

Expert Report on the Workforce Transition Implications of the proposed Glendell Continued Operations Project– SSD 9349 and SSD 5850 Mod 4.

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Advice provided 28 March 2022

Context

This report is provided in response to an expert brief provided to me by the Environmental Defenders Office (EDO) acting on behalf of Mr Scott Franks and Mr Robert Lester, and dated 9 March 2022. The EDO has engaged me to provide independent expert advice in relation to workforce transition associated with the Hunter region coal industry, specifically as it relates to the Glendell Continued Operations Project.

I have read the Expert Witness Code of Conduct contained in Schedule 7 of the Uniform Civil Procedure Rules 2005, and agree to be bound by it. This report contains information of which I believe the Independent Planning Commission should be aware.

My qualifications are as follows:

- Senior Lecturer, School of Environmental and Life Sciences, University of Newcastle, Australia
- Adjunct Lecturer, Krieger School of Arts and Sciences, Johns Hopkins University, United States
- Senior Fellow, Earth System Governance
- PhD in Environment and Geography, Macquarie University, Australia
- Author of more than 30 peer reviewed journal articles and other publications.

Scope

In this report I address several issues raised by review of the Project's assessment documentation. These relate to (i) the adequacy or otherwise of the assessment's consideration of potential external factors such as the climate policy context, (ii) the likely social consequences for the current workforce in the Hunter region, (iii) the compatibility or otherwise of the project with social and environmental sustainability of the Hunter region, and (iv) wider relevant matters.

Introduction

Since the beginning of the Industrial Revolution in the mid-eighteenth century, societies have increasingly organised their economies on the basis of continued exponential increases in fossil fuel consumption, beginning with coal, and with oil and gas later also becoming significant. Fossil fuel consumption has therefore been at the centre of increasing economic activity for around 250 years now – a short period in human history, but long enough to have become an established foundation for contemporary public policymaking.

However, continued and increasing consumption of fossil fuels is the primary cause of climate change (IPCC, 2022), a globally coherent phenomenon that threatens life as we know it. By 'life as we know it', I mean a planet whose basic functioning and natural systems continue in ways that are both familiar to us, and relatively stable.

Increases in the frequency and intensity of extreme weather events are only one example of increased planetary system instability, but they serve well as an example because they are easily conceptualised and their impacts are easily perceived. To illustrate with reference to recent catastrophic flooding in northern New South Wales and south-eastern Queensland, Prime Minister Scott Morrison was recently quoted in the media saying that “we are dealing with a different climate to the one we [sic] are dealing with before... Australia is getting hard to live in because of these disasters”.

And that’s the paradox of meeting the climate change challenge: continuity of life as we know it – familiar, and relatively stable – is at stake, but maintaining that continuity requires profound change in the way we organise ourselves socio-economically.

The Paris Agreement, and accelerating movement in the wider policy context

In recent years, and at accelerating pace, the wider climate and energy policy context has been changing markedly. In this section I review the wider policy context in which the project is proposed. The policy context comprises international, national and state scales, and government and private sector actors.

The Project’s environmental assessment is silent on the likely impact on the Project of key external climate policy contexts such as current pledges made by Australia, its key trading partners and other states under the Paris Agreement. The Paris Agreement commits signatories to:

Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change (UNFCCC, 2015).

To achieve this policy goal, Australia is required to drive down emissions rapidly, to zero net emissions. Australia’s major trading partners are similarly required to drive down emissions rapidly. One way or another, coal mining in Australia will be wound down rapidly; there is no realistic scenario in which Australia increases rather than winds down its capacity to mine coal, whether for use in Australia or elsewhere.

Climate policy in Australia has presented as a seemingly intractable challenge over several decades. Nevertheless, in recent years, the pace of change in climate policy, at federal and state level has accelerated.

Federally, and in marked contrast to recent history, major political parties are now expressing bipartisan support for emissions reductions. Australia has for more than two decades been a prominent laggard in international climate negotiations, and so this shift at

the federal level is significant. The bi-partisan commitment federally begins to bring Australian climate policy into alignment with other member states of the Organisation for Economic Cooperation and Development (OECD, i.e., the group of industrialised countries).

