Just Transition for coal power workers

Submission to the

Senate Environment and Communications Reference Committee

Inquiry on
Retirement of coal power stations

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1. Introduction

The Construction, Forestry, Mining and Energy Union welcomes the opportunity to make this submission to the Senate Inquiry on Retirement of Coal Power Stations.

The CFMEU consists of three Divisions, namely the Mining and Energy Division, the Forestry and Furnishing Products Division and the Construction and General Division. We are the major union in these industries and represent approximately 110,000 members across Australia.

The CFMEU Mining and Energy Division has the overwhelming majority of its members employed in coal mining and power generation and is therefore always concerned about energy and climate policy and associated regulatory frameworks.

The CFMEU has a long history of making a constructive contribution to climate policy in Australia and globally, dating back to 1992 – participation in the UN Rio Earth Summit that produced the UN Framework Convention on Climate Change and also Australia's first National Greenhouse Response Strategy.

With the closure of several of Australia's coal-fired power stations already undertaken, and especially the very recent closure announcement of the large Hazelwood brown coal power station, the CFMEU's role – as always – is to protect and advance the interests of workers, their families and their communities.

In the context of the accepted need to reduce Australia's greenhouse gas emissions as part of global commitments to mitigate global warming our role is to ensure that all parties – governments, industry, environmental groups and others – pay due heed to the social impacts of industrial restructuring in response to climate action.

It is not acceptable that particular sections of the Australian workforce and their communities are made to bear a disproportionate share of the burden of mitigating global warming.

This submission seeks to respond to only parts of the Senate Committee's Terms of Reference. The Committee has been allowed very limited time for this Inquiry and the capacity of the union to respond in this timeframe is also limited. The Inquiry is best viewed as a small contribution by the Australian parliament to this large and rapidly evolving policy area. There will be a great deal of further work to be done by the parliament, governments and government departments at both State and Federal level in dealing with this major challenge.

The CFMEU also directs the Committee's attention to the release of a major position paper by the Australian Council of Trade Unions on Just Transition for coal-fired electricity sector workers. This paper, being launched in the week beginning 7 November, provides much more detail on the workforce impacts associated with closing coal power stations. It also canvases Australia's poor track record with respect to managing the social impacts of structural adjustment and the need to move to much better practice, which will undoubtedly draw on overseas experience.

The CFMEU shall not seek to replicate or repeat the content of the ACTU position paper and recommends that the Committee give it serious consideration.

2. Coal power station closures to date – and pending

A number of coal-fired power stations have fully or partially closed in recent years:

- Swanbank B – Qld – 120MW – closed in 2012
- Collinsville – Qld – 180MW – closed in 2012
- Munmorah– NSW – 1400MW - closed in 2012
- Wallerawang– NSW – 1000MW - closed in 2014
- Redbank– NSW – 144MW – closed in 2014
- Tarong– Qld – 1400MW – 2 units totalling 700MW idled in 2012; one returned to service in July 2014
- Playford– South Australia – 240MW – closed in 2016
- Northern– South Australia – 546MW – closed 2016
- Hazelwood – Victoria – 1600MW – to close in March 2017

These closures have taken place in the context of flat to declining demand for electricity – and within that, less demand for coal-fired power – due in varying degrees to improved energy efficiency, closure of energy-intensive manufacturing industry, higher power prices and renewable energy policies. The increased availability of gas has also played a role, though recent higher prices and uncertainty over future pricing is now limiting that. It is still true

that for the last decade or more gas-fired power plants have been considered a less-risky alternative to new coal-fired power especially in an uncertain energy and climate policy context – simple gas turbines are less capital-intensive to build albeit more expensive to run in fuel costs, and are lower emission.

Several of the closed power stations were quite small (eg. Collinsville, Swanbank B, Playford) and lacked economies of scale, while the Redbank power station was both small and ran on low-grade waste coal.

The Munmorah, Wallerawang and the forthcoming Hazelwood closures are closures of large power stations. The Northern closure, while not of a large power station, was nevertheless strategically significant in the small South Australian market. The decline and closure of base-load coal power in South Australia has contributed to higher average power prices in that State together with much uncertainty over future pricing (especially difficult for manufacturing industry seeking longer term contracts) and increased vulnerability of supply – something now being examined by the Finkel review in the light of the recent failure of the South Australian electricity grid.

