transition" AND "coal" retrieved 336 results (including duplicates); and
- Removing "coal" from the search terms (i.e. search for "just transition" AND "Australia" and removing location "Australia" retrieved 671 results (including duplicates);

To ensure consistency with the other discourse analyses that inform this report, we narrowed the search terms and selected the articles captured by the search term "just transition" AND "coal" AND "Australia" for further analysis. Our final search retrieved 494 articles, including metropolitan and local news articles and letters to the editor. After removing all duplicates and any publications that were not published by Australian media outlets,[1] we were left with a database of 355 newspaper articles. We subjected these articles to detailed content analysis using Excel and the qualitative analysis suite Taguette[2] to better understand (a) the definition of just transition being employed; (b) the scale at which just transitions were understood; and (c) the sectoral focus of the just transition policy or programme.

In addition to our ProQuest search, we conducted a manual web search using the same search terms for online news articles from the national broadcaster the *Australian Broadcasting Corporation* (ABC) and the prominent masthead *The Guardian*. This yielded a further 10 articles between 2016 to 2021, which we recorded but did not include in quantitative analysis because they fell outside our primary search methodology.

The media types analysed are shown in Table 2. Details of their geographical focus, ownership and the total number of articles in them can be found in Appendix 1. We categorised the articles according to the key audiences they address to highlight different perspectives on just transition and its presentation at different scales, from federal to state, regional and local.

Table 2: Media analysis registers (See also Appendix 1).

Media type	Newspaper title	Audience
Mainstream News (Metropolitan and national papers	Australian Financial Review, The Australian, The Age, Sydney Morning	▪ Mainstream news generally written for larger and readership more diverse audience

[1] This was primarily the small number of New Zealand outlets represented in the search.
[2] https://www.taguette.org

Media type	Newspaper title	Audience
covering major cities, state and national news topics)	Herald, The Courier Mail, The Daily Telegraph, The Herald Sun	
Local papers (lower circulation publications that were of a more regional and local level)	Bay Post , Bega District News, Blue Mountains Gazette, Bowen Independent, Braidwood Times, Bunbury Mail, Busselton - Dunsborough Mail, Camden Advertiser, Canberra Times, Central Western Daily, Daily Examiner, Hawkesbury Gazette, Illawarra Mercury, Maitland Mercury, Mudgee Guardian, Newcastle Herald, Northern Star, Preston Leader , Singleton Argus, Southern Highland News, Sunshine Coast Daily, , The Advertiser , The Armidale Express, The Bendigo Advertiser, The Border Mail, The Burdekin Advocate, The Cairns Post, The Camden Haven, The Centralian Advocate, The Courier, The Courier Mail, The Daily Advertiser, The Daily Mercury, The Daily Mercury , The Land, The Manning River Times, The Mercury, The Morning Bulletin , The North West Star, The Northern Daily Leader, The Observer, The Queensland Times, The Tenterfield Star, The Transcontinental, The Western Advocate, Townsville Bulletin, Weekend Australian	▪ Local papers generally written for localised events/analysis of transitions as they relate to smaller communities
Letters to the Editor (separated into two categories, local letters (from local papers) and mainstream letters (from the metropolitan and national papers)	These were categorised to delineate letters from local papers and letters from mainstream papers	▪ Letters to the editor separated between letters from local papers (often covering public opinion on local issues) and letters from mainstream papers (more diverse coverage of both local but also national events/analysis)

Each article was analysed according to the coding structure outlined in section 2.4. All newspaper articles and letters to the editor were listed in an Excel spreadsheet. Text mentioning or defining just transition was copied into the spreadsheet. Columns were added for the following codes:

- publication type (medium)
- author type
- actors mentioned
- scale at which JT is discussed
- the tone of each article (positive/negative/neutral) of each article was classified based on the sentiments expressed in relation to a JT.

One limitation of the coding structure was that only one code could be applied to each article, so two team members liaised together to agree on the primary code in instances where more than one actor and/or scale was present in an article. In instances where it was considered beneficial to apply multiple codes, articles were imported into Taguette for further coding and analysis. Though this analysis ultimately was not used in this report, the codes generated from this process helped develop our understanding of JT definitions and challenges in the public discourse.

2.2 Analysis of the grey literature

To gain a more in-depth perspective on how 'just transition' is being used in public discourse in Australia, we collated and analysed a series of reports. Reports were authored by environmental non-government organisations (ENGOs), think tanks and trade unions, also academic working papers which mentioned a just transition in the Australian context. It also included 3 submissions to the Federal Senate Inquiry into the retirement of coal fired power stations and a significant speech by a union leader (Maher, 2016).

PDF versions of these documents were stored in Zotero. Relevant text in the documents was highlighted and these highlights exported to Taguette. This text was then allocated codes from Table 1 above. Reports for each tag from Taguette allowed all text extracts associated with a particular code to be viewed. Recommendations about how a just transition could be achieved, and the challenges and opportunities faced were coded.

2.3 Analysis of Semi-structured interviews

To better understand stakeholder perspectievs on 'just transition' in Australia, we conducted a series of semi-structured interviews from February 2022 with stakeholders from federal and state government departments, industry, unions, civil society, and community. A total of 20 interviews were conducted in this phase of the research, with 13 interviews transcribed and coded for analysis in advance of this report. Because of time constraints, our interviewee sample was necessarily limited, and results should be interpreted in this light.

Full verbatim transcripts of the interviews were coded in Taguette, following the same overarching coding structure developed to examine public discourses of just transition in Australia (above). The analysis placed a particular emphasis on the descriptions given of the current situation in Australia and on the interviewees' views on barriers and opportunities for a just transition.

3. Understanding the academic literature

In this chapter, we examine the concept of the 'just transition' in the academic literature both internationally and within Australia.

To understand the academic literature we conducted a rapid review of the literature on 'just transition' in Australia. We started by collecting and analysing all references to 'just transition' in Australia which also mention 'coal' and compiled a bibliography based on prior just transition research, back-reading references from just transition articles, international works, and connected literatures relating to low-carbon transition. We then conducted an initial search of academic literature using Scopus and Web of Science using the keywords "just transition" AND "coal" AND "Australia". This search was expanded to include mentions of "just transition" AND "Australia" as well as "just transition" AND "coal" in countries other than Australia.

After compiling the search results and removing duplicates, technical papers from research areas outside the social sciences that considered transitions from the perspectives of the natural sciences or engineering disciplines were excluded. Examples of such papers include:

> Cabral, Renato P., Mai Bui, and Niall Mac Dowell (2019). A synergistic approach for the simultaneous decarbonisation of power and industry via bioenergy with carbon capture and storage (BECCS). *International Journal of Greenhouse Gas Control* 87: 221-237
>
> Genç, Murat Can, Aykut Ekinci, and Burçhan Sakarya (2021). The impact of output volatility on CO2 emissions in Turkey: testing EKC hypothesis with Fourier stationarity test. *Environmental Science and Pollution Research*. 1-14.

Following removal of technical papers and duplicates, we were left with a database of 133 academic publications, predominantly journal articles and book chapters.

Google Scholar searches and manual web searches of relevant Australian unions, environmental advocacy groups, governmental departments, civil society organizations were used to search for relevant grey literature. This search yielded 71 documents, including reports, presentations, press releases, and submissions to government inquiries.

3.1 Understanding the broader academic literature

a) Diverse literature, disciplines & focuses

'Just Transition' has been discussed in academic writing since early development of the term by international labour unions in the late 1990s (Young, 1998). In particular, labour and political science researchers have charted the emergence of just transition as an idea of activists in the North American labour movement from the 1970s (Leopold, 2007; Young, 1998). The term 'just transition' is not limited to coal or climate change, and as such a broader academic literature is relevant. However, most of the scholarly attention on just transitions has come within the past

two decades—particularly in the past decade—and the idea of a just transition is now most commonly associated with the transition away from global fossil fuel use. This scholarly attention has provided "rich theoretical and empirical insights from various disciplines" (Wang and Lo, 2021: 1) with a range of approaches and orientations.

Academic literature on just transitions, like common usage of the term, is diverse and often contested, ranging from forward-looking technical and policy-focused research to more grounded labour-oriented studies, as well as theoretical writing with more critical and/or aspirational stances. Wang and Lo (2021) identify five themes around which the concept has been discussed in academic literature:

1. Just transition as a labour-oriented concept;
2. Just transition as an integrated framework for justice;
3. Just transition as a theory of socio-technical transition;
4. Just transition as a governance strategy; and
5. Just transition as public perception.

This literature review examines the diversity of engagements with just transition in order to examine common and contested definitions, barriers and opportunities.

Work by labour and social movement scholars has charted the development of the term by labour organisations globally (e.g. Young, 1998; Burrows, 2001; Leopold, 2007) and discussed just transitions as an embodiment of 'labour environmentalism' (Abraham, 2017; Snell and Fairbrother, 2012). This literature has paid particular attention to the initiatives and demands of workers and unions and efforts by environmental and labour movements to build alliances in the context of environmental and industrial change (Burgmann, 2012; Evans, 2007). As will be discussed below, here the 'just transition' is identified as a key strategy to break through or repudiate apparent conflicts between 'jobs vs environment' and 'labour vs environment'.

The past two decades has also seen a significant body of international academic work in the field of energy studies that focuses on 'transition management' (of), 'social-technical' and 'sustainability' transitions, and more specifically low-carbon transition (e.g. Kemp et al., 2007; Verbong and Geels, 2010; Kern and Smith, 2008; Jefferson, 2008; Knopf et al., 2010; Goldthau and Sovacool, 2012). Much of this literature assumes a neutral and dispassionate stance in addressing high-level, technological or employment aspects of energy system change, in which transition is largely approached as a technical challenge resolvable with adequate research and planning.

Geographers and a growing number of scholars across political, legal and energy research fields have noted that energy and 'transition management' studies have often paid insufficient attention to the "fundamental transformations in the ordinary routines of daily life" (Shove and Walker, 2007: 1270), and thus the "inherently redistributional" (Weller, 2012: 1270) "irreducibly political" (Meadowcroft, 2009: 323) character of energy transitions (see also Evensen et al., 2018; Bridge et al., 2013; Lawhon and Murphy, 2012; Bradshaw, 2010; Scrase and Smith, 2009). As

(Mohr, 2018) summarises, 'transition management' has too often been narrowly framed as a linear, top-down process led by policy and stakeholder elites primarily in the industrialised Global North, driven by technological change and the techno-economic priorities of formal transition implementers.

Many of these scholars take a more active and normative approach and argue that there needs to be more attention to who wins, who loses, and who gets to participate in transition decision making. Subsequently, more recent research in geography, political science and energy studies has more explicitly engaged questions of place (Tansen and Coenen, 2015), energy justice and democracy (e.g. Healy and Barry, 2017; Williams and Doyon, 2019) and 'just transitions' (e.g. Newell and Mulvaney, 2013; Stevis and Felli, 2020; Weller, 2019; Mijin Cha *et al.*, 2022). A growing academic literature across political science and geographical scholarship critically interrogates – and often *advocates for* – the deeper theories and practices of 'justice' that might be enabled, or inhibited, through a just transition (McCauley and Heffron, 2018; Velicu and Barca, 2020; Williams and Doyon, 2019). This will also be examined further below.

It is noteworthy that much of the academic literature discusses 'what could, what should, or what does not' resemble a just transition. That is, while historic or contemporary industrial restructuring or 'structural adjustment' events are often referenced as 'unjust transitions' (e.g. Sheldon et al., 2018; Mijin Cha et al., 2022), very few strong or widely agreed examples of *realised* just transitions are recognised. The phase-out of coal mining Germany's Ruhr region is perhaps the closest thing identified to a 'successful' case from which positive lessons can be learnt (e.g. Abraham, 2017; Oei et al., 2020; Sheldon et al., 2018; Wiseman and Wollersheim, 2021). Wiseman et al. (2020) identify some promising, if belated, strategies undertaken in the Latrobe Valley following the rapid closure of Hazelwood Power Station in 2017.

Most literature on just transition, like this report, thus aims to contribute to the future realisation of just transitions in Australia and internationally. In their recent review of academic literature, Wang & Lo (2021: 1) call for "more empirical studies rooted in practice" along with "more discussion on the relationship between different concepts of just transition" and "more attention to power dynamics in just transition". It is intended that this report can contribute to these areas.

b) Themes: 'Jobs vs environment' & 'green jobs in place'

Key to the initial formation and evolution of just transition discourse is the 'jobs vs environment' dilemma. This apparent dichotomy, though ultimately a false choice, is identified as a dominant and enduring narrative in both Australia and internationally (e.g. Evans and Phelan, 2016; Kalt, 2021; Räthzel and Uzzell, 2012). 'Jobs vs environment' narratives are often "perpetuated by business interests" (Burgmann, 2012) and used in tandem with the employer strategy of 'job blackmail' (Kazis and Grossman, 1982), operate to arouse fears and hinder popular support for environmental protections, including climate action (e.g. Goddard and Farrelly, 2018; Goods, 2021; Young, 1998).

The earliest enunciations of just transition by North American labour activists posited that workers and communities would be supported – for instance with new jobs, retraining, or other community-wide assistance – if new environmental regulations forced job losses or complete closures of polluting facilities or industries (Leopold, 2007). Part discursive strategy (Velicu and Barca, 2020) and part demand on policymakers, just transition was thus proclaimed as "A New Approach to Jobs v. Environment" (Young, 1998). To this day it is still presented as organised labour's apparent "path-breaking historical change capable of finally overcoming the jobs vs. environment dilemma" and the associated "historical opposition between environmental and labor politics" (Snell, 2020; Velicu and Barca, 2020: 266).

In this way, just transition discourse and initiatives have been connected the idea of 'green job' development as well as efforts to (re)build 'red/green' or 'blue/green' alliances between labour and environmental justice movements (Burgmann, 2012; Evans and Phelan, 2016; Goods, 2021; Snell et al., 2009). More recently, just transition has been associated with and likened to proposals for a 'Green New Deal' (Mijin Cha et al., 2022; Mijin Cha, 2020; Heenan and Sturman, 2020; White, 2020).

Evans & Phelan (2016) observe that the 'jobs vs environment' dilemma remains a dominant narrative in the context of coal and climate change policy in Australia. It is in this context that just transition, as a labour-developed discursive strategy (Abraham, 2017) is highlighted as "one of the most innovative and promising proposals to address climate change" (Velicu and Barca, 2020: 263). In this vein, Goddard & Farrelly (2018: 110) note the potential of Queensland's "powerful incumbent resources sector [in] utilising an "environment vs. jobs" narrative" to oppose energy transition, but found that the application of just transition principles in Queensland has "engaged communities and unions that were previously sceptical of renewable energy".

Colvin (2020: 2), like Wiseman et al. (2020) observes that the integration of just transition approaches into environmental actors' discourse in Australia has sometimes been met with suspicion about the actors' motives - particularly when delivered by 'advocates from afar' - due to the belief that the environment will be ultimately prioritised ahead of people. Snell (2018a), like Weller (Weller, 2019) notes that local narratives and identities often clash with, and resist, the imposition of policy or transition discussions from ''outside". Mijin Cha et al. (2022) examine diverse American social movement definitions of just transition, however there is a gap in the recent Australian research that interrogates grassroots engagement with just transition discourse.

c) Summarising attempts to define just transition

Table 3 summarises some of the myriad attempts to define 'just transition' in the academic literature.

Table 3: Definitions of 'just transition' in the academic literature

Author(s)	What is just transition about?
Goddard & Farrelly, 2018	▪ Passive just transition: prioritizing the expansion of production and protection of workers jobs—only accepting transitions when jobs are preserved in the current industries ▪ Minimalist just transition: promoting green capitalism with the creation of decent 'green' jobs and retraining and financial support for affected workers ▪ Transformative just transition: fundamental shift of the socio-economic system to subordinate production to the needs of humans and the ecosystem as opposed to profit, emphasis on the democratization of production, ownership, and control
Burke, Best, Jotzo, 2019	▪ Transition planning for retrenched (redundant) workers; emphasis on the creation of quality employment
Colvin, 2020	▪ Ensuring the energy transition does not further entrench disadvantage, i.e. attention to the distribution of costs and benefits that results from the shift
Della Bosca & Gillespie, 2018	▪ Ensuring that communities are empowered to choose whether and how energy systems (and their daily lives by extension) will change
Dodd, Rai, & Caught, 2021	▪ Focus on strengthening policies around social protection, i.e. unemployment insurance and benefits, skills training and upgrading, and workforce redeployment
Evans, 2008	▪ Equitable sharing of costs and benefits to a low-carbon economy; vulnerable workers and affected communities are assisted through public investment in income support, retraining and education, and alternative industry development
Evans & Phelan, 2016	▪ Smoothing the shift towards a more sustainable society and facilitating the capacity of a green economy to sustain decent jobs and livelihoods
McCauley & Heffron, 2018	▪ Fair and equitable process of moving towards a post-carbon society' i.e. fairness and equity with regards to ethnicity, income, and gender
Morton et al., 2020	▪ Contesting the meaning, legitimacy, and use of fossil fuels, especially coal, and building a social and political constituency for transition to a decarbonized society, powered by renewable energy
Pai et al., 2020	▪ A way of overcoming political resistance against policies to phase out coal; a way to retrain fossil fuel workers for alternate jobs
Snell, 2020	▪ An attempt to break the 'jobs vs. environment' dichotomy in a way that does not unfairly burden or disadvantage workers and local communities
Snell & Fairbrother, 2012	▪ A process of change to a low-carbon economy requiring the equitable distribution of costs, achieved via planning and proactive policy-making and implementation
Burgmann, 2012	▪ A red/green alliance as part of an effort to overcome the 'jobs vs. environment' binary
Goods, 2021	▪ A transformation that prioritizes the social and environmental needs of workers and marginalized communities requiring a modification of the priorities of the global political economy'

Author(s)	What is just transition about?
Markey & McIvor, 2019	▪ Labour protection or support for displaced workers involving social dialogue and collective bargaining at the sectoral and workplace levels
Masterman-Smith, 2010	▪ Ensuring that new jobs created in low-carbon growth areas are 'decent' – i.e. decent wage, working conditions, accessible to the right people, and offer career progression opportunities;
Sharpe & Martinez-Fernandez, 2021	▪ Providing safeguards and sustainable employment outcomes for affected workers and communities as part of the overall implementation of policies and actions to address climate change
Stillwell, 2021	▪ Ensuring that specific groups of workers and most vulnerable do not bear disproportionate costs of change
Velicu & Barca, 2020	▪ Aims to overcome the historical opposition between environmental and labor politics, with a view to making the post-carbon transition a socially just process – contend that a just transition can be a deeper transformation out of the logic of unequal relations, rather than just out of fossil fuels.

3.2 Examining the Core Academic Literature

The analysis in this section is drawn from the ("just transition" AND "coal" AND "Australia") search on Web of Science).

a) Defining Just Transition, barriers and opportunities, in Australia and globally

Since its inception, 'just transition' has been discussed, adopted, deployed and contested by labour unions, environmental movements, policy-makers, governments and international organisations including the United Nations (Rosemberg, 2010; Stevis and Felli, 2020; Wang and Lo, 2021). Emerging as a social movement call for action, just transition is now also a part of policy and governance lexicons around the world, and a focus for policy-makers and other actors charged with delivering a just transition.

Definitions of 'just transition' therefore vary in scope and detail across different contexts, applications and actors, and likewise across academic disciplines. Snell (2018a) notes that conceptual clarity around just transition is challenging, and in turn challenges any realisation of JT as a conceptual 'ideal type'. Before outlining key differences in approaches, we can identify some central and common elements in Australian and international academic literature (workers, justice, planning, empowerment).

Just transition begins with a recognition that any significant societal change, like phasing out coal use, will impact different people and communities in different ways. As a foundational principle, just transition thus requires attention to the inevitable creation of 'winners and losers' (Curran, 2021) and ensures there is some level of 'justice' for those who may be negatively impacted by a

transition. Here justice is often apprehended in a basic sense as a proxy for 'fairness and equity'. Achieving a just transition therefore means "elevating the social alongside the technological aspects of energy transition" (Colvin, 2020: 2) and seeking to ensure the "costs and benefits" that arise are "equitably shared across the affected communities" (Evans, 2008: 38).

Given the term's origins and enduring connection to organised labour, those negatively affected are most commonly assumed to be workers facing redundancy, often along with associated communities or regions. The "jobs argument was placed at the centre of the just transition concept" (McCauley and Heffron, 2018) and remains central to contemporary understandings. This is particularly the case in Australia (e.g. Burke et al., 2019; Evans and Phelan, 2016; Snell, 2020) where it is widely understood that the focus of just transition should be on the "industries, regions, communities, and workers whose livelihoods might experience the hardest impacts of the transition" (Dodd et al., 2020).

Much Australian-focused literature discussing just transitions, like broader Australian low-carbon transition studies (e.g. Fairbrother et al., 2012), primarily focus on planning and retraining for redundant workers and emphasize the need to create new decent work and quality ('green') jobs to replace those lost in polluting industries (Burke et al., 2019; Markey and McIvor, 2019; Pai et al., 2021; Snell, 2020).

Delivering such a transition is the next question for which there is also broad agreement in Australian literature. It is widely understood that governments at national and local levels have a central role in planning, coordinating, funding and facilitating a just transition (Burke et al., 2019; Dodd et al., 2020; Snell and Fairbrother, 2012; Wiseman et al., 2020). For many this necessarily entails a return to government-led industry policy as part of a long-term and proactive approach to economic planning (e.g. Snell and Fairbrother, 2012; Wiseman et al., 2020).

A key theme of just transition proponents and literature is thus how to reconcile or balance apparently competing interests and imperatives – for instance "the needs of workers with the need to protect the environment" (Snell and Fairbrother, 2012), "winners and losers" (Curran, 2021) with 'cost and benefits' of change (Evans, 2008), "just outcomes with just processes" (Goddard and Farrelly, 2018), and those directly affected regions and communities with macro-scale policy considerations (Weller, 2012, 2019).

Just transition advocates contend that successfully managing these tensions demands long-term planning and coordination across affected communities, unions, industry, and government. Drawing lessons from the European Commission's review of regional coal transition strategies, Wiseman et al. (2020) highlight that many elements of structural change "are foreseeable even decades ahead of time" as in the case of planned mine closures, and that the policy frameworks required to address these structural adjustments and economic renewal challenges need "many years or decades to unfold their full impact"—e.g. establishing new research and educational facilities to build up a local knowledge base for a diversified economy.

Such a balancing of economic and moral objectives is in stark contrast to laissez-faire approaches that leave such questions to the market, typical of mainstream (neoclassical) economics and

neoliberal governance. This is why, as will be discussed below, just transition is 'situated against' neoliberal discourse and policy approaches that assume "a market-based solution involving private enterprise is the only solution to regional and industrial revitalization" (Snell and Fairbrother, 2012).

Research by Goods (2021) demonstrates the way Australian corporate interests seek to oppose and 'remake' just transition discourse to prioritise economic and business interests (see also Snell, 2020). This is also noted internationally by White (2020: 25) who observe that a "narrow Northern-workerist vision of the just transition can be used by incumbent sectors—such as fairly well remunerated fossil fuel workers—to simply slow down and delay the moves to deep decarbonization".

Alongside a critical role for governments, many also highlight the importance of direct worker, union and local community engagement, participation and empowerment. This is necessary in principle as a component of procedural justice to ensure policies are locally-informed and appropriate (Morton et al., 2020; Snell, 2020; Wiseman et al., 2020), and to avoid local hostility and opposition to transition (Colvin, 2020; Dahlgren, 2019; Weller, 2019). These authors also note the importance of attention to regional framing, worker identity, and culture alongside attention to dominant narratives of coal and energy transition (Morton et al., 2020).

A just transition thus hinges both "on local empowerment and self-determination" (Weller, 2019) *and* a relationship with the state (Snell, 2018). Godard & Farrelly (2018: 112) call for both "a return to active state-led industrial planning" and assert that "workers, communities and unions should be involved in the planning process". Similarly, Snell & Fairbrother (2012: 148) contend that "in its application, 'just transition' seeks to extend worker, community, and union roles in the change process, *prior to change events*". Proactivity is thus critical but responsivity to unfolding events is also important, as highlighted by Wiseman et al. (2020) and Snell (2020) in their assessments of policy in the wake of rapid power station closures.

While workers, and by extension their local communities, are unquestionably part of all just transition approaches, many argue that just transition 'can't just be about support for impacted workers and re-employment' (Wiseman et al., 2020). It is indeed noteworthy that even the earliest formation of just transition by American union activist Tony Mazzochi advocated more than just replacement of industrial jobs for displaced workers, envisaging more expansive opportunities for workers and communities such as dedicated study 'sabbaticals' (Leopold, 2007).

Here is where understandings of just transition tend to start to become more expansive in their differences. This occurs along two primary axes: theories of justice, including who and what should be included as relevant; and the scope of change involved or required (from minimal transition to systemic transformation).

b) Justice – who and what?

Approaches to just transition amongst scholars, proponents and activists alike tend to diverge on the question of what qualifies to make a transition sufficiently "just" and *for whom* (Newell and Mulvaney, 2013). Academics have more recently begun interrogating unquestioned assumptions of justice in transition discourse, as well as applying broader theories of justice to the just transition. Key points of difference that emerge in this literature coalesce around exactly *who* is (and is not) to be considered relevant, and precisely what outcomes, events and processes are relevant to a just transition.

In common with international cases, most Australian just transition narratives tend to focus on distributional justice. That is, the distribution of narrow economic outcomes, usually understood as the provision of jobs and/or retraining for coal workers and directly affected communities. Alongside the provision of jobs, Australian scholars also highlight the importance of widespread and meaningful participation in transition *processes* and decision making as a core element of just transition (Evans and Phelan, 2016; Goddard and Farrelly, 2018; Snell and Fairbrother, 2012; Weller, 2019). In these articulations of procedural justice, recognition and notions of democratic engagement in transition process are key (for further discussion of the relationship between various facets of justice in a climate change context, including discussion of the theoretical literature, see Bulkeley et al., 2014).

In regards to both distribution and process, Masterman-Smith (2010: 236–238) observes that common Australian just transition narratives and green jobs projections have largely revolved around male-dominated and higher paid industries, and so argues there is much to be done the "burdens of transitioning to a low-carbon economy are not going to be unfairly shouldered by [already] low paid and vulnerable workers".

Scholars working outside Australia tend to take a broader view. McCauley & Heffron (2018) (2018) expand on this further, calling for disparate justice scholarship to unite and contribute to the development of just transition, and advocating a "triumvirate of tenets" that includes distributional, procedural *and restorative* justice approaches. They argue that within the context of the transition away from fossil fuels, "it is not simply the loss of jobs from associated industries that will require restorative justice solutions" (p. 5). In addition, issues surrounding past damages that have already occurred, existing crimes perpetrated against individuals, the environment, as "as well as the unforeseen harms that will be administered throughout the transition to a post-carbon world" need to be considered.

The notion of restorative justice opens up the question of who, if not just coal workers and proximate communities, should be included in a just transition? What about others affected by climate and transition policy in other countries? Should a just transition consider economic factors, or also impacts culture or identity (Colvin, 2020)? How do transition outcomes or processes intersect with existing gender and race inequalities (e.g. White, 2020)? What about enduring histories of colonisation, dispossession and Indigenous sovereignty? Is restoration for

historic injustices to be considered, or can existing structural inequalities simply be left in place alongside a 'just transition' from fossil fuels?

In other words, is a just transition one that simply 'does not further entrench disadvantage' (Colvin, 2020)? Can a just transition leave in place historic structures of environmental inequality, which could reproduce past injustices (Newell and Mulvaney, 2013)? Or should it be a means to address *already existing* inequalities and injustices along lines of class, geography, race and gender (Dodd et al., 2020; Goods, 2013; White, 2020). There is thus a growing call in North American and European literature that "a just transition can be a transition out of the logic of unequal relations—rather than just out of fossil fuels" (Velicu and Barca, 2020: 263).

Healy & Barry (2017) assert that energy justice – affordable, accessible and sustainable energy for all – should be central in a just transition from fossil fuels. Similarly, Australian scholars Evans & Phelan (2016) argue for a holistic integration of energy justice and broader justice considerations into any transition management approaches (see also Goddard and Farrelly, 2018; Heenan and Sturman, 2020). They identify a failure to achieve energy justice as potentially stalling transitions, eroding public support or risking capture by incumbent actors, jeopardising the chance of a full transition. Indeed, Australian Federal politicians and industry voices have regularly used arguments about energy affordability – domestically and as Australian coal exports relate to international electricity generation - to oppose the replacement of coal (Goods, 2021).

> "Whether the "just" in just transitions should prioritize the struggles of displaced fossil fuel workers and communities, interstate, interregional or intersectoral inequalities, inter-generation justice, or give priority to colonized people against settler colonial states, or even the ecological debt between the North and the South, is far from settled" (White, 2020: 25)

As Newell & Mulvaney (2013) observe, most demands for just transition are directed towards states. This typically inculcates public action and funding rather than requiring the private sector to 'pay' for a just transition. Research by Goods (2021) suggests that Australian corporate engagement with just transition often frames the problem as a question of cost on workers, consumers or the public, but rarely on corporate profits. Given low-carbon transition is inherently redistributive (Weller, 2012), who might be fairly asked to foot the bill to ensure adequate 'justice'? And how significant a reorganising of existing economic relations and structures is required?

c) Local transition or global transformation?

Australian-focused scholars (e.g. Goods, 2013; Markey and McIvor, 2019), like international authors (e.g. Stevis and Felli, 2015; Hyman, 2001; Cock, 2011; Hampton, 2018), have characterised different types of union approach to climate change policy and just transition. These provide means to discern different understandings and aspirations for 'just transitions' more broadly.

