



Expert Report

**Prepared for Environmental Defenders
Office acting on behalf of Denman,
Aberdeen, Muswellbrook and Scone
Healthy Environment Group Inc
(DAMSHEG)**

By Nicki Hutley, Rovingstone Advisory Pty Ltd

15 July 2022

Introduction

1. I, Nicki Hutley, have read, understood, complied and agree to be bound by all provisions of the Expert Evidence Practice Note, including the Harmonised Expert Witness Code of Conduct and the Concurrent Expert Evidence Guidelines.
2. I have acquired my specialised knowledge through fifteen years of practice as an economist undertaking Cost Benefit Analysis, with a focus on climate economics. I am currently a Councillor (economics) for the Climate Council of Australia. My current CV is set out in **Appendix A** to this report.
3. The opinions provided are based wholly or substantially on my specialised knowledge arising from my training, study or experience.
4. This report was prepared in response to an expert brief dated 15 June 2022 provided to me by the Environmental Defenders Office Ltd (EDO), acting on behalf of Denman, Aberdeen, Muswellbrook and Scone Healthy Environment Group Inc (DAMSHEG). A copy of my expert letter of instruction is at **Appendix B** to this report.
5. I have been asked to address the following questions in relation to the Mount Pleasant Optimisation Project (Project):
 - a. *In your opinion, does the economic assessment for the Project, including the recommended conditions of consent, adequately consider all economic costs and benefits arising as a consequence of the Project? Please provide reasoning for your answer.*
 - b. *In your opinion, is the method of calculating the value of the Project's greenhouse gas emissions, appropriate? If not, what would be an appropriate way to cost these emissions? Please explain your reasoning.*
 - c. *In your opinion, and considering your response to the questions above, is the Project likely to have the net benefit to NSW reported by the Applicant in its cost benefit analysis (CBA)? Please provide reasoning for your answer. Please explain your reasoning.*
 - d. *In your opinion, has the Applicant adequately considered the economic impacts as they relate to the principles of ecologically sustainable development? Please explain your reasoning.*
 - e. *Provide any further observations or opinions which you consider to be relevant.*

Question 1: In your opinion, does the economic assessment for the Project, including the recommended conditions of consent, adequately consider all economic costs and benefits arising as a consequence of the Project? Please provide reasoning for your answer.

6. An Economic Assessment (EA) was prepared to inform the Environmental Impact Statement (EIS). The report states that “the Assessment has been prepared in accordance with the *NSW Government’s Guidelines for the economic assessment of mining and coal seam gas proposals* (NSW Government, 2015a) (the EA Guidelines) and the *Technical Notes supporting the Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals* (NSW Government, 2018) (the EA Technical Notes).
7. There are two components to the EA: a Cost Benefit Analysis (CBA) and a local effects analysis (LEA). The focus of this report is the CBA which balances benefits against the costs of the Project and so allows an assessment of the net benefits or costs to NSW, rather than focusing on assumed benefits in isolation, as is the case in the LEA.
8. It is worthwhile mentioning, however, that the LEA includes a number of benefits which have been excluded from the CBA because they do not adhere to NSW Guidelines or good economic practice. For example, the LEA includes a benefit of \$2.3 million related to higher employment and wages. Guidelines expressly exclude such benefits any increase in local employment is likely to be offset by a reduction elsewhere (especially for a skilled workforce) and higher wages are unlikely as those employed will most likely come from similar backgrounds and wages.¹ Supposed benefits to suppliers have also been speculated on despite an admission that there is no evidence to support this.²
9. While it appears that the CBA has broadly followed the EA guidelines, it does not appear to have given consideration to the Ecologically Sustainable Development (ESD) principal of intergenerational equity in its treatment of greenhouse gas (GHG) emissions. This is evident through the choice of carbon price used in the CBA. This is discussed in detail in paragraphs 24 to 42.
10. The treatment GHG emissions, which was erroneous in the first iteration of the economic assessment, was subsequently revised to improve the accuracy of the methodology, as well as including more timely estimates for carbon values. Nevertheless, the treatment still failed to meet the ESD principle, ignoring future needs.
11. Indeed, there are a number of issues with the treatment of GHG emissions which I consider to be incorrect, resulting in a significant undervaluation of the costs associated with the Project’s emissions.
12. Further, it is unclear how the conditions of consent – and specifically Clause B36 which restricts lifetime emissions to less than 13.4 million tonnes of CO₂-e – can be met. Clause B34 (a) to (c)

¹ AnalytEcon, (2021), Mount Pleasant Optimisation Project, Economic Assessment prepared for MACH Energy Australia Pty Ltd MACH Energy Australia Pty Ltd, January 2021 P27

² Ibid.

require reviewing and implementing options for abatement during the Project's lifetime; however, such technologies do not currently exist and nor are potential options such as Carbon Capture and Storage currently deemed technically or financially feasible.³ The CBA assumes there is no abatement of GHG emissions.

³ See, for example, <https://www.boilingcold.com.au/times-up-on-gorgons-five-years-of-carbon-storage-failure/>

Question 2: In your opinion, is the method of calculating the value of the Project's greenhouse gas emissions, appropriate? If not, what would be an appropriate way to cost these emissions? Please explain your reasoning.