It should be noted that the major private operators of Australia's power stations are giving clear signals they intend to withdraw from coal power.

AGL has said they will not extend the life of current power stations or build new ones that are unabated.[1] The current scheduled dates for closure of AGL power stations are:

[1] AGL Greenhouse Gas Policy issued April 2015

- Liddell power station – NSW – 2000MW – 2022
- Bayswater power station – NSW – 2640MW - 2035
- Loy Yang A – Victoria - 2210MW - 2048

The trend is abundantly clear – coal power stations are already closing and more will close. There is the question of when, and how it is managed.

3. Social impacts of power plant closures

Losing one's job is always a significant impact. Most workers tend to have few assets other than their home and their job, and many workers do not own a home. Superannuation savings are more common today as a result of the effort by trade unions to achieve mandatory superannuation, but these savings are for retirement only. The loss of one's job is frequently devastating – financially, socially and psychologically, and more so if there are not ready alternatives.

An economy and society that provides good jobs is the most important safety net that can be provided to individuals that lose their job due to the ongoing restructuring of businesses and industry sectors that is an inevitable feature of a rapidly changing world. A good education system, including university and vocational training, is essential to providing the certified skills that enables workers to obtain new jobs. So to is a good social welfare system to cushion losses and enable transition to new employment, and good minimum wages and working conditions that help ensure that the benefits of economic growth

"trickle down" to lower income earners which in turn maintains effective demand for good and services.

But what we confront in power station closures requires a focused response on particular regions. It is larger scale, affecting more people at the one time, creating compounding impacts. Mass redundancies, especially in a regional area with limited other industries, can entrench high unemployment and social disadvantage and dysfunction that can take decades to repair, if ever.

It should be acknowledged that the social impacts of power station closures in particular regions are not likely to be greatly different to the adverse impacts that have occurred in other regions hit by major industry closures. As the ACTU policy on Just Transition for power workers makes clear, Australia has a poor record in dealing with structural adjustment – for example in textile/clothing/footwear, in car manufacturing and in forestry.

In the case of power stations closures, the rapid fall in the cost of renewable energy is playing a role, but the driving force is climate policy, or uncertainty arising from unclear direction in climate policy.

The CFMEU argues that if Australia is capable of having climate policy that requires all or most of the electricity sector to be low or zero greenhouse gas emission, then it should also be capable of planning for the social impacts that arise from that. Governments have a duty to manage the impacts of their policies.

The regions of Australia that will be hit by coal-fired power station closures are:

- The Latrobe Valley east of Melbourne that is home to all four major brown coal power stations – soon to be three.

- The Newcastle / Hunter Valley and Lithgow areas in NSW – home to five black coal power stations.

- In Queensland to the west of Brisbane, and near Gladstone, Rockhampton and Biloela adjacent to the central Qld coalfields are eight black coal power stations.

- Collie in Western Australia which is home to four smaller power stations.

In regions like the Latrobe Valley, Lithgow and Collie power industry employment easily reaches 10% of all employment. As power station jobs tend to be better-paid jobs, the jobs are a much higher proportion of high-paying jobs in regional areas – often one third. The flow-on impacts of the loss of higher paying jobs is greater as higher paying jobs provide greater local spending that employs more locals.

The report by the Committee for Gippsland (2016) “Our Region Our Future” says there are 3,000 direct jobs in the four Latrobe Valley brown coal power stations and a further 1,000 indirect contractors. The closure of the two older power stations would lead to the loss of 1,400 direct jobs. But because of flow-on impacts on other businesses in the region that supply the power station and

/ or the workforce, a further 1,770 jobs would lost *outside* the power stations. This would be a significant proportion of the 89,000 jobs in the Gippsland region, and a much greater proportion of jobs in the towns closest to the power stations.

The Committee's attention is also direct to the Weller, Sheehan and Tomaney report, "The Regional Effects of Pricing Carbon Emissions: an Adjustment Strategy for the Latrobe Valley (2011) which, while based on the carbon pricing implemented under the Clean Energy Future package of the then federal government, remains highly relevant today.

4. The experience of coal closures in other countries

There are many regions of Europe, the United Kingdom and the USA where coal mining has gone into decline. They offer lessons on the severity of the impact and how it may be mitigated. This is relevant for planning closures of coal-fired power stations and associated coal mining.