A typology developed by Goods (2013) distinguishes three broad positions on just transitions. The first of these – 'passive', market-oriented, 'light green' just transition approaches – tend to be short term, reactive and uphold conformity with existing economic-environmental structures and relations. 'Minimalist' or 'mid-green' approaches emphasise medium-term reformist change with a focus on employment and some social protections, while 'transformative' approaches seek proactive, long-term and systemic change that "places environmental and social needs first". Markey & McIvor (2019) integrate this typology with others (including Hampton, 2018; Stevis and Felli, 2015) and categorise these in relationship to worker agency and management prerogative -- delineating 'market', 'society' or 'radical class' orientations.

Most Australian union approaches to date have tended to resemble more 'pragmatic' (Snell, 2018) and 'passive' or 'minimalist' approaches that leave most existing economic structures and relations in place (Goods, 2013). Goods thus assesses Australian unions as primarily supporting 'business as usual' and just transition approaches which "maintains the treadmill of production". Explanations for this include the challenges unions face in balancing the diverse views of members including those working in coal (Snell, 2018; Snell, 2020), and the unique restrictions faced by unions in an Australian political and legislative context which limit their ability to engage and mobilise members (Stanford, 2020). Others observing regional development efforts in Australia note the limitations of 'capitalocentric' approaches (Gibson, 2001) that are contained to 'golden egg of corporate employment' (Gibson et al., 1999).

Velicu & Barca (2020: 270) make similar observations about international labour approaches to just transition, noting that the limited notions of justice in ITUC and ILO discourses produce only a "reduced version of JT [which] neglects its own contribution to the reproduction of the system's privileges and inequalities", and so remain "guided by the unquestioned principles of growth and capitalism". They advocate for broader systemic change and democratisation that would allow "working-class people themselves to reimagine the future society they want and to design the transition" (see also White, 2020). Such calls are echoed by others (e.g. Healy and Barry, 2017) including Australian scholars (Evans and Phelan, 2016; Goddard and Farrelly, 2018; Heenan and Sturman, 2020).

International literature also critically notes the importance of global perspectives for a transition to be in any way effective or just (e.g. McCauley and Heffron, 2018; Newell and Mulvaney, 2013), particularly in the context of international resource flows and geographies (Bradshaw, 2010). Most of Australia's coal is mined for international export, and is thus inherently connected international commodity markets, trade agreements, energy use by other nations, and localised health impacts wherever the coal is burnt. Though the need for locally-led and place-specific transition approaches is widely understood, it follows that any just transition approach in Australia must account for these international aspects and implications arising from changes in Australia's coal industries. However international considerations are yet inadequately explored in Australian just transition literature, and mainstream just transition narratives alike.

d) Barriers to just transition in Australia

1. Neoliberal governance

The massive, complex and *systemic* nature of energy transition means most just transition proposals and literature involve primary roles for the state in planning, facilitating, and funding a just transition (e.g. Dodd et al., 2020; Spencer et al., 2018; Wiseman et al., 2020). This should include "proactive, well integrated industry policy" and "funded, well-coordinated public investment in economic and community strategies" (Wiseman et al., 2020).

However, many scholars also note the unwillingness and/or incapacity of modern states to undertake sufficient long-term planning, interventions and coherent industrial, economic and social policy in an era characterised by neoliberal and market-led governance. This observation has been made both in Australia (Curran, 2021; Snell, 2018) and globally (Newell and Mulvaney, 2013). The very notion of 'just transition' – and the long-term planning and public investment it necessarily entails (Molyneaux and Foster, 2020; Wiseman et al., 2020) – is thus situated against neoliberal discourse and policy approaches, and chaotic market-led industrial restructuring (Goods, 2013; Snell and Fairbrother, 2012).

Beyond broader neoliberal governance approaches, Australia's current Federal Government policy on coal, which entails explicit support for continued development and resistance to rapid low-carbon transition, is an obvious barrier to just transition.

In this context, some also ask what elements of a just transition organised labour and communities might be able to initiate themselves, through their own policy proposals and projects (e.g. Burgmann, 2012) or collective bargaining (e.g. Abraham, 2017; Markey and McIvor, 2019). Mirroring the limitations imposed on government action in a neoliberal paradigm, scholars also note the impediments to organised labour pursuing such efforts, including a lack of union bargaining power, managerial/market prerogative, and legal barriers (Goods, 2013, 2021; Markey and McIvor, 2019; Snell and Fairbrother, 2012).

2. Power & persuasion

As discussed above, absent from many just transition discussions is an attempt to reimagine the social relations of production and challenge the power of incumbent actors. Drawing attention to this tendency, Curran warns that since the very actors dominating and benefiting most from the [energy] status quo are the same ones steering transition, it could be expected that any transition will be directed towards creating "new sites of accumulation" rather than broader transformations in the base of production and the relations of power (Curran, 2020).

For some scholars these emerging red-green alliances are at the heart of a just transition as they offer an opportunity to transcend the 'jobs versus environment' binary that has repeatedly derailed efforts to reduce emissions globally, which have also been identified as long-standing and ongoing barriers to Australian climate mitigation policy (Della Bosca and Gillespie, 2018; Snell and Fairbrother, 2012; Spencer et al., 2018).

Scholars (Burgmann, 2012; Curran, 2021; Goods, 2021) also note that the purposeful cultivation of this discourse by entrenched fossil fuel and political interests suggests a need for just transitions narratives to engage with questions of power and further a more radical vision that emphasizes the democratization of production and ownership of energy resources (e.g. Healy and Barry, 2017). Drawing on local resistance to coal mining in Hunter Valley, Morton et al. (2020) argue that such opposition can contribute "to a wider narrative process of creating an organized politics against fossil fuel energy and, indirectly, for energy transition", however they caution that this type of politics still has "a long way to go".

The push for a more radical vision of just transition in Australia has faltered in part due to the close relationship between the resources sector and the federal and various state governments that have consistently supported the exploitation of Australia's coal and natural gas resources (Baer, 2016). Pearse (2009) documents this relationship in extensive detail, observing that "when carbon-lobby recruits aren't moving through the revolving door between government and industry, they're often moving sideways between industry associations in a game of musical chairs".

Beyond direct influence on policy, fossil fuel interests also seek to influence narratives of transition and just transition. Goods (2021) explores how corporations in Australia, through industry groups, work to reframe the very *idea* of just transition in ways that emphasise "corporate-centred justice hierarchies, which maintain the existing political economic system". This goes deeper than simply narrowing or slowing potential transition processes. Instead, incumbent business interests seek to 'remake' just transition in their image through appeals to the 'common good'. Goods, like others (e.g. Velicu and Barca, 2020) thus argues that the "deeper structural political economic power relations of capitalism" need to be addressed, including the "domination of corporations and management and inversely the broad demise of worker power, particularly through unions". In this context, Goods suggests JT proponents overestimate capacity for both workers and unions to leverage power to bring about just transition across the global political economy.

3. Policy uncertainty

Despite a handful of attempts at transition planning in Australia, most prominently Labor's 2019 election promise to create a 'Just Transition Authority', the phase down of carbon-intensive industries has been marked by mismatch between business strategy and political strategy. For example, in their study of the proposed Liddell coal power station closure, Dodd and Nelson (2019) highlight how AGL's proposal to replace the plant with a mix of new technologies was undermined by institutional and regulatory actors efforts to keep Liddell operating, resulting in a course of action with lower positive social, economic, and environmental outcomes.

The absence of an integrated national climate and energy policy in Australia continues to impede just transition efforts (Ali et al., 2020). The Liberal-National Coalition, Australia's ruling centre-right political alliance, having been in government since 2013 has "actively discourage sectoral change and diminished the policy architecture that would support it" (Curran, 2020).

4. Understanding public discourses of just transition

In this chapter, we examine public discourses of just transition in Australia. We start by examining media discourses (Section 4.1), before examining the grey literature (Section 4.2).

4.1 Analysing media discourses

This section sets out the results of our analysis of media articles, to set the scene for the public discourse of just transitions rhetoric in the Australian context. We observed a series of findings through coding and analysis of the relevant media articles. After coding each article according to the categories (as described in Section 0) the key findings are outlined below. Overall, the media discourse analysis provides a basis to trace the recent history of just transition in the Australian context (particularly between the years 2019-2021) and how the ideas about transition are articulated in the public sphere.

a) Publications

In terms of the most frequent publications that included all key search terms, *The Newcastle Herald* (NSW) had the most articles and letters to the editor mentioning 'just transition'. This reflects the topicality of debates on the future of coal as Newcastle is a major coal port and centre for a mining region. Figure 2 shows publications which mention the key search terms more than once.

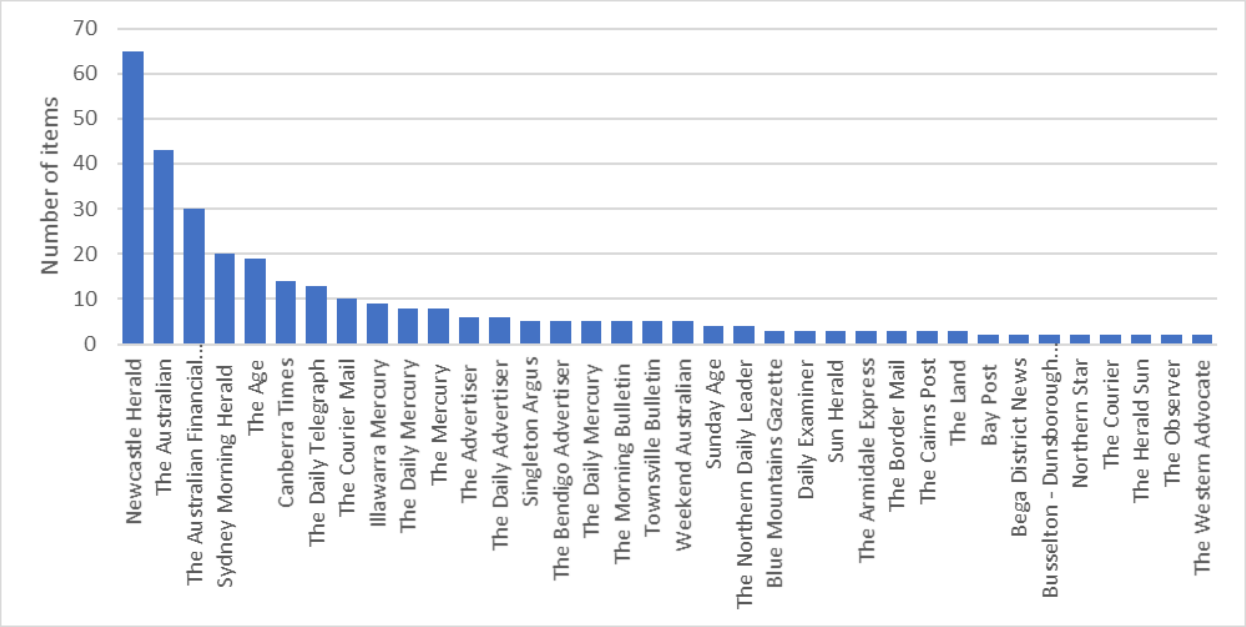


Figure 2: Number of articles that included the key search terms per publication

In addition to the Newcastle Herald, The Australian had the second most number of published articles relating to the key search terms. The Australian is a national newspaper owned by Australians largest media conglomerate, NewsCorp. Figure 3 shows all other publications that

mentioned the key terms more than 10 times across the period of 2005-2021. These include the Australian Financial Review, Sydney Morning Herald (NSW), The Age (VIC), The Canberra Times (ACT), The Daily Telegraph and the Courier Mail (QLD). Interestingly, of the 8 papers in the figure, the only local papers are The Newcastle Herald and Canberra Times. However, these numbers include all publication types (articles, letters to the editor and op-eds). Further analysis of publication types is provided in the next section. Most of the publications tended to be concentrated in NSW cities and regions, these are detailed in Appendix 1.

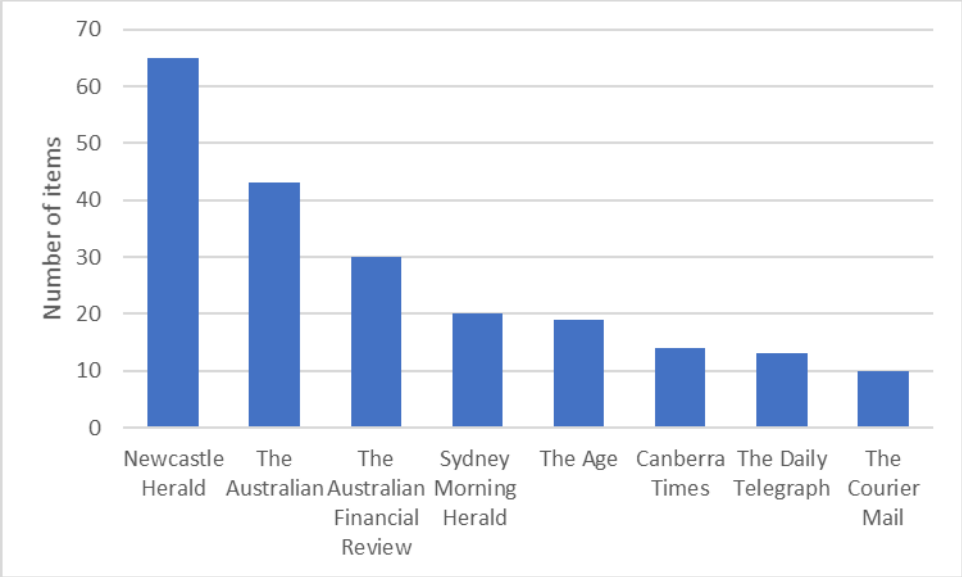


Figure 3: Publications which mention the key terms >10 times, 2005-2021

b) Publication types

We found there were approximately equal numbers of local and mainstream news coverage of a just transition but many more letters to the editor from the public about their views on just transitions in local publications. We analysed 197 local paper publications, 66 local letters to the editor, 183 mainstream news publications and 22 mainstream letters to the editor. The breakdown of publication types is shown in Figure 4.

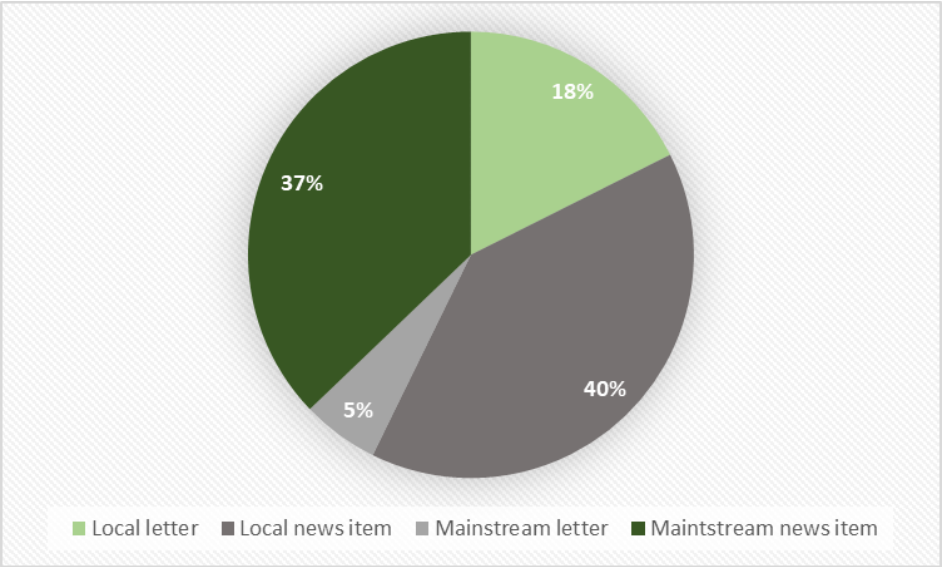


Figure 4: Total number of articles by publication type

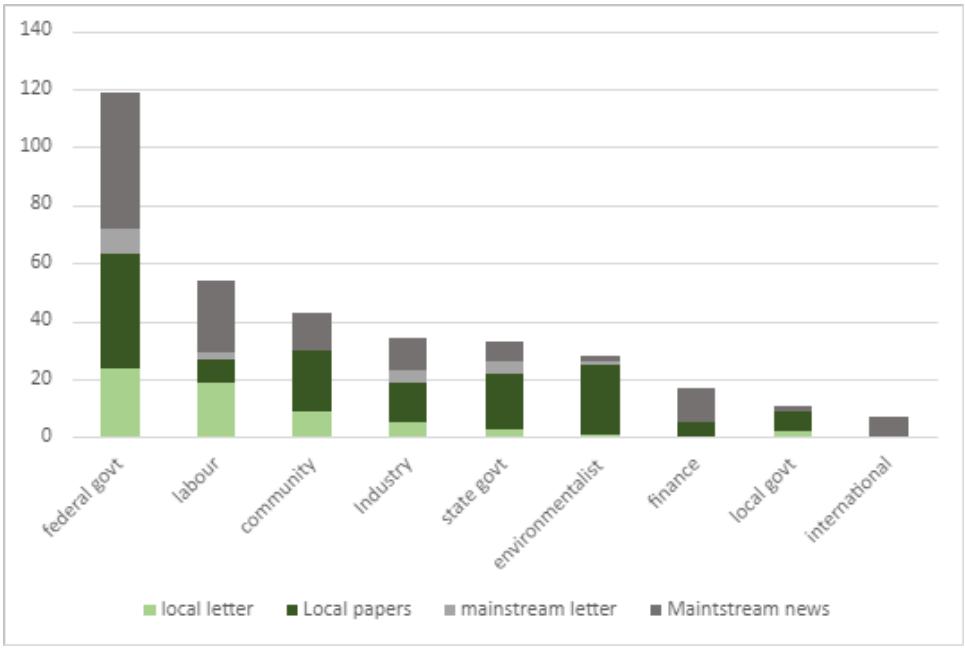


Figure 5: Total number of articles by publication type

In our analysis of the key actors for each publication type, we found that letters to the editor in local/regional publications tended to focus primarily on federal politics, labour issues, community events. This demonstrates how public discourse in the form of letters tends to focus on employment and community impacts often as they happen as a result of broader political and economic decision making by government.

c) Year

Interestingly, across all publications, the mention of “just transition” AND “Australia” AND “coal” were most prevalent in the years 2019 and 2021 (see Figure 6).

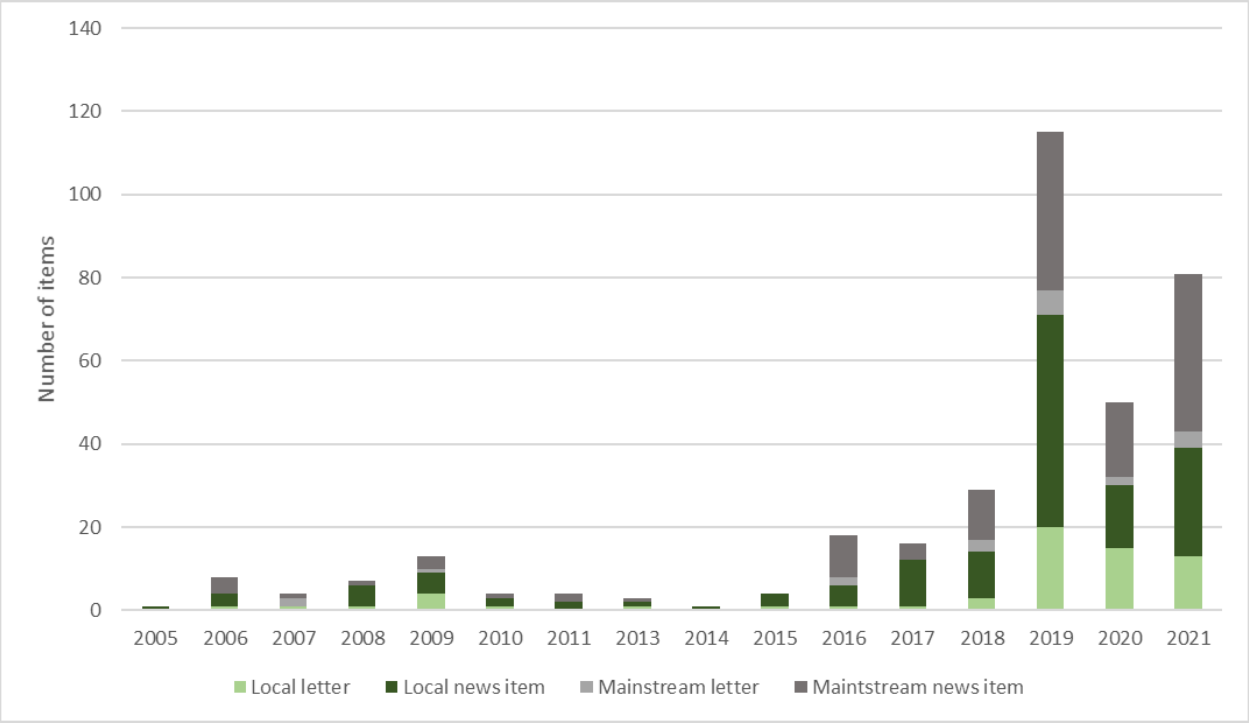


Figure 6: Number of news items each year, by publication type

We developed a timeline of events based on the topics reported on for each much throughout the years 2005-2021 (this is available in Appendix 2). This timeline was useful in tracing the history of just transitions in the Australian media landscape and determining how the ideas about just transitions may relate to key events. The most significant years in which just transitions and coal were mentioned in Australian newspapers were 2016, 2018, 2019 and 2021. There was a noticeable drop off in media coverage of just transitions in 2020, most likely due to the fact the world was consumed by the novel corona virus and the focus of the Australian government was to manage the population through a pandemic.

In terms of understanding the national political landscape over time, it is important to note that the Liberal-National Coalition was in power with only a one seat majority from 2016-2019, when it was returned to government with a larger majority. The key events detailed below pertain to political activity, industry responses to energy transitions and public political action often in the form of rallies and protests.

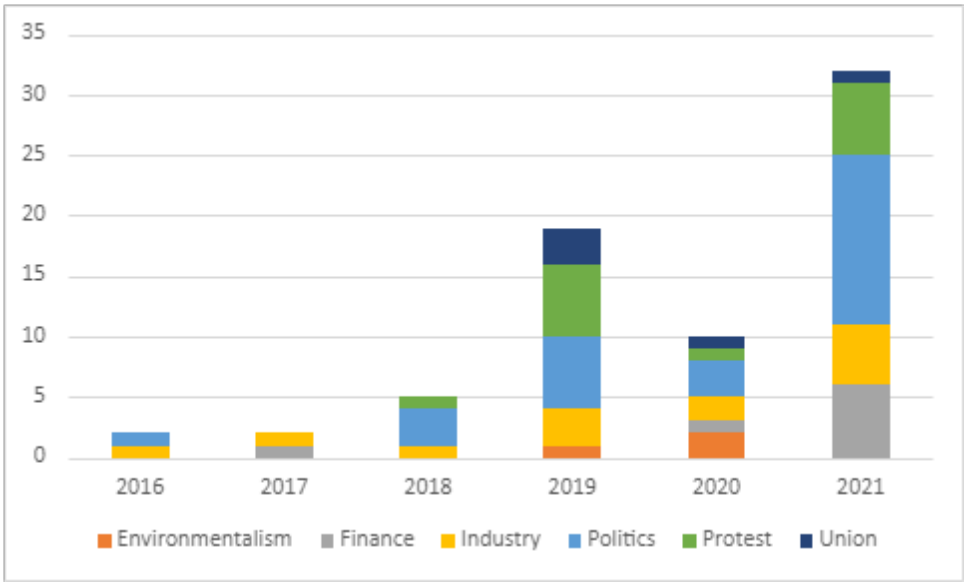


Figure 7: Mentions of 'just transition' in Australian newspapers, organised by actor and focus theme

2016

Based on the media articles for the year 2016, the key events were:

- The federal Labor government introduced 45% emissions reduction target - "Fossil-fuel generators will be set against each other to penalise or reward competitors, depending on their relative greenhouse-gas emissions profiles. This will encourage bad coal-power generation to give way to good renewables to meet a target of 50 per cent by 2030.The transition will be helped by the federal government entering power-purchase deals for wind and solar" (Lloyd 2016).
- The closure of Victoria's Hazelwood coal-fired power plant was announced - "Governments and Hazelwood's owner, Engie, will have to work rapidly and with strong commitment to ensure the community is properly supported into the next phase" (Rivers 2016).

From the Proquest search summary for this year, the key words were "climate change", "coal", "emissions trading", "environmental policy" and "electricity".

2018

- State Labor MP Trish Doyle spoke in NSW state parliament recommending closure of mines in Lithgow, prompting a "long term rethink of the economic future of Central West communities" (Anon 2018).
- AGL (Australia's largest electricity generator) press ahead to close Liddell Power station - "there has been a massive global shift away from coal by financiers, investors and insurers. Just in the past week AXA, ING, BNP Paribas, the NAB and the World Bank have moved

money away from fossil fuels such as coal. In the Hunter, AGL recommitted to closing the Liddell Power Station and replacing that capacity mainly with renewables while restating its commitment to never invest in coal again" (Klatovsky 2017).

- The Australian Labor Party announces creation of Just Transition Authority and a commitment to lock in 50% renewable energy target by 2030 and "help the coal-power (2018) industry and its workers make the shift to renewables" (Boyer 2018). Further to this, Foley (2018) reported "The Just Transition Authority would ensure workers who lose their job are first in line for any similar employment opportunities in the power sector through a pooled redundancy scheme."

From the Proquest search summary for this year, the key words were "coal", "renewable resources", "coal mining", "climate change" and "energy industry".

2019

The most significant year was 2019 in which several events that hooked into the just transitions discourse. It is likely that the sharp rise in interest about a just transition in the year 2019 could be attributed to the fact this was a federal election year for Australia with climate change and energy being a key concern for voters, in tandem with *The School Strike 4 Climate* and political tensions within mining unions.

School Strike 4 Climate

In March 2019, the global school strike for climate movement made its way to Australia. This was a frequent news story across all media types; letters to the editor, local papers and mainstream news. School children were protesting across the country with a specific set of demands in which one explicitly mentioned the demand for a just transition. For example, in the *Newcastle Herald*, Vickers (2019) reported on the demands stating the students advocated for "no new fossil fuel projects, a transition to a 100 per cent renewable energy grid by 2030, and a just transition for employees of fossil fuel companies in Australia". In the *Illawarra Mercury*, another local papers, Latifi (2019) reported on how "thousands of locals joined the global climate strike on September 20 to demand stopping the Adani Carmichael mine (based in QLD), no new coal or gas projects, 100 per cent renewables and sustainable jobs". However, despite these efforts, the Adani mine was granted permission to go ahead and was subsequently renamed to Bravus Mining and Resources.

Federal Election

During the federal election of 2019, coal mining and the energy sector was a major talking point for both major parties in Australia, particularly against the backdrop of other key events such as public protests in support of more climate change action, as well as the creation of different groups with similar aims. Efforts to a just transition faced criticism from some political

commentators such as Hewson (2021) who stated “disturbingly, Australia’s two major political parties are engrossed in a race to the bottom on climate change, seeing who can be less specific about targets and commitments“. A considerable portion of the media coverage in this year was focussed on post-mortem analysis of Labor’s election defeat, where its climate policy and perceived inability to connect to coal communities were frequently cited, with the effect that the just transition concept was further tarnished in Australia.

This included the promotion at the federal level by Labor leader Bill Shorten for a Just Transition Authority, which was predicated on the premise of ensuring “workers who lost their job were first in line for any similar employment opportunities in the power sector through a pooled redundancy scheme” (Foley 2019). Meanwhile, QLD state Labor leader Annastacia Palaszczuk introduced the Just Transition Group (Wray 2019). The group “undertakes research, policy development and engagement to ensure affected workers are equitably looked after and that new opportunities in other industries provide good, decent jobs” (Queensland Government 2022a). The establishment of this group faced backlash from the mining and energy sector, as Wray (2019) of the Courier Mail (Qld) reported “The creation of the Just Transition Group last year has angered coal and electricity employers and workers, including the CFMMEU, which has accused the State Government of talking down thermal coal.” At the time of writing this report, the Just Transition Group appears to no longer engage with the term “just”, rather, the focus is on “Transition programs” (Queensland Government 2022b).

Union leak about divisions

Unions perceived to be divided on the prospect of a just transition as “leaked minutes from a board of management meeting of the Queensland coal union showed opposition to the Queensland government’s plans to make a “just transition” from coal-fired power” (Ludlow 2019) and this in turn appeared to “signal a split with the Labor Party over jobs” (Stevens 2019). In addition to this, Liberal Energy spokesperson Angus Taylor wrote a letter which was subsequently leaked, expressing “apparent concern for our [union] members working in energy and the future of their industry” (Anon 2019a).

From the ProQuest search summary for this year, the key words were “climate change”, “coal mining”, “coal”, “environmental policy” and “emissions”.

2021

There were a number of international and national events that shaped the discourse of just transitions and coal in Australia for the year 2021, especially against the background of international pledges made at the COP26 where nations agreed to work towards phasing out coal. Some key events included:

- United Nations Climate Change Conference in Glasgow taking place, but at the expense of Australia’s international credibility: “in a mock ceremony at the Glasgow summit, Australia

took the dubious honour of being the "colossal fossil", for continuing to support fossil fuels" (Magnay 2021).

- The Australian finance sector had and continues to have a significant role in shaping climate-change policy adaption. For example, Chambers (2021) reported "the National Australia Bank-led syndicate, which stepped in when ANZ abandoned the world's largest coal export port after adopting a climate-change policy effectively banning loans to the coal sector, has tied $565m in loans with strict sustainability and green measures".
- The United Nations announced a road map for an urgent global phase-out of coal by 2030 for OECD countries (and 2040 for all others), as O'Malley and Shields (2021) reported, "the agreement, already being called the Glasgow Climate Pact, calls upon nations to phase out "inefficient fossil fuel subsidies" and recognises the need for "a just transition" from fossil fuels".
- International Energy Agency statement released highlighting that a transition from fossil fuels to renewable energy is increasingly inevitable "The agency singled out developed countries such as Australia needing to phase out coal fired power by 2030, along with ending the sale of internal combustion engines by 2035 and doubling investment in clean energy" (Anon 2021).