13. It is my opinion that there are major flaws in the calculation of the economic costs of the Project's GHG emissions that result in a gross underestimation of the cost of climate impacts. This is in part due to a lack of clarity in government guidelines for an appropriate methodology, which is evolving over time as our understanding of, and modelling capabilities for, the economics of climate change evolve.
14. In particular, current Guidelines used for the CBA are essentially in conflict with the ESD principle of intergenerational equity. An alternative approach which reflects this principle is explained in paragraphs 30 through 42.
15. The purpose of the CBA is to understand all benefits and costs borne by NSW citizens that are associated with the Project (mine expansion) in comparison with the Reference Case (no expansion).
16. The benefits of the Project for NSW have been identified as Royalty Payments and a portion of the company tax profits paid to the Commonwealth Government and redistributed to NSW. The value of these benefits is estimated by AnalytEcon to be \$856 million over the life of the project (2023 to 2053, including decommissioning). A more conservative estimate of royalties has been provided by Mining, Exploration and Geoscience (MEG), with a net Project benefit of \$752 million.
17. There are a wide range of environmental and social costs associated with the Project. This includes, for example, health impacts from dust particulates and loss of biodiversity of a number of species of flora and fauna. However, the most readily identifiable and significant in terms of economic valuation relates to GHG emissions. This is the only cost that has been quantified for the Project CBA.

Treatment of GHGs

18. Between 2023 and 2053, the Project (including decommissioning activities) is estimated to give rise to Scope 1 and Scope 2 GHG emissions of 16 Mt CO₂-e, according to NSW Government Department of Planning and Environment (DPE).⁴ The Project's lifetime Scope 3 emissions are estimated by DPE at 860 Mt CO₂-e.
19. Scope 3 emissions were excluded from the analysis to "avoid double counting."⁵ The issue of double counting, however, can only logically apply in a reporting context; clearly, two countries cannot report the same emissions, so current convention dictates they are reported by the

⁴ NSW DPIE (2022), Mount Pleasant Optimisation Project State Significant Development Assessment SSD 10418, NSW Government Table 8, Page 43

⁵ Ibid. Piii

country where they arise (for example, through the burning of the fossil fuel in the production of energy or steel), irrespective of the country of origin of those fossil fuels.

20. In the case of the CBA, however, this rationale does not apply. To exclude calculation of Scope 3 emissions' impacts – that is, their climate-related impacts on NSW – would imply that they are somehow being accounted for somewhere else in the CBA, which is patently untrue. They have been omitted entirely.
21. All of the Project's GHG emissions – including Scope 3 – will result in increased global temperatures, no matter where the coal extracted in NSW is processed. This in turn will lead to a wide range of significant economic, social and environmental costs associated with that temperature rise both globally and across NSW.⁶ The climate impacts associated with burning of fossil fuels cannot be isolated across borders.
22. The costs associated with increasing levels of GHG emissions are in the form of increased chronic and acute climate risks leading a range of economic, social and environmental damages.⁷ These damages include physical damages to environment and property,⁸ economic disruption and loss of productivity,⁹ health impacts such as increased respiratory illness and loss of life,¹⁰ increased transfer payments which incur a deadweight loss,¹¹ and adaptation costs.¹²
23. These global impacts can most appropriately be measured using a global Social Cost of Carbon (SCC), as discussed in paragraphs 30 to 33, which can then be adjusted to reflect NSW damages associated with Project emissions.

Choice of carbon price

24. The cost of climate change damages in a CBA can be modelled by applying an appropriate price of carbon to total lifetime emissions, discounted back to Net Present Value (NPV) terms. NSW Guidelines provide two potential sources for pricing carbon in an economic analysis:
 - a. a market price; or
 - b. a SCC, sometimes also referred to a “damages” price.

Market price of carbon

25. NSW Treasury CBA Guidelines state that “market prices should be used as a basis for valuing the costs of carbon emissions, where reliable evidence can demonstrate that those market

⁶ IPCC Working Group II (2022), *Climate Change 2022: Impacts, Adaptation and Vulnerability*

⁷ PCC Working Group II (2022), *Climate Change 2022: Impacts, Adaptation and Vulnerability*

⁸ Kompas, T., Pham, V. H., and Che, T. N. (2018) The effects of climate change on GDP by country and the global economic gains from complying with the Paris Climate Accord. *Earth's Future*, 6, 1153–1173. <https://doi.org/10.1029/2018EF000922>

⁹ Ibid.

¹⁰ De Alwis, D. and Limaye, VS (2021), *The Costs of Inaction: The Economic Burden of Fossil Fuels and Climate Change on Health in the United States*, Natural Resources Defense Council

¹¹ Transfer payments refers to government support such as bushfire recovery payments, which is funded by additional tax collection. A 'deadweight' loss, or loss of economic efficiency and consumer welfare, occurs because the taxes needed to fund payments distort consumer and producer behaviour. There are also collection and compliance costs that erode the efficiency of the tax dollars collected.