The United Kingdom

In 1981 there were 225,000 workers employed in the UK coal industry. Subsequent to the major coal strike of 1984-85 that Prime Minister Margaret Thatcher fought with the National Union of Mineworkers, the industry downsized by 140,000 jobs to 1992, and by 2002 the industry was down to

5,000 jobs.[2] The last underground coal mine in the UK closed in December 2015, leaving some remnant open cut mines.

It has been argued that the costs of closing of the UK coal industry – both the strike and the subsequent costs – were in the order of £28 billion – equal to half of all tax revenue received from the North Sea oil industry from 1985 to 2004.[3]

It is well-known that large parts of the UK outside London were plunged into long term recession – for two decades - with industries associated with coal also hard hit, collapsed house prices and very high unemployment rates.

The USA

The US coal industry is currently being struck by a second wave of closures, directly resulting from a combination of competition from cheap shale gas for power generation and direct use in industry, and power station closures due to environmental regulation and litigation from environmental groups. All major coal companies in the USA have been profoundly affected by major falls in their share price (90%+ in the last 12-18 months) and some have already gone into bankruptcy.

And this is before the implementation of President Obama's Clean Power Plan that will require most States to reduce emissions from power plants by around

[2] Dave Feickert (2004), "Arthur was right: two decades after the miners' strike, the full costs of the destruction of the coal industry are only now becoming clear", The Guardian, 11 February
[3] Dave Feickert (2004), op cit

30% from 2005 levels by 2030. This is widely expected to result in mass closures of coal-fired power stations and consequently demand for coal.

There was a previous wave of coal mining restructuring in the USA – in the 1990s in response to the introduction of sulphur dioxide emissions trading. Rather than placing flue gas desulphurisers on their power stations, many operators found it cheaper to buy low-sulphur coal from the mid-west USA. This resulted in the closure of many eastern USA coal mines. Many coal mining communities in the Appalachian region of the USA have never recovered. [4]

In both cases the restructuring occurred with little in the way of structural adjustment planning – companies went bankrupt, workers lost their jobs, and communities plunged into regional recession.

In the USA, corporate bankruptcies are particularly devastating for associated communities because health care plans are tied to employment, and this extends to retirees. Similarly, retiree incomes are tied to company pension plans. Not only are these lost when companies are liquidated, but they are frequently lost or downgraded when companies go into "Chapter 11 bankruptcy" which enables them to reduce costs through escaping their contractual obligations, including health care and pension plans.

[4] A recent ABC news story on long term recession in US coal mining regions – that is feeding into support for rogue presidential candidate Donald Trump – provides some useful information on long term social disadvantage arising from industry decline. http://www.abc.net.au/news/2016-11-04/us-election-trump-working-mans-hero-in-logan-county-coal-country/7993230

This is happening right now in the USA with major coal companies already in Chapter 11 proceedings or likely to be.