These events demonstrate the challenges ahead for Australia's energy sector as Wiseman (2021) observes, "coal-dependent countries around the world face two wickedly interlinked challenges: accelerating the phase out of coal to stop the planet warming, while sustaining economic prosperity and political support".

From the Proquest search summary for this year, the key words were "climate change", "coal", "emissions", "fossil fuels" and "coal mining".

d) Author type

We identified 9 different author types across the different publications. These included journalists, academics, think tanks, unions, environmentalists, politicians, industry, government and the public. Public authors were limited to letters to the editor, except for some instances where a member of the public penned an op-ed piece. In general, most op-ed articles were written by academics and people working for think tanks who wrote articles based on their knowledge, expertise and/or work for papers and reports. There were also several op-ed pieces by politicians commenting on topical local issues /election manifestos, as well as one op-ed (published in both a local and a national paper) by a member of the public (not affiliated with any organisation or institutions.

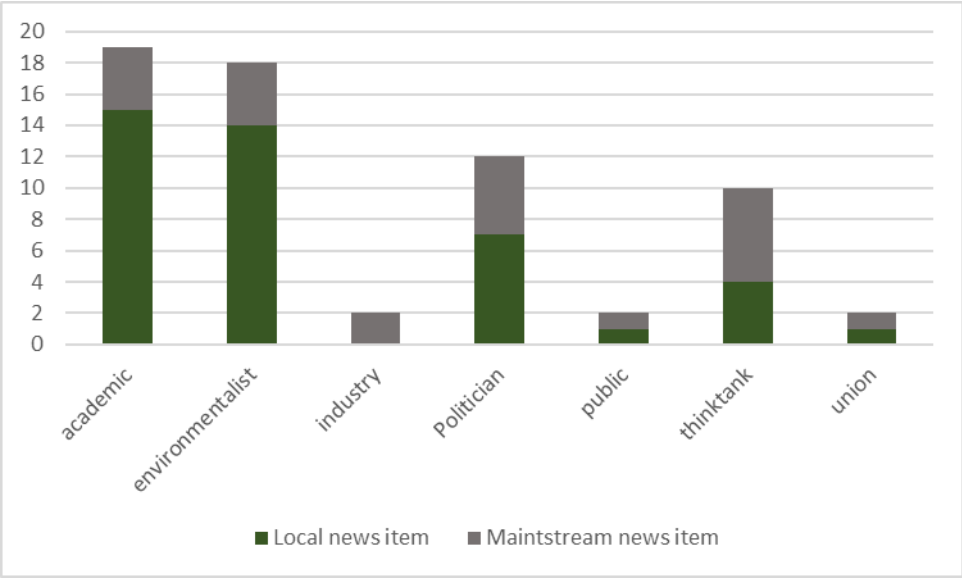


Figure 8: Background of authors of op-ed pieces

Based on the findings of Figure 8, ideas about a just transition are often pushed by environmentalists and academics who tend to have a leftist lean in terms of environmental justice and politics in the Australian context. For example, Helen Oakey (2020), an executive director of the Conservation Council ACT Region wrote an op-ed for the *Canberra Times* where she stated, "to ensure community buy-in, and to build a just transition, policies must be cognisant of the needs of the whole community, and not disadvantage specific groups - especially those who already live with hardship."

These articles tend to present a positive tone towards a just transition (which is further explored in Section g), however, a lack of diverse perspectives and actors offering opinion pieces runs the risk of further entrenching the divide between communities/industry that are directly impacted by the closure of mines and power stations. In other words, writing positively and hopefully about the possibilities offered by a just transition may not play out an imagined in places where mine/plant closures significantly impact workers and communities. Figure 7 below shows all articles written by non-journalist by date, demonstrating an explosion of interest by the public and politicians in the year 2019.

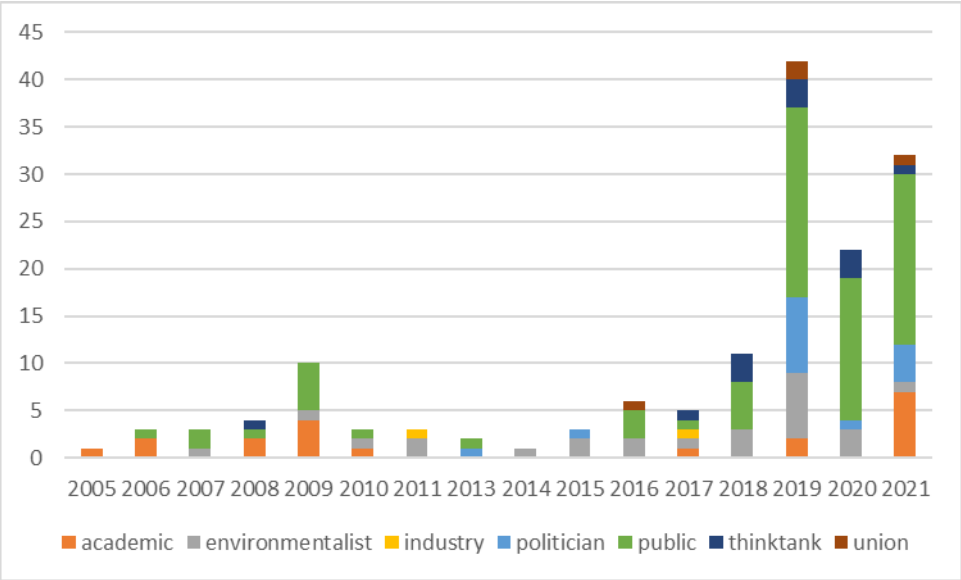


Figure 9: Articles and letters published in Australian newspapers by non-journalist authors, arranged by date

e) Actors

We developed 8 codes relating to the most prevalent actors mentioned in each article. These range from government on local, state and national levels, industry (these included actors such as the mining sector, energy sector), finance (banks, insurance companies and any other financial institutions that have a role in investing/divesting in coal), labour movement, environmental movement and community (often related to public authors). Figure 8 demonstrates the main actors of concern across the different publication types, including a separation of finance (banking and investment) and industry.

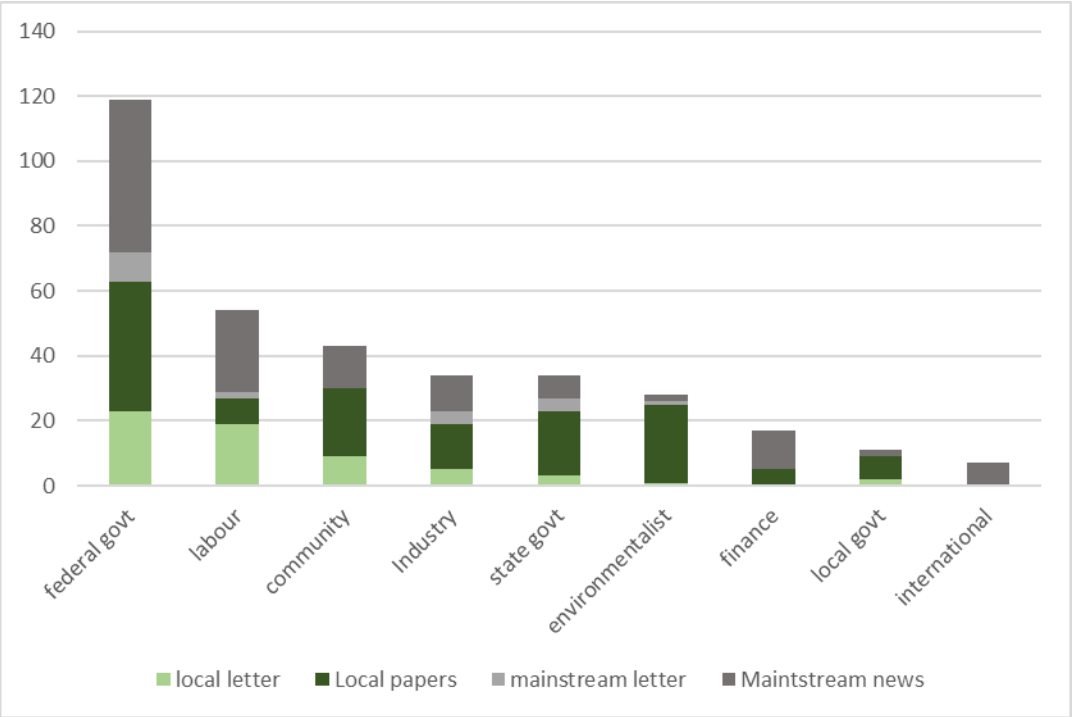


Figure 10: Main actors of concern in 'just transition' media items

f) Scale

Each article was analysed according to the scale at which a just transition is discussed: local, state, national, and international. Most mainstream articles focused on a national scale, with many articles about the Australian government's in/action in relation to a just transition, in addition to reporting on union issues as they relate to national politics. Meanwhile, many local papers raise some national agendas relating to coal and transitions, though the focus tends to be on community action and grassroots politics such as public rallies or the impacts of mine closures on local communities. These scales are depicted below in Figure 11.

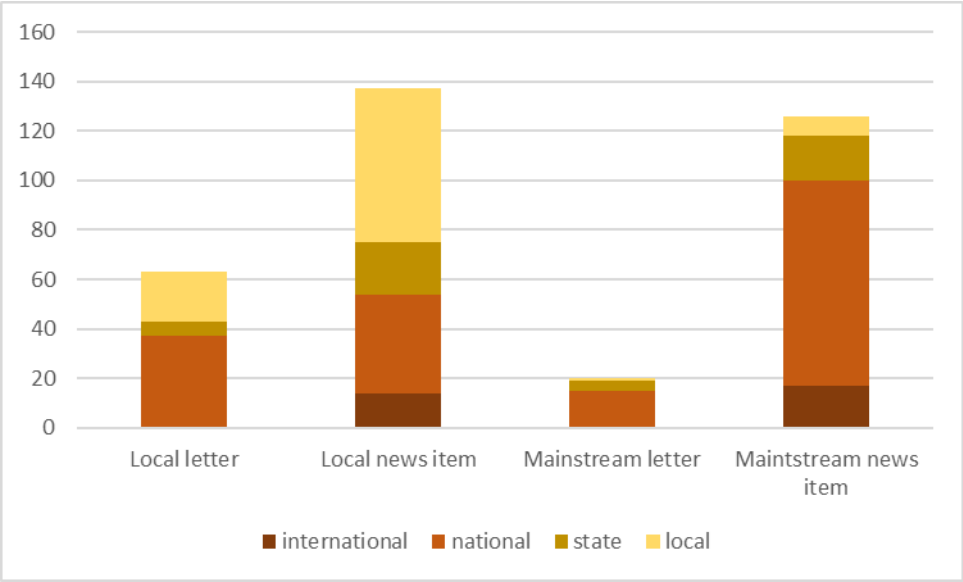


Figure 11: Scale of focus of 'just transition'

Through analysing the scale at which just transition is discussed, it became clear that it is often vague about what level of government is expected to act. This speaks to the complexity of implementing transition policies and how nuanced coal communities and their responses to political agendas vary across time and contexts.

g) Tone

Breaking down the media articles according to the different registers of meaning gives a nuanced perspectives on the key topics/issues and how they are presented on macro and micro levels (from federal, state, regional and local understandings of the challenges, opportunities and barriers to a just transition). To read for the different registers, we analysed each paper according to the tone used towards just transitions. These were categorised as positive (a clear positive sentiment towards just transitions: something that is good, should be done, is needed), negative (a clear negative sentiment towards JT: something that is bad, challenging, problematic) and neutral (no clear sentiment towards JT). Understanding the registers as they relate to the different tones can reveal the meanings and "the configuration of semantic patterns" (Halliday and Hasan 1976, p. 23).

A summary of the tone across publication types is shown in Figure 12.

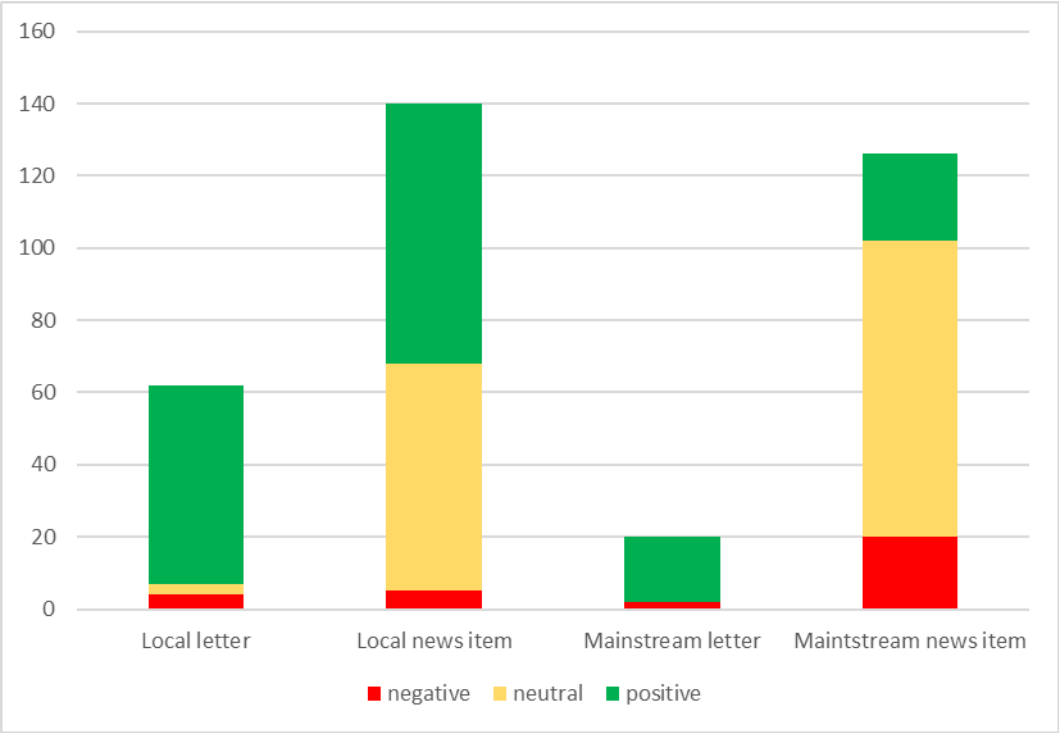


Figure 12: Tone of media articles

Overall, we found that broadsheet publications such as *Sydney Morning Herald*, *The Age*, and *The Australian* are more likely to publish analysis and political commentary on larger scale issues related to coal, energy, and transitions while local papers and letters to the editor tend to focus on local communities, grassroots politics, and direct impacts of changes in energy policy related to coal and transitions.

Local papers tended to have more positive (rather than impartial) reporting on just transitions, often written by non-journalists (academics, thinktankers, environmental campaigners, politicians). Most letters to the editor across publications also demonstrated a positive public opinion to the idea of a just transition.

Mainstream news articles written by journalists were generally in a neutral tone, presenting a just transition in a factual way. Two News Corp journalists were responsible for a total of 8 negative articles using scornful rhetoric about the proponents of a just transition, implying that they were insincere in their concern for jobs or realistic about a future without coal. For example, Negative tones towards a just transition were observed by Gleeson in a 2020 piece in the *Herald Sun* where he stated “Palaszczuk government has a new department called the just transition group. Its charter is to “transition’’ miners out of coal and into other occupations, such as becoming a barista” (Gleeson 2020a). To which he also added that LEAN “supports union negotiations to ensure communities impacted by shifting global energy markets are backed regional diversification bodies” but ultimately relegating these commitments to “to coal miners being retrained as baristas”. In addition to this, Gleeson (2020b) wrote for the Cairns Post on Labor and its position on renewables stating “Labor is anti-coal. It is run by the Left faction and alongside the Greens, they have a plan to phase out coal and hit renewable targets by 2030.

Forget the $5bn the government receives each year from coal royalties. This is about renewables and lunacy ideology".

These negative tones remain as outliers in terms of the overall tone towards just transitions, with many reports and letters often sharing sympathetic sentiments towards transition efforts, especially around pivotal moments in the discourse such as the School Strike 4 Climate. For example, as Thomas (2021) reported "despite damp, chilly weather, a passionate crowd gathered, determined to get the issue back on the national agenda" adding a statement from the protesters "today we sacrifice time in our classrooms and work places to stand up for what we see as the greatest threat to our civilisation - climate change". Mcknight (2019) also reported "teenagers involved in organising rallies that call for action on climate change met Member for Eden-Monaro Mike Kelly to present him with their hopes and vision for the future". Letters to the editor also demonstrates a positive/sympathetic lean towards activism, for example, one member of the public stated "conversations and striking to show the only way forward is to tell the truth and act like it means something and to ensure a just transition for workers affected." (Anon 2019b).

Op-ed pieces by environmentalists had a positive tone, putting a just transition forward as an aspiration about how the future should be. Some op-eds by academics are more aspirational than the papers or reports they have authored, which by convention take an impartial tone.

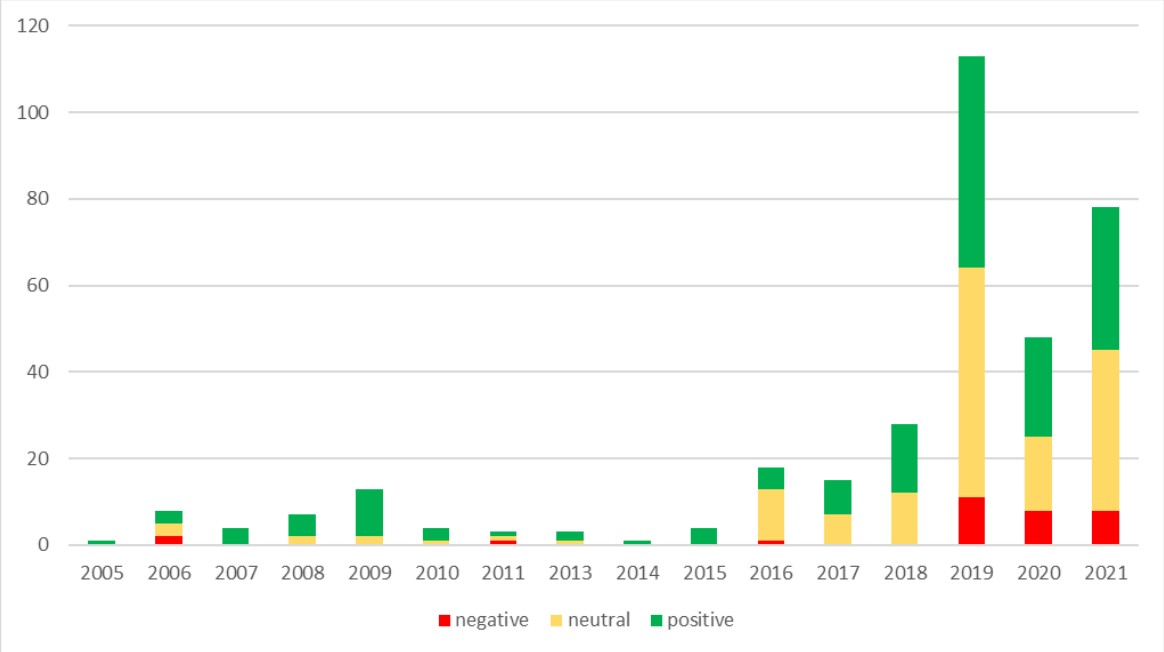


Figure 13: Change in volume and tone of newspaper articles over time

In terms of the history of a just transition and its articulation over time in the Australian media discourse, there is generally a neutral to positive tone with the impression from people on the ground that they are having to work hard against the negative perceptions of the term

(particularly from politicians), as well as the wariness from unions and coal-dependent communities.

A further breakdown of Figure 12 is explored in Figure 13 where the different tones about a just transition are categorised across the different media types. Figure 14 below demonstrates how positive articulations of a just transition are more common in local news items and local letters to the editor, suggesting regional communities play a significant role in shaping the just transition public discourse. This can be attributed to the fact that many of the local publications are concentrated in areas where mining and coal is a material reality, especially in large urban centres like the city of Newcastle (NSW) which has a long history as a port city and major export point for NSW coal. As mentioned earlier, the Newcastle Herald has the most publications out of all the newspapers we analysed.

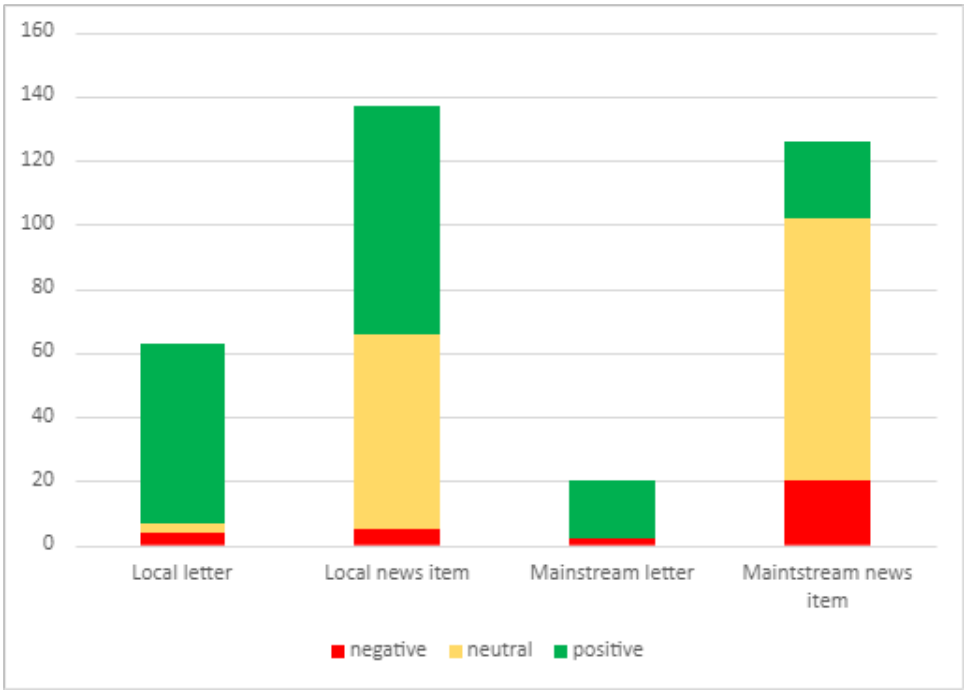


Figure 14: Tone across different media types

h) Overall findings from media analysis

Definition of just transition

Broadly speaking, of the articles that mentioned the key search terms, there was very few news items that gave a definition of a just transition. Instead, most of the articles reported on public figures (such as politicians or union leaders) commenting on the prospects of a just transition or were quoting public figures who discussed just transitions in the context of politics, environmentalism or labour movements. Overall, there were very few newspaper articles where journalists were making substantive claims about the need for a just transition.

We identified 6 newspaper articles across the different publication types, which offered some definitions of a just transition. Overall, the general consensus is that a just transition must encompass a level of recognition and support for workers transitioning out of coal industries. These are summarised through the direct quotes in Table 4.

Table 4: Definitions of 'just transition' in Australian newspaper articles

Publication	**Definition**
Newcastle Herald (NSW)	"A just transition to sustainability means that we need to create new green-collar jobs to replace jobs in non-sustainable industries. Energy efficiency, renewable energy, public transport, health-care, ecotourism, education and sustainable agriculture can all provide safe, secure, well-paid jobs" (Evans 2009)
Newcastle Herald (NSW)	"A just transition to a secure renewable energy economy is required. Any transition must also be about fairness and justice for workers, their families and their communities" (Faehrman 2013)
Sydney Morning Herald (NSW)	"Just transition - the notion that the transition from fossil fuels to renewables needs to be "just" in that people who lose their jobs in the fossil fuel industries get treated fairly" (Gittins 2018)
ABC News (online)	"Using the concept of energy justice, there are three main aspects which have to be considered for workers, communities and disadvantaged groups: distributing benefits and costs equally, a participatory process that engages all stakeholders in the decision making, and recognising multiple perspectives rooted in social, cultural, ethical and gender differences" (Mey and Briggs 2018)
Sydney Morning Herald (NSW)	"For a transition to really be "just", it must be orderly - That means consultation and, usually, early retirement packages for older workers as well as a suite of retraining and job-matching support for younger ones" (Ruffles 2021)
The Age (VIC)	"The basic premise is that, as a shift from fossil fuels to renewable power is necessary for the common good, just as those industries have provided for the common good before the threat of global warming was understood, those workers and communities most affected should not be penalised" (Groch and O'Malley 2021)

Public discourse about climate change, energy and a just transition substantiate the aims of this report in terms of broadening the definition of 'just transition' and how this concept can come to include more actors and contexts which are representative of those affected. In the analysis of letters of the editor, it is clear that there is a constituency within the public whose understanding of a just transition is favourable insofar as transitions towards more sustainable energy production and job security can be ensured for regional communities. However, it is important to note that these letters are not necessarily representative of the whole population.

Generally, we found that members of the public who are linked to existing campaigns tended to be more motivated than others to write publicly about issues relating to just transitions (for example, this was demonstrated in the significant uptake of letters to the editor during the School Strike 4 Climate in 2019).

In our analysis, we found that there were a number of articles reporting on the fractured nature of Labor's politics, particularly letters to the editor that were concerned with Labor's lack of commitment to traditional union alliances. These observations are adjacent to discussions across the grey and academic literature about just transition in terms of a jobs vs. environment narrative, which persists as a barrier to policy measures to transitions the energy sector as well as mitigation and adaptation to climate change.

It is interesting to follow how just transitions is articulated following the international pledges made at the COP26 where nations agreed to work towards phasing out coal. There is opportunity for further media discourse analysis from the end of 2021 onwards to understand how and if just transition remains a foreseeable and tangible concept for the future of Australia's energy sector.

4.2 Analysing the grey literature on just transition

a) Introduction

A total of 27 reports, one speech and three Senate hearing submissions were analysed. Most of these incorporated practical recommendations about how a JT could be achieved in an Australian context. Sixteen of the reports were published in 2020 or 2021, indicating increased interest in the topic and possibly also catalysed by the public debates in 2019 mentioned above. Twenty-one documents focused on just transitions from the Australian national perspective and were concerned with state or local issues. The style of the reports varies from working papers in the style of academic journal articles to short documents spelling out recommendations using bullet points. The focus on practical recommendations in many documents is reflected in their accessible style and use of graphical layout design to provide a clear message.

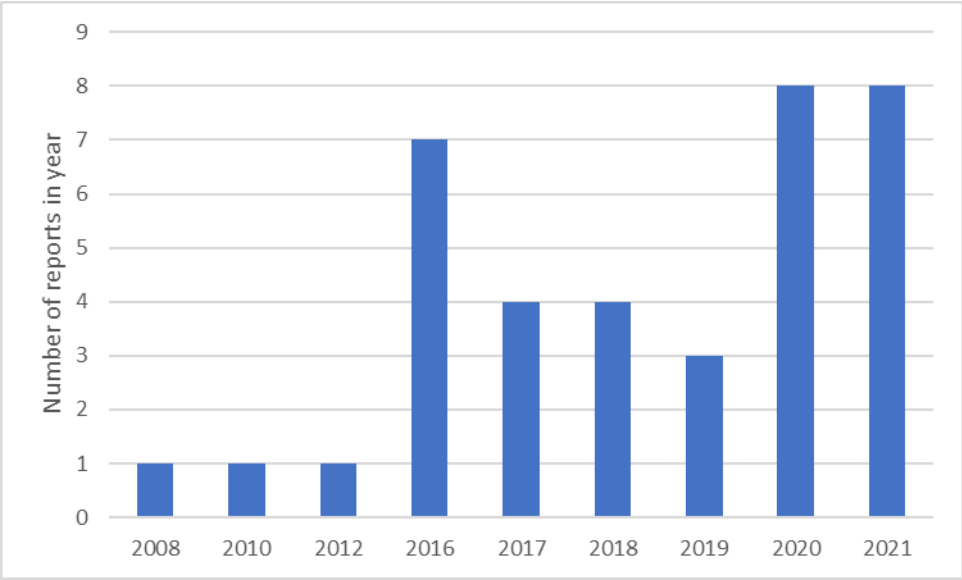


Figure 15: Number of grey reports analysed by year of publication

The documents were predominantly authored by academics (six), unions (five) and environmental organisations (three). A notable absence is any reports produced by government bodies either at national or state level. NSW Treasury (2021) was included in the analysis as it was mentioned by one of the interviewees. This long-term planning document does not engage with transition issues, but it is clear from the forecasts included that the NSW Treasury is aware of, and planning for a decline in coal jobs and revenue for the state. Only one political party (The Greens, 2019) has published reports on an energy transition in Australia.

Several reports came from think tanks. From the Australia Institute, Shields and Campbell (2021) and Stanford (2020) provides a detailed analysis of employment aspects of the transition, in the context of the whole Australian economy. From a different point on the political spectrum the Blueprint Institute (2020), a centre-right think tank, include a section titled "Our coal industry can thrive even as coal-fired electricity generation declines" but then to go on to point out that global coal-fired generation peaked in 2018, predicting a fall in demand for thermal coal in the medium term and an uncertain future for metallurgical coal in the long term. The Institute of Public Affairs submission to the Senate inquiry on the retirement of coal fired power stations (Hogan, 2016) is very hostile to the concept of a policy-directed transition from coal, arguing that "A preferred policy solution is for governments to retreat from the micromanagement of the National Electricity Market, and allow it to actually work" (p. 20). This hostility was to any transition from coal rather than to the concept of a just transition per se.

Two of the reports focused on lessons from transitions in other countries (Sheldon et al., 2018; Shields and Campbell, 2021) and several others used transitions away from coal in Germany, the UK, The Netherlands and Appalachia as case studies. Three documents focused on the Hunter Valley, NSW. Hunter Jobs Alliance (2021a, 2021b) detailed practical recommendations for the future of employment Hunter Valley, and it is notable that the phrase 'just transition' is barely used in these documents (there are only seven mentions outside footnotes, five of these

specifically about the West Australian town of Collie as a case study). Roden (2021) explores the health impact of a transition in the Hunter Valley. The health benefits (and reduction in health spending) that would result from the closing down of coal fired power stations and coal mines are only mentioned in two other reports (Beyond Zero Emissions, 2012; Sheldon et al., 2018). The rarity of this argument perhaps flows from the focus of the authors (and those who commissioned them) on workers rather than the broader community.