¹² Ranson, M et al (2016), *Modeling the Impact of Climate Change on Extreme Weather Losses*, National Center for Environmental Economics, Working Paper # 16-02 May, 2016

prices are not significantly biased as a direct consequence of scheme design.” Where a market price cannot be reliably determined, estimates of damages (the social cost) may be used.¹³

26. The most frequently cited carbon (permit) price, because of its size and longevity, is that associated with the European Union (EU) Emissions Trading Scheme (ETS). This is the benchmark recommended by the NSW Government for mining and coal seam gas appraisals.¹⁴
27. The United Nations Intergovernmental Panel on Climate Change (IPCC) states that a carbon concentration no higher than 430 parts per million (ppm) is consistent with 1.5°C warming,¹⁵ which would require higher carbon prices than are currently seen in markets to sufficiently reduce carbon demand to achieve 1.5°C.¹⁶
28. Market prices of carbon, which vary dramatically around the world, are therefore likely to underestimate the true cost of emissions and I therefore do not consider them appropriate for use in this CBA.
29. Importantly, in the context of the IPC’s decision, a market price does not give consideration to the full impact of climate change resulting from fossil fuel-induced GHGs on either current or future NSW generations.

Social Cost of Carbon

30. It is critical to note that current NSW Government Guidelines for a standard CBA have been framed in the context of projects and policies that are typically assessed over a maximum of 30 years. This approach is clearly inconsistent when considering the impacts of climate change which are typically modelled out to at least 2100 and often to 2300, and which will be felt increasingly by successive generations if we fail to meet the Paris Agreement targets.
31. Over such long periods of time, the choice of discount rate is absolutely critical: a higher rate will place far less importance on the costs to future generations than those faced by current ones.
32. A measure preferred by economists and numerous governments around the world, including the US, Canada, France and Germany, is the SCC, which reflects the marginal cost of damages of each additional tonne of CO₂-e emitted. That is, the SCC is calculated based on the estimated economic, social and environmental damages caused by emitting each additional tonne of CO₂-e. In the US alone, regulations have been adopted leading to a reduction in GHG emissions across a wide range of policies that have been valued at more than US\$1 trillion, based on economic analyses that use a SCC.¹⁷ Use of an SCC is considered acceptable to the NSW Government, as noted in paragraph 24.b.

¹³ NSW Treasury (2017), NSW Government Guide to Cost benefit Analysis, TPP17-03; author’s emphasis

¹⁴ NSW Department of Planning and Environment, 2018, Technical Notes supporting the Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals

¹⁵ IPCC (2014), Summary for Policymakers in: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change

¹⁶ IPCC (2018) Global Warming of 1.5°C – Special Report chapter 2 at <https://www.ipcc.ch/sr15/chapter/chapter-2/>

¹⁷ Nordhaus, W. (2017) PNAS February 14, 2017 114 (7) 1518-1523; at <https://doi.org/10.1073/pnas.1609244114>

33. The global SCC may be calculated in numerous ways, but NSW EA Guidelines recommend use of the US Environmental Planning Agency (EPA) estimates, and these were used by AnalytEcon in this CBA.
34. However, the Guidelines do not specify which of the current four US SCC to use. These estimates are based on different discount rates (2.5%, 3% and 5%) applied to an average of climate scenario risks as well as a high-risk weighting (95th per centile, at 3% discount rate). The critical importance of discount rate choice, noted in paragraph 30, is also further discussed in paragraphs 38 – 40 below.
35. The US Interagency Working Group (IWG) on climate change, which is responsible for producing US SCC estimates, was disbanded during the Trump administration but has since been reinstated and issued interim values for the SCC, based on 2016 estimates and adjusted for prices to 2020 values. The IWG notes that, since the 2016 numbers were produced, there is substantial new evidence relating to much higher levels of damages, which will be included in next iteration models. For this reason, I have included the SCC value based on the 95th percentile of damages as a sensitivity test.
36. Critically, the views on the choice of discount rate are also being updated.
37. Estimates of the SCC involve some degree of uncertainty. However, it should be noted that copious research¹⁸ suggests that even the higher of the EPA's SCC values currently published in the US are likely to be unrepresentative of the true costs, as not all parameters (impacts, e.g., health) are included in the Integrated Assessment Models (IAMs) used to calculate the SCCs.
38. Perhaps the most crucial issue in choice of SCC in the context of this assessment is the choice of discount rate used to calculate the SCC. As previously noted, an overly high discount rate risks understating the impact of climate consequences given the long timeframe over which these endure.
39. AnalytEcon used the average 3% US SCC value in the CBA; however, this choice is inconsistent with the majority of expert opinion on measuring climate damages and excludes an appropriate measure of intergenerational equity, which is crucial in this assessment.
 - a. In a survey of 197 expert climate economists, the average long-term discount rate preferred was 2.25%. The survey found that the vast majority of survey participants accepted a rate of between 1 and 3%.¹⁹
 - b. Importantly, the IWG, in its most recent update, notes that a discount rate for intergenerational analysis **below** 2.5% is recommended. The IWG therefore believes that the range of four interim [SCC] estimates presented in in the 2021 update "likely