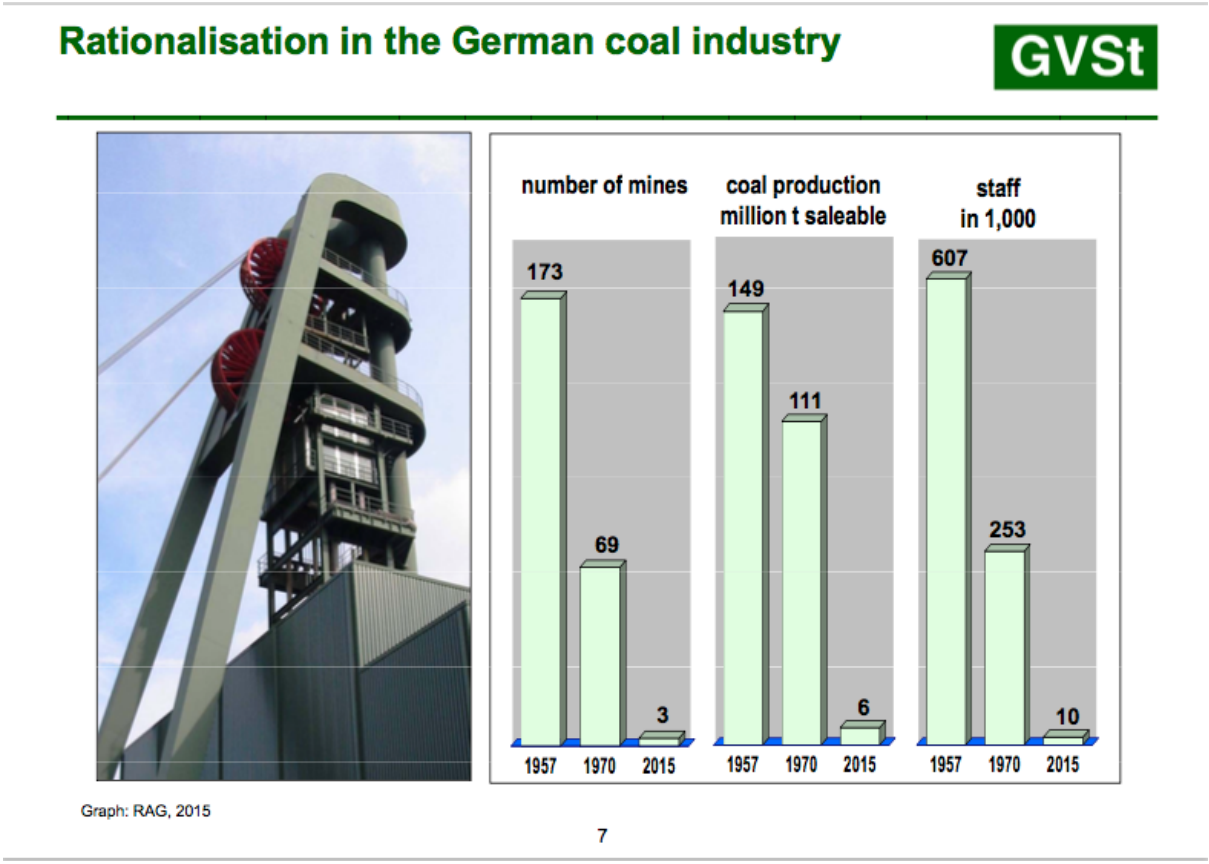
Germany

The experience of Germany appears to provide something of a counterpoint to the bleak UK and US experiences.

The German coal industry (and that of most of continental Europe) was internationally uncompetitive after World War II due to depletion of domestic reserves after more than 150 years of extraction, poor geology and the discovery of easily-accessible reserves elsewhere (including Australia!) The European Coal and Steel Community, the predecessor to the European Union, was established for the primary purpose of restructuring the coal and steel industries in a socially acceptable manner.

In 1957 the German black coal industry had 173 mines producing 149 million tonnes of coal with 607,000 workers. By 2015 that was down to just three mines, 6mt production and 10,000 workers. The last black coal mines are scheduled for closure by 2018.

The German coal industry downsizing and closure has been planned on a large scale involving all stakeholders. It has included corporate restructuring to centralise employment so that retraining, redundancies and relocation could be planned across the industry.



Source: Franz-Joseph Wodopia, Chief Executive, German Coal Association (2015), Coal Industry Restructuring in Germany. This document has been made available to the Senate Committee.

In the period since 2008 over 10,600 workers have been relocated from closing mines to still active mines. Many thousands have taken early retirement, while new jobs have been found for thousands more in other industries.

The cost has been substantial – almost 2 billion Euro (A$3.2 billion) in 2011 alone, with that amount projected to taper off to about 350 million Euro per year by 2019.

A presentation by the Chief Executive of the German Coal Association giving an overview of the restructuring since the 1950s has been made available to the Senate Committee. Aside from the longevity and scale of the program, it is

instructive to see the chief executive of an employer body committed to social dialogue with unions and government, and with a primary commitment to the well-being of workers and their communities.

The CFMEU has been told by its German counterpart union that new jobs have been found for the majority of the workforce of the last mine to close in early 2018. Here in Australia it is beyond our comprehension that tripartite planning could find and guarantee jobs for hundreds of workers 18 months in advance of when they are needed. In Australia we appear to be locked into a model of throwing workers to the four winds – or on the scrapheap – as a supposedly inevitable part of the process of transitioning workers to new employment.

It should also be noted that, despite the social commitments in Germany, the process has still involved many difficult negotiations and some disputes, and further negotiations continue to occur, including with respect to new plans to close coal-fired power stations. Elsewhere in Europe, mine closures with EU assistance were still subject to bitter disputes.