The Victorian Trades Hall Council, the peak union body in Victoria, has published two reports on just transition principles (Victorian Trades Hall Council, 2019, 2020), and Martinelli et al. (2016) is a report by Environment Victoria about Transition in the Latrobe Valley (VIC). The Latrobe Valley is the major coal-producing region in Victoria, located just east of Melbourne in the Gippsland Basin (see Figure 1).

The Beyond Zero Emissions Think Tank produced two reports focused on locations outside the major coal producing regions - Collie WA (Beyond Zero Emissions, 2019) and Port Augusta SA (Beyond Zero Emissions, 2012), and also the *Million Jobs Plan* Report (Beyond Zero Emissions, 2020) discussing the jobs created in a low carbon transition on a national scale.

Two reports show that business and investor communities are taking the concept of a just transition seriously. Australian Conservation Foundation (2016: 33) is authored by 17 CEOs and other influential figures. It states a business position that: "Coalfired power stations and associated mines make an important contribution to local economies, so helping people who work in these industries and their communities to adjust to the transition is both crucial and fair." Investor Group on Climate Change (2021: 14) *Empowering Communities: how investors can support an equitable transition to net zero* gives reasons why investors should care about a just transition:

- Climate policy uncertainty does not provide strong capital market signals to investors and heightens risk.
- Technical, economic and social complexity of just transition issues and lack of clear guidance creates a knowledge barrier for investors.

b) The rhetoric of just transition

Several reports highlight the potential the rhetoric of a just transition has to put social justice at heart of discussions about future transitions (Beyond Zero Emissions, 2019). Jotzo et al. (2018: 23) point out that "the union movement's focus on a "just transition" narrative has also facilitated a more cooperative relationship with the environment movement". Wiseman *et al.* (2017: 322) argue that a just transition provides a powerful narrative through which the labour/union, social justice, and environment movements on the left can cooperate substantively around a shared vision of socially responsible decarbonisation". A just transition framing establishes the potential for a broad alignment of interests including those of elites and politicians (Wiseman et al., 2017).

Despite this *potential* for just transition to build bridges, Jotzo et al. (2018: 9) capture the reality of the situation in Australia: "much of the public discussion [of a Just Transition] is conducted from entrenched positions that reflect opposing world views, rather than objective analysis of economic and environmental costs, benefits and risks". Wiseman et al. (2017: 10) identify two reasons why some groups resist the just transition narrative: fear of an uncertain future in which they may be abandoned and written off; and the "ideational legacies of carbon price wars" and political campaigns which damage confidence in science of climate change. The media analysis above shows that this was prescient, as the public debate around just transition became heated in 2019. The importance of coal to regional sense of identity is also highlighted by several reports and articles.

The reasons coal mining and coal power generation communities are frequently hostile to the concept of a just transition are eloquently expressed in a speech by Tony Maher (National President of the CFMEU Mining and Energy Division) (Maher, 2016). He points out that talk of new "clean, green" jobs implies that coal mining jobs are "brown" and "dirty", and that transition implies uncertainty, with no guarantee of secure, well-paid employment. The psychological impact of the industry providing their livelihood being denigrated as undesirable by those who are perceived as city-dwellers with no understanding of the communities affected clearly underlies one strand of resistance to the just transition narrative.

Maher is concerned that just transition as a public relations slogan "risks becoming the convenient catch-all term that gets tacked onto anyone's aggressive restructuring plan for any industry," and suggests that those using the term may be aiming to show that "their heart is in the right place" while absolving themselves from "being responsible for the consequences of their actions".

Wiseman and Wollersheim (2021: 15) provide a valuable summary of current thinking on a just transition in Australia. This recent report summarises recommendations from other reports and sets out practical next steps, with a focus on policy recommendations. It points out

> "the language and ideas of 'Just Transitions' still remain contested and problematic in a range of ways. Some critics remain concerned, for example, about the risk that the language of 'Just Transition' is too often used as a rhetorical smoke screen for the closure of fossil fuel industries with no genuine commitment to the longterm investment required to fully address the challenges facing impacted workers and communities. This risk might be compounded by limited policy making expertise and fiscal capacity of governments seeking to implement just and well-managed structural adjustment policies. Other key concerns include tensions between the goals of accelerating the speed of emissions reductions and the time and care required to ensure inclusive, respectful decision-making process; the tendency for some Just Transition strategies to focus primarily on unionized workers directly impacted while failing to address broader regional community concerns; resource allocation trade-offs between compensating and supporting fossil fuel workers and the investments required to address other pressing social, economic and environmental policy challenges; and the extent to which Just Transition goals should extend beyond the

> phase out of fossil fuels to encompass and enable the transition to more climate resilient and regenerative communities and economies."

Notably, this report had an international funder (the European Union), as does the present report.

c) Advice on just transition

The advice about achieving a just transition from the grey literature is summarised under headings derived from four topics of advice from Briggs and Mey (2020), along with a fifth which is derived from their report and others.

1. Planning

Many of the reports describe the challenges and missed opportunities of transitions away from coal, often in the context of case studies of historical mine closures in Australia and other countries (such as the USA and UK). A common theme is that there has been insufficient forward planning to enable the establishment of a suitable range of new industries in the area to provide alternative employment. In some cases, proposed new industries did not match well with existing skill sets and regional traditions. Frequently, areas which lost coal mining jobs (such as the Welsh Valleys and Appalachia) found these were replaced by fewer jobs which were lower paid and less secure (Sheldon et al., 2018; Shields and Campbell, 2021).

Many reports emphasise the need to plan early: this is sometimes linked to specific recommendations for a national transition body to oversee the planning and necessary co-ordination between different levels of government, industry and unions (Sheldon et al., 2018 provide detailed guidance on this). In line with this theme Martinelli et al. (2016: 5) point out the need for "big picture thinking that goes beyond piecemeal support for individual projects". Perhaps building on this thinking, the Hunter Jobs Alliance (2021a) provides detailed recommendations for a Hunter Valley Authority, and several reports refer to the existing Latrobe Valley authority (established in 2016). Multiple reports emphasise the importance of considering local factors, such as existing skills and infrastructure, in transition planning.

Ten of the reports focus only on the impact of the closure of coal fired power stations, and there is little focus in other reports on changes in coal mining employment, with the exception of Jotzo et al. (2018) which provides a broad overview, and Martinelli et al. (2016) which considers all thermal coal.

2. Social compact

While many reports recognise the potential impact of a transition on local communities, there are fewer concrete recommendations to address this compared to recommendations on providing employment for displaced workers. Older people, women, indigenous communities, and those on low incomes are groups that are identified for consideration in planning for a just transition.

Beyond Zero Emissions (2020) point out the possibility that women and indigenous communities could miss out on the benefits of new jobs created by a transition and that environmental protection – namely minimising the impact of new industries and remediating the effects of the old ones – could be neglected if the focus is solely on jobs and the economy.

The reports have few recommendations about the psychological aspects of overcoming barriers to a just transition, but the Investor Group on Climate Change does address this to some extent, reflecting:

> "The stigma associated with fossil fuels for environmental reasons can permeate through to the workers who depend on it and who are on the ground driving much of our current energy production. Acknowledging the contribution of these workers would shift the perception of the community and broader workforce, allowing them to embrace change for a green economy rather than imposing psychological stress." (Investor Group on Climate Change, 2021: 48)

3. Diversification

Recommendations in the reports are predominantly focused on jobs and the workforce transition. Jobs in renewable energy and related "green" industries were frequently identified as an attractive alternative to coal power and mining jobs. Diversification to renewable energy and related green technologies is frequently proposed. Some reports focus mainly on the jobs required to clean up the legacy of the coal industry such as mine remediation. Other reports suggested new industries which take advantage of a low carbon transition, for example hydrogen production and green steel making. ACTU (2016: 112) raises the possibility for new ownership models including "community led local cooperatives run by worker-owners in sustainability-focused industries".

A challenge to optimistic visions of a just transition from coal to a renewable energy system which provides ample alternative employment is that there may not be sufficient jobs created in renewables and that these will not be in the locations where coal jobs are lost. A mismatch between the skill required in coal mining and those needed for jobs in renewables is another obstacle identified (Briggs et al., 2020). While many reports focus on the potential for "green" jobs, some authors see a need to develop a wider industrial policy for diversifying the region, building on existing regional strengths and to encourage an entrepreneurial culture is a theme of the reports which compare the situation in Australia with transitions that have occurred elsewhere (Investor Group on Climate Change, 2021; Stanford, 2020).

Briggs and Mey (2020: 40) point out that "a core feature of diversification strategies has been 'smart specialisation', a place-based approach which aims to develop new industries based on adapting existing industry capabilities, workforce skills, natural resources and infrastructure". Many documents include the need for retraining workers so they can move to new industries (this is sometimes placed in a "lifelong learning" context). The positive role that can be played by universities and research and development centres in attracting investment and catalysing new industries is frequently mentioned.

4. The role of government/s

Recommendations for transition management are aimed at both the Federal and State government level. Jotzo et al. (2018) have the most extensive discussion of political challenges of just transition in Australia, but the points they make are echoed in other reports. Political institutions in Australia, the significant influence of a few marginal electorates and short-term electoral priorities are identified as barriers to the long-term planning necessary for a successful transition. Lobbying by incumbent industries is also identified as a source of resistance to progressive climate policies (Shields and Campbell, 2021).

The lack of an Australian tradition of corporatism, with stable long-term agreements negotiated between governments, trade unions, and firms is highlighted by Jotzo et al. (2018) and Wiseman et al. (2017) as a significant obstacle to transition planning. The counter-example quoted in several reports is the German management of transition from coal in the Ruhr valley.

Most authors see a significant role for government funding, arguing that market forces alone are unlikely to revitalise regions. Public investment in physical infrastructure (especially electrical grid capacity for renewables) and social infrastructure (particularly education and training) provides essential underpinnings for new industries and associated new opportunities for regions. Quiggin (2020) claims that the costs of a well-planned transition would be modest, particularly when compared with long term costs of no action.

In their 2021 report, the Investor Group on Climate Change (2021: 70) point out:

> "One of the challenges for investors to support local businesses is the limited scalability of some opportunities… There is a need for creating mechanisms that attract investment capital to the community through the aggregation of relatively small investment opportunities associated with low carbon technology or nature-based solutions, for instance… Local governments and financiers will play a pivotal role in developing and promoting these mechanisms." (Investor Group on Climate Change, 2021: 70)

5. The role of investors and the business community

In their report *Just Transition: Implications for the Corporate Sector and Financial Institutions in Australia,* Briggs and Mey (2020: 10) put forward recommendations for the finance industry. They mention the need to develop "financial instruments such as transition bonds (for 'brown' fossil fuels asset owners), green bonds (clean energy projects), green mortgages (e.g. discount mortgage finance for homes with high environmental ratings) and corporate sustainability linked loans. The concept of a just transition sovereign bond has also been promoted to bridge the capital gap for financing the transition in coal regions". Wiseman et al (2017: 35) suggests that one means to encourage coal closures in Australia is "action by unions and environmental groups to mobilise institutional investors to pressure energy companies to adopt more worker and community-friendly, "just transition" policies". Moreover, in the wider business community "corporates and financial institutions can help raise the profile of just transition by simply making it part of how they talk about climate change" (Briggs and Mey, 2020). ACTU (2021) suggests

businesses can play a role in “ensuring that Industry Associations they are a member of are advocating for the implementation of just transition principles”.

Specific advice for investors from Investor Group on Climate Change (2021: 5) fell under the following headings:

> Investors can contribute to a just transition by pursuing action in five areas:
>
> i. investment strategy and capital allocation,
> ii. disclosure,
> iii. corporate engagement,
> iv. advocacy and partnerships and
> v. impact measurement and evaluation
>
> Advocate for action towards a just transition by engaging with policy makers and supporting inclusive government initiatives that reduce uncertainty and speculation in capital markets.
>
> Engage early with community stakeholders and undertake local context analysis when assessing investment opportunities in communities in transition.

5. Understanding stakeholder discourses of just transition

In this chapter, we explore how stakeholders were using and framing 'just transition', drawing on the 13 interviews which we were able to analyse before preparation of this report. Interviewees are referred to by their reference number and the sector from which they were drawn. Some interviewees were happy to be identified in publications, but we have opted to keep all anonymous for the purposes of this report.

a) Current situation of just transition in Australia

Government paralysis and unwillingness to engage in transition planning

A strong theme coming through the interviews was that governments in general—and particularly the Federal Government—were absent from both transition discussions and planning about transition:

> Paralysis at the federal government level. They adopted net zero by 2050 but they didn't do anything else. They don't really have a strategy to get there. And the current government is too paralysed by any number of issues, including the pandemic, to really do anything of substance on it. [Int04: Unions]

> the election cycles are too short, so they're only concerned about getting re-elected next time; don't want to make difficult decisions. [Int09: Community]

> There's no energy policy. It's very fluffy and it's all because, it's where, once you start working in that space, it's so controversial that you will lose an election. [Int10: Industry]

> this whole range of nasty, right wing populist kind of stuff that has been gaining foothold, not just in coal communities but in the union movement, because they're not feeling heard by any of the major political parties. [Int07: Civil Society]

> government's the block. And they literally said to me 'we've done polling on this and we don't think people are gonna be ready to talk about this for the next five years' [dismissively]. [Int07: Civil society]

A public servant working at the federal level put it succinctly:

> The government [pause] is not willing to talk about transitions. [pause] How are you supposed to plan for the future if you don't acknowledge pressures that the future's facing? [Int13: Federal Government]

A number of interviewees drew connections between coal and Australia's position in the world economy:

> In Australia you've got the situation where our fossil fuels are actually our source of competitive advantage [Int04: Unions]

> I don't think as Australians we're at that point. I don't think my friend down the road is at the point of going, 'Well, yeah, we do have to do better.' [Int01: Community]

Different situations in different geographies, depends on export expectations

There was a considerable diversity in expectations about the imminence and nature of transitions, and consequent differences in how just transition was being approached. One respondent highlighted how transition was a significantly different concept from the perspective of large cities:

> it's completely different obviously in Sydney because you know, there's not coal mining and you know steel manufacturing are not sort of things that, that Sydney really needs to grapple with, the issues in that sort of region are very different [Int12: State Government]

In Victoria, where the Latrobe Valley has already been experiencing transitions for 5 years, there was a relatively high level of acceptance of the need for transition and advocacy for a just transition:

> the domestic power workers have known for quite some time now that all the coal-fired power stations in Australia are gonna close, 'cos we've had about a dozen small ones close and one big one, and a number of big ones are gonna close in the next 10 years [Int04: Unions]

> as it sits in Latrobe Valley today, we can talk about transition. In fact, we're talking about transition so much, everybody, because we're hearing rumours now that even Loy Yang A, which is one of the newer power stations, will announce an earlier closure [Int01: Community]

However even this context one respondent noted the reluctance of governments and employers to be specific about closure plans:

> But no one wants to come out and say, erm, 'Alright, what is the real date for the closure of this place? And what are we gonna do about it?' because there'll be then accused of trying to shut down the industry and kill people's jobs [Int02: Unions]

By contrast, in the predominantly export-oriented coalfields of NSW and Queensland, it was clear that there was less consensus that transition is inevitable and must be managed

> I think you can see the difference between power stations and thermal coal, just because the trajectories are different and the forecasts are more disputable [Int03: Civil Society]

> it's pretty hard to tell someone that their industry's gonna die, when the companies are making loads of money and working out how they can get more coal out of the ground. [Int04: Unions]

> Yes, we've got some quality in price and location, competitive advantages, you know, yes, the Indians and Chinese, and maybe the Southeast Asian folks will pick up the slack, maybe they won't in some cases. So I can see how an argument can be made that things will be stable for a long time [Int03: Civil Society]

> particularly if you're a, a coal worker living in a town like Muswellbrook or Singleton, where, since the downturn 10 years ago, all you've seen is growth, you know….You can't get a house in, you know, Muswellbrook or Singleton without paying through the, the nose [Int03: Civil Society]

> the high quality hard coking coal, which [NSW] do export some of but nowhere near as much as Queensland, will always have that role within greater iron and steel manufacturing for an extended period of time. [Int08: State Government]

In this export context, the commitments key trade partners such as Japan, South Korea, China and India made in November 2021 at COP26 in Glasgow had the effect of prompting questions about the durability of export coal.

> the consternation in Queensland was more around, not that Australia had signed up, but exactly that: 'Oh, hang on, Japan, Taiwan, Korea have signed up [worriedly]. Oh, hang on' [half laugh], you know, 'They're, they're our primary markets.' [Int05: Civil Society]

> the fact that the overseas markets are now saying that they're going to achieve net zero and that's gonna mean phasing out coal power, that hits home, 'cos people can see that, then they will be less likely to believe the opportunistic politicians that'll tell them nothing's gonna change [Int04: Unions]

If some respondents were beginning to see the signs of transition in the export coal sector, the federal level remained bullish about the prospects for export black coal both for thermal and metallurgical purposes:

> Hunter Valley thermal coal will be the last thermal coal shipped to the last operating power station, because it is some of the highest quality thermal coal on the planet. The position is that we have a high quality resource that we will produce for as long as someone essentially wants to buy it. Mike Henry from BHP last year came out and said that he basically viewed that, you know, metallurgical coal from Queensland will still be coming out of the Bowen Basin in 2050 [Int13: Federal Government]

Overall, our interviews suggest that investors and mining companies are shifting their position towards recognising inevitable decline in Australia's coal exports, but there are still mixed messages from governments and industry actors:

> the reality that coal-fired power stations don't provide the flexibility that the grid requires, and so they're bringing priced out, essentially [Int10: Industry]

> the coal industry has been trying really hard to convince people since the Greenfield boom and subsequent downturn that there is a stable future for the industry, 'cos they

> don't want people to go off and, you know, go to the iron ore mines in WA [Int03: Civil Society]

> [coal] prices at phenomenal highs. Last year in September/October, I think it hit the highest I've ever seen it [Int04: Unions]

> there's been a recognition by investors that simply disinvesting or shifting their investments isn't going to work. There's been a lot of money shifted out of coalmining in Australia, but we're still producing the same amount of coal; just different owners. [Int04: Unions]

> the Queensland government doesn't necessarily need to pull a trigger of, you know, 'There will be no new anything,' because, if the customers are saying, 'Well, hang on, we're, we're happy to sign a five-year contract. We're not signing a 40-year contract, so we don't, we don't need that [half laugh] new mine.' There, there's sort of a natural rhythm there that will emerge from the export markets. [Int06: Industry]

> the BHP world that are moving away, but they're really not moving away. They're leaving the thermal part or the PCI part to then say, 'Oh, but we're focusing only on the steel part, like the coal that gives you steel, so that's OK'. But you're still in coal. You've got the smaller players that are now trying to-, they have realised that people are moving away from coal, so they're taking the advantage of buying everything, but then trying to do it in a more sustainable way to try and keep the licence to operate. And then there's people like Peabody that are in the middle, that are in the coal business and they'll find ways to sort of please the shareholders, but they are in the coal business. There's this narrative that is, 'Yeah, we're still doing it, but we're goodies because we're doing it well' [Int10: Industry]

In this context, though the federal government is unwilling to even discuss transition, it is clear that government departments and agencies there is a growing acknowledgement that transition will arrive, and likely more rapidly that even anticipated at present.

> Glasgow was also a turning point for the coal communities. I've had some really die hard coal community local governments contact me since Glasgow going, 'OK, we've got coal lines that just aren't being funded, and we've got a number that are closing down, and we've just heard that the rest of the world's just committed. So, maybe we need to start thinking about this' [Int07: Civil Society]

> even like our internal team [pause] saying it's probably going to be sooner because you know, evidence shows that these transitions actually tend to happen faster than we think they're going to [Int12: State Government]

Shifts in public opinion to coal

Respondents highlighted that public opinion to coal has shifted in recent years, even if the coal sector in Australia is in a state of constant change. The influence of thinking from the younger generation was clearly causing some interviewees to reflect on the role of coal and its contribution to climate change.

> I think probably the biggest change for me has been a generational one. So, my kids are teaching me now, that the younger generation are so much more aware and more knowledgeable of the damage we're, we're causing [Int09: Community]

> people certainly don't want a coalmine to be coming up on prime agricultural land or something like that. And I don't believe that was an issue say 15, 10 years ago. Certainly when I was finishing university in 2010, thinking about being a geologist, the coal industry was quite happy in Hunter Valley. So I think it is different now. [Int13: Federal Government]

> I've found that particularly in the last two to three years, they're [power workers] all becoming much more curious. They can see the writing on the wall that the coal industry's in decline, and now they're starting to ask questions [Int09: Community]

The widespread and highly damaging bushfires on Australia's east coast at the end of 2019 emerged as a turning point; perhaps because they gave people a visceral and proximate experience of living under conditions of climate change

> the bushfires are a big turning point [Int07: Civil Society]

> we don't talk about climate change. But, interestingly, before the fires, nobody else talked about climate change. After the fires, people were asking questions about climate change, and the debate around whether or not they had to change was sort of gone. And it was, if somebody questioned it, the people who worked for coal companies were the voices in the room saying, 'Everyone in the industry knows that things are changing. We're already starting to plan for it. You guys need to understand that this is a thing.' [Int07: Civil Society]

Amongst events like the bushfires and the growing international consensus on the need for a rapid transition away from coal, interviewees reflected on the fact that sectors such as the business community—who had been waiting for government to set the agenda for them to follow—began to take their own initiative in 2020 and 2021 as they realised that government leadership was not going to be forthcoming.

> [a gas company] in Australia called me out of the blue and said, '…we've been waiting, we've actually been waiting for government to force us to decarbonise. They're not coming to the party, so we realised we need to do it ourselves,' [Int07: Civil Society]

> I've been surprised at some of the people who've reached out to us – they're people I never ever would've imagined would be ready to have this conversation. [Int07: Civil Society]

Other respondents highlighted diverse issues in the coal sector, such as the difficulty of staffing government departments with personnel who weren't already "anti-coal", and the growing challenges industry faces in terms of securing finance and insurance for coal projects.

> They [QLD Resources Dept] can't find graduates, environmental graduates, that are not anti-coal [Int10: Industry]

> one of the issues that the industry certainly has at the moment is access to insurance and finance. [For] thermal coal particularly, there are European insurers that will not insure them, [Int13: Federal Government]

Overall, despite unwillingness from governments (particularly the Federal Government) to actively intervene or set priorities for just transition, interviewees pointed to an emerging consensus that transition is necessary.

> in terms of the transition priorities, there is absolutely movement amongst regional stakeholders, state government, which has been growing for the last three or four years, but it's really happening now. It's got to the point where the problem's been recognised and there's the initial efforts to tip resources in and understand how to attack the problem. There has been a community shift. I don't have data on it, necessarily, but you can feel it [Int03: Civil Society]

> no one in the major parties will say it, but there's actually a level of bipartisanship emerging on climate change [Int04: Unions]

In this context, though the Federal Government's net-zero by 2050 target, announced in Glasgow, was widely decried as tokenistic and insufficient by commentators around the world, interviewees pointed out that it was having a material effect in that for the first time it was forcing government departments and agencies to start conversations around targets and transition planning that had been absent and even taboo topics for many years.

> we have a situation where the Liberal National Party government has now committed to net zero by 2050 and the Labour Party has also committed to net zero by 2050, and so they're now arguing about what are the appropriate targets for 2030. [Int04: Unions]

b) Defining just transition – rhetoric and what not to say

The key finding from interviewees on the definition of 'just transition' was actually that the term is very problematic for those trying to make change happen. In fact, a consensus emerged from interviewees across the political spectrum that 'just transition' was a term best avoided in Australia:

> 'Oh, just transition, never ever wanna use that word [strongly],' like, 'Don't ever talk about just transition' [strongly]. [Int01: Community, reporting what others say]

> just transition is poisoned here as an idea. [Int03: Civil Society]

> we don't say 'just transition'. The, the only time it comes out of my mouth, really, is when I'm talking to investors [Int03: Civil Society]

> it's really important to note that particularly the unions really hate the word 'transition' now, 'just transition' in particular. [pause] We don't use it on the ground at [location] anymore. [Int05: Civil Society]

> then the unions decided that just transition was a dirty word. … it's not even 'just transition'; you can't even use the word 'transition' now. I was just like, 'We are transitioning the energy system, or talk about change,' – I sort of use 'change' as shorthand now. [Int07: Civil Society]

In part, this was because of the tendency of outsiders to make loud calls for 'just transition' without a sense that they understood or truly cared about the communities that would be affected by such transitions. Here, interviewees clearly found the normative overtones of 'just transition' problematic, particularly when it was articulated by 'outsiders' who 'do not have skin in the game':

> You make it harder for us to do our work if you come in and tell people what they have to have [Int01: Community]

> workers and unions, for very good reasons, don't take kindly to people claiming to represent their interests, when they're coming from a different perspective [Int03: Civil Society]

> people flying in from Sydney, Brisbane, Melbourne to kind of lecture the regions. [pause] They're seen as outsiders, and it's very easy for people to get their backs up because it's seen as lecturing rather than asking. [Int06: Industry]

> the moral huffiness stops people talking about outcomes, because it just invalidates-, your argument's invalid because you're the dirty old economy, you're not the new shiny one [Int06: Industry]

> it's the moral element that people have taken umbrage with. I think that's sort of scolding, hands on hips, you know, 'you people are bad' [Int06: Industry]

Some interviewees went as far as to argue that 'just transition' was often used to demonise coal workers and their communities:

> what we need to do first is stop demonising coal, because you push people away. If you push people away, they don't wanna listen to you [Int01: Community]

> it did look like a very stark, command and control sort of, you know, 'You will desist immediately'. [Int06: Industry]

Others felt that when outsiders called for a 'just transition' they were not sincere in their concern for affected workers and communities. Several respondents noted that this was particularly the case where the term is mobilised by the environmental movement:

> There's a view that just transition is just structural adjustment with a marketing label. And Cecil Roberts, who's the president of the American Mine Workers, said 'The reason I don't believe in just transition is 'cos I've never seen it.' [Int04: Unions]

> because the narrative has been primarily run by environmentalists. That's meant that it's just not taken seriously and is seen as just a nice thing that you tack on [Int03: Civil Society]

Another reason for the toxicity of the term in Australia was political. The Australian Labor Party had proposed a 'Just Transition Authority' as a key policy in the lead-up to the 2019 Federal election, which they narrowly lost. Meanwhile a small number of conservative politicians have had an outsized influence in denigrating and ridiculing the idea of just transition:

> Labor lost out heavily in coalmining electorates at the last election, and that was partly 'cos its messaging was mixed and ambivalent about coal, and it got caught. 'Cos basically [Labor is] a broad church ranging from progressive inner-city voters to more economically-insecure people in the outer suburbs, and working class people across regional Australia and in the outer suburbs of major cities. But you've gotta work out a message so that works for all of them. You can't say different things to different people, which you used to be able to do in Australia and across the world, different messages for different constituencies. But with the internet, you can't get away with that anymore. [Int04: Unions]

> the way the issues have been talked about has made it really hard for workers, for the business community, for, you know, conservative politicians or semi-conservative politicians to be able to correspond with the issues, 'cos the band of who the story's acceptable to was quite narrow. [Int03: Civil Society]

> politicians like Matt Canavan, who's on the right of the Liberal National Party, ridicules just transition. But the term just transition has substantial international momentum around it and the fact that it's become a political football in Australia for the far right ridiculing it doesn't change that. This union's been, been a bit divided about the term because of the way it's been used against us. But internationally, we recognise that that's the term that's used. [Int04: Unions]

Overall, our interviews highlighted that just transition is a complex concept that means different things to different people, including many of the stakeholders who we talked to as part of this research. So there is a challenge even ensuring that actors are not talking cross-purposes.

> And people have differing views of what just transition means. And certainly, from a union perspective, it would mean equal-paid jobs. From a community perspective, I would say it'd probably mean numbers of jobs. So you really need to define [pause] what you mean by the term 'just', and that's probably why there's a bit of confusion around it [Int09: Community]

> just transition, you're either thumbs up or thumbs down; there's no ability to kind of unpick what that means, talk about the bits that you like, what you're doing already that aligns with that [Int06: Industry]

> people are talking about different things; they're using climate justice as a shorthand for very different things, and we need to have a better conversation understanding and get on the same page. [Int07: Civil Society]

> [Interviewer] what do you think the main challenges are to achieving a just transition, if I can push you on that term again? [Interviewee] Our 2030 target is that we're actually not targeting specific sectors. We understand that reducing emissions will require

> technology changes and behaviour changes across multiple sectors, across all sectors. So, it's being able to actually explain that interconnectedness. [Int07: Civil Society]

> People would probably think, because I work in the industry, when I say 'just', I'm talking about, you know, equality in pay and, and things like that to take over. So I just generally talk about transition from fossil fuels to renewables, [Int09: Community]

> I think it's a separation of issues and the pressure and tension and time elements that mean a complexity around that kinda gets lost, which is different to the US, where justice is kind of, from talking to people and being over there and looking at it, it's been integrated a lot more, I guess because some of the poverty issues in coal communities are so much more obvious [Int07: Civil Society]

c) Different actors and their perspectives

There were a number of themes in how different stakeholders were engaging with the idea of a just transition.

Communities

Interviewees pointed out that any transition for workers must necessarily address the broader community too.

> How can a just transition be just about the workers? Just about, you know, a hundred people in a community. [Int01: Community]

> I think the air quality impacts of coalmining are used as a surrogate for members of the community to highlight their thoughts that there's been unequal social impacts [Int08: State Government]

At the same time, there are barriers to overcome to ensure discussions about transition are productive. Some of these barriers can be resolved with careful choice of words, but the messenger must also be credible.