¹⁸ For example, Kolstad, C. et al (2014), Social, economic and ethical concepts and methods. IPCC 5th Assessment report, Working Group III, Chapter 3

¹⁹ Howard, P. and Sylvan, D (2015) Expert Consensus on the economics of climate change, Institute for Policy Integrity, New York University School of Law

underestimate societal damages from GHG” and suggests further sensitivity testing at lower rates.²⁰

- c. Similarly, the German Government recommends a central case discount rate of 1% and an upper sensitivity testing using a 0% discount rate.²¹ These lower discount rates reflect a view about the value of future generations and our moral responsibility to these future generations.²² The higher the discount rate used, the more we are saying that future generations matter less than the current one. Early US Government guidance suggested a lower rate is appropriate for estimating multi-generational values, given the “special ethical values” attached.²³ Indeed, the same survey showed 46% of respondents recommended using a declining discount rate for intergenerational effects, but most SCCs use a constant rate.
- d. In the context of this assessment, where the Project’s goal is to continue to produce fossil fuels out to 2053 (beyond our official Net Zero commitment) adding to global heating that will impact generations to come, there is clear case to argue for a zero discount rate.

- 40. In my opinion, therefore, AnalytEcon’s use of the 3% discount rate SCC value is not an appropriate reference case. It contradicts the overwhelming view from governments and practitioners that a low or even zero discount rate is preferable when assessing intergenerational impacts, as is the case with this Project. Further, NSW Guidelines should be updated to reflect this view.
- 41. For this reason, I have calculated Project GHG costs based on German Environmental Agency global SCC estimates, which are based on the same model frameworks as the US EPA estimates, but which use 1% and 0% discount rates, as an upper bound, for sensitivity testing.
- 42. I have also included the US SCC 95th percentile damages value (based on a conservative 3% until further updates are available) to reflect the EPA view that current estimates are considered conservative due to limited damages currently being included in modelling.

Adjustment factor for “NSW only” impact

- 43. As discussed in paragraphs 19 through 21, NSW adjustment for the economic impact of the Project should be applied to the total emissions from the Project, or 876 Mt CO₂-e, using a global SCC.

²⁰ Interagency Working Group on Social Cost of Greenhouse Gases, United States Government (2021), Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990, February 2021

²¹ Matthey, A. and Bünger, B. (2019), Methodological Convention 3.0 for the Assessment of Environmental Costs, Cost Rates, Version 02/2019, German Environmental Agency (UBA)

²² Stern, N. (2010), The Economics of Climate Change, in: Gardiner, S., Caney, S., Jamieson, D., Shue, H., & Pachauri, R. K. (eds.), Climate Ethics: Essential Readings, (Oxford: Oxford University Press)

²³ US Office of Management and Budget (2003), Regulatory Analysis, Circular A-4 at <https://www.transportation.gov/sites/dot.gov/files/docs/OMB%20Circular%20No.%20A-4.pdf> accessed 20 February 2021.

44. The updated CBA has adjusted the estimated impacts of GHGs in two ways:
 - a. By pro-rating the dollar value of Scope 1 and 2 GHG emissions using NSW Gross State Product (GSP) as a percent of Global GDP (0.3%). This was included in the CBA update despite DPIE stating that this was not an acceptable methodology.
 - b. By pro-rating the dollar value of Scope 1 and 2 GHG emissions using the population of NSW as a percent of the Australian population (32.9%), as recommended by DPIE.²⁴
45. The second methodology, while an improvement on the original, still assumes that GHG emissions can be contained within borders and that downstream emissions will have no impact on global temperatures, associated damages for the NSW economy, which is a false assumption.
46. The more accurate and reasonable approach to understand the costs associated with increased coal production from the Project is to value the global damages associated with all emissions (i.e., Scope 1, 2 and 3 emissions), and then adjust these to reflect the NSW share of these costs.
47. A global SCC (damages cost) is considered the most appropriate valuation measure, which can then be pro-rated for the NSW share of the global population (1%), to remain consistent with the approach recommended by DPIE.
48. This approach results in a significantly *lower* value for the Scope 1 and 2 emissions component of Project costs, because our focus is a global level of damages for each marginal tonne of CO₂-e, adjusted for NSW. However, the overall impact is greater than that calculated for the revised CBA using the DPIE methodology because it includes Scope 3 emissions.

²⁴ O'Donoghue, S. (DPIE), Letter to Mr. Chris Lauritzen, "Mount Pleasant Optimisation Project (SSD-10418) Request for Additional Information", 24 December 2021

Question 3: In your opinion, and considering your response to the questions above, is the Project likely to have the net benefit to NSW reported by the Applicant in its cost benefit analysis (CBA)? Please provide reasoning for your answer. Please explain your reasoning.