5. Giving effect to Just Transition

In the immediate context, the Committee should refer to the ACTU policy document released in the week of 7 November.

Just Transition should not just be about how to deal with closing industries; it should be about re-engineering existing industries to clean them up and make them viable or more competitive again.

Carbon Capture and Storage could have been a major solution for coal-fired power

In the early part of the 2000s, the CFMEU argued strongly for Carbon Capture and Storage to enable vastly lower emissions from coal-fired power. We still believe that CCS will be required for heavy industrial processes like steelmaking, concrete and petrochemicals that are carbon-intensive as a fundamental part of their production processes. However, there has been insufficient progress in commercialising CCS in power generation and the rapid fall in the cost of renewables means that the window of opportunity for CCS in power generation is closing. Even if not entirely closed, it appears highly unlikely that coal-fired power with CCS will supply anything like the current proportion of electricity supply – in Australia or anywhere else.

This is a great disappointment; neither industry nor governments were or are willing to invest in long term solutions for the coal industry. This is now a critical factor in the limited future for coal power generation in Australia; and in the longer term it will impact on the prospects for thermal coal exports – one of Australia's largest export industries.

Pooled redundancy and redeployment

Just Transition means that workers in industries most-heavily affected by the changing direction of an economy (in this case in response to climate change) should not bear a disproportionate burden of the cost of change. They *will* bear a disproportionate burden if they lose their jobs and are not assisted into

equivalent new jobs, or into a retirement that is not lessened by their redundancy.

It is a central claim of the union that the pain of redundancies be mitigated by spreading them across the power stations of the region in which they occur.

We see this program as preferably being implemented by an Energy Transition Authority (ETA – more in the ACTU policy paper) that is charged with orderly restructuring of the electricity industry.

Where a power plant closes, voluntary redundancies should be offered across all power plants in the region, creating opportunities for older workers at other plants to retire early, while younger workers at the closing plant who want to stay in the industry longer are given the opportunity to transfer to the vacancies created in the continuing power stations.

This both spreads and mitigates the pain of closure of a power plant on its workforce. Forced redundancies are minimised. The regional impact is also mitigated. Older workers who take voluntary redundancy are more likely to stay in the region and maintain spending that supports other local jobs. Younger workers who are redeployed also stay in the region and maintain spending that supports other local jobs. This prevents redundant younger workers from entering the unemployment queues, or competing for other scarce local jobs, or leaving the region to seek opportunity elsewhere, depleting the region of local spending.

There are many questions about how this would be funded. Our existing legal employment framework has the owner of the power station and the employer of the workforce being responsible for paying out accumulated entitlements and redundancy packages. Regional pooled redundancies and redeployment do not fit readily with this framework. Redundancies among older workers at power stations that aren't closing trigger significant payments. If met by the employer at the other power station, it is a payment they would prefer to avoid. If made by the employer at the closing power station, it results in higher payments than would otherwise occur.

The employer at the closing power station would still be required to make accumulated leave and redundancy payments to the younger workers transferring to continuing power stations (where they would start again with no accumulated entitlements) or those monies would need to be transferred to the employer at the continuing power station to accompany the worker.

There are alternative frameworks, both voluntary and regulated.

There are goods reasons for power station owners and operators to voluntarily participate in a pooled scheme:

- They have a responsibility to their workforce to mitigate redundancies.
- They have a responsibility to the communities in which they are located to maximise their contribution and to minimise the adverse impacts of closure decisions they make. In current jargon, they risk their "social license to operate" if they do not do so. This risk applies as much to continuing power stations as it does to the closing ones.

- The parent companies of the power station operators face wider reputational damage – *inter alia* among investors and customers – if they do not responsibly manage their closure impacts. In the current case of Hazelwood's closure parent company Engie has made it clear that it is taking a global decision to exit coal power stations due to climate concerns. It would be self-defeating to seek a good reputation on climate policy grounds while earning a bad one for failing to mitigate the adverse social impacts of its decisions.

Governments and existing regulators can facilitate a voluntary pooled redundancy and redeployment scheme:

- Through providing the negotiating framework to enable / administer such a scheme.
- Through providing additional funds to mitigate the extra costs that continuing power station operators would face. Although these payments could be significant (tens of millions of dollars) they would be small within the total cost of closure and rehabilitation, and affordable among the measures that governments would feel obliged to implement to mitigate the regional losses.
- Through overcoming any regulatory hurdles that might occur.