> when people think about coal closure, they think that it's gonna be all of a sudden and they fear that they won't have power [Int01: Community]

> when it was really toxic, people felt helpless, 'What, you know, what can I do? [Int06: Industry]

> fear's a great way of, of motivating people, but if you're genuinely frightened, you tend to sort of cling onto what you know. [Int06: Industry]

One interviewee is a power station worker, who reflected on how he discusses ideas about transition and just transition with colleagues and friends:

> I tend to use the phrase that the coal industry's in palliative care and we're managing the death of it and it's not a real inspiring place to, to front up to work anymore. [Int09: Community]

A lot of the workforce is still in denial that 1) we're causing any damage, and 2) that there's better ways to be doing things. And the workforce is quite, quite divided on it. I don't think so much management anymore. Management are well aware that these places are shutting down. We're not, we're not building any new ones. [Int09: Community]

within the Latrobe Valley where the community believes-, like it's extremely coal-centric community and if you're within that little bubble and you're not looking in from the outside, it can be quite difficult to see any future. They just see the doom and gloom of it shutting down and, and don't see much optimism in where it's heading. [Int09: Community]

We have the social licence in Latrobe Valley for heavy industry. So, people aren't afraid of, you know, massive new infrastructure coming in, or heavy industry. So the community's accepting of that because they've grown up with it. And the other thing is that the workforce that's existing there is highly-skilled, highly-trained, and very adaptable, if they know what they need to transition to. [Int09: Community]

Unions

In the labour movement, there was a diversity of perspectives on both the imminence, necessity and shape of any just transition:

In the union movement, it's about workers, not even necessarily about communities [Int07: Civil Society]

there has been really strong efforts by the union movement that probably peaked the couple of years after the Hazelwood closure. The ACTU did a lot of really good work. The CFMEU in New South Wales commissioned some work before the last federal election, and that timing's probably notable around transition in power stations in particular. And so, there were some efforts there, but it hasn't taken hold. And I think the fact that, you know, [it] became dominated by environmental views, and then there were reasons why, like it's a hard thing to implement practically. [Int03: Civil Society]

when there is still a plausible opportunity for an industry to continue and where running a supportive narrative is potentially a part of making that industry continue, and you're there representing your workers and, you know, and that's what they're expecting you to do, then you're probably not gonna jump to an analysis that says that things are changing and we need to support workers through a disruption. [Int03: Civil Society]

but the CFMEU Mining Division in Victoria is entirely reliant on the power stations in Latrobe Valley. They may have a small number of members in goldmining, I think in around Bendigo, but there's not a lot of that going on at scale. So most of their members are in the brown coal industry in the [Latrobe] valley, so it makes the union pretty vulnerable as those close. And a lot of other unions have pretty serious interest in seeing a transition away from coalmining and are pretty committed to climate action. And so that does create some tensions, I think, but there's also tensions with unions that are supportive of the gas industry. [Int02: Unions]

Historically, of course, coal mining has been a source of considerable union strength, and still remains so:

> there's about a quarter-of-a-million people directly employed in, in mining in Australia, all up. About 50,000 of those are in coal. Coal is majority unionised, barely so, but that's still one of the highest unionisation rates in the private sector. [Int04: Unions]

Business and investors

Our interviews revealed a growing constituency for just transition ideas and action within the business and investor community, with signs that at least some of investment community is actively advocating for a just transition, on either principled or 'enlightened self-interest' grounds.

> Global banks are starting to pull back from coal investments and especially thermal coal. [Int02: Unions]

> certainly a lot of momentum has built up around greenhouse gas accounting, climate risk, the taskforce on climate-related financial disclosures. So institutional investors have developed a lot of expertise and momentum around climate issues, but they've only just come into the human rights and social issues [Int04: Unions]

> if you take a company like BHP or Woodside, with the kind of influence they have over state and federal governments, they can have the bigger impact on Australia's emissions than their own [Int11: Civil Society]

> some of the super funds, you know, they'll co-author or commission reports on just transition, because almost as though they're trying to meet an expectation of them ... Particularly industry super funds where they're member-based organisation, not for profit, union representation on the board. So there is an expectation that they care about just transition. So they'll pay lip service by putting out a report, but when push comes to shove they're not actually out there advocating for companies to take this issue seriously [Int11: Civil Society]

> there's a lot of thinking going on at the moment around board composition and what does a climate competent board look like [Int11: Civil Society]

> it's harder and harder to get high quality investment into new coal infrastructure. That's not to say that you can't … So, an example would be, if you're looking to build a new coalfired power station in Australia, then you're probably gonna be paying a premium, for the finance that you're seeking and indeed for insurance [Int08: State Government]

Ultimately, economics rather than altruism was seen as the key driver of this shift.

> one thing that I've realised in the mining industry in general, it's all about economics. So, if banks won't loan money anymore, you'll have to transition [Int10: Industry]

Industry

Within the coal industry, interviewees observed that mining companies are now recognising their coal assets have a limited life and are challenging for public relations. In this sense, the social license to operate is perhaps beginning to break down. However, they also observed that there is considerable diversity in how companies are responding to these challenges. Some (such as BHP) have sought to gain competitive advantage and public relations benefits from an explicit divestment policy for thermal coal mines, whilst others (such as Glencore) had opted to continue to manage their coal assets, arguing that they are the best custodians for the transition.

> The mining industry is very reactive, the coal industry more than others. … So, what we're doing at the moment is really not about transition. It's very much how can we co-exist and how can we mitigate and manage the impacts? [Int10: Industry]

> there's a real battle going on as to whether there is substance to the social stuff or whether it's window dressing, 'cos a lot of companies are not used to talking to stakeholders, including unions, in their workplace. But the investors, they've got the message now and the Investor Group on Climate Change has got the message that simply divesting is not a solution. So, they're actually saying to companies, 'Well, we're not gonna disinvest. We don't want to disinvest, but what's your strategy to reduce your emissions and look after your workforce? [Int04: Unions]

> the big diversified multinational miners have all got very nuanced and different views. So, BHP's sort of quite explicitly 'we're winding back thermal coal; we're only looking at Tier 1 or 2 assets in metallurgical coal, but we're quite aggressive around metallurgical coal because we've made a lot of money from it' and they can't see a near-term alternative. So, they're talking, you know, perhaps another 20 or 30 years of metallurgical coal [Int06: Industry]

> as you transition out of coal, the last coal that you want to be burning is from a highly-regulated, safe, you know, efficient, transparent, operating system, like New South Wales or Queensland, where you've got that sort of line of sight from pit to port that things are being done properly, and you can be confident that the product's being mined with the minimal impact [Int06: Industry]

> the model now seems to be much more round the Glencore model of [pause] own a good asset, run it down, rehabilitate it, … So, almost a customer-led [pause] transition, if you like, rather than a sort of a centralised edict [Int06: Industry]

> Glencore now officially has a phase out policy that's gonna run its coalmines to closure. But they haven't talked to their workforce about that, but that's their official position; that's how they got their investor groups off their back. But they used to be the hard line people within the Minerals Council [Int04: Unions]

> They're talking about brownfield expansion, a glide path down, but being Glencore, naturally, as part of that glide path and as part of that trading, and a bit like the BHP view, 'Hey, we're gonna make a stack of money on the way because we've got our foot on some really good products and, and people need it and we don't yet see-' And their

> portfolio's sort of quite different to BHP's; they're very heavy in thermal coal, so they're in the energy coal market in a big way [Int06: Industry]

One effect of these different approaches to managing the transition risk from companies has been something of a breakdown in industry solidarity in recent years

> once upon a time, it was much more around a collective, 'How's the industry travelling? What's best practice?' you know, 'Where are we falling behind? What can we learn from the other guys?', 'Here's something clever we've done on safety. You guys should really try this, 'cos it will, will-, you know, stop you hurting people.' [Now] everyone's suddenly clutching their cards to their own chest [Int06: Industry]

In the absence of a clear government lead on transition planning, interviewees reflected that industry is in many senses driving the transition agenda.

> the energy generation transition, [pause] yeah, look, it's being driven by private enterprise and it's happening. [Int09: Community]

> steel manufacturers, in that location [specific producer], are looking at transitioning their infrastructure to a hydrogen technology [Int12: State Government]

> that bit of the industry is well ahead of the state government goal [Int06: Industry]

> We had the major energy producers of all the power stations in the room. The biggest one came out with a clear statement that they were, for the first time [half laugh], saying to that community, 'We are planning for the future and we are diversifying our business model and our energy portfolio. The future is renewables. We can't compete anymore.' [Int07: Civil Society]

> to the best of our knowledge, no one in the coal industry, no management in the coal industry is speaking to their workforce about climate change, [Int04: Unions]

> I don't think so much management anymore. Management are well aware that, you know, these places are shutting down. We're not, we're not building any new ones. [Int09: Community]

> if banks won't loan money anymore, you'll have to transition [Int10: Industry]

Governments

Governments were seen as having a vital role in promoting, facilitating and funding just transition. However, there was a clear sense from our interviewees that the *politics* of just transition was a significant hindrance to governments performing this role. This was visible at all levels of government from local to state, but was particularly acute at the Federal level.

> the political sensitivity around, a) standing in the way of anything that means a job and, b) sort of being seen to undermine specifically the coal or gas industry, [pause] Labor's not prepared to go anywhere near any of those things at the moment [Int05: Civil Society]

> part of the political process is not creating losers. If you create losers, you create political impediments to change. [Int04: Unions]

> there was a narrow ceiling on what was possible from a policy point of view, essentially because of the way the political debate had rolled around these issues for a long time [Int03: Civil Society]

> without that recognition of the problem and the adequate political space to be able to have the conversation, then there's no way to deliver any kind of structural adjustment or transition policy outcomes in the interests of workers and the region, and from the environmental perspective [Int03: Civil Society]

> we just don't have the political economy where, you know, everyone sits down and agrees that this is what the world looks like and, you know, everyone gives up something to be able to [Int03: Civil Society]

> There's been this broad issue about the climate wars in Australia, and whether there should be strong action on climate issues at all. And then there's fringe groups further to the right that say to people the coal's gonna last forever. [Int04: Unions]

> it seems like a political convenience to say that they care about coal jobs, rather than actually thinking about what the alternatives could be for those communities … we've still got a federal government ceiling, I mean, they've just commissioned feasibility for a new coal-fired power station in Queensland right, [chuckles] so they sure as hell don't want to talk about closing existing ones, and even the other day AGL brought forward the closure dates of two coal-fired power stations by a couple of years each, you know, kind of real tokenism, you know 2048 to 2045, and Angus Taylor is still out there saying 'oh, you know, massive risk of shortfall' [Int10: Industry]

> we've got this sort of projected sort of impact on air quality and then we've got air quality standards that say whether or not that's acceptable. We don't have that for carbon emissions, we have methodologies for understanding what the emissions are, but we don't have a standard for what's acceptable in terms of emissions from projects [Int12: State Government]

> the political power of the fossil fuel industry in Australia is phenomenal and they are able to corrupt the political system very substantially. You know, the revolving door between parliament and fossil fuel companies is egregious [Int02: Unions]

One interviewee argued forcefully that transition and transition planning was the constitutional ambit of state governments in Australia.

> The Commonwealth is not in a position to effectively be able to plan for communities or regions into the future. They do not have the skills, they do not have the infrastructure, they do not have the foresight or the links to the community to actually be able to do that [Int08: State Government]

Perhaps unsurprisingly, this interviewee thought that state governments had a critical role to play in transition planning.

depending on the investment that occurs in renewable energy, storage, whether that's battery or pumped hydro, I would expect that by around about 2032, we will probably only have one coal fired power station operating in New South Wales, and that would be Mount Piper [Int08: State Government]

the New South Wales government thinks that areas such as the Hunter Valley are very resilient and very able to, with appropriate support, transition into a new energy world [Int08: State Government]

[Interviewer:] In the context of the Glasgow commitment particularly, to, to phase down coal and fossil fuel subsidies, do you see kind of Scope 3 emissions increasingly having to come onto your radar regardless of whether you formally need to plan for them, just, you know, as export partners perhaps, implement their climate commitments? [Interviewee:] Not really. Not over the next decade or so. Maybe if we're looking beyond 2030, but I don't think so over the next decade. [Int08: State Government]

We are looking to deliver the best for the state as a whole and how do we ensure that we do that in a way that we're delivering positive outcomes for as many people as we possibly can [Int08: State Government]

it comes back to that idea that we as a state, if we're maintaining investment within communities, planning within communities for the future, then we're maximising the chance that we're going to have good outcomes for those communities over a long period of time – 10, 20, 30, 40 years or more – because we have to do the planning for the road infrastructure, for the electricity infrastructure. We have to do the planning for the schools, for the hospitals. We have to do the planning that supports the development of new industries, you know, whatever they may be, through our land use planning or zoning. We may provide support to help develop new industries through concessions or grants. These are things that come primarily out of state governments, and that's who the community looks to. [Int08: State Government]

However, there was a sense from this respondent that the best transition plan was a plan for economy stability and strength, where the market would resolve transition issues. This 'market logic' appealed to various interviewees at state and federal government levels and also amongst industry.

the best thing that we can then do to ensure a just transition is to ensure that New South Wales remains strong economically and socially [Int08: State Government]

I'd just like to leave it to the markets to sort that out. If we continue to have a market for premium coal products then we'll have a market for premium coal products, and we'll just see how the market plays out with that. [Int08: State Government]

Australia, I think, sees itself as an enabler or as a supporter of development, and basically a partner with other countries to achieve mutual benefit. And if that's by providing them coal, then great [pause] Australia is very much a contributor to the development pathways of other developing nations, and we don't wanna be a

> handbrake on their development by imposing, you know, a restriction, which is mildly hypocritical, because, as a country, we've used coal-fired power to get to where we are at the moment … The position is that we have a high quality resource that we will produce for as long as someone essentially wants to buy it [Int13: Federal Government]

> here's a lot of truth when people say, 'Well, you know, if you would stop coal exports out of New South Wales, that may lead to an adverse impact on emissions, because our customers may be required to then purchase and utilise coal with a lower energy content, a higher moisture content, a higher sulphur content, a higher ash content. So, it actually may lead to an adverse outcome [Int08: State Government]

That said, state governments such as NSW are actively engaged in transition planning in various capacities.

> [Interviewer:] whose responsibility, ultimately, is transition planning? [Interviewee:] It's the government's responsibility, the state government's responsibility, because that's what the community expects. [Int08: State Government]

> we've [been] working with Department of Premier and Cabinet to explore the transition process, the transition in emissions reductions particularly. So we're exploring different scenarios around the phase out of fossil fuels … so, the function of these plausible futures is to sort of say OK, so we could have a really slow transition what does that look like and what are the implications, and what kind of land use, you know, what's an appropriate land use policy response in that context, versus like a really rapid transition and you know, what could happen and what does that look like and then you know, how robust are our planning policies if we get these different, two different sort of things happening. And I think also there is already existing policy settings, so we've got the Net-Zero plan, and the Australian Long-Term Emission Reduction Plan, so one of the functions of the land use planning system is to help government realise the ambitions set out in other plans and programmes [Int12: State Government]

> you're unlikely to get a new project in a new environment which doesn't have a history of coal mining. I think two years ago New South Wales revised the tenements of where you could develop coal projects, and they were basically next to existing coal projects. And in environments where there were new ones coming – so, like the Shenhua Project and the [indistinct] Plains, it was, you know, 'We'll actually facilitate the return of your investment here. Please don't do it.' [Int13: Federal Government]

> New South Wales, they've been a bit more bullish about it. In the last year they've knocked back at least two projects [Int10: Industry]

By contrast, one respondent thought that the QLD government was further behind in its transition thinking.

> Queensland government is doing nothing. The Queensland government just sits there and basically is happy to approve projects and, when it does, it says, 'Hey, we support the coal industry,' but then anything which is an issue, like insurance or anything like that, [pause] crickets, and there's no conversation about bolstering communities. It's

> literally like 'Let's create alternatives without linking the two.' [Int13: Federal Government]

d) Advice on achieving a just transition

Planning

There was consensus that just transition requires considerable attention to planning at a variety of scales.

> we've spent an enormous amount of money on farming adjustment programmes, but on restructuring of other industries, it's always been piecemeal and too little too late. It's only after the closures are announced that compensation packages are announced, basically to manage the political fallout. [Int04: Unions]

> [Interviewer:] What would it mean to take a just transition seriously? [Interviewee:] It, it would be establishing those serious planning authorities and putting large amounts of investment in and governments at all levels taking seriously planning for what the transition is gonna look like; what industries are gonna replace fossil fuel industries, where they're gonna be located, economic diversification, not leaving it up to the market and making sure all the workers who are currently employed in the fossil fuel industry are given decent opportunities to get alternative jobs of a similar kind, or similar ability to live on anyway [Int02: Unions]

> we need a much more open, transparent approach to planning and coordination and we need transition authorities, national, state and regional level. We need people on the ground actually supporting just the coordination of the flow of information, flow of resources and expertise to actually come up with some, not just a long-term plan that sits on a shelf, but actually process the same: 'Let's map out the next 10 years since big change is on the horizon.' Acknowledge the likely closures and go, 'We don't know exactly-, you know, you don't get to control international markets, but how are we gonna build resilience now for whatever happens?' And if you're talking about a pitch, that's the line that people really respond to. When we go in, it's like, 'Well, I'm not gonna argue or advocate for coal to be closed down tomorrow, but it is on its way out. Don't you want to be ready for that? And, if you wanna be, you have to start now, 'cos building the next industry takes decades [Int07: Civil Society]

> under that national transition, you could then have that place, you know, your committees outside that would be your regional areas, where there are the hardest impacted by closures [Int01: Community]

> generally six elements to it: one's the energy piece; the other is workforce – how do you support both current and future workforces as things change, which includes also how you prepare them to move into other industries of the future; industry adaptation – how do we support industry to adapt, so the really big players like your Rio Tintos, aluminium smelters and stuff that they need to change their whole way of working to get off fossil fuels; economic diversification – so, how do you take a regional approach

> to looking at how you diversify the economic base for long-term prosperity, starting with looking at the work we need to do to reduce and absorb emissions across all sectors, so agriculture, transport-based buildings, etc.; how do we ensure we have healthy land and water into the future as things change [pause] and the last element is how do we ensure that the benefits, as things change, are shared equitably [Int07: Civil Society]

A Transition Authority (or Authorities)

A number of interviewees advocated for the creation of transition authorities (though the scale at which such bodies should be constituted differed). The hope was that this would help break out of short-sighted and partisan political decision-making.

> it should, you know, have a board or a committee which directly has unions, business, community and local government representatives on it, and the whole authority would be tasked in the various regions to develop transition plans, with very direct consultation with the communities and businesses and unions and local government in those areas [Int02: Unions]

> you would establish a just transition mechanism, authority, whichever you wanna call it, sequency of policies to [sighs] basically broker the void between demand and kind of corporate ESG-related considerations. … We haven't gotten to a point where we've discussed what that means … they have 13 different [insurance] agreements in place, you know. That's just crackers. … and that's to get sufficient coverage to continue operating, and they operate for the export market; they don't operate for the domestic market. … So, you know, the idea of a just transition or a just transition authority or something that, you know, a suite of policies that can navigate these problems really does need to start occurring, because otherwise the government will no longer have the ability to effectively negotiate with the corporate environment to ensure that jobs are actually supported, a suite of requirements that, you know, the government will facilitate X, Y, Z, you know, and provide finance or whatever it might be, but, you know, you are no longer able to create new contracts or, like, you're only able to do it for this mine, that's not for new mines. [Int13: Federal Government]

> A just transition authority is not for five years' time. A just transition authority is for like 10, 15, 20 years' time because there will still be coal rolling out the door. A just transition authority or a just transition needs to be able to delineate between thermal and met coal, 'cos I still think that you're gonna have met coal being used for a long time, 'cos met coal will only be swapped out probably for hydrogen, once hydrogen becomes sufficient of scale, which will be after it starts to be utilised for power generation. So, you know, it's a fair way away. [Int13: Federal Government]

> it's very clear that what makes a good transition authority or whatever you wanna call it, is regional leadership. You know, they have to actually control the region [Int05: Civil Society]

> we wanted to keep it prosaic, easy to understand, and focused just on coal power. In the first instance, basically prove that you can do it for coal power, which is actually not

> a big industry, and, if you can prove that it works there, then you've got a model that you can deploy to other sectors [Int04: Unions]

However, some caution was advocated from amongst the labour movement in the light of the failed Labor policy at the 2019 federal election.

> Instead, we sort of put up a just transition authority which opened itself up for ridicule, basically, on the basis of this was gonna be the mega authority that was gonna transform all our industries. [Int04: Unions]

Social compact

There was also a strong sense from our interviewees that attention needs to be paid to the broader social compact in any just transition. That is, it cannot focus only on workers from the affected industry (in this case coal), even where one industry is overwhelmingly dominant in particular regions.

> the cost of housing is high and the transaction costs are substantial with moving. People also need family connections. That's said, a lot of people who are in the coal mining industry have actually moved to the coal mining industry. So, they've actually already moved once. [Int04: Unions]

> In some places workers are starting to talk about, 'Well, maybe we should get out now before, whether it's a mine or a plant closes, so we don't, you know, suffer the house prices completely falling through the floor?' So, that's freaking out local governments who are saying, 'What do we do if people start to leave?' [Int07: Civil Society]

> there's a whole lot of other workers in the region that will be affected and who don't have the terms and conditions and redundancy payments that power station workers have. So, if you're casual working in a shop in Latrobe Valley, and the power station closes and a whole lot of money goes out of the community so you lose your job in a shop, there's no redundancy; there's nothing for them. So, they're actually very vulnerable [Int02: Unions]

> When the Latrobe Valley Authority was set up where workers were given support, but unemployed people were saying, 'But where's the support for us?' [Int01: Community]

> it should involve community. It has to be all sectors working together, including community, which is something unusual, 'cos community are not usually involved when we talk about the bigger picture. I think it needs to be whoever will be around the table, like, you know, to discuss it. But we need both state and federal government to actually support communities [Int01: Community]

> if it was a grassroots being led from the community to say, 'Hey, this [pause], we're sitting very comfortably at the moment, but you can see that the next generation of mines won't be there or that the next generation of mines won't be producing as much, so we need to think about what our alternatives are.' That's likely to get a very different response because the people leading the conversation are part of the community, not

> sort of that sense of being grafted on and coming in and scolding people [Int06: Industry]

Diversify the economy

This support for a broader social compact led interviewees to reflect on the fact that the Australian economy is very unbalanced, which is a barrier to transition thinking and planning, though paradoxically leaves Australia very exposed to shifts in global opinion (for instance away from fossil fuels).

> I always say we've got a third world economy with first world living standards. Not sure how long that can go on for. Yeah, a heavily resource-intensive and mining-intensive economy [Int02: Unions]

> the failure of, or the reluctance of governments to put much emphasis on manufacturing and things like that since there's this belief that mining will carry the nation [Int02: Unions]

> two-thirds of the value of our exports is coking coal for steelmaking, and that's got a longer future, though coke and coal can be replaced in steelmaking, it turns out [half laugh], but the entire world's steel industry's gonna have be rebuilt for that to happen [Int04: Unions]

> In Australia you've got the situation where our fossil fuels are actually our source of competitive advantage [Int04: Unions]

So both for the sake of Australia's broader economy and the communities it supports, respondents advocated a diversification of the economy, which they thought would also have the effect of providing options for workers made redundant in the transition process.

> Australian coalminers, 'cos it's a successful, competitive, capital-intensive, high-wage industry and, by comparison, the renewable energy sector is a low-wage industry, and most of the other industries that I talked about as alternatives are also low-wage industries. So, when you talk about tourism – low wage. You talk about renewables – low-wage industry [Int02: Unions]

> rehabilitating all the coalmines in Australia will also be a 10-year process, and those skills are similar skills to mining jobs. … The issue is the rehabilitation won't be a straightforward profit centre [Int04: Unions]

> the Mackay population of mining and engineering companies are very comfortable with change. [pause] the idea of transformation, for them it's a neutral word, but it also encapsulates a lot of that opportunity around automation, about data, about IT, drones, all the sexy stuff [Int05: Civil Society]

> , it will certainly get [pause] more challenging for people to find work, but when you ally that with hopefully a decent crack at getting a few more diverse opportunities in, you know, enough to give particularly younger people options and, and then some of that demographic change as well. Like the, the big sort of challenge at the core of

> particularly mining in a region like the Hunter is that there's a lot of like prime-aged blokes in particular, but prime-aged people who are, you know, making a good livelihood and, and a good life supporting their families and are in that middle. Whereas, you know, people who have maybe just entered the industry, or will be entering the workforce over the next five or 10 years or so, you know, while you're still flexible, while you, you know, don't have a giant mortgage, while you've still got that capacity to try a few things on that end of the scale, you know, it's doable for people and more flexible. And on the older end of the scale, you know, as long as people have shepherded or stewarded their resources OK. And that's hard in a sort of casualised environment, [Int03: Civil Society]

> one of the most policy areas that it is very hard, you know, retraining people to go into something else particularly for communities that are remote, you know, regional communities that don't have many other options [Int11: Civil Society]

> We've gotta think deeply about what are appropriate industries and jobs for the workforces and the skills that are in those areas, which I think is what the Latrobe Valley Authority does reasonably well with its Smart Specialisation strategy. [Int02: Unions]

This diversification theme reflected the fact that it was clear that whilst the energy system is shifting towards renewables, they are not a panacea in and of themselves, both because they are often not located where previous coal industries were, and also because of the different labour profile and skill sets they frequently demand.

> Renewable energy is great, we've got a huge amount to build and there will be quite a lot of jobs in building it, but, there's not many jobs in running renewable energy [Int02: Unions]

> here's not a one-to-one movement; you're not saying that, 'Oh, we're gonna have renewable energy that's gonna employ the people from coalmining.' It's always been a naïve position [Int04: Unions]

The key role of government

As already mentioned above, one of the key themes coming through the interviews was that Governments at all levels must play an instrumental role in planning, stimulating and funding a just transition. But whereas interviewees saw state governments beginning to adopt this role, there was a near unanimous acknowledgement that the Federal government is 'missing in action', with deleterious effects for the prospect of transition.

> we need all sides of government to actually acknowledge that things are changing. [Int01: Community]

> a friend who does a lot of work for EU, he was saying that the EU like they don't fund anything that doesn't contribute to emissions reductions, like there is no funding for anything that can't demonstrably sort of reduce emissions. So, I think, but you know, that's probably global best practice benchmark the EU, whereas you know, perhaps we're working in a very different political environment [Int12: State Government]

> we don't see the support of federal government. We see weak support of the state government, yet our state government is pretty good and they are doing some really good renewable energy things. [Int01: Community]

> In some ways, the states may be better to run transition programmes because they're closer to it. But, you know, the feds should pay for it. [Int02: Unions]

> States have always been ahead of the Commonwealth, in essence, when it comes to managing greenhouse gas emissions and also indeed planning for climate change [Int08: State Government]

> as you mentioned like the private sectors already very active in this space, so, it's going to happen as far as they're concerned it's well underway, so it's the way that we manage that process which is critical, not whether or not that process happens. [Int12: State Government]

> a place like Queensland where there's a lot of rural communities where they do rely on government services – they rely on the government to be sort of central in the economy, that privatisation is election-losing, and, yet, you know, we're doing everything we're doing on climate change is privatisation, basically. [Int05: Civil Society]

Government was also seen as a key funder of a just transition, though some respondents also thought industry should contribute.

> The mining companies should be largely responsible for remediation, and they usually don't have to pay the full remediation costs [Int01: Community]

> It's gonna take money, but money isn't really the issue once you change your attitude about what are legitimate expenses to be incurred in transforming our society [Int04: Unions]

> achieving consensus is also gonna require money, and the amount of money required is significant but it's tiny compared to capital that's gonna be required to achieve the change. [Int04: Unions]

> we've got a fantastic report written by some bloke who was actually on the Investment Committee for the Future Fund, who was from QIC, which is the Queensland Investment Corporation on state banks. He, he was recommending we should be looking at state banks again, which, of course, are totally out of fashion in Australia. [Int05: Civil Society]

> the Commonwealth Government in Australia has, essentially, unlimited fiscal capacity to fund what it wants. Although, you know, it has to deal with inflation and all those sorts of issues and imbalance between supply and demand, but the Covid crisis has proved once and for all, to me, that, you know – and modern monetary theory has been arguing this for a long time but it's now been proven in my view correct – that those monetary sovereigns like the federal government have unlimited fiscal capacity to pay, so it should. State governments don't have that [Int02: Unions]

Finally, some respondents raised the question of whether a just transition can actually be achieved in the context of a market economy.

> It really pushes parties like the Labour Party to have to start thinking about, 'Well, when, what, are we going to do more? Are we going to do better policy than just incentivising rich people to do things?' [chuckles]. 'Are we gonna do-' Or, you know, incentivising the market, effectively, because-, you know, which brings up all those much more-, you know, very soon you get back into questions about public ownership, and public investment that isn't just, you know, grants and all those sorts of thing [Int05: Civil Society]

e) Helpful framings

Interviewees reflected on a number of helpful framings towards a just transition.

> This should not be a division between jobs and environment, and actually it's all elements of how do we share the benefits equitably and make sure that the negative impacts don't, you know, impact on people who are already marginalised from, you know, mainstream economic opportunities? [Int07: Civil Society]

Provide hope and give agency

Amongst the first thing that respondents mentioned was creating positive narratives of hope and opportunity, rather than negative ones.