49. The Project is likely to have a significantly lower benefit than that estimated by the Applicant in the (revised) CBA, as a result of inaccurate treatment of GHG emissions.
50. Table 1 below provides updated estimates accounting for the full GHG emissions impact on NSW of the Project, under a range of values for a global SCC, as noted in paragraphs 26 to 32.
51. The annual costs of GHG emissions values are discounted using a 7% discount rate, as mandated in NSW Guidelines for the central case, to match the central case rate used to calculate the NPV for mining royalties and company tax receipts (the Project benefits).²⁵ The NPV of the benefits is presented using both the AnalytEcon figure (\$856m) and the more conservative Mining, Exploration and Geoscience (MEG) estimates (\$752m) for comparison.
52. The figures in the table below are based on the NSW share of global population, based on the Project's total emissions 876 Mt of CO₂-e, with a total global economic cost of between A\$35 trillion and \$447 trillion over the life of the Project.
53. It is clear from the results in the table below that AnalytEcon's cost assumptions have been significantly underestimated. The Project stacks up only under conservative SCC assumptions that significantly understate the intergenerational impacts and equity. Even when a 2.5% discount rate SCC value is used, which the EPA itself now advises against, the much lower net project benefit may well not cover all costs, such as particulate health impacts and threatened species losses, which have thus far been excluded.

²⁵ Note that the discount rate applied to the costs and benefits calculated for the CBA is separate to discount rate considerations included in the SCC calculations.

Table 1 Cost of Mount Pleasant GHG emissions (Including Scope 3) under differing carbon price assumptions and impact on Net Project NPV (A\$ million)

SCC	NPV GHGs (NSW share)	AE Net Project Benefit/(cost)	MEG Net Project Benefit/(Cost)
US EPA GSCC (3%) – AnalytEcon est.	345	511	407
US EPA GSCC (2.5%)	503	353	249
US EPA GSCC 95th percentile (3%)	1066	-210	-314
German SCC (1%)	1382	-526	-630
German SCC (0%)	4473	-3617	-3721

Source: DPIE (Scope 1,2 and 3 emissions) and Author’s calculations based on US EPA and German Environmental Agency estimates.

54. The US EPA global SCC at 3% NPV values, as used by AnalytEcon, are included for comparative purposes. The 3% value is not considered relevant or appropriate.
55. The 2.5% SCC estimate is also included for comparative purposes, as that is the lowest rate currently published by the US EPA until new updates are available that reflect refined thinking on both damages and discount rates. However, as the EPA itself now asserts, and as discussed in paragraphs 38 to 40, these estimates are likely to be underestimates and alternative values should be used for sensitivity testing.
56. Using the US high risk scenario, and both German values based on more appropriate discount rates, shows that the Project delivers significant net costs to the economy and people of NSW, and especially future generations.
57. While there is a great deal of uncertainty surround the modelling of SCCs, each new iteration of IPCC reporting points to greater damages if the world remains on its current emissions pathway. Updated US SCC values, currently being considered, have a high probability of increasing published SCC values that will likely more closely model the German values.
58. There is therefore a high degree of risk that the Project will deliver a net economic loss to NSW, rather than a benefit.

Question 4: In your opinion, has the Applicant adequately considered the economic impacts as they relate to the principles of ecologically sustainable development? Please explain your reasoning.

59. In my opinion, the Applicant has not adequately considered the principles of ecologically sustainable development (ESD), particularly as this relates to intergenerational equity.
60. In particular, the methodology used to calculate the impact to NSW in terms of economic, social and environmental consequences significantly understates the impacts on future generations due to the choice of discount rate used to quantify a SCC in the CBA. These impacts will continue to escalate over time as global emissions rise, added to by the Project and its downstream clients. Yet the discount rate value of the SCC used dilutes these impacts, essentially saying that the threats faced by future generations are less important than the effects of decisions on the present generation.
61. The Project will add an additional 876 Mt of CO₂-e at a cost of between A\$35 trillion and \$447 trillion to the global economy over the life of the Project, with these costs rising each year and continuing to be felt for many generations.
62. The economic analysis also fails to consider the combination of urgent warnings from the IPCC regarding the need to more rapidly curtail global emissions²⁶ and the Global Coal to Clean Power transition Statement issued at COP26 in November 2021.²⁷
63. A particularly concerning element of the Project is the timeline, which extends production to 2048 which would appear inconsistent with global goals to reach Net Zero by 2050 in order to contain global heating to “well below 2°C”, as set out in the Paris Agreement, to which Australia is a signatory.
64. As stated by the UN Secretary General in April this year (2022): “Investing in new fossil fuels infrastructure is moral and economic madness.”²⁸

²⁶ <https://www.un.org/press/en/2022/sgsm21228.doc.htm> accessed 29 June 2022

²⁷ <https://ukcop26.org/global-coal-to-clean-power-transition-statement/> accessed 29 June 2022

²⁸ <https://www.un.org/press/en/2022/sgsm21228.doc.htm> accessed 29 June 2022

Appendix A: Nicki Hutley CV

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Profile

Nicki Hutley is a highly experienced economist, with broad-based expertise in both macroeconomic forecasting and analysis as well as microeconomic policy, gained over more than three decades in financial and investment markets and in economic consulting. After many years in the corporate world, including most recently as a partner with Deloitte Access Economics, Nicki is now an independent economist. Nicki works with government and private sector clients across Australia, using triple bottom line and strategic analysis, to provide an evidence base for investments in projects, policies and programs.