At state level, the New South Wales government has a net zero emissions strategy and is implementing measures to support workers and communities in coal mining areas to transition away from coal mining and coal fired power production. One example is the NSW Government announcing last month a package to create 3,700 new jobs in clean energy sector in the wake of the announced early closure of the coal-fired Eraring Power Station at Lake Macquarie. The state has announced it will invest \$250m over five years to create a further 500 jobs in local manufacturing of components for the renewables sector such as wind towers, electrolysers and batteries. The state has also announced it will spend \$300m over 10 years to create 500 more jobs through expanding the state's clean manufacturing base – in particular the green hydrogen industry.

While governments have carriage of public policy formally, the private sector also plays a role in climate governance, i.e., the sum of all the processes and interactions through laws, norms, power and language that influence climate outcomes. The role of key actors in two industries warrant careful attention. The first is the coal industry itself. Major mining houses, such as BHP Billiton and Rio Tinto are exiting the coal mining industry, as they pursue efforts to decarbonise their businesses. The second is the financial sector. In recent years both banks and insurers have begun to limit their engagement with the coal industry. One example is banks in recent years beginning to refuse finance for new coal developments, such as Australia's 'big four' lenders (and others internationally), refusing to provide finance for Adani's coal developments in the Galilee Basin, Queensland. Another example is increasing numbers of major insurers internationally (e.g. Swiss Re, Munich Re, AXA, Allianz) withdrawing investments in the coal industry, as well as refusing to underwrite new coal infrastructure.

In short, the wider state, national and international policy context in which coal mining in the Hunter region is changing, and at an accelerating rate. My considered opinion is that while the Project proposes to increase production at Glendell to an average of 10Mt of coal per annum through 2040, this will not materialise in practice because the climate governance context in which the mine operates, through both the formal policy context and the actions of key private sector players, is unlikely to remain conducive for coal mining through the proposed life span of continued operations at the mine. As such, and despite the Project's assessment claiming otherwise, there is no real prospect of the mine offering continuing employment opportunities.

Just transition in practice in the Hunter

Just as exponential increases in fossil fuel consumption have been central to increasing economic activity more generally over 250 years, coal mining, coal-fired power production and coal exports have been central economic activities in the Hunter region for many generations. Planning and executing a shift away from coal mining is therefore a significant and substantial challenge.

The COVID pandemic provides a recent example of the value of planning. In Australia, as elsewhere, instances of effective planning and subsequent execution led to rates of mortality and morbidity that were lower than what was achieved where planning and execution were either absent or ineffective.

The concept of just transition is helpful in planning and executing a shift away from coal mining (Evans and Phelan, 2016). A just transition is one where workers and communities that have been strongly dependent on fossil fuel exploitation aren't left behind through the transition of a workforce from the coal industry to alternative employment offering good jobs and dignity of work.

The approach is widely recognised. For example, 2015 Paris Agreement notes “the imperative of a just transition” for affected workforces, with “the creation of decent work and quality jobs” to replace those lost through shifting away from fossil fuels (UNFCCC, 2015).

The NSW state government also recognises change is coming and has in recent months announced \$25 million a year for its Royalties for Rejuvenation Fund. The fund is intended to “ensure coal mining communities have the support they need to develop other industries in the long-term”.

The practical implementation of just transition is a live consideration in the Hunter. In 2021 researchers from Hunter Renewal and Hunter Jobs Alliance sought to understand community views on transition in the region (see Appendix). More than 300 local residents were involved, through consultation workshops held across the region (remotely over Zoom through COVID lockdowns), and via a survey online.

The Hunter is a diverse community, and researchers found there is a diversity of views across the region. However, what researchers heard consistently from community members is that they want to see active responses to the coming change. There is uncertainty about how the move away from coal mining will manifest, and when it will manifest, but there is wide understanding that change is coming, and acknowledgement that preparation is essential.