> I frame it in a positive way, and the next line is, you know, 'It's not just about making sure we don't leave anybody behind and managing the negative impacts. We have an opportunity like never before to share the benefits of the technology as things change.' [Int07: Civil Society]

> I think each community starts to sort of knit together the threads of their own narrative, and own that. And maybe it's a process of resourcing mayors or local governments to kind of articulate that in a non-partisan way, is part of that way of taking away the threatening flavour of it [Int06: Industry]

> in a world where people, you know, the crazy social media world where people don't trust institutions, they don't trust governments, they don't trust the ABC, you know, who, who is the voice that they turn to that they can, and it probably is a sort of a community-based conversation [Int06: Industry]

> when you give people the chance, face to face, to talk about their place and get practical about it, things can move really, really quickly [Int07: Civil Society]

> I think we're starting to move towards a sort of an agreement around, 'Here, here's a whole lot of things that are good in their own right and they also deliver to the climate,' rather than that, 'Oh, you know, Chicken Little, we're all gonna die. We've got to do this immediately [worriedly].' And I think that more [pause] progressive, gradual, you know, 'Here's a shopping list of things you can do to reduce your own carbon footprint.' Implementing that gives people a bit more sense of ownership and less willingness to buy into that sort of red/blue climate war nonsense [Int06: Industry]

unions needs to, [pause] start being committed to developing a vision of what a sustainable Australia would actually look like, rather than being reactive and on the defensive all the time. We should be developing a vision of what a low carbon Australia would look like and the jobs and opportunities [Int02: Unions]

I believe there's huge opportunity for our region, and, you know, the chances for, [pause] for our community to thrive with new technologies is quite huge. [Int09: Community]

'OK, I can measure and manage my carbon footprint, I can make a decision to catch the train to work or ride a bike, so I feel a bit more in control.' So, I think that individual ownership around climate change is starting to bite a little bit more [Int06: Industry]

the consumer face of [pause] climate transition is starting to get very appealing at an individual level. So, suddenly, you know, having a solar panel and a battery and a Tesla or a Leaf is kind of a bit sexy and upmarket [Int06: Industry]

Listen and recognise fears

Alongside providing hope and positive visions, respondents stressed the need to really listen to affected communities, to recognise their concerns and not trivialise their fears.

I think it's a difference between saying 'You're not a valid-, you're the new tobacco, you're the new asbestos,' you know, 'you're evil,' as opposed to, 'Hey, I know you're doing really well at the moment, but your kids might want to have a look at this industry that's coming through because we think that's gonna be the next big thing, and we actually wanna tap into the skills you've got to help train the apprentices that are gonna run in this new industry [Int06: Industry]

we actually have to start acknowledging that things are changing. Things always change. Technologies always change. Like, who's gonna go back and by a 50-year-old family car to transport their kids in? [Int01: Community]

avoid overegging the pudding at, at all costs. That has been incredibly damaging to people recognising a changed reality. It's a total boy who cried wolf situation [Int03: Civil Society]

many people have wanted to actually take action but haven't listened. So, first they need to listen to the community. They need to hear the fears of communities. They need to actually understand what communities need. They need to understand what people hope for. Then they can start imagining together, but being realistic in imagining. [Int01: Community]

because it's an export industry in Queensland, because the signals will come from customers, I think perhaps that sense of morality is, is absent. So, perhaps we have an opportunity or invent our own, and we'll probably have to give it a different label, but managing that process of jumping across to whatever the next things are for each, and coming up with a tale or plan for each community, each region, so that it's not threatening, it's not, you know, this cliff that you fall off in 2023 or whenever it is. I think

> that's got a lot to be said for, but you need resources, you need skilled people, you need moderators, and it's gotta be done in a way that's not [pause] political, it's not corporate, [Int06: Industry]

f) Work on the ground

> just transition is poisoned here as an idea. So, we're having to rehabilitate it. Firstly, rehabilitate it and then turn it into something practical. [Int03: Civil Society]

In the face of the absence of a developed and productive political discussion around just transition and that it has become a term that many recoil from, interviewees offered insights about how to 'rehabilitate' the term. One key suggestion here was that just transition requires working on the ground, in the community, through trusted channels and intermediaries.

> 'cos there's a few good examples, I think, like the Moranbah example and Mackay example, where communities are sort of not waiting for somebody to come and talk to them about just transition. They're sort of kicking off their own process, which looks a lot like it but isn't what they're necessarily calling it [Int06: Industry]

> You don't need to speak about climate change if you change that word to health. Health of community, health of the environment that we live in [Int01: Community]

> We're seeing successful initiatives, … it has to be face to face. The only way to get past this, you know, polar opposite, binary opposition stuff and to get people, is this: the importance of face to face, having it local and place-based, because you get past all the arguments. It's like, 'In this place how is what is changing the energy sector already impacting you?' Using a strengths-based approach, we're talking about what is, not being visionary stuff and hypotheticals, like, 'What's happening right now?' 'cos it is happening. And, when you ask that question, people go, 'Oh yeah, we've got to get onto this [realising],' and then go, 'And what can we do about it and whose job is it?' Keeping it local, practical and focused on what is happening, it takes the politics out of it and it just asks something different of people. [Int07: Civil Society]

Trusted messengers

Several respondents expanded on the importance of trusted messengers to open conversations about transition:

> she sat down at my table later and so did the person from this energy company, and the person from the energy company actually said to her, 'We won't be here forever. Climate change is real and we've got to take action on it, and we won't be here forever. Energy's changing. Power stations won't be here forever.' And there was this lightbulb moment for this girl to realise that she was hearing it from the horse's mouth. She was hearing that things are changing [Int01: Community]

> They think the operators will do the right thing by them. You know, so they need the operators to actually be telling them, 'Well, you know what, we will close. You know

> what, climate change is real. You know what, we have to do things differently. [Int01: Community]

Encouraging a dialogue and showing respect

Like in the previous sub-section, working on the ground was seen as a way of both showing respect and encouraging a productive conversation between stakeholders with differing views and assumptions.

> we're trying to create space to get policy up that sets the institutional basis and the capacity to be able to respond to changes over time. That's what we're doing essentially, and all of our policy advocacy, at the moment at least, is really aimed on what are those things that shift the story and build institutional capacity? [Int03: Civil Society]

> it's sort of an enlightened self-interest recognition around the need to recognise community and worker interests, and make sure everyone's along for the journey, so that the backlash doesn't happen [Int03: Civil Society]

> sometimes we, we go gung-ho in, you know, yelling and screaming, and people go, 'Whoa [loudly]! I don't want to listen,' or do we actually listen to communities, what communities need, and imagine together? And this is part of the work that The Next Economy does: is actually being invited into communities, imagining working together [Int01: Community]

> we recognise that there were ways that we could talk about it that would be acceptable to a variety of different stakeholders that were trying to find a way through it, you know, whether that was people on either side of the political fence or, you know, workers or mayors or whoever it might be. And, if we could model that a bit, having the sort of lead in our saddlebags and being environment and union, as a beginning, but we could, we could make use of that and say, 'OK, we reckon this is a way to talk about it and be very disciplined and aware of walking in other people's shoes and what would get them off side or make people not here,' and also just respecting where people are coming from or, when we see people having a go at these issues, backing them in [Int03: Civil Society]

> about the Hunter, there's two things going on, I reckon. There's the sort of how the leadership and all the different interest groups work together. You know, there's that, 'cos what we know, we know you have to do it regionally [Int05: Civil Society]

Shareholder pressure

In the financial realm, working 'on the ground' entails a subtly different form of action, such as targeting companies through shareholder pressure, shareholder resolutions and associated campaigning activities:

> there's been a recognition by investors that simply disinvesting or shifting their investments isn't going to work. There's been a lot of money shifted out of coal mining

> in Australia, but we're still producing the same amount of coal; just different owners. [Int04: Unions]

> if you are serious about just transition, you're going to have to retain some kind of position in the company and actually advocate for it, not just kind of put up a report saying yeah, this is a great idea we should do it, and then not have any skin in the game. [Int11: Civil Society]

> we're still not seeing kind of significant votes against boards for instance. You are seeing significant support pressure shareholder resolutions, but really they're not binding, you know companies kind of get out of doing whatever is asked of them, of their resolution; and yes they force the company into having a conversation with their shareholders about the issue, but the fact that it's non-binding companies can kind of just ignore it You are talking about just transition, what better way to ensure that workers are looked after than having a workers representative on the board, how do you pressure a Hong Kong listed company to take care of Australian workers, it's a pretty hard one [Int11: Civil Society]

> we would look at what is their approach to climate, what is their approach to workers, what is their approach to cultural heritage, how could it be improved? You know, do they do what they say? So that kind of research, and then we'll engage with their shareholders provide them with that research and hopefully change minds if we can [Int11: Civil Society]

Despite actions like those discussed above opening up conversations about just transition, as one interviewee put it "It's just really hard on the ground [Int03: Civil Society]". This sense of frustration was widely shared:

> It's a really frustrating process, which I think, to be honest, is part of the reason why everyone goes to ground – the companies, the departments, the regulators, and it becomes very hard; it runs just in their sort of little bubble, rolling their eyes in frustration [Int06: Industry]

> the importance of both the respect for workers and the environmental issues, and just trying to put them together is a hard thing in a lot of situations [Int03: Civil Society]

> it feels like there's too much tension at the moment around the need to act quickly, and how hard it is just to get the government over the line. [Int07: Civil Society]

g) A just transition for whom?

The final issue that bears some reflection from the interviews is the question of who a just transition should target. In Australia, coal jobs are amongst the best-paid blue collar jobs. This means that discussing just transition raises difficult questions about how to support people whose industry will be closed down, whilst not entrenching injustice for others (often in the same community) who lack the present good remuneration of the workers.

it's amazing how often unprompted you get people who are otherwise quite supportive of the coal industry and coal workers, just go, 'No, they're on a fortune. Like they can look after themselves.' [Int03: Civil Society]

why does it make a just transition if myself as a worker on $100,000 gets a beautiful handshake of a pay-out and then moves to another $100,000 job, when my neighbour, who has been struggling and working contract work and getting very little work and struggling, doesn't get the same support [Int01: Community]

potentially wage maintenance, although I think that is a position that some unions adopt, but it's not necessarily easy because coal miners and power station workers get paid a lot of money – they get paid a lot more than workers, say, in manufacturing and they get paid more than any other blue-collar workers [Int02: Unions]

We actually tested that idea of paying for, you know, guaranteed payment, which didn't go well on the subsidy. Well, of course, there's a sort of disequity [pause] 'why do they get special treatment?' [Int05: Civil Society]

to me is the point that's been missed: whilst these very highly unionised jobs are being protected and have all these good conditions, the rest of Australia has lost its good working conditions, has lost a lot of the social security networks, and that's what we should be highlighting here [Int07: Civil Society]

proposals that get bandied around, like the unions saying, 'Well, there should be guarantees that any difference in income in the new positions should be made up from public funding.' It's like [half laugh] you can see how that doesn't play well with people [Int07: Civil Society]

there's a perception in environment groups that the unions are just being stubborn in demanding that people should have similar paid work and similar conditions [Int07: Civil Society]

bit of the negativity is that just transition has been grabbed by the unions and, when they say 'just', they believe that there should be new jobs created at the same payrates as what's been lost. So, that's what they see as a just transition. [Int09: Community]

Who to help and how?

If you turned up in the pubs in Muswellbrook or in work sites and said, 'Alright, every bloke here, I'm gonna pay you for the next five years your same wage to go fishing,' a lot of people would absolutely take it because they'd be mad not to, but a lot of people wouldn't as well. [pause] They don't want people to shove money at 'em; they don't want handouts. So, they wanna earn a living and they wanna make their contribution, and that's what their contribution is [Int03: Civil Society]

when people are talking about justice, they tend to be talking about totally different things. So, often in the climate movement when you hear it, people are actually talking about first nations communities. So, whether that's the impact of fossil fuel extraction or whether it's increasingly, in the Northern Territory in particular, impacts on, a lot of

climate change on affected communities. And there's a really great new alliance that's just starting to get going in the Northern Territory called the Climate Justice Alliance, and it was very intentional to be talking about justice [Int07: Civil Society]

it's still missing the justice element. We've got jobs and industry, and in a way it's playing into kind of a neoliberal framing – it's like, but you can do the right thing on climate and you can make lots of money and create lots of jobs, and there's only a few of us that are going, 'Yeah, but you can't do that,' [half laugh]. Like, 'If you just leave it to industry, you'll get the same results that we see all around the world', and you'll actually erode some of the protections that we've had in place in Australia for a really long time. Government needs to do their job [strongly] and we need to be talking about justice, we need to be talking about, you know, energy access, affordability. Why aren't we using a decentralised technology in a way that people can own their own energy, that can benefit remote Aboriginal communities? Where are workers in this in terms of worker rights [Int07: Civil Society]

6. Turning our findings toward action

This section draws on the project findings in earlier chapters to provide policy-relevant reflections on the project's three objectives. It is written in the format of three 'policy briefs'. The first sets out the contours of what a just transition from coal currently means in Australia. The second explores key challenges facing Australia in achieving a just transition, and the third reflects on Australia's pursuit of a just transition and what it (or its absence) means for Australia's regional neighbours.

6.1 Defining a just transition in Australia (Gareth Edwards)

a) Summary

This brief sets out the contours of what a 'just transition' away from coal could look like in Australia. To do so, it (1) Briefly outlines the history of the concept of 'just transition' and (2) Explores how 'just transition' is being framed in Australia, drawing on both the review of the academic and grey literatures and analysis of media articles in Australia. In Policy Brief 2, we will focus on the challenges to achieving a just transition away from coal in Australia.

b) The emergence of 'just transition' as an idea

The concept of a 'just transition' emerged in the North American labour movement in the 1970s (Stevis and Felli, 2015), but crystallised in the mid-1990s. On 5 December 1996, Brian Kohler from the Energy and Paperworker's Union of Canada gave a speech to the Persistent Organic Pollutants Conference in Chicago, in which he argued:

> "If society must make some tough choices about which economic activities we are willing to continue and which we are willing to forego, a structured transition or "just" transition program is necessary, if the costs of those decisions are to be shared fairly. … Capital can write off losses, collect insurance in some cases, and re-invest elsewhere. Workers do not have these kinds of options. Without a "Just Transition Program" you guarantee conflict, and possibly violent conflict. That is your choice." (Kohler, 1996)

Setting out the contours of what a just transition might look like, Kohler argued that such a programme would have at least four characteristics:

1. protecting the purchasing power—i.e. wages—of workers;
2. new employment opportunities for those who had to change employment due to transition;
3. redefining what 'employment' means to reflect sustainability principles; and

4. supporting communities who are dependent on the industries being transitioned away from (Kohler, 1996).

In 1997, the Oil, Chemical and Atomic Workers' Union of the USA became the first group to adopt a resolution specifically calling for a just transition (Stevis and Felli, 2015: 32), building on the work of Tony Mazzochi (García-García et al., 2020). Unsurprisingly, the fossil fuel industry and communities dependent on it have been the focus of thinking about the just transition (Harrahill and Douglas, 2019).

The idea reached the international sphere in 2008, when the International Trade Union Congress (ITUC) and International Labour Organization (ILO), which partnered with the UNEP to write the 2008 report *Green Jobs: Towards Decent Work in a Sustainable, Low-Carbon World* (UNEP et al., 2008). This report focussed on employment, but acknowledged that in the climate change context just transition principals should also apply at the international scale, for instance between countries. The work of the ITUC and ILO largely shaped just transition ideas in the second decade of the 21st century, which tended to focus primarily on the employment dimensions of a just transition (e.g. International Trade Union Confederation, 2010; Olsen, 2010; ILO, 2015). In 2015, for instance, the ILO framed a just transition in terms of "decent work for all, social inclusion and the eradication of poverty" (ILO, 2015: 4).

c) 'Just transition' in Australia

Our research has highlighted the partial and contested nature of Australia's just transition discourse, particularly as it pertains to a transition away from coal. Where it is extant, the discourse tends to focus on specific geographical areas and communities, such as Victoria's Latrobe Valley and NSW's Hunter Valley. Our analysis of the academic and grey literature as well as media articles reveals that very little was written specifically on 'just transition' in Australia until 2015, with significant peaks in public attention during the federal election year of 2019 and the COP26 year of 2021. Where it is emergent, just transition narratives tend to be driven primarily by the union and/or environment movements, as well as a small number of civil society groups working directly on transition questions. Jotzo et al. (2018) argue unions and environmental groups will be instrumental in whether the politics are conductive to just transitions, and our research suggests that at present they certainly are not.

There is a considerable consensus in the academic literature that a transition away from coal for domestic electricity generation is already well underway in Australia. The last new coal-fired power station to open was Bluewaters 2 in Western Australia in 2010, and 12 of the 34 coal-fired power stations in operation in 2010 had closed by the end of 2017, the largest of which was the Hazelwood power station in Victoria's La Trobe Valley (Burke et al., 2019). In a report prepared for the Australian Conservation Foundation, academics from the Institute for Sustainable Futures at UTS argued that in addition to 10 coal power stations which closed down in the 5 years to 2017, another 9 were expected to close within 15 years, of which Liddell was anticipated to be the first (Dunstan et al., 2017: 8). As this report was being prepared, Origin Energy announced

the early closure of the Eraring Power Station at Lake Macquarie (NSW) in 2025. In the context of legislation requiring advance notice of closures, this is the earliest possible closure date for the plant.

The regions at greatest risk of this transition if not managed as a 'just transition' are the Latrobe Valley (Victoria), Hunter Valley (NSW) and Fitzroy region (QLD) (Burke et al., 2019: 143). IN the Latrobe, transition is already well underway. In the other two regions, there is a significant difference in openness to transition between workers engaged in the domestic power generation industry and those in export-oriented mining. Government estimates tend to ascribe a fairly long remaining life to coal-fired power stations, but scholars have been much less optimistic. In their (2018) working paper, Jotzo et al. argue that

> New coal fired power stations would not be commercially viable in competition with renewables, and existing coal plants are likely to come under increasing economic pressure as the amount of renewable electricity generation increases. This is likely to cause accelerated closure of coal fired power plants. (Jotzo et al., 2018: 4)

They go on to argue that the fact that the Construction, Forestry, Maritime, Mining and Energy Union's Mining and Energy Division (CFMEU M&E) has actively started to mobilise 'just transition' narratives reflects an acknowledgement that the transition is already underway. Our interviews with stakeholders support this assertion. One of our primary findings is the significant difference in transition readiness and willingness between the domestic power generation industry (with its associated mines) and the export-oriented coal mining sector.

The idea of a just transition holds out the hope of a rapprochement between the labour and environmental movements. However, it is important to remember that environmental *justice* advocates are not necessarily environmental*ists*. Failure to engage substantively with just transition ideas can be a feature of the environmental movement just as much as of the labour movement. In an Australian example, Colvin (2020) found that the 'Stop Adani' convoy of environmentalists which travelled up to Queensland's Galilee Basin region during the 2019 federal election campaign had the effect of reinforcing the 'jobs versus environment' trope. In media reporting of the events,

> "the Convoy members were portrayed as being motivated by the need to address climate change ahead of all else, opponents were represented as everyday people who wanted to secure their livelihoods in regional Queensland towns." (Colvin, 2020: 8)

Colvin's research highlights the risk of mobilising 'just transition' with insufficient attention to just transition principles and the place-based attachments of local communities:

> "My analysis suggests that the Convoy most likely worked against the unifying aims of the just transition approach. In place of promoting new sustainable regional identities based around bringing together people, groups, and sectors [6], it returned to the legacy of past conflict where normative fit dictates that environmental objectives must be at odds with the objectives of working people and regional, resource-dependent communities." (Colvin, 2020: 10)

The results of our interviews concur with Colvin' analysis. Interviewees very frequently spoke of how the term 'just transition' has been poisoned in Australia by a combination of calculated political messaging, unintentional (often well-meaning) usage of the term by environmentalists and 'outsiders', and a lack of clear examples of what just transition means to overcome fear that the term might simply be another word for structural adjustment.

As a result of this, many groups and individuals who might otherwise strongly advocate just transition principles tend to use other words to describe their mission and their work. The lack of a well-articulated discourse of just transition appears different to other geographical contexts (such as Europe or the USA) where the term has achieved wide bipartisan support, leading to productive outcomes.

Our analysis of media articles (see methodology in Section 0) reveals that first mention of 'just transition' AND 'coal' AND 'Australia' in the Australian media did not occur until 2005. Interestingly, quite a high proportion of the mentions in our database come in letters to the editor, suggesting that the term has more traction amongst letter-writers from the general public (perhaps working in related areas) than amongst journalists.

d) Dominant frames of just transition from coal in Australia

1) Domestic Just Transition frame: phaseout of thermal coal power stations

The most significant 'just transition' frame in Australia at present is the discussion focussed on the transition away from coal-fired electricity in the major historical coal basins which supply coal for domestic electricity consumption notably the La Trobe Valley (VIC), Hunter Valley (NSW) and SE QLD, as well as the Lithgow region in NSW. These areas tend to be highly dependent on coal-fired power generation and associated coal mining for local employment, so it is natural that transition discussions should be most advanced in them. Overall, this just transition frame is predominantly local in focus, and tends to be structured around issues focussing on single (albeit large) employers and the communities in their immediate hinterland. In this sector, companies are increasingly publishing their closure plans, and so workers and their representatives cannot avoid engaging with the prospect of transition, often in the near to mid-term.

2) Domestic Just Transition frame: links with structural adjustment

A related 'just transition' frame that emerged from our literature analysis and interviews is what is more broadly understood as 'structural adjustment'. That is, assistance provided to communities in the context of changing employment patterns, with the intention to facilitate new employment opportunities and functioning communities in the context of change. It has a broader geographical focus than the just transition frame discussed above, because it encompasses related issues such as the interaction of coal mining and power generation on other industries and employers, the flow-on effects (for instance on transport operators, port

operators and associated communities), and broader patterns of change in regional and rural Australia. Structural adjustment has historically been a painful process in regional Australia, and so the association of just transition with structural adjustment has led to transition acquiring some of the 'baggage' of structural adjustment.

3) International Just Transition frame: coal mines and coal exports

The final 'just transition' related frame we have identified concerns Australia's export-oriented coal mining. This frame will only grow in prominence as export-oriented miners such as those located in NSW and Queensland begin to restructure their businesses in response to either market forces, international norms and policies, or local laws and policies should they be established to discourage coal mining. However, our study shows that at present, there is only an embryonic discourse of just transition in this sector, with considerable mixed messaging from governments, industry and even unions and organised labour. In the academic and grey literature, this is reflected in discussions about Australia's climate policy (or lack thereof), and tends to use the terminology of 'climate justice' more than 'just transition' specifically, and in this frame environmentalists are prominent in calling for a just transition from coal. Whilst this establishes the spectrum of possible political action, such calls have been implicated in damaging the utility of the just transition concept in regional and rural communities. This just transition frame is the most contentious, since it connects domestic questions of a just transition and structural adjustment to international considerations about the role of coal in energy systems in the Asia Pacific in particular, and the division of responsibility for the associated carbon emissions.[3]

e) Key points and next steps

This brief has sought to give an accessible introduction to and primer on the state of academic and public discussion about the notion of a 'just transition' from coal in Australia, drawing on our analysis of the academic literature, grey literature and media discourses. It has located the Australian experience in the context of global discussions of this emerging idea. It has highlighted some themes about how a just transition is being defined and framed in Australia to date, notably:

1. That a transition is already underway in Australia's coal-fired power generation sector
2. That just transition thinking is most advanced in the domestic power generation sector, particularly in specific locations such as the Latrobe Valley which have already experienced sudden, unexpected closures of power stations
3. That the term 'just transition' is understood very differently in Australia than elsewhere, and often seen as a difficult concept to be avoided

[3] Gareth Edwards is exploring these dimensions more in his related research project 'Just Coal', funded by the Leverhulme Trust through a Leverhulme International Fellowship.

4. That there is considerable work to be done to ‘rehabilitate’ the just transition concept for Australia, and find ways to bring it into discussion in the export-oriented coal mining industry, where it is much less evident so far

6.2 Barriers to a just transition in Australia (Robert MacNeil)

a) Summary

While definitions of a 'just transition' have increasingly begun to take shape in Australia over the past decade, it remains unclear whether the country is actually likely to take steps toward achieving such a transition. In this context, this brief aims to describe the main barriers and impediments to a just transition away from coal in Australia, looking at the economic, cultural, and institutional barriers in turn.

b) Economic barriers: coal's place in the Australian economy

Australia's overreliance on coal provides the broad economic context in which any conversation about a just transition takes place, and helps inform the broad preferences of states and governments as they aim to promote and maintain economic growth. The key point worth underscoring here is that, over the past generation, Australia has seen a broad reversal of the macroeconomic diversification that characterised its growth throughout the post-war period. While Australia's early national development had been based largely on extractive resource exports, this pattern was interrupted in the mid-twentieth century by a public policy program that sought to move the Australian economy up the global economic value chain, chiefly by promoting a strong manufacturing sector and diversifying the country's trade profile (MacNeil, 2021). Owing to a mix of import tariffs and other governmental strategies designed to promote the growth of domestic industry, Australia's manufacturing and value-added sectors grew substantially during this period, such that, by the mid-1960s, the national economy had diversified to a point where the proportion of its GDP and foreign exports located in the secondary and tertiary sectors had become similar to those of other industrialised economies in Europe and North America (OEC, 2021). While an emphasis remained on primary production, Australia's composition of exports and industrial production had changed significantly, with the share of its primary exports decreasing from 61 percent in 1953 to just 37 percent in 1968 (Robertson, 2008).

Beginning in the late-1980s, however, owing to a mix of exogenous factors and shifting public policy preferences, a stark reversal had begun to set in, with Australia rapidly sliding back down the global economic value chain, and once again taking on the characteristics of an increasingly resource-dependent economy. After peaking in the 1970s at 25 percent of GDP, Australian manufacturing plummeted to just over 6 percent in the early 2000s, making it the lowest in the OECD, and essentially the only advanced economy in the world without an effective manufacturing base (Robertson, 2008). As the country's secondary sector increasingly disappeared, and as other forms of economic diversification failed to fill the breech as they did in other industrialised states during this period, the primary sector once again took on a disproportionate role.

Fossil fuels have played a paramount role in this shift, generating nearly a third of the country's export wealth over the past generation, as well as a range of other high-emitting resource industries, the aggregate of which now comprise approximately 70 percent of Australia's export wealth (see Figure 20). This extreme reliance on a small number of primary exports to generate new wealth and create sufficient foreign exchange for the import of capital goods makes Australia an anomaly amongst advanced economies. As Figure 21 depicts, in terms of Australia's placement on the Global Economic Complexity Index, the country has the least diversified economy in the industrialised world, and is arguably more similar in its economic composition to a number of rentier states in sub-Saharan Africa with considerably lower levels of structural complexity. This situation is made worse by the fact that, relative to some of its peer nations, Australia is a rather trade-reliant country, with trade as a whole equivalent to 45% of GDP (Government of Australia, 2020).

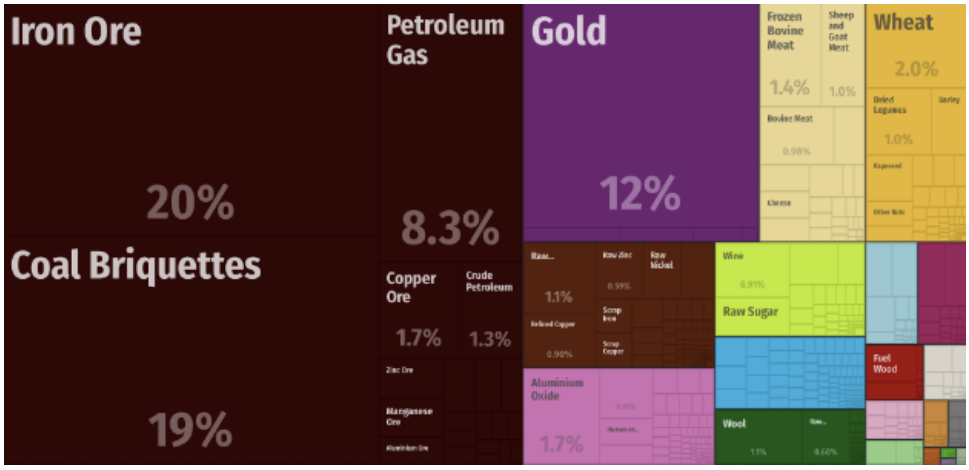


Figure 16: Australia's Export Profile, 2021. Source: OED (2021)

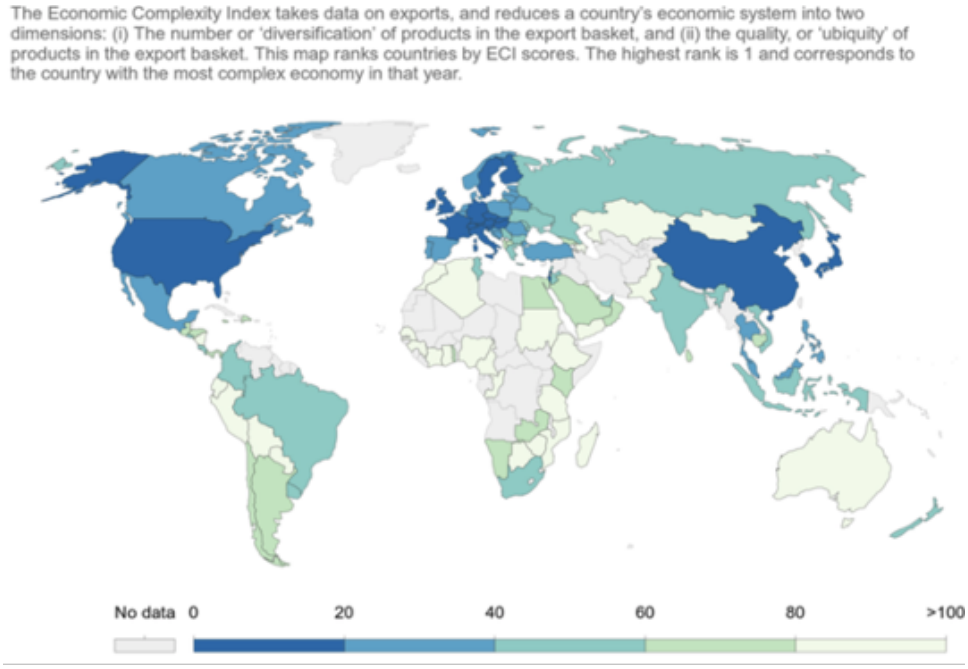


Figure 17: Global Economic Complexity Index. Source: OED (2021)

The situation described above has created a strong compulsion on the part of policymakers across the political spectrum to avoid any disruptions to this resource-led growth paradigm. In the decade spanning 2010-2020, coal brought more than half a trillion dollars' worth of new wealth into the Australian economy, which the industry claims generated more than $200 billion worth of taxes and royalties to federal, state, territory and local governments (Government of Australia, 2020). In this context, while governments may increasingly accept that domestic coal burning will fade out in the near future, the attitude towards mining coal for export (which represented close to three-quarters of Australian coal mined in 2019) is likely to remain much more rigid, particularly as seaborne coal continues to trade at record high prices (Geoscience Australia, 2021).