Academic qualifications and positions

- BEc (Honours), University of East Anglia
- Councillor (economics), Climate Council
- NSW President, Economics Society of Australia
- NSW Executive Committee member, Australian Business Economists
- Economic Advisor, 1 Million Women
- Climate Subak, Advisory Board Member
- Financy Women's Economic Index, Advisory Committee
- Expert Faculty (Economics), SingularityU Australia

Skills & expertise

- Economic modelling, policy and strategic analysis, applied across a wide range of investment and policy areas, focussed on social impact and environmental economics
- Triple bottom line cost benefit analysis, evaluations, social impact analysis
- Stakeholder engagement
- Communication skills, including the ability to present complex ideas to both sophisticated and lay audiences.

Previous roles

- January 2021 – current, independent economist
- October 2020 – current – Councillor, Climate Council

- 2018 – 2021, Partner, Deloitte Access Economics
- 2013 – 2018, Director, Economic and Social Advisory, and Chief Economist, Urbis
- 2011 -2013, Director, NSW Economic Advisory, KPMG
- 2006 - 2011, Associate Director, Access Economics
- 1987 – 2006, various roles as a financial market and investment economist with Rothschild Asset Management, Deutschebank, Potter Warburg, Lloyds Bank, Bankers Trust
- 1985 – 1987 Department of Foreign Affairs

Key Clients

- ACT Government Environment Directorate, Austrade, Australian Department of Social Services, Australian Department of Industry, Science, Energy and Resources, Infrastructure Australia, NSW Department of Premier and Cabinet, NSW Department of Planning, Industry and Environment, Department of Regional NSW, NSW Office of Environment and Heritage, NSW Department of Family and Community Services, NSW Treasury, NSW Ministry of Health, Victorian Department of Economic Development, Jobs, Transport and Resources, Victorian Department of Education and Training, Invest Canberra, Desert Knowledge Australia, Indigenous Business Australia, University of Technology, Sydney, Property Council of Australia, Urban Development Institute Australia, Australian Property Institute, Commonwealth Department of Social Services, Benevolent Society.

Work Examples

- Uninsurable Nation - co-author of the impact of climate change on home insurance across Australian Local Government Areas
- Tents to Castle – co-author of report modelling costs and benefits of upgrades to the National Building code including energy efficiency standards
- Modelling the impact of climate change on company financial risk exposures. Used CGE modelling to understand changes in economic variables and impact on company portfolio assets, responding to damage curves (confidential private sector clients, financial and property sectors)
- Modelling the economic impact of a Carbon Border Adjustment Mechanism, based on the EU 'Fit for 55' proposal, extended to other economies (Climate Council)
- Resilience for Real Assets – understanding the means to measure climate risks on commercial buildings and infrastructure in major cities across Australia and Asia (Investor Group on Climate Change)
- Provision of advice on an appropriate cost of carbon for Government Investment projects and analysis, drawing on an international literature review. (ACT Environment Directorate)
- Cost benefit analysis of Carbon Capture and Storage potential in NSW, including assessing a range of storage locations and the economic impacts on coal-intensive communities. (NSW Department of Planning, Industry and Environment)

- An evaluation of the Low Emissions technology Fund for Fossil Fuels (Australian Department of Industry, Science, Energy and Resources)
- Developed a Benefit-Cost model of cyclone damage mitigation strategies for a major Australian insurer, working with James Cook University, based on four different wind models, and industry and ABS data sets. This work led to the implementation of new insurance policy pricing to incentivise households to adopt cyclone risk mitigation measures. (Suncorp)
- Modelled costs and benefits of flood mitigation investments, using case studies of the regional Queensland towns of Roma and St George, and the New South Wales town of Grafton. Cost benefit ratios for the three levee systems were in the order of 2.2-5.4 indicating a robust economic return on investment for the community. (Suncorp)
- Cost Benefit Analysis of Broome Town Beach Revetment. Included quantification of the potential losses of land due to cliff erosion in the absence of investment, impacting future development, tourism activity, and social and cultural activities. (Broome Shire Council)
- Review, co-design and cost benefit analysis of Energy Upgrade Agreements (EUAs). Intensive stakeholder workshops were conducted to understand the barriers and incentives to using EUAs to finance building upgrades. A series of recommendations were then assessed using Cost-Benefit modelling. (NSW OEH)
- Multiple benefits assessment of a range of NSW Government's support schemes to address energy efficiency in low-income households. Primary data was collected through interviews, industry data, and surveys to understand the potential range of environmental, economic and social outcomes for households within the schemes. (NSW OEH)
- Co-author of *Infrastructure Interdependencies and Business-Level Impacts* (2013). Modelled the potential economic impacts of five consecutive extreme heat days in Melbourne. (The Climate Institute)
- Project lead for review of NSW Government Waste Levy. Project involved extensive stakeholder consultations and desktop review to identify key challenges and make recommendation to improve operation of the levy and support investment in the sector. (NSW OEH)
- Project lead for review of NSW Government Dam Safety Act. Extensive stakeholder engagement, including with dam owners and operators across the state, helped to identify recommendations for improved efficiency. (NSW Department of Industry)
- Modelled costs and benefits of NSW Biodiversity Banking scheme for Aboriginal landholders in different regions across the state, on behalf of the NSW Aboriginal Land Council) Project involved modelling costs of land management and impacts on communities, drawing on stakeholder consultations.
- **Extensive modelling from 2007 -2011 of the impacts of the proposed CPRS, RET and Feed-in Tariff Schemes, undertaken over several years on behalf of Government, private sector, industry and peak body clients.**
- **Extensive additional Cost-Benefit Analysis for multiple clients over fifteen years as a consultant.**