Hunter communities identified three priorities as being key to a just transition away from coal:

1. the need for a local coordinating authority
2. funding for a “flagship” job-creation project, and
3. more resources for technical and vocational education.

I briefly introduce each of these priorities here for two reasons. The first is to illustrate the Hunter communities' thinking on the Hunter's future. The second is to demonstrate the marked contrast of the intent of the Project with community understanding of the region's future.

1. Establish a local coordinating authority

Local coordination is important to ensure solutions reflect a community's needs, skills and opportunities. This means those who work for the authority know the region and are in touch with the stakeholders from industry, government, education and community organisations to identify local strengths and competitive advantages. A local authority can also coordinate with other authorities to ensure fossil fuel communities aren't competing against each other by pursuing job creation in the same new industries.

Note that the Hunter is not the only region globally, or even in Australia, pursuing a transition away from fossil fuels. This both underscores the urgency of transition in the Hunter and suggests that models for just transition practice may be available for reference. The La Trobe Valley Authority, established in 2016, provides an example of a local coordinating authority. The Victorian state government established the Latrobe Valley Authority in 2016, following the unexpected announcement of the closure of the Hazelwood power station in 2017. Beginning with \$270 million in funding, the authority is headquartered in Morwell, in the heart of the Latrobe Valley's coal-mining industry.

2. Fund flagship job-creation projects

Flagship projects give tangible direction to the transition and create hope for the future. A flagship project provides an anchor point, or a fulcrum point, around which other industries and businesses can coalesce.

Again, an example from elsewhere in Australia is illustrative. In the coal-mining community of Collie in Western Australia, industry, government and university researchers working together on a project to make 'Collicrete', a more sustainable form of concrete made from fly-ash, a waste product from the burning of coal by the local coal-fired power stations.

Economic analysis suggests that simulating this plan using waste fly-ash from Hunter Valley power stations could potentially create 3,000 permanent full-time jobs in NSW (Schraner, 2020).

3. Expand vocational training

Retraining is crucial to new industries to flourish, and for workers to find new jobs. Shortages of skilled and experienced staff are hampering development in renewable energy industries (CEC, 2020). Research for the Clean Energy Council (CEC, 2020) recommended the vocational educational system needs reviewing, because "existing training systems are not meeting industry needs". In fact, in the Hunter region, TAFE should be expanding, but instead is facing closures.

Looking forwards not backwards, because transition is upon us

Socio-economic transition away from coal is upon us in the Hunter. Recognising the extent to which the climate is already changed (IPCC, 2022), and therefore the urgency now needed in shifting away from fossil fuels in order to meet Paris Agreement commitments noted earlier, the transition is late, but welcome all the same, for there is no plausible scenario in which we persist in burning fossil fuels AND life as we know it continues. This is a major challenge that requires substantial planning and engagement across communities, industries and government. That planning and engagement is already underway, as

evidenced through the NSW state government establishing the Royalties for Rejuvenation Fund, and through work by Hunter Renewal and the Hunter Jobs Alliance (2022) to engage workers, unions, employers and communities in ongoing public discussion towards shaping the region's transition.

We are at a point now where more of the same isn't helpful for employment in the Hunter. The proposed expansion of capacity at Glendell is at odds with the transition away from fossil fuels communities in the Hunter are already engaging with.

In my considered opinion, approval of the Glendell proposal will serve to undermine the Hunter's transition away from fossil fuels. It would do so by holding out a false hope that there is a future for coal industry jobs in the Hunter. The Hunter's future will build on the skills and expertise that have been established over generations of coal mining, but it will transcend coal. That forward-looking focus is essential for effectively planning and executing a just transition in the Hunter region.

A wider view for the Commission

If the Independent Planning Commission may allow itself a wider view, the cost – in jobs – of the Project should also be considered. The focus on the proposal's impact on jobs (at paragraph 535, and highlighted in the Summary at p.9) is unhelpfully limited, and is in fact one-sided: the assessment focusses only on the limited number of jobs the proposal would create, without reference to the limiting impact of climate change on employment.