While this overreliance on coal is present at the national level, it is most pronounced in regional Australia, where the industry plays a pivotal role in underpinning the economic vitality of numerous rural areas across the country. In New South Wales and Queensland alone, the industry claimed to have injected more than $26 billion into regional areas in 2020 through a combination of wages, royalties, taxes, business purchases and community contributions, while employing around 40,000 people in direct, full-time jobs, and hundreds of thousands more in sectors that remain viable because of the industry's presence in these regions (Queensland Resource Council, 2021).

The overreliance on coal described above has generated considerable inertia around issues like climate, energy, and transition in Australia. But this inertia has been compounded by the political strength and influence of corporations and industry associations from the extractive sector, which (owing to their economic centrality) have acquired extensive political access and influence

over the years. As a great deal of scholarship has documented (see e.g. Chubb, 2014; Hamilton, 2007; Pearse, 2007; Taylor, 2014), lobby groups from Australia's coal sector have successfully shaped the direction of Australian climate and energy policy over the past several decades, with Australian governments regularly including lobbyists from the coal industry amongst their key advisors and delegations at international negotiations. This influence has served to harden the allegiance of many Australian political, business and labour leaders to what Levy and Spicer (2013) call a 'fossil fuels forever' mindset regarding Australia's national interests. Among other things, this mindset feeds on the idea that climate change is not a settled science; that controls on coal mining and domestic burning would cause catastrophic economic disruptions; and that the future of global coal markets is much brighter than what many forecasts would tend to suggest. This mindset is mobilised by numerous industry associations and lobby groups from across the resource sector, and has allowed them to exert significant influence over national policy and public discourse for the better part of three decades.

c) Cultural barriers: Pro-coal narratives & mining identities

While the economic centrality described above is key to understanding Australia's ongoing commitment to coal and general resistance to transition ideas, it is not enough on its own to explain why this challenge is so difficult. As Eckersley (2013, 2016) argues in her comparative analyses of Australian, German, and Norwegian climate politics, the mere presence of substantial fossil fuel reserves does not necessarily guarantee that a country will have poor domestic decarbonisation policies. Instead, it depends on how various socio-cultural narratives are constructed and presented by key actors – particularly energy regime incumbents and political leaders – and whether or not these narratives are able to find resonance in society. In the cases of Norway and Germany, Eckersley explains that, despite these countries' significant fossil fuel endowments, various actors from across government, business, media and civil society have managed to construct durable pro-decarbonisation narratives that draw on culturally resonant ideals around good international citizenship, environmentalism, green growth and social responsibility that have managed, to a large extent, to create durable national coalitions around decarbonisation.

The story in Australia, however, is quite different. As Curran (2021) suggests, since the 1990s, the fossil fuel industry – in concert with conservative political parties and right-leaning media – has been enormously successful in developing and propagating their own narratives that have helped to dramatically circumscribe what is plausible and desirable as it regards a shift away from fossil fuels. Indeed, while Australia is an exceptionally wealthy nation that is more than capable of breaking its reliance on coal exports and forging a new path forward, these narratives (briefly described below) have helped to create an impression that coal production is an unchangeable feature of the Australian economy, and that any efforts to undertake a shift away from it would be economically and socially catastrophic.

A first key narrative is one which suggests that the coal industry constitutes the backbone of Australia's national stability and prosperity, and that, in its absence, the country faces an

uncertain future characterised by economic hardship and decline. MacNeil (2021) notes the role that entities like the Minerals Council of Australia (MCA) and other major industry associations have played in sponsoring national advertising campaigns pushing this general narrative since the 1990s. For their part, governments at both the national and state/territory level (led by both Labor and Coalition) have further pushed the idea that it was Australia's minerals sector that single-handedly allowed the country to sustain the longest period of continuous growth in its history, even avoiding recession throughout the global financial crisis when Australia's peer nations entered into economic stagnation. A 2017 survey of domestic attitudes towards mining gives a sense of just how durable this general mindset has proved, noting that, regardless of one's position on climate change or whether they lived in a regional or urban area, most Australians identified strongly with this narrative, viewing coal as a central feature of the country's economic stability and prosperity (Curran, 2021; Moffatt et al., 2018).

Local narratives have been equally pivotal in building resistance to transition ideas specifically in regional coal communities. A key narrative on this front relates to the supposed decline of regional cultures and identities that would ensue if coal mining was to be terminated. Ey and Sherval (2016) usefully introduce the concept of the 'minescape' to capture the generational cultural bonds that are established over decades (in some cases centuries) that tie local communities to the coal industry, and make them hostile to the notion of a transition. Several other studies have documented the deep identity-based ties that fossil fuel communities can have towards the industry, often leading them to view transition ideas not only as a potential disruption to their ways of life, but as an existential threat to their personal and community identities (see e.g. Bell and York, 2010; Della Bosca and Gillespie, 2018; Evans and Phelan, 2016; Lewin, 2017). While there is clearly a historical element to these identity-based attachments, existing studies have underscored the extent to which they are also intentionally cultivated and manipulated by the industry in an effort to achieve their own political and commercial interests (Mijin Cha, 2020). As Bell and York (2010) suggest, coal companies often seek to construct a 'community economic identity' in which residents come to embrace the industry as a cornerstone of their own collective sense of self, and thereby become willing to support it even when doing so may buck against their own long-term interests.

A final narrative aims to weaponise these anxieties by promoting the idea that 'just transition' strategies are, to a large extent, the product of 'green elitists' determined to impose their 'urban progressive' policies and values on vulnerable regional populations. According to this narrative, the 'just transition' concept is a rhetorical smokescreen designed to soften the blow of imposed job losses, with no real commitment to actually addressing the subsequent challenges that impacted workers and communities will face. As existing studies make clear, this tactic is not unique to Australian coal regions. Feng (2020) notes in his work on Appalachian coal communities that, in an effort to defend their interests, coal companies often intentionally construct and portray environmentalists as 'radical outsiders' bent on destroying the fabric of coal communities. In so doing, such discourses create a toxic 'us vs. them' dynamic in which residents come to view transition advocates as nefarious individuals representing 'the other side' (see also

Bodenhamer, 2016; Eriksen, 2016; Lewin, 2017). As Colvin (2020) notes, once these identity groups are formed and operationalised within regional communities, the logic of hostility and suspicion towards the outgroup is difficult to overcome, causing opposition towards transition ideas to harden.

d) Institutional barriers: Lack of national climate, energy, or structural adjustment policy

A final barrier to achieving a just transition stems from a lack of national policies and institutions capable of systematically facilitating policy action around climate, energy, or structural adjustment. As Dubash et al. (2021) argue, the creation and maintenance of strong national decarbonisation strategies is not a chance occurrence, but rather emerges as the by-product of an institutional and policy environment capable of generating new political spaces, economic incentives, and norms of appropriateness around such issues. Put differently, if just transition policies are to take hold in Australia, it requires the presence of strong national policy frameworks and durable institutional channels to entrench the logic of transition, mediate political divisions around it, and drive the policy process in productive directions.

Unfortunately, while a small handful of policies and institutions have emerged at the federal and state/territory levels around climate and energy, Australian decarbonisation policy has generally languished for the past three decades, emerging only episodically and in relatively chaotic fashion. In the absence of a strong national climate/energy framework and a strong and well-funded national transition authority designed to guide and oversee the process of national decarbonisation and structural adjustment, the policy momentum required to drive such a complex transition process remains effectively non-existent. This lack of policy infrastructure means that there are no stable resources, frameworks, organising principles, or incentives to push the transition process forward. It means that the coal industry maintains enormous rhetorical space to craft a narrative that the industry's decline is not inexorable, and that a transition is unnecessary. It means that unions in the mining sector will continue to make strategic choices to support the coal industry, even though they may have grave concerns about its future. And it means that residents of coal communities can feel justified in believing that a transition away from coal would be chaotic and catastrophic, and that, like countless other blue-collar workers and industry towns before them, they will be left to fend for themselves as governments turn a blind eye to their plight.

e) Implications

As noted above, transitioning away from coal production means hiving off one-fifth of Australia's entire export profile – and indeed, phasing out fossil fuel production altogether means eliminating nearly one-third of the country's current export income. It thus poses a direct threat to one of the key ways that Australian states, governments, corporations, and regional communities create new wealth. In this context, a just transition needs to be conceptualised as

part of a much broader effort to aggressively diversify the Australian economy as a whole, and create new sources of national wealth as the fossil fuel era winds down. At the national and state levels, this means that governments need to think big about how to create new sources of wealth capable of reducing the relative importance of coal. Among other things, this means investing substantially in innovation and R&D, advanced manufacturing, cleantech, IT, biotech, medical engineering, artificial intelligence, and a range of other industries that will underpin the 21st century global economy. The task of radically diversifying regional coal communities will likewise be challenging, yet once again, there is no shortage of opportunities to enhance these regions as they transition away from coal. This includes, among many others, renewable energy production and installation, coal mine rehabilitation, carbon capture and storage, green aluminium/steel production, ammonia and hydrogen energy production, sustainable synthetic fuel production, etc. (see e.g. Garnaut, 2020). In promoting these new industries, state and federal governments have numerous policy levers at their disposal, including tax and co-investment incentives, business loan guarantees; procurement support; government matching investments; expanding the federal Emissions Reduction Fund specifically for regional Australia; the creation of renewable energy zones and start-up incubators with favourable seed funding; and encouraging university, TAFE and other research institute partnerships to support new start-up businesses in coal regions.

Beyond economics, the above analysis highlights just how crucial identity, local culture, and in-group/out-group dynamics are to the politics of a just transition in Australia. In this context, just transition advocates need to account for the fact that such a transition cannot be externally driven or imposed, and cannot be perceived as the product of inner-city progressive or environmentalists. Rather, it can only be regional communities and local institutions driving the transition, placing a premium on local decision-making and respect for local cultures, preferences, and identities. In this effort, social dialogue and participatory institutions must be an integral part of the process, with informed and ongoing consultation taking place with all relevant stakeholders (including workers, community representatives, unions, industry, indigenous groups, and local government).

Underpinning all of this, a just transition requires a stable and consistent national climate/energy policy that sends a clear signal to all stakeholders that the fossil fuel industry is rapidly winding down. This would, at a minimum, require state and federal governments to set emissions targets and establish clear policy frameworks for achieving net zero emissions as quickly as possible; outline a national plan for transitioning from fossil fuel-based power plants to renewable energy; provide a range of incentives for investors in low emission technologies; develop plans to retrofit electricity grids to accommodate renewable technologies; and set a timeline for the end of coal exports. It would also require considerable federal and state resources to back regional transition plans. While this will predictably animate enormous opposition from across the fossil fuel industry and government, it is only by defining the long run trajectory of decarbonisation and communicating it clearly to Australian society that the need for transition can be understood as unavoidable.

6.3 Australia's role in a just transition in Asia-Pacific (Susan Park)

a) Summary

Australia needs to drastically reduce its greenhouse gas emissions to meet its new net-zero by 2050 target. While previous policy briefs have identified what the critical concerns are for a just transition from coal in Australia, this policy brief zeroes in on Australia's dependence on exporting coal to the Asia Pacific and how a just transition could benefit our trade and aid in the region.

Australia was one of the Conference of the Parties of the UNFCCC who agreed at Glasgow in late 2021

> "to accelerate the development, deployment and dissemination of technologies, and the adoption of policies, to transition towards low-emission energy systems, including by rapidly scaling up the deployment of clean power generation and energy efficiency measures, *including accelerating efforts towards the phasedown of unabated coal power and phase-out of inefficient fossil fuel subsidies*, while providing targeted support to the poorest and most vulnerable in line with national circumstances and recognizing the need for support towards a just transition" (UNFCCC, 2021: 20 emphasis added).

Such a commitment requires significant reduction of greenhouse gas emissions from those currently offered by the Federal government and the opposition party, which are based on pre-existing commitments and the shift to renewable energy primarily in the domestic electricity sector.

The current dependence on coal exports as a significant means of generating gross national product leaves Australia vulnerable in three regards: first, this leaves Australian dependent on the whims of importers of coal like China, with whom Australia has an increasingly fractious relationship. Second, a failure to plan for a just transition in Australia leaves the sector exposed to broader shifts in the international political economy around strengthening opposition to fossil fuel subsidies, the use of exemptions to free trade rules for carbon and carbon generated products, and additional financial and insurance costs for assets that may become stranded. Finally, Australian dependence on coal is now directly working against Australia's strategic interests in the Asia Pacific, as it places Australia in conflict with Pacific Island Countries (PICs), who face the most immediate consequences of maintaining our current GHG emissions trajectory.

Policy options for the Commonwealth of Australia going forward, which could be used solely or in combination:

1. Currently high prices indicate a strong demand for coal in the Asia Pacific, which Australia can continue to defend for a while hoping that China removes its ban on Australian coal.

2. Changes to the international trade of carbon and carbon produced goods signal the need to diversify the domestic production of goods for export and reduce GHG emitted in the extraction of coal.
3. Efforts to establish international standards for tracking fossil fuel subsidies, states' adoption of climate stress tests, and international financial and insurance markets reduced appetite for supporting fossil fuels will need to be monitored.
4. Remove Australian vulnerability to China and India's importing of coal and address regional tensions by promoting the extraction and refinement of Australian critical minerals for renewable energy.

b) Australian Coal Exports to the Region

Australia is the second largest exporter of coal in the world. Its top five importers are all in the Asia Pacific (see Table 5), denoting not only the dynamism of the region but also its dependence on fossil fuels. Growth in coal imports in the region in the early 2000s were being driven by Japan and the more advanced economies; more recently Australian coal demand has come from China and India who together account for two-thirds of global coal consumption (Cunningham et al., 2019; IEA, 2021). Despite the global pandemic interrupting global growth in 2019 with lessened demand (compounded by a Chinese ban on Australian coal since 2020), slower industrial activity, and competition from gas and renewables, there has been a swift 'pandemic rebound' in economic growth and with it a resurgence of coal prices to new highs (IEA, 2021). Given the high prices and slower transition to decarbonisation than the market expected, a continuation of coal exports to the region remains not only viable but provides a significant return for investors and for Australia.

However, caution in relying on current high coal prices is needed. States committed in Glasgow in 2021 to phase-down unabated coal power, phase-out subsidies, and to recognise the need for a just transition. While international negotiations often are slow and marked by a lack of compliance and failures in transparency and accountability, both the supply and demand for Australian coal face challenges.

In terms of supply, Australia will need to present an update at the next Conference of the Parties in November 2022 in Egypt. Although Australia is a strong defender of its special status as an exporter of fossil fuels, its place as a laggard in international climate negotiations may hurt its international standing with powerful allies that are yet to be fully realised. Australia was heavily lobbied in the prelude to COP26 by the UK and the US ahead of Glasgow leading it to accept a target for net-zero by 2050. Diplomatic pressure will continue for Australia to establish stronger interim targets (specifically 2030) to meet that goal. The international community is aware of Australia's failure to meaningfully engage with how it can contribute to reducing global greenhouse gas emissions while remaining a major coal exporter. To date, there is no evidence that Australia is actively planning for a just transition.

In terms of demand, the main importers of Australian coal will also need to present their efforts to tackle global warming. As shown in Table 5, the largest Australian coal importers have set ambitious nationally determined commitments for both 2030 and 2050 meaning that steep reductions in greenhouse gas emissions are immediately needed to deeply decarbonise energy use and systems. This signals a great deal of uncertainty in how quickly importers will be able to shift their demand for Australian coal and the implications this will have in transitioning for coal-dependent communities.

Table 5: Top Five Australian Coal Importers and their Nationally Determined Commitments (Climate Action Tracker 2021)

State	NDC 2030 Emissions Reduction Goal	NDC Net-zero Goal	% Of Thermal Coal Imports from Australia	Net-zero climate action tracker rating
China	65% GHG emissions reduction (per unit of GDP) from 2005 levels, peak CO2 emissions by 2030	2060	31%	Highly Insufficient
India	33-35% GHG emissions reduction (per unit of GDP) from 2005 level	No commitment	21%	Highly Insufficient
Japan	46% GHG emissions reduction from 2013 levels	2050	15%	Insufficient
South Korea	40% GHG emissions reduction from 2018 level	2050	12%	Highly Insufficient
Taiwan	50% emissions reduction from 'business as usual' level'	2050	8%	No data

Australia's failure to act in response to the more concrete demands made in Glasgow may have significant impacts on coal exports. International organisations like the International Monetary Fund (IMF) and the OECD have been working to define and promote the elimination of subsidies for fossil fuel production including coal (Skovgaard, 2021). Failure to address these may mean that Australia falls behind international best practice (Campbell et al., 2021). Indeed, continuing to subsidise coal extraction and coal exports stands in stark contrast to Australia's very strong stance in favour of free trade and anti-protectionism that are currently enshrined in global trade rules and that Australia valiantly defends in other sectors such as agriculture and manufacturing.

This may become a much larger concern as states and regional blocs like the European Union begin to tighten their position on carbon border tariffs. The European Parliament backed a

carbon border adjustment plan to prevent carbon leakage from the EU while reducing global greenhouse emissions in the middle of 2021 (Cranston, 2021). This seeks to limit the imports of coal and coal produced goods into the bloc by imposing tariffs. While still pending in terms of being permissible under WTO rules (such as Article XX (g) general exemptions related to the exhaustion of natural resources), this could have an impact not only on the price of Australian coal and future demand, but also directly affects other Australian goods produced with coal-fired energy, and Australia's terms of trade more broadly. Domestically, the Australian government has allowed the private sector transition from coal-fired power to begin while retaining levers to slow this to ensure energy security. Currently, there is no current plan to alter its coal export trajectory or the provision of government assistance to this sector.

Australia is already sensitive to changes in China and India's position on importing, burning, and exporting coal produced goods and services. The indirect effect of the EU's position is to highlight how carbon may become a fundamental unit of account when measuring the quality of imported goods into the bloc, driving responses from the US, China, and Australia's other large trading partners. The EU is driving the agenda on carbon and regulating goods dependent on mineral extraction such as the European Raw Materials Initiative, the EU Conflict Minerals Regulation, and the EU Extractive Waste Directive. As economist Ross Garnaut points out, Australia must "lift its game on leading trade discussions on carbon" (Cranston, 2021).

Leaving Australian exports vulnerable to a change in trading conditions could be a drag on the Australian economy with far reaching impacts. While domestic production of goods and services may yet shift within the next two decades to lower carbon energy sources, the dependence on coal exports may yet be impacted by changes to the international political economy that make the export of coal increasingly costly.

For example, the European Central Bank and those of the United Kingdom, the Netherlands, and France are modelling climate stress tests into their economic forecasting as they now recognise that climate related risks are systemic financial risks that threaten global economic stability. Climate change is no longer the concern of environmental and social governance of boutique investors. Central Banks are indicating to investors and insurers that industries promoting the burning of fossil fuels may contribute to broader financial instability. Investors and insurers have been concerned with being stuck with stranded assets, the need for increasing insurance premiums, and the creation of new climate insurance instruments for catastrophic risk (Collier et al., 2021).

Mainstreaming climate risk into financial models came from the former Governor of the Bank of England Mark Carney among others, who has strongly advocated for states to have a clear financial understanding of climate risks at the G20, the Financial Stability Board, and as a UN envoy on climate change. While Australian banks have little direct exposure to emissions intensive industries, this shift in the international political economy will affect mining companies extracting coal in Australia (Bellrose et al., 2021). Changing international conditions therefore may yet impact Australia's coal trajectory in the more immediate future.

c) Australian Aid and the Pacific Step Up

Australia's export of coal to the Asia Pacific is in increasingly stark contrast to the climate focused aid it provides to its regional neighbours. Australia's largest recipient of aid is the Pacific. At the Pacific Islands Forum in 2016, Pacific Island Countries (PICs) adopted a Framework for Resilient Development in the Pacific (FRDP) to map out an integrated response to climate change, given the existential threat climate change poses to low lying islands, while seeking to manage increasingly intensive and extensive environmental disasters to which they are prone (Greenpeace, 2021). In 2017 Australia responded with a 'step-change' in its engagement with its 'Pacific family,' which it would reiterate in its subsequent Foreign Policy White Paper. In seeking to promote its strategic interests and most recently in response to COVID19, Australia has increased funding to the Pacific to $1.44 billion in 2020-2021 (Commonwealth of Australia, 2021c). The Australia Pacific Climate Change Action Program launched as part of the Step-Up provides significant funding for climate adaptation including a two-billion-dollar Australian Infrastructure Financing Facility (Owens et al., 2021).

Australia aims to increase funding to promote a secure, stable, and prosperous 'Indo Pacific,' now that the region has become the object of geopolitical competition primarily with China. Australia employs two divergent discourses: its frames its security interests within the context of the 'Indo-Pacific,' while invoking a familial language with PICs, who focus on the environmental and social security threats they face in the 'Blue Pacific' (Wallis, 2021). Tensions between Australia and the region have intensified as the effects of climate change are increasingly being felt (IPCC, 2018). Australia's dependence on coal exports, its withdrawal of funding from the Green Climate Fund, and its diplomatic missteps in Pacific Island Forum meetings have led Pacific leaders to question Australia's integrity. Indeed, in response to Australia's indifference to the Pacific's climate insecurity, Palau's National Climate Change Coordinator described their familial relationship as akin to domestic violence – abusive but economically dependent (Lyons and Doherty, 2018).

Tensions are only increasing over Australia's commitment to extracting coal. At the 2019 Pacific Islands Forum, Pacific leaders announced the Kainaki II Declaration for Urgent Climate Change Action Now that explicitly calls for states to consider carbon pricing, fossil fuel subsidies, and just transition from fossil fuels when updating their Nationally Determined Commitments. In the prelude to COP26 Pacific leaders condemned Australia's intransigence in not committing to net-zero by 2050. The Pacific Islands Forum Chair Josaia V. Bainimarama stated that

> "Pacific Island Countries — the lowest-emitting nations on Earth — are committed to carbon-neutrality by 2050. We are not hiding behind the cowardly excuse that we are too small to make a meaningful difference… By the time leaders come to Glasgow at COP26 — it has to be with immediate and transformative action that are implementable and that make climate commitments achievable. Come with commitments for serious cuts in emissions by 2030 — 50% or more. Come with commitments to become net-zero before 2050. Do not come with excuses. That time is past." (Bainimarama, 2021).

While Australia did commit to net-zero by 2050 at COP26, there remains significant questions as to whether Australia's policy settings are adequate for being able to meet such a target.

d) The Future of Australia's Regional Coal Trade and Foreign Aid

We are already witnessing the effects of 1.1 degrees of global warming (IPCC, 2018), with the extreme weather events, enhanced ice melts, sea level rises, heatwaves, droughts, and the unprecedented largescale wildfires of record intensity, including Australia's black summer of 2019-2020. Global momentum for change continues in the form of the School Strike for Climate campaign, debates over a coal elimination treaty, and leadership from Pacific Island Countries pushing for faster and deeper emissions cuts. Australia has thus far continued to maintain a strong preference for exporting coal as a means of driving the economy.

Ongoing changes in the international political economy will however impact on Australia's coal exports, not least because of Australia's tense diplomatic relations with its largest importer of coal, China. Beyond this, is the continuing demand for and use of renewable energy as a cost competitive alternative although ramping up for large scale industrial use remains a challenge. Coal specific pressures also exist in the form of demands to reduce subsidies and maintain free trade, reduce sovereign and non-sovereign financial risks from investing in fossil fuels, and the ongoing potential for coal-export infrastructure to become stranded assets. Insurance and reinsurance markets increasingly are incorporating new risk instruments for catastrophic climate change changing the cost-benefit analysis for a previously acceptable industry.

Meanwhile, Australian coal exports continue to be a major source of contention within the Pacific, with significant portion of Australian aid being used to assist PICs adapt to climate change. This may undermine Australia's strategic interests, which sees competition from China eroding its security. Trends in the international political economy indicate the need to consider alternative sources of energy and the critical minerals needed for a transition to renewable energy. Australia has the capacity and abundance of critical minerals such as lithium to be able to transition (Commonwealth of Australia, 2019).

7. Summary & Recommendations

Readers are encouraged to consult our summary report for a ready reckoner of our recommendations.

7.1 The current situation

Coal is important to the Australian economy. It is the source of 28.4% of Australian energy and 54.9% of Australian electricity generation. It is also an important export industry. The majority of Australia's coal production is black coal, making up 90% of 2019-20 exports. Australia also has brown coal reserves, which are used for domestic power generation and represent only 3.5% of total Australian coal production (Department of Industry, Science, Energy and Resources, 2021a).

Australian coal exports are responsible for about 3% of total world CO_2 emissions (Climate Analytics, 2019), and according to the World Bank provide one sixth of Australia's total export earnings (World Integrated Trade Solution, 2022). In 2020-21, Australia exported 192 Mt of thermal coal and 171 Mt of metallurgical coal (Department of Industry, Science, Energy and Resources, 2021b). The former is used for power generation, and the latter as an input to industrial processes, mostly steel production.

All the evidence suggests that domestic coal generation is rapidly declining, with the speed of plant closures increasing in recent years. Thermal coal exports are likely to drop if Australia's import partners (notably Japan, South Korea, China and India) meet the pledges they made at COP26 in Glasgow. Metallurgical coal for steel making is likely to be exported over a longer period, notwithstanding considerable investment in and trial projects developing alternate steel smelting processes (frequently referred to in Australia as 'green hydrogen').

Australia is unusual as a developed country with a highly developed extractive sector. The high pay of Australian coal industry workers is distinct from other country contexts. There are considerable differences in the situation across the three main coal-mining states: New South Wales, Queensland and Victoria. Discussions of 'just transition' are visible from unions, investors, and industry, but less developed from government, particularly the Federal Government. 'Just transition' itself is a problematic term in Australia which tends to provoke responses of feeling threatened rather than feeling included, particularly from workers and communities engaged in the coal mining sector.

The situation in Australia is changing fast. Market and investor pressures on coal businesses are increasing, while the 2019 bushfires and 2021 Glasgow COP have shifted opinion on the need for transition planning. While there are hopeful signs on the ground, progress is challenging and dependent on broad dialogue among different interest groups and working in the absence of strong government policy.

Notwithstanding this, Australia is already witnessing a transition away from coal. If not managed effectively, there is a material risk of a disorderly transition which would have significant repercussion for workers and communities and could destabilise transition pathways amongst Australia's trade partners and sphere of influence.

7.2 Recommendations

A key finding of this project is the need to align just transition rhetoric with practical action. It is important to show that transition is an issue *here and now*, and there are actions that everyone can take, alongside presenting hopeful narratives about the future of communities. Achieving a just transition from coal in Australia will require both deliberate work on the 'hearts and minds' journey to acceptance of the concept and a shared vision, as well as concrete practical action across government and industry to achieve this vision.

The just transition concept was developed in positive, well-meaning sense, but is not interpreted in that way by many in Australia today. The phrase 'just transition' may be tarnished in Australian discourse but principles of just transition as understood internationally are still absolutely valid. There is a critical and urgent need to reduce CO_2 emissions for the sake of everyone on the planet. Major changes in how we supply and use energy are essential and inevitable, this includes phasing out all coal use. There will be negative impacts of any transition, and if these are not managed, vulnerable groups will be most affected. It is important to consider justice in all stages of visualising, campaigning for and planning for transition, as the alternative to a 'just transition' is a disorderly transition.

a) Recommendations for talking about a just transition

- There is a critical need to change public discourse on just transition, and the first step is to listen to concerns articulated by communities and workers, and recognise the uncertainty and contested meanings associated with the term.
- The emphasis of just transition thinking worldwide has been on building so-called 'red-green alliances' between unions and environmentalists. While these groups are crucial, it is important to broaden the conversation to wider communities and their concerns.
- When international actors (e.g. UN agencies, the ITUC and philanthropic funders) talk about just transition they should be aware of local understandings of the term and the fact that 'just transition' is charged language in Australia

b) Recommendations for concrete action

- It is essential for both Australian communities and workers and the global climate that Australia's transition away from coal is deliberately managed and carefully planned. Careful, respectful dialogue with stakeholders at all levels will be an essential precondition for this.

- There is an urgent and critical need for long term Federal government policy to create room for discussions about transition in Australia.
- In Australia domestic coal power and coal mining for export are fundamentally different industries, driven by different economic and political realities. It is important to think beyond transition from coal *power* to include coal *mining***.** Australia should recognise the global responsibilities for climate change mitigation entailed by the substantial contribution of Australian coal exports to world carbon dioxide emissions.
- State governments should take a leading role in planning for transition and setting up appropriate transition authorities, but government of all levels needs to be instrumentally involved in transition planning.
- In discussions about livelihoods, a broader interpretation is necessary than just jobs in affected industries. In some locations, new jobs will largely offset jobs lost, but this is not the case in all locations and community consultation is vital to protect those whose livelihoods will be affected by the transition.