Environmental Defenders Office

15 June 2022

Nicki Hutley
Nicki Hutley Economics

By email: [REDACTED]

CONFIDENTIAL AND PRIVILEGED

Dear Nicki Hutley

Brief to Expert – Mount Pleasant Optimisation Project (SSD-10418) – NSW Independent Planning Commission Public Hearing

1. We act for Denman, Aberdeen, Muswellbrook and Scone Healthy Environment Group (**DAMSHEG**) in relation to the proposed Mount Pleasant Optimisation Project (SSD-10418) (**Project**) by MACH Mount Pleasant Operations Pty Ltd (**Applicant**), a joint venture between MACH Energy Australia Pty Ltd and Japan Coal Development Australia Pty Ltd.
2. The Project is an expansion to the existing Mount Pleasant Operations in the in the Upper Hunter Valley of New South Wales (**NSW**), near Muswellbrook. The Proponent proposes to extend the life of the mine from 2026 until 2048, increase the run-of-mine coal (**ROM**) extraction from 10.5 million tonnes per annum (**mtpa**) up to 21 mtpa and construct associated infrastructure. Over the life of the mine, an additional 247 million tons of ROM coal is proposed to be extracted.
3. Our client is a grassroots organisation whose mission is protect Australia's natural, cultural and agricultural resources from inappropriate mining. The major concerns of our client are the impact of the Project on visual amenity, greenhouse gas emissions, air quality, water resources, rehabilitation and the socio-economic impact on Muswellbrook including signals tower interference (Rossgole television and radio tower).
4. The Department of Planning and the Environment (**Department**), formerly the Department of Planning, Industry and Environment has released its Assessment Report of the Project and has referred the matter to the Independent Planning Commission (the Commission) for public hearing and determination.
5. The IPC public hearing will be held on **7 and 8 July 2022**, with **11 July 2022** also set aside should if necessary. Our client wishes to ensure the Commission receives independent expert advice on the Project. Accordingly, our client wishes to retain your services to act as an expert to provide an expert report for submission to the Commission and to present your expert views to the Commission at the public hearing.

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Purpose of your expert report

6. We note as a preliminary matter that our primary purpose in briefing you to prepare your report is to assist the decision maker for the Project. We do not ask you to be an advocate for our client. You are requested to prepare an independent report that is clear and well-written.
7. In this respect, we draw your attention to Division 2 of Part 31 of the *Uniform Civil Procedure Rules 2005* (**UCPR**), and the Expert Witness Code of Conduct (**Code of Conduct**) contained in Schedule 7 of the UCPR, both of which govern the use of expert evidence in NSW Courts (**attached**). We understand that the public hearing is not a Court proceeding, however, we are of the view that the same Code of Conduct should be adhered to in this instance.
8. In particular, clause 2 of the Code of Conduct states that:

“An expert witness is not an advocate for a party and has a paramount duty, overriding any duty to the party to the proceedings or other person retaining the expert witness, to assist the court impartially on matters relevant to the area of expertise of the witness.”
9. Your expert report must contain an acknowledgment that you have read the Expert Witness Code of Conduct and that you agree to be bound by it.
10. Your expert report will be used as evidence in chief of your professional opinion. Information of which you believe the decision maker should be aware must be contained in your expert report.
11. In providing your opinion to the decision maker you must set out all the assumptions upon which the opinion is based. This may include, for example, facts observed as a result of fieldwork or ‘assumed’ facts based on a body of scientific opinion. If the latter, you should provide references which demonstrate the existence of that body of opinion.
12. Your expert report must also set out the process of reasoning which you have undertaken in order to arrive at your conclusions. It is insufficient for an expert report to simply state your opinion or conclusion reached without an explanation as to how this was arrived at. The purpose of providing such assumptions and reasoning is to enable the decision maker and experts engaged by other parties to make an assessment as to the soundness of your opinion.

Overview of work requested

13. We request that you undertake the following work:
 - a. review the documents listed below;
 - b. prepare a written expert report that addresses the issues identified below (‘Issues to address in your expert report’), and ensure that the work is prepared in accordance with Part 31, Division 2 of the UCPR; and
 - c. appear as an expert witness at the public hearing for the purpose of giving oral evidence.

