



**THE HON SUSSAN LEY MP
MINISTER FOR THE ENVIRONMENT
MEMBER FOR FARRER**

Statement of Reasons for Approval under the *Environment Protection and Biodiversity Conservation Act 1999*

I, SUSSAN LEY, Minister for the Environment, provide the following statement of reasons for my decision of 9 March 2022, under subsection 130(1) and section 133 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), to approve the Vulcan Complex Project (EPBC 2020/8676) (proposed action).

LEGISLATION

1. Relevant legislation is set out in Annexure A. This legislation does not form part of my reasons but is provided as contextual background to my decision.

BACKGROUND

Description of proposed action

2. The Vulcan Complex Project is an open-cut coal mine located 35 km south of Moranbah in the Bowen Basin, central Queensland (the proposed action). The proposed action will operate for approximately 4 years and will extract approximately 6 million tonnes of run-of-mine (ROM) coal at a rate of up to 1.95 million tonnes per annum. The proposed action will target the Alex and multiple Dysart Lower coal seams. 80 per cent of the total production of the proposed action will be metallurgical coal, with the remaining 20 per cent being thermal coal extracted incidentally to access the metallurgical coal below.
3. Infrastructure associated with the mine will include a small out-of-pit waste rock dump, a ROM pad, heavy vehicle workshops and park-up, equipment laydown areas, an explosives magazine, project offices and facilities, roads and surface water management infrastructure. A realignment of the existing Saraji Road and services infrastructure to the eastern boundary of the proposed action area and adjacent to the existing rail easement is also proposed.
4. The proposed action is located within the Northern Bowen Basin subregion of the Brigalow Belt North bioregion. The proposed action area is located on mining lease ML 700060, which covers an area of 408 hectares (ha) and includes a disturbance footprint of 235.7 ha. The environment within the proposed action's disturbance footprint is made up of areas of remnant vegetation (4.1 ha) and regrowth vegetation (205.7 ha) as well as some highly disturbed areas, including a railway line, sealed road, parking areas and existing buildings (25.9 ha). The remnant and regrowth vegetation areas present within the proposed action's disturbance footprint are mostly comprised of various *Eucalyptus* and *Acacia* woodlands and forests.
5. The proponent has previously referred an action under the EPBC Act, the Vulcan Bulk Sample Project (EPBC 2019/8504). This action comprised the bulk sample collection of up to 600 kilotonnes of high-quality coking coal for testing by a number of international coal consumers. The project area for this previous referral is embedded within the proposed action area. On 22 November 2019, my delegate determined that the Vulcan Bulk Sample Project was not a

controlled action under the EPBC Act. Although related, this previous referral does not form part of the proposed action.

EPBC Act referral and controlled action decision

6. The proposed action was referred on 3 June 2020 and determined to be a controlled action on 30 June 2020 with sections 18 and 18A (listed threatened species and ecological communities) determined to be the controlling provisions for the proposed action. On the same date, my delegate decided the proposed action would be assessed by Preliminary Documentation (PD).
7. On 14 July 2020, the department provided the proponent with a request for further information (RFI) in accordance with section 95A(2) of the EPBC Act for the assessment of impacts on listed threatened species and communities, including revised habitat assessments in accordance with Commonwealth guidelines.
8. On 24 June 2021, the proponent provided a draft PD to the department that adequately met the minimum requirements of the RFI.
9. On 29 July 2021, in accordance with section 95A(3) of the EPBC Act, my delegate directed the proponent to publish the draft PD along with an invitation for anyone to provide comments within a specified period of no less than 10 business days.
10. Public comments were sought from 16 August 2021 to 27 August 2021. On 30 August 2021, the proponent confirmed that no public comments had been received. The final PD was published for public information on 30 August 2021.
11. On 30 August 2021, the department issued the proponent with a request for additional information (RAI) in accordance with section 132 of the EPBC Act. The RAI sought the provision of an Offset Area Management Plan (OAMP) to compensate for residual significant impacts to listed threatened species. On 1 December 2021, the department received an OAMP that met the RAI.
12. On 18 October 2021, the department issued the proponent with an additional RAI in accordance with section 132 of the EPBC Act. The RAI sought information on the carbon emissions of the proposed action, in relation to the risks to human safety posed by the proposed action. On 1 December 2021, the department received the information requested.

Queensland assessment and approval

13. The proponent received an Environmental Approval (EA) for the proposed action under the *Environmental Protection Act 1994* (Qld) in July 2021, subject to conditions (EA0002912). Through this approval process, the Mining Lease for the Vulcan Bulk Sample Project (MDL3039), was absorbed into the Mining Lease for the proposed action (ML700060), and no longer exists. The proponent has subsequently submitted an application to the Queensland Department of the Environment and Science to surrender the associated EA for Mining Lease MDL3039 (EA0002054).
14. EA0002054 includes conditions, relevant to this decision, that:
 - limit the project's disturbance footprint;
 - Regulate chemicals and flammable or combustible liquids storage and handling;
 - Regulate air pollution;

- Regulate the impacts of waste;
 - Limit noise disturbance;
 - Limit the impacts on ground and surface water; and
 - Manage weeds at the site.
15. As part of the Queensland assessment, the proponent has committed to implementing a Progressive Rehabilitation and Closure Plan, which prescribes a minimum dominance of Koala food trees within rehabilitated land to facilitate recolonisation by the Koala, as well as a minimum woody plant density and diversity of grasses within rehabilitated land to facilitate recolonisation by the Squatter Pigeon (Southern). Failure to comply with the requirements of the Progressive Rehabilitation and Closure Plan Schedule would constitute a criminal offense under section 431B of the *Environmental Protection Act 1994* (Qld).