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9. Appendix 1: Newspapers by State and Ownership

Publication	N	State	Owned by
Braidwood Times	1	NSW	Australian Community Media (formerly Fairfax media)
Bunbury Mail	1	WA	Australian Community Media (formerly Fairfax media)
Camden Advertiser	1	NSW	Australian Community Media (formerly Fairfax media)
Central Western Daily	1	NSW	Australian Community Media (formerly Fairfax media)
Hawkesbury Gazette	1	NSW	Australian Community Media (formerly Fairfax media)
Maitland Mercury	1	NSW	Australian Community Media (formerly Fairfax media)
Mudgee Gaurdian	1	NSW	Australian Community Media (formerly Fairfax media)
Southern Highland News	1	NSW	Australian Community Media (formerly Fairfax media)
The Camden Haven	1	NSW	Australian Community Media (formerly Fairfax media)
The Manning River Times	1	NSW	Australian Community Media (formerly Fairfax media)
The North West Star	1	QLD	Australian Community Media (formerly Fairfax media)
The Tenterfield Star	1	NSW	Australian Community Media (formerly Fairfax media)
The Transcontinental	1	SA	Australian Community Media (formerly Fairfax media)
The Centralian Advocate	1	NT	Nationwide News Ltd
Bowen Independent	1	QLD	News Corp
Preston Leader	1	VIC	News Corp
Sunday Telegraph	1	NATIONAL	News Corp
Sunshine Coast Daily	1	QLD	News Corp
The Burdekin Advocate	1	Qld	News Corp
The Queensland Times	1	Qld	News Corp
Bay Post	2	NSW	Australian Community Media (formerly Fairfax media)
Bega District News	2	NSW	Australian Community Media (formerly Fairfax media)
Busselton - Dunsborough Mail	2	WA	Australian Community Media (formerly Fairfax media)
The Courier	2	VIC	Australian Community Media (formerly Fairfax media)
The Western Advocate	2	NSW	Australian Community Media (formerly Fairfax media)
The Observer	2	QLD	Guardian Media Group
Northern Star	2	WA	News Corp
The Herald Sun	2	VIC	News Corp
Blue Mountains Gazette	3	NSW	Australian Community Media (formerly Fairfax media)
The Armidale express	3	NSW	Australian Community Media (formerly Fairfax media)
The Border Mail	3	NSW	Australian Community Media (formerly Fairfax media)
The Land	3	NSW	Australian Community Media (formerly Fairfax media)
Daily Examiner	3	NSW	News Corp
The Cairns Post	3	QLD	News Corp
Sun Herald	3	NSW	Nine Entertainment Co
ABC	4	NATIONAL	Australian Broadcasting Corporation
Sunday Age	4	VIC	Fairfax Media

The Northern Daily Leader	4	NSW	Fairfax Media
Singleton Argus	5	NSW	Australian Community Media (formerly Fairfax media)
The Bendigo Advertiser	5	VIC	Australian Community Media (formerly Fairfax media)
The Morning Bulletin	5	QLD	News Corp
Townsville Bulletin	5	QLD	News Corp
Weekend Australian	5	NATIONAL	News Corp
The Daily Advertiser	6	NSW	Australian Community Media (formerly Fairfax media)
The Guardian	6	NATIONAL	Guardian Media Group
The Advertiser	6	SA	News Corp
Illawarra Mercury	9	NSW	Australian Community Media (formerly Fairfax media)
The Mercury	9	TAS	News Corp
The Courier Mail	10	QLD	News Corp
Canberra Times	13	ACT	Australian Community Media (formerly Fairfax media)
The Daily Mercury	13	QLD	News Corp
The Daily Telegraph	13	NATIONAL	News Corp
The Age	19	VIC	Nine Entertainment Co
Sydney Morning Herald	20	NSW	Nine Entertainment Co
The Australian Financial Review	30	NATIONAL	Fairfax Media
The Australian	43	NATIONAL	News Corp
Newcastle Herald	65	NSW	Australian Community Media (formerly Fairfax media)

10. Appendix 2: Timeline of key events in newspaper coverage

Year	Month	Event type	Event detail from newspaper articles
2009	October	Protest	Climate protest in Helensburg (NSW)
2016	April	Politics	Labor introduces 45% emissions reduction target
2016	November	Industry	Closure of Hazelwood (VIC) announced
2017	December	Industry	AGL recommitted to closing the Liddell and never investing in coal again
2017	December	Finance	AXA, ING, BNP Paribas, the NAB and the World Bank have moved money away from fossil fuels such as coal.
2018	October	Politics	Labor MP Trish Doyle speaks in NSW state parliament recommending closure of mines in Lithgow
2018	October	Industry	AGL press ahead to close Liddell Power station
2018	November	Politics	Labor announces Just Transition Authority
2018	November	Politics	Labor commits to lock in 50% renewable energy target by 2030
2018	December	Protest	Protest over UN climate talks
2019	February	Industry	Glencore decides to cap global production levels
2019	March	Politics	Greens Adam Bandt unveils policy to ban coal-generated power in Australia
2019	April	Politics	Nationals MP Matt Canavan denounces Labors Just Transition Authority
2019	April	Protest	Bob Browns Stop Adani convoy in QLD
2019	April	Environmentalism	City of Newcastle to declare climate emergency
2019	May	Politics	Federal election
2019	June	Politics	QLD Labor MP Annastacia Palaszczuk creation on Just Transition Group to transition workers to renewables
2019	June	Union	Leaked letter between union groups
2019	June	Union	Head of international trade union warns Australia against putting coal jobs ahead of environmental concerns
2019	July	Protest	Bega Schools Strike for Climate
2019	August	Industry	NSW Minerals Council annual conference
2019	August	Protest	Wollongong National Union of Students protest climate change
2019	August	Industry	AGL Energy announces closure of Liddell by April 2023
2019	September	Protest	School Strike 4 Climate nationally on Friday 20th Sept
2019	October	Union	Trade union submission to NSW Parliament enquiry into sustainability of energy supply
2019	October	Politics	Labor MP Cathy O'Toole accuses labor of creating Just Transitions policies without proper consultation

2019	November	Protest	Wollongong protest (third major climate protest held in the city in the last six months)
2019	November	Protest	Global day of climate action Friday 29th November
2019	December	Politics	UNCCC Madrid climate meeting
2020	January	Environmentalism	Bushfire summer
2020	February	Union	CFMEU (VIC) backs low emission coal and nuclear over renewables
2020	February	Protest	National day of action for School Strike 4 Climate
2020	September	Politics	ACT announces net zero emissions targets
2020	October	Finance	ANZ announce new climate policy
2020	November	Industry	Hunter Jobs Alliance established
2020	November	Environmentalism	Climate Action Tracker report released
2020	November	Industry	International energy agency states renewables to take over coal
2020	November	Politics	Labor MP Joel Fitzgibbon quits frontbench
2020	November	Politics	AMWU propose sourcing lithium and rare earth minerals locally
2021	February	Finance	Deloitte report on emission released
2021	February	Politics	PM Scott Morrison shifts coalition policy towards net zero carbon by 2050 to be achieve through technology not taxes
2021	February	Industry	High court postpones Acland coal mine expansion
2021	February	Finance	Anti-coal and net zero emissions policies of the big four banks
2021	February	Politics	PM Scott Morrison states it is his “preference” to be carbon-neutral by 2050
2021	February	Finance	BlackRock chief executive Larry Fink warning 1000 global chief executives of carbon-intensive companies risk investment losses
2021	February	Industry	Tony Wolfe’s comments (a coal plant manager in the Latrobe Valley)
2021	March	Industry	EnergyAustralia announce Yallourn (VIC) power station to close in 2028
2021	March	Protest	First 'Sacred People, Sacred Earth' day of action in Armidale (in association with Green Faith International and the Australian Religious Response to Climate Change (ARRCC)
2021	May	Finance	NAB-led syndicate has tied $565m in loans with strict sustainability and green measure
2021	May	Protest	School Strike for Climate Ballarat
2021	May	Politics	Upper hunter by-election
2021	May	Protest	A School Strike 4 Climate rally in Taree
2021	May	Protest	Bathurst Community Climate Action Network (BCCAN) hosts a rally
2021	May	Protest	Southern Highlands students school strike for climate

2021	May	Industry	International Energy Agency develops pathway to reach net zero by 2050
2021	June	Politics	National party wins in Upper Hunter by-election
2021	June	Politics	G7 group announces stop to financing international coal projects
2021	June	Finance	2021 Global Investor Statement to governments on the climate crisis,
2021	June	Politics	QLD Labor to improve water quality of great barrier reef amidst Adani development
2021	June	Union	National Farmers Federation advocates for NET-zero carbon emissions by 2050
2021	July	Politics	Australian Federal Court finds Australia's environment minister owes a duty of care to children
2021	September	Politics	UN road map announced “urgent global phase-out of coal” by 2030 for OECD countries & 2040 for all others
2021	September	Politics	Acting Prime Minister Barnaby Joyce declared he would be open to backing a net-zero target if there was proof it did not hurt the regions
2021	October	Protest	‘Faiths 4 Climate Justice’ Day of Action
2021	October	Finance	Global investor statement puts pressure on governments to scale up the ambition of their 2030 targets ahead of COP2
2021	October	Politics	Glasgow: Prime Minister says Australia will not increase its near-term 2030 targets
2021	October	Politics	Glasgow climate change summit
2021	October	Politics	Emissions targets from Saudi Arabia and Australia released (two of the world’s largest fossil-fuel producers)
2021	November	Politics	Glasgow climate change summit - Australia positioned as “colossal fossil”
2021	November	Politics	COP26: results from the summit were the introduction of a phasing- down of coal and kept the 1.5C global warming goal alive
2021	December	Industry	International Energy Agency statement: transition from fossil fuels to renewable energy is increasingly inevitable

11. Appendix 3: Grey Literature Analysed

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12. Appendix 4: Reflections on just transitions from coal from some of our researchers

We asked three of our researchers reflect on their PhD projects in light of the experience of working on the 'Just transition away from coal in Australia' project.

1. Just transitions in Victoria's Latrobe Valley (Dan Musil)

Coal Place

Victoria's Latrobe Valley, 150km east of Melbourne, has long been at the heart of Victoria's coal and electricity sector. It is a place where 'transition' in various forms has been debated, resisted, planned, unplanned, and increasingly, directly experienced.

In the traditional lands of the Gunaikurnai people, who have lived there for thousands of generations, the Latrobe Valley sits atop one of the world's largest and most accessible deposits of brown coal, known as lignite.

Coal mining and power generation has been a primary activity in the Latrobe Valley since the creation of the State Electricity Commission of Victoria (SECV) in 1920, when it was decided Melbourne's growing demand for energy required a stable and cheap source of electricity.

Established as a public institution to develop and manage the Victoria's energy generation, the SECV oversaw the development of the region's three enormous open-cut brown coal mines – Yallourn, Morwell (Hazelwood) and Loy Yang – along with various generations of large brown coal power stations.

Figure 18: A thermal power station and its adjacent mine, Latrobe Valley, Victoria (Photo: Dan Musil)

The high moisture content and physical instability of lignite makes it unsuitable for long-distance export. Therefore most of the Valley's coal is burnt in power stations that sit at, or close to, mining sites.

Through various booms in construction and mine development, the SECV provided stable, well-paid, and unionised employment for generations of Latrobe Valley communities. It took responsibility for long-term planning and management of Victoria's energy demand, distribution and generation. The work of the region's coal industry built also a sense of local identity and pride in providing an essential public service that helped drive Victoria and Australia's industrial and economic development.

For much of the 20th and early 21st century, coal power from the region accounted for close to 80% of Victoria's electricity generation. For many in the region there was (and for some there still is) a sense that the Valley's coal – the vast majority of which still awaits underground – would continue to be 'won' indefinitely.

Change in the air

Human-induced climate change, identified by the SECV as a problem to be tackled in the 1980s, would come to cast doubt on the apparently immovable place of coal in the life of the Valley. But first there would be a far more direct and immediate experience of 'transition', in the form of industrial restructuring and rationalisation.

The restructuring of the SECV, started by the State Labor Government in the late 1980s, was completed with the sale of all remaining power stations and mines to private owners by the Kennett government in the late 1990s. This process of privatisation saw the loss of over 8000 jobs in Latrobe valley power between 1994-2001, with the region experiencing a drop in full time employment of 9%. Without any planning or support for the rapid social upheaval caused, privatisation caused deep 'social devastation' and has left a legacy of socio-economic disadvantage that is visible to this day.

Privatisation also had important implications for how the impending 'low-carbon' transition would be felt in the Valley. Firstly, remaining workers who had once taken pride in the provision of electricity as a public service found themselves thrust into a ruthless industry of power for profit. Secondly, the capacity for long-term sector-wide energy planning and management was lost, as privatised mines and power stations – which often changed hands among corporate owners – became rivals in the now 'competitive' marketplace for energy. Asset owners sought to maximise profits by cutting maintenance and running assets into the ground. Finally, the 'social trauma' of this industrial restructuring created a widely felt sense of abandonment, mistrust of government economic 'strategies', and a deep fear of further economic change. Privatisation provided a lived experience of what we might call an 'unjust transition'.

Figure 19: Abandoned shop-fronts in Morwell, February 2022 (Photo: Dan Musil)

Climate wars, climates of fear

Climate change began to rise in public attention through early 2000s. The Latrobe Valley's now for-profit power sector faced growing scrutiny for its contribution to carbon emissions, which accounted for over half the state's total emissions at the time. Using less efficient and more-polluting fuel than black coal, the region's large brown coal power stations came to be presented as 'dirty' contributors to an urgent global problem.

Hazelwood Power Station, built by the SECV between 1964-1971, was originally scheduled to operate for around 30 years. By the early 2000s, Hazelwood had become the most carbon-intensive electricity generator in Australia, yet in the absence of coordinated energy system planning, no replacement had been built.

In this context, Hazelwood came became a central battleground in Australia's enduring 'climate wars': targeted by environmentalists for its outdated technology and unsustainable pollution; valued by many locals as an enduring provider of increasingly rare well-paid community-sustaining jobs; and a source of 'cheap power' and large profit for its corporate owners.

State ministerial intervention in local planning schemes had been required in 2004 to allow Hazelwood's mine to operate beyond 2009, when original permissions were set to expire. By the time 2009 arrived, regular environmental protests culminated in a mass public rally at the site, calling for the power station's rapid closure. These often Melbourne-based campaigns made reference to a 'just transition' and new jobs opportunities in renewable energy. However they were often dismissed by locals – previously burnt by experiences of economic restructuring, and fearful of mass job loses – as tokenistic and unrealistic.

In the absence clear plans or examples of alternative employment, Hazelwood came to embody a stark 'jobs vs environment' conflict, along with apparent urban vs regional and

environmentalist vs worker divisions. In this context, any discussions about 'transition' in the Latrobe Valley were made extremely difficult for community members and policy-makers alike.

Hazelwood may have been the 'dirtiest power station in the southern hemisphere', but it was perhaps public discussion around its 'transition' that was dirtier. Despite this, various local labour organisations, community members and environmentalists persisted with attempts at discussion and preparation.

Given the Valley's enduring relationship to 'baseload' power generation for Victoria, many trying to articulate or envision a 'just transition' for the Latrobe Valley became stuck in trying to balance three apparently irreconcilable requirements all *in the Valley* - the need to end coal combustion (the transition); the need to maintain a comparable number and quality of jobs in the Latrobe Valley (the justice); and the need for on-going electricity production to service the state of Victoria (energy production). See Figure 18 (Musil, 2013).

The assumption that all need to be delivered *in the same place* continues to limit some visions of 'just transition' today, though as will be discussed has more recently shifted.

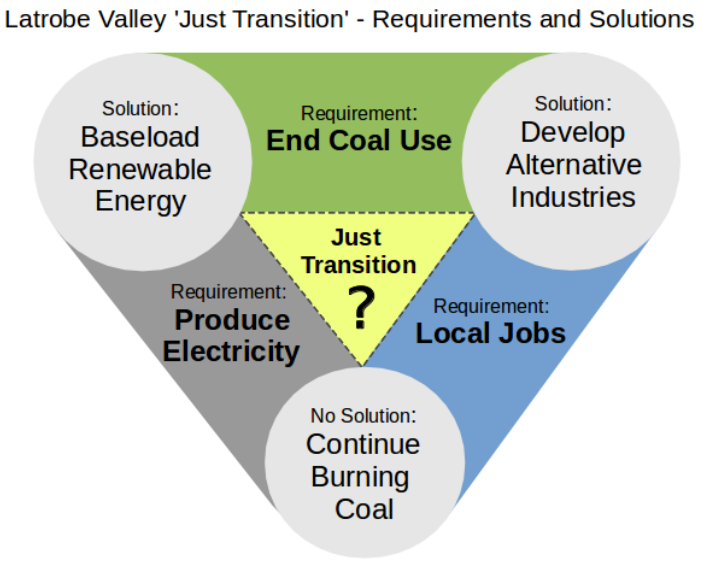

Figure 20: Just transition pathways in the Latrobe Valley

Various research groups and local bodies published reports and advocated various policy approaches to enable a smooth and equitable transition for the Valley. However Australia's climate wars, and fearful uncertainty surrounding the Valley's coal future, raged on under various fallen Prime Ministers and policy approaches through the 2010s.

Conversations & harsh realities

In 2014 an uncontrolled fire in the Hazelwood coal mine, where profit-driven maintenance budget cuts had reduced fire-mitigation capacity, covered surrounding towns in toxic smoke for

42 days. The traumatic experience was found to have contributed to local deaths and enduring health impacts, and further entrenched distrust of government and industry authorities. The mine fire also acted to break open space for greater public conversations about a future beyond coal.

Greater public local conversions about planning for inevitable 'transition' began to grow in this new open space, along with (often small) initiatives to re-imagine and diversify economic activity in the Valley – including work by Latrobe City Council, Gippsland Trades & Labour Council, Reactivate Latrobe Valley, Voices of the Valley, Earthworker and others.

A clear message from local voices, including community groups and unions, was (and is) the need for positive and tangible alternative pathways, and a need to focus on "what we can transition to" not just the transition "away from coal".

Conversations about transition became suddenly more urgent, 'legitimate' and widely-engaged in when Hazlwood's private French owners, Engie, announced in November 2016 the power station and mine would end operations by 29 March 2017 – with only 5 months' notice. Suddenly, transition had arrived and it seemed that Federal, State and Local governments were caught completely off-guard. So were many Hazelwood workers who had accepted assurances from their employer that the plant would continue operating for years longer.

In the end, it was not environmentalists but cold corporate business decisions that closed Hazelwood. That it was not led or coordinated by government gave the event a sense of chaos.

The State Labor Government jumped quickly into action, committing $266 million to establish the Latrobe Valley Authority (LVA). Charged initially with assisting workers and communities affected by Hazelwood's impending closure, the LVA also took on the task of longer-term regional revitalisation and diversification.

In the immediate term, the LVA initiated a number of programs in partnership with unions (through the Gippsland Trades & Labour Council). A Worker Transition Service was established to provide one-on-one services and advice related to skills, training, financial advice, and employment assistance for Hazelwood workers and families. Financial support for retraining was also provided.

A Worker Transfer Scheme was also established to facilitate early retirements for older workers in the Valley's remaining power stations, to make places available for displaced Hazelwood workers. Assistance for local businesses to diversify away from a reliance on Hazelwood was also provided. Many ex-Hazelwood workers, and other local workers affected soon afterwards by a local timber mill closure, have received training and been supported into new work through these programs.

The LVA is continuing longer term regional economic development and diversification based on regional strengths, in line with 'smart specialisation' strategies that engage diverse local industry, community, research & government sectors. This work will continue to be important moving forward.

Looking forward, looking back

Far from a proactive or planned 'just transition', the response Hazelwood's closure still offers some positive examples of just transition strategies. The private owners of remaining brown coal power stations Yallourn and Loy Yang A have recently brought forward their planned closure dates to 2028 and 2045 respectively. Providing government support for programs like the LVA are continued, there is now time to plan and implement more elements of a 'just transition' in advance of future closures.

So far in the Latrobe Valley, it has been the reality of plant closures and a looming sense of inevitability of coal industry change, more than arguments about climate change, that has facilitated greater public discussion and policy about transition. Credible and tangible examples of alternative livelihoods are hard to come by, but widely identified as critical to helping these conversations. This is particularly so in a place where fear of restructuring, and a hard-learnt scepticism of grand new economic proposals, is deeply held.

The role of government is coordinating privately-owned energy assets is curtailed compared with the SECV days, but government will still have key role to play. It is also worth noting that there been some– unionists, environmentalists and small business people – who have proactively taken steps *outside* of government towards a just transition in the Latrobe Valley.

In the late 1990s, a caucus of union and environmental organisations called Earthworker, in partnership with academic, state and industry players, developed a detailed 'Solar Wind and Water Industry Plan'. The plan would have seen large-scale manufacturing of wind turbines and solar hot water products in the Latrobe Valley, years before the need for 'green jobs' became caught up in Australia's climate wars. To this end, ten large wind turbines were manufactured in Morwell through local business partnerships.

At a time when Australia's first wind farms were only being proposed and planned, there was a prime opportunity for public-interest industry policy to connect domestic manufacturing with renewable energy development. However, the federal government appeared ideologically opposed, the new state government was too hesitant. and when volatile private capital failed, the project fell over.

Decades later, through remarkable grassroots grunt work, one part of this proactive vision has been realised, with the formation of a worker-run factory that manufactures solar hot water products in Morwell. It remains a very small but growing example of a local, community-led just transition initiative. We can only wonder how different 'transition' in the Latrobe Valley might have been had government followed the early lead and supported the valley as a wind-manufacturing hub. There may yet be time…

2. Environmental Justice and Coal Seam Gas in Narrabri, NSW (Gemma Viney)

The fossil fuel industry is one of the clearest examples of how environmental crises can disproportionately impact vulnerable communities, on local, national, and global scales. Within Australia, communities are crying out for alternatives to the current boom and bust cycle of fossil fuel production, not only because of the impacts to the planet but the extent to which coal and gas industries can devastate ways of life. As such, we ought to remember that just as we aim to transition away from planetary harm, we are not repeating the mistakes of the past. We have an obligation to ensure that at every step we are factoring in the social, cultural and economic wellbeing of those closest to the change.

The Narrabri Gas Project is a major Coal Seam Gas development in North-West NSW that was recently approved in 2020 by the Independent Planning Commission. The project has overwhelming disapproval rates both locally and nationally, with those closest raising key concerns as to how their lives have already been negatively impacted by the presence of fossil fuel industries within their region. In interviews with residents, one of the most significant concerns that emerged was the feeling of being left out of the conversation. There was a distinct mistrust in the current structures which dictate decision making processes, and a perceived lack of fairness and transparency not just from fossil fuel giants but also from the government, and those who claim to represent the best interests of the community. When we talk about meaningful consultation and free and prior informed consent, these are not just boxes to be ticked along a check list, but fundamental steps that protect just process (Pearsall & Perace, 2017). As we push for a transition away from fossil fuels, we thus have to ensure that we don't end up once again leaving local communities in the dark, without a seat at the table, and with no agency over their environment and their way of life.

What was apparent in Narrabri was that people weren't just fearing loss of land or livelihood but mourning the loss of time from the near decade long fight to oppose the development. Respondents indicated that they had had to invest significant time and research in order to properly understand a project which, for several of whom, had become a neighbour over the last decade. Individuals had taken time away from family, friends and even work in order to investigate questions which Santos, the proponent, failed or refused to answer. This can result in the phenomenon of *campaign fatigue,* in which communities facing decade long battles with industry will eventually begin to acquiesce, in what can be described as a 'pattern of acceptance' with themes of inevitability and disempowerment. Campaign fatigue is also fostered in the dynamics of powerlessness and disenfranchisement brought about by the unjust prioritisation of mining interests over communities, and in the confusion associated with an overload of poorly communicated information which communities are required to sift through in order to understand the full scope of a project.

Furthermore, conversations regarding a transition away from fossil fuels must acknowledge that community, culture, livelihood, and way of life are all intrinsically linked to place and to environment (Schlosberg et al., 2017). In Narrabri, locals described an irreversible splintering of

the social dynamic of the region. There was an overwhelming feeling of being unable to speak about the project for fear of the breadth of the divide between those in favour and those opposed. Folks were left isolated, displaced in place, and with no real relationships tying them to the region moving forwards. All of this contributes to a slow but distinct dismantling of a community (Askland and Bunn, 2018).

Askland and Bunn refer to the psychological damage associated with disrupted place attachment and community as a type of *solastalgia*. Solastalgia describes a feeling of loss, or pining, for places and environments in which one once felt a sense of attachment, but which are no longer accessible or which have been transformed or destroyed (Albrecht, 2005). Interestingly, while those in the Narrabri region had not yet experienced having their homes or land rendered inaccessible, the descriptions of dread in anticipating that loss have clear parallels to the experience of solastalgia. This was particularly evident amongst those who had invested significant time in investigating the possible impacts of resource extraction on their community.

These weren't concerns recognised by the NSW Department of Planning in their evaluation of this project, but for those closest to the issue it represents a very real injustice that has been inflicted upon them. While the physical impacts of renewable energy may differ, land use and resource management are always going to need to be approached with care given the extent to which any shifts in how we live on and relate to place can have ramifications in so many different aspects of our lives. The issue is that without meaningful consultation these are concerns that will go overlooked even with the best of intentions. In leaving people out of the development of priorities when it comes to environmental decision making, policymakers risk fracturing their relationships to place.

3. Transitions in New Zealand's dairy industry (Milena Bojovic)

Figure 21 - Protest sign taken during fieldwork in Christchurch (Photo by M Bojovic 2019)

My PhD research is investigating the possibility of transitions within Aotearoa New Zealand's dairy industry. My case study focuses on dairy production on the South Island of Aotearoa as this region has experienced an unprecedented rise in dairy conversions. Drawing upon the theoretical framings from sustainability transition and just transitions literature, my project explores different transition pathways while also questioning the role of justice for humans, non-humans and environments within food systems. The aim of my research is to contribute to broader discussions on food systems and climate change amidst growing scientific and social research which argues for the need to fundamentally transform our food systems and transition away from intensive animal agricultural production. Both climate change and contemporary food innovations (in the form of alternative proteins) present challenges and opportunities to the dairy industry (on local and global scales) in terms of catalysing thinking about and generating action towards more sustainable food futures.

Much like the project on just transitions away from coal in the Australian context, there are similarities to be drawn between the two case studies. Both coal and dairy are extractive industries founded on the idea that environments (and animals) are commodities, which in these contexts is innately tied to colonial legacies and settlers' reconfigurations of indigenous landscapes.

In Aotearoa, the introduction of cattle farming became central to the establishment of 'new world' environments to suit European purposes, as imported animals and pastoral techniques

transformed forests into farmlands (Anderson, 2004: 4). These new human-animal configurations became an essential feature of Aotearoa's Pākehā (white) culture, economy, and identity (Potts and White 2008). Cattle numbers in Aotearoa New Zealand have significantly increased within the last few decades, from 3.4 million in 1990 to 6.3 million in 2019 and in the same period dairy cattle numbers increased 973% (from 113,000 to 1.2 million) in the South Island alone (NZ Stats 2021). As the most sizeable dairy conversions have taken place in the South Island in Canterbury, Otago and Southland, which will be the research sites for my fieldwork.

Both Australia and Aotearoa have outward-facing industries that form the backbone of each nation's identity and economy. For Australia, coal provides jobs, sustains regional communities and livelihoods, generates domestic power and is exported as a major Australian good, ~80% exported (Geoscience Australia, 2022). Similarly, in Aotearoa, dairy provides jobs, sustains regional communities, feeds the domestic population, and is exported as a major New Zealand good, ~95% dairy milk power exported (Dairy Companies Association of New Zealand 2022).

Carbon (CO_2) emissions from coal contribute significantly to the greenhouse gas (GHG) effect, while methane emissions (CH_4) from the dairy industry also have a significant role to play due to the global warming potential (GWP), particularly as biogenic CH_4, released from microbial digestion in rumen (Kandel et al., 2015), is much more potent than CO_2 in its GHG effect. Aotearoa New Zealand has a 'unique GHG profile' when compared with other developed nations as agriculture makes up almost half of the country's total emissions (mostly in the form of CH_4 gas) compared to other nations where agricultural activity makes approximately 11% of total GHG emissions (on average) (Tait, 2018). The accumulation of GHGs from the livestock sector is a critical issue for Aotearoa's government and presents a host of challenges for policymakers from meeting international climate agreements to appeasing the diversity of stakeholders involved in, and impacted by, the dairy sector. These include (but are not limited to) the private sector (producers/farmers), land holders, local communities, Māori communities, landowners, and end-product consumers locally and globally (Norton et al., 2020). Farmers themselves bear the brunt of many of the socio-environmental challenges of intensive dairy farming, such as negative public perception (Frykberg, 2018), the provision of animal welfare (SAFE, 2021), problems with financial viability (Roy 2020) and continued environmental pressures of a changing climate. As such, farming within environmental limits should be provisioned in ways that can benefit communities without detracting from their quality of life and ability to achieve sustainable livelihoods.

My project argues there is scope for a just transition lens to be applied in the context of food transitions and environmental and climate justice, using my case study as a starting point to reimagine food futures. Heffron and McCauley (2018) posit the 'just transition' concept within the field of environmental justice as one that aims to treat all citizens equally and involve actors in the development, implementation and enforcement of environmental regulations, laws and policies. The question of a just transition in both the Australia and Aotearoa context is necessary one, as the planet accelerates into further environmental challenges due to anthropogenic climate change. Ultimately, if the aim in both contexts is to achieve sustainability and a thriving

environment, society and economy, there needs to be some cohesion around the underlying values and tangible actions taken to mitigate and adapt to a changing climate. To have a just transition away from coal would have a flow on effect and an inevitable impact on industrial food systems as these systems are historically fossil fuel reliant. From the perspective of human geography, an interdisciplinary approach to research projects such as these is critical towards understanding the coupled nature between human-environment systems, particularly when considering the complexities of "water-energy-food nexus" (Schwanen, 2017: 262). Therefore, taking a social science approach to complex environmental and sustainability issues is useful in uncovering the latent power relations that govern the world around us. Through a just transition perspective, researchers can work to configure future pathways and identify the barriers, challenges, and opportunities to meaningful social and environmental change.

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