Documents

14. We enclose the Code of Conduct and Part 31 Division 2 of the UCPR.
15. Full Project documentation is available at the following websites:
 - a. NSW Government Planning Portal: <https://pp.planningportal.nsw.gov.au/major-projects/projects/mount-pleasant-optimisation-project>
 - b. Independent Planning Commission website: <https://www.ipcn.nsw.gov.au/projects/2022/05/mt-pleasant-optimisation-project-ssd-10418>.
16. The following documents relating to the Project are provided for your particular consideration:

Environmental Impact Statement

- a. Section 3 - [Project Description](#)
- b. Section 7 - [Environmental Assessment](#)
- c. Section 8 - [Evaluation and Conclusion](#)
- d. Appendix O - [Economic Assessment](#)

Response to Submissions

- a. Submissions Reports: [Request RTS \(19 Mar 2021\)](#)
- b. Submissions Report: [Att G & H](#)
- c. Submissions Report - [Main Text and Att A to F](#)

Relevant Agency Advice

- a. Advice on EIS - [Muswellbrook Shire Council \(22 Mar 2021\)](#)
- b. Advice on RTS - [Muswellbrook Shire Council \(26 July 2021\)](#)
- c. Advice on EIS - [MEG \(25 Feb 2021\)](#)
- d. Advice on RTS - [MEG \(14 July 2021\)](#)

Additional Information

- a. [Revised CBA with Updated GHG Emissions](#)
- b. [Economic Assessment RFI \(24.12.21\) DPE Request](#)
- c. [RFI - Additional Information Numerous Matters DPIE Request \(27 August 2021\)](#)
- d. [RFI - Voluntary Planning Agreement MACH Response \(17 Aug 2021\)](#)
- e. [RFI - Voluntary Planning Agreement DPIE Request \(5 Jul 2021\)](#)
- f. [RFI - Economic Assessment MACH Response \(27 Jan 2021\)](#)

Department's Assessment Report

- a. [Department's Assessment Report](#)
- b. [Recommended Conditions](#)

17. Please let us know as soon as possible if you require further information for the purpose of giving your expert opinion.

Issues to address in your expert report

18. We ask that your report address the following issues:

- a. In your opinion, does the economic assessment for the Project, including the recommended conditions of consent, adequately consider all economic costs and benefits arising as a consequence of the Project? Please provide reasoning for your answer.
- b. In your opinion, is the method of calculating the value of the Project's greenhouse gas emissions, appropriate? If not, what would be an appropriate way to cost these emissions? Please explain your reasoning.
- c. In your opinion, and considering your response to the questions above, is the Project likely to have the net benefit to NSW reported by the Applicant in its cost benefit analysis (**CBA**)? Please provide reasoning for your answer. Please explain your reasoning.
- d. In your opinion, has the Applicant adequately considered the economic impacts as they relate to the principles of ecologically sustainable development? Please explain your reasoning.
- e. Provide any further observations or opinions which you consider to be relevant.

19. We request that you provide us with a draft of your report for review before finalising it. We emphasise that the purpose of this is not to influence the conclusions or recommendations you make but to ensure that the language and expression of the report is clear and complies with the formal legal requirements of an expert report.

Key dates

20. The public hearing will be held on **Thursday 7 and Friday 8 July 2022**, with **Monday 11 July 2022** also set aside should a third day be necessary. The public hearing will be conducted remotely, with registered speakers participating via tele- and/or videoconference.
21. To speak at the electronic public hearing, you must complete the registration form on the Commission website by no later than **12pm AEDT on Monday 27 June 2022**. Registration can be completed [here](#).

22. The Commission will accept written comments on the Project until **5pm AEDT on Friday 15 July 2022**.
23. Please provide your draft expert advice by **Wednesday 29 June 2022**.

Duty of confidentiality

24. Please treat your work as strictly confidential until your expert report is provided to the IPC, unless authorised by us.

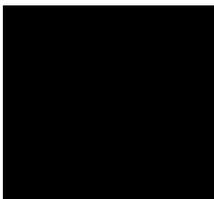
Fees and Terms

25. Thank you for agreeing to provide your advice in this matter on a low bono per diem rate of \$1,000 capped at \$5,000. EDO relies on experts such as you to assist our clients accessing justice in matters with very little financial compensation.
26. Please note the following terms:
 - a. your work will only be used by EDO to relation to this matter;
 - b. our client may choose to make your expert advice publicly available. Any public release of your report, whether by our client or by way of publication on the Commission’s website, may result in disclosure of any works in your report over which you may claim copyright;
 - c. EDO will take all reasonable steps to prevent your work being used for purposes other than that mentioned above, but we accept no responsibility for the actions of third parties;
 - d. regardless of the above points, EDO may choose not to use your work; and
 - e. you will not be covered by the EDO’s insurance while undertaking the above tasks.
27. If you would like to discuss this brief further, please contact Jayme Cooper, solicitor ([REDACTED]) or Sean Ryan, Managing Lawyer ([REDACTED]) (cc [REDACTED] and [REDACTED]).

We are grateful for your assistance in this matter.

Yours sincerely,

Environmental Defenders Office



Sean Ryan
Managing Lawyer – Safe Climate

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