It is also possible to structure a process for closure that requires the closing power station to shoulder additional costs:

- the Jotzo and Mazouz concept of a bidding process for closure that includes social costs that could incorporate pooled redundancies and

redeployment.[5] However, the announcement of Hazelwood's closure without such a bidding process precludes this option for the immediate situation.

Finally, it is possible to achieve pooled redundancies and redeployment though pooling all power station employment either across the region or across the country.

The CFMEU is *not* advancing what may be considered as a radical proposal as its preferred model. It is advanced here in the interests of broadening the minds of policy-makers as to what can be done. It would be difficult for the unions to implement too; many different enterprise agreements with differing wages and conditions would be involved.

In the German case study discussed earlier, the ownership and operation of black coal mines together with all employment was centralised under one company structure for the express purpose of managing the phase-down on an industry-wide basis. This was no doubt facilitated by the German black coal industry being internationally uncompetitive and reliant on subsidies. The various black coal companies were persuaded to pool their black coal assets.

Another alternative to pooled ownership – unlikely in the context of the competitive power market in Australia – is the pooling of the employment task alone. That is, a legal entity assumes the role of employer of power station labour across the region or the industry, and supplies labour to the power

[5] Frank Jotzo and Salim Mazouz, Brown coal exist: a market mechanism for regulated closure of highly emissions intensive power stations, CCEP Working Paper 15, 10 November 2015

station operators. The power station operators transfer their employment obligations including accumulated entitlements to the industry employer and pay for the labour they require on an ongoing basis.

A pooled employer would be able to facilitate pooled redundancies and redeployments readily.

The pooled employer could be:

- A statutory authority as envisaged with the proposed Energy Transition Authority.
- A joint unions and industry-managed entity, probably with enabling legislation.
- An industry-alone entity.

The pooled employer would not be without attraction for current employers in the industry:

- The responsibility for managing the adverse impacts of closure in terms of job losses would be both mitigated and shared.
- Power station operators who envisage continuing for some time would have access to skilled labour from other power stations that would be provided more easily and with less transactional costs than current recruitment processes.

While this concept is unusual, it is not without precedent in Australia. Pooled industry employment was used in the stevedoring / waterfront industry for decades – introduced as a means of providing some continuity of employment in place of the scourge of daily hire labour for which the industry had

developed an appalling reputation. The pooled industry employer was the Australian Stevedoring Industry Authority.

Other measures

This submission will not repeat the other measures that are widely considered to be part of structural adjustment packages: financial and psychological counselling, job search assistance, retraining and relocation, etc.

The measures that are among the toughest to implement are those around alternative industry development and diversification in affected regions. The CFMEU has pointed out that job losses in coal power regions will be greater outside of the power stations.

It is also the case that many of the alternative jobs in other industries provide less full-time work, less pay and less job security. Australia has created many jobs in recent decades, but there has been a shift away from good jobs to increasingly insecure jobs and contingent employment. Poorly paid and insecure jobs not only provide less of a future for those in them, they provide less stimulus for the broader economy and restrict potential growth.

The challenge is to create good jobs, not just any jobs.

Power plant decommissioning, site rehabilitation and further development

Alongside pooled redundancies and redeployment, the multi-year process of decommissioning power stations and rehabilitating the sites can create transitional jobs that mitigate the impact of closure.

Engie, the owner of Hazelwood, has announced that up to 250 jobs will be required for this process. While some of the 750 power station workers will be suited to this work, not all will be, and other expertise will be required.

Pitfalls of which the union is aware with respect to this option include:

- That because decommissioning and rehab work are not a profit centre for the power station owner, the incentive will be to cut costs through poor quality jobs.
- That contractors will be brought in from outside the region, reducing ongoing employment within the region.

There is also the question of the use of the power station site once rehabilitated. These sites are already zoned heavy industrial sites; and have infrastructure in place to support heavy industry. *Consideration should be given to other industrial uses that bring wealth to the regions*.

Staging closure at Hazelwood

Engie has made the decision to close the entire power station but it had/has other options. A number of the 8 units are due for major maintenance, and a key factor for the company was whether to make that investment.