The proposal will necessarily accelerate climate change, and climate change impacts are increasingly disruptive across employment in multiple sectors: jobs in reef tourism in Queensland, for example, are threatened by climate change, through increased prevalence of coral bleaching making the Great Barrier Reef a less attractive tourist destination.

However, the impacts of climate change on employment will be felt across all industry sectors, and the costs of climate change on future employment in Australia have already been calculated. Last year the Federal Court accepted evidence provided to it on the future financial cost of climate change to young people (Mallon, 2021). Evidence was provided in the context of a bid by a group of Australian teenagers seeking to prevent federal environment minister Sussan Ley from approving an extension of Whitehaven's Vickery coal mine near Gunnedah. The children were unsuccessful in their bid to constrain the Minister's actions, but the evidence was accepted by both the federal government's legal team and the judge, and its uncontested reception represents an important shift. The financial impacts of climate change are no longer a vague future loss – they're now a tangible, quantifiable harm (Phelan & Svenson, 2021).

Costs were calculated in three areas: reductions in property wealth, loss of earnings, and health impacts. In relation to loss of earnings, partial, conservative calculations were applied to the period 2040 to 2060, when the applicants would be aged between 20 and 58 years. This part of the analysis focused on how climate change would affect a young person's ability to work.

On hot days, the body must expend extra energy dissipating heat (usually by sweating). As noted earlier by the International Labour Organisation (ILO, 2016), exposure to these conditions for extended periods is risky, and to endure them people must drink water and take regular breaks, leading to lower productivity.

Rising temperatures under climate change will increase the number of days where the ability to work outside safely will be hampered. The analysis found around 30% of today's children will work in climate-vulnerable jobs, such as agriculture and construction.

People in these jobs will be less productive, and the cost to employers will eventually be passed to employees through lower wages, leading to an estimated loss of about A\$75,000 over a young person's working life.

Climate change and associated extreme weather will also disrupt the infrastructure businesses rely on, such as electricity, telecommunications and transport. Again, these productivity losses will eventually be reflected in employee wages. Repeated extreme weather damage to business continuity will lead to an estimated average A\$25,000 annual loss per person over the working life of a child today.

Climate change will also deliver generalised impacts to the economy. The analysis here was also partial, focussing only on agricultural and labour productivity, and drawing on existing research to estimate losses of about A\$60,000 per person over their lifetimes.

In summary, partial, conservative calculations found today's children will forego between A\$125,000 and A\$245,000 each due to the climate impacts noted above, with the most likely cost at around A\$170,000 for each child. However, the Project's assessment makes no mention of the wider loss of earnings to which the Project will contribute. My considered opinion is that the value of the small number of time-limited jobs the Project would create is far outweighed by the ongoing drag on future earnings in Australia attributable to climate change.

Conclusion

There is no real prospect of the mine offering continuing employment opportunities. Planning for continued coal extraction in the Hunter region effectively means planning to leave the workforce dependent on coal industry jobs, and their communities, behind.

In contrast, just transition initiatives already underway offer the workforce in the Hunter region the opportunity for sustainable and ongoing employment. In the same way that it's prudent to prepare for inevitable bushfires and other climate-implicated weather hazards, it's essential for the Hunter region to prepare for life beyond coal.

The aim of a just transition is to recognise the Hunter region's existing strengths, build on them, and ensure no one is left behind. Looking beyond the region, and acknowledging that coal from the Hunter is one of Australia's major contributions to increasing climate risk globally – there is a clear connection between the coal we dig out of the ground here, and climate change impacts manifest elsewhere across Australia and beyond (Sackett, 2022). In

my opinion, a just transition here in the Hunter region also means the Hunter taking responsibility for the global impact of coal mined here.

Seeking now to expand coal mining capacity in the Hunter through the Project, in effect, is to choose more of the same, and by so doing, leaves the workforce and their local communities vulnerable to an increasingly uncertain future. Negative impacts will be felt further afield too, as the Project contributes to climate change's limiting effect on employment and earnings more widely.

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Appendix

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