But not all units were due for that expenditure. It would have been possible for Engie to close two or four units rather than the whole station.

The effect of a staged closure would be to make both the round of redundancies less painful and also to open up redeployment options.
More of the younger people would be kept on under a staged closure. And in the next few years the CFMEU is aware that there are a number of older workers retiring at nearby power stations – opening up the possibility for younger Hazelwood workers to transfer.

The CFMEU urges that the Senate consider recommending to government that Engie be engaged with a view to staged closure of Hazelwood.

6. The costs of doing Just Transition well

The CFMEU does not have a costed model to present. But we see that preventing a disproportionate burden being placed on power station workers and their communities will incur significant costs.

We said earlier that pooled redeployment and redundancy from the closure of one power station could cost tens of millions.

We expect that the cost of shutting Australia's coal-fired power station over 2-3 decades will run into billions *without* including social costs. Doing good structural adjustment for affected workers and communities – giving effect to Just Transition – is likely to cost that much again.

These costs need to be put into the context of the enormous challenge and cost of re-engineering Australia's electricity supply industry to be low or zero carbon. The estimates tend to run into hundreds of billions – spread over decades and only a small part of overall economic growth in that period. A recent estimate provided by The Climate Institute was for between $164 billion and $276 billion (on a Net Present Value basis).[6]

A few billion over 2-3 decades will actually be a rather small price to pay for achieving Just Transition for power workers while shifting the entire electricity supply industry to low or zero emissions as part of effort to prevent dangerous global warming.

7. The risks of *not* doing Just Transition well

Inflicting injustice is obviously wrong from a human rights and social justice perspective. If we care about giving all members of pour society a fair go, then we already have enough reason to do Just Transition.

[6] The Climate Institute, A Switch in Time: Enabling the electricity sector's transition to net zero emissions, Policy Brief, April 2016, p.15

But failure to provide a fair share of the benefits of economic development to all parts of society also imposes political and economic costs that are coming to be seen – even by the beneficiaries of inequality – as large and threatening.

When many traditional non-voters in the United Kingdom turned out to vote for the UK to leave the European Union – "Brexit" – they were ostensibly punishing the European Union for its policy of free movement of EU citizens. But it is widely recognised as a protest vote by those who believe they have been short-changed by the forces of globalisation – that the immense wealth that has been created by international trade, freeing up of markets and technological development has failed to trickle down from the elites.

That the UK leaving the European Union will almost certainly inflict substantial economic damage on the country - as trade reduces and multi-national firms that require unfettered access to the larger EU market leave the UK - shows the Brexit vote was counter-productive misses the essential message. For globalisation to continue, we must ensure that everyone gets a reasonable slice of the benefits.

A similar phenomenon is at work in the surprisingly successful campaign of Donald Trump for the US Presidency – he has sought to mobilise middle and lower income earners who perceive themselves as having lost out in all the economic growth of the last few decades. The average wages of middle and lower income earners in the USA has barely surpassed inflation over decades, while the incomes and accumulated wealth of the top 10% and especially the top 1% have skyrocketed.

That a Trump presidency would probably make this situation worse, as well as causing upheaval in financial markets and for the wealthy – not to mention dangerous political instability across the world - demonstrates that growing inequality and the failure of the "trickle down" growth models will produce disastrous consequences for all.

The rise of far-right and racist parties across the world, and our own One Nation's recent electoral success in Australia, are warnings to us all that we must ensure that economic growth benefits everyone.

The lesson for climate policy is clear – if we want to achieve major change that mitigates global warming, the social impacts must not be treated as a secondary issue. To the extent that climate policy creates losers, it will be resisted (and this is especially so if opportunistic politicians seek to exploit the fear of loss).

The argument that "other industrial restructuring has been done without prioritising social impacts, so why do it differently with climate policy" misses the point that there is a deep well of anger building across the world, and to a lesser but still worrying extent in Australia, about increasingly unequal treatment. A building resentment against ongoing change where workers and their families always seem to lose out.

Climate policy in Australia has already been extraordinarily politically expensive, being a contributing factor to the loss of three prime ministerships, an opposition leader and multiple changes of government.

If we are to build a broader consensus around climate action, and achieve substantial progress in moving to a zero emission world, an essential component will be looking after the workers and communities that will be required to restructure the most.