Proposed decision, consultation and further information

16. On 21 January 2022, my delegate proposed to approve the proposed action under the EPBC Act. Also on this date, in accordance with sections 131 and 131AA of the EPBC Act, my delegate wrote to the proponent and the Minister for Resources, Water and Northern Australia. My delegate also notified the Queensland Department of Environment and Science of the proposed decision.
17. The department considered and my delegate agreed that sufficient public consultation had occurred for the proposed action and that the views of the public were generally well understood. My delegate decided to not release the proposed decision for public comment under section 131A of the EPBC Act.

Proponent

18. On 1 February 2022, the proponent responded to the invitation to comment, requesting that an amendment be made to the proposed conditions. I agreed with this request, and address this further below. The proponent otherwise agreed with the proposed conditions.

Minister for Resources, Water and Northern Australia

19. On 31 January 2022, Geoscience Australia responded to the invitation to comment to the Minister for Resources and Water. Geoscience Australia advised that it did not have any comment on the proposed decision or conditions, noting that none of the proposed conditions related to water resources, and the threatened species and communities that would be impacted by the proposed action (Koala and Squatter Pigeon (Southern)) are not directly dependent on groundwater.

Decision

20. On 21 January 2022, my delegate decided to extend the statutory period to make this decision to 11 March 2022.
21. On 9 March 2022, I approved the taking of the proposed action, subject to conditions, under sections 130(1) and 133 of the EPBC Act.

EVIDENCE OR OTHER MATERIAL ON WHICH MY FINDINGS WERE BASED

22. My decision to approve the taking of the proposed action was based on consideration of the final approval decision brief prepared by the Environment Assessments (Qld) and Sea Dumping Branch of the department dated 7 March 2022.

23. This final approval decision brief comprised the following:

Attachment		Title
A		Proposed decision brief
	A	Recommendation report
	B	Proposed approval decision notice
	C	Finalised preliminary documentation
	D	Environmental Authority EA0002912
	E	Response to Requests for Additional Information
	E1	Offset Area Management Plan
	E2	Emissions assessment
	F	Statement given to the Minister under s 95B(3) of the EPBC Act
	G	Statutory documents report
	H	Environmental reporting tool (ERT) report (dated 29 November 2021)
	I	Letters
	I1	Letter to the proponent
	I2	Letter to the Minister for Resources and Water
	I3	Letter to the Queensland Department of Environment and Science
	J	Conservation Advices
	J1	Approved Conservation Advice for Koala
	J2	Approved Conservation Advice for Squatter Pigeon (Southern)
	K	Threat Abatement Plans
	K1	Threat Abatement Plan – cats 2015
	K2	Threat Abatement Plan – rabbits 2016
	K3	Threat Abatement Plan – foxes 2008
	L	EPBC Act Environmental Offsets Policy
	M	DISER advice
	M1	Coal Technical Analysis
	M2	Supplementary Information
	N	Sharma v Minister for Environment
	N1	Sharma v Minister for Environment [2021] FCA 560 (Sharma No 1)
	N2	Sharma v Minister for Environment (No 2) [2021] FCA 774 (Sharma No 2)
	O	Sharma – Expert Reports
	O1	Expert Report of Dr Ramona Meyricke
	O2	Expert Report of Professor Anthony Capon
	O3	Expert Report of Dr Karl Mallon
	O4	Expert Report of Professor Steffen (30 June 2020)
	O5	Expert Report of Professor Steffen (7 December 2020)
	O6	Supplementary Report of Professor Steffen
B		Responses to invitation to comment on proposed decision
	B1	Response from proponent
	B2	Response from Geoscience Australia

	B3		Response from the Queensland Department of Environment and Science
C			Notice of decision – FOR SIGNATURE
D			Notice of decision – Tracked changes
E			Letters
	E1		Letter to proponent – FOR SIGNATURE
	E2		Letter to Queensland Department of Environment and Science – FOR SIGNATURE
	E3		Letter to the Minister for Resources and Water – FOR SIGNATURE
F			Statement of reasons
G			Conservation Advice for the Koala (in effect from 12 February 2022)

FINDINGS ON MATERIAL QUESTIONS OF FACT AND REASONS FOR DECISION

Listed threatened species and ecological communities (sections 18 and 18A)

24. The department's Environmental Reporting Tool (ERT) indicated that a total of 21 listed threatened species and 3 ecological communities may occur within 5 km of the proposed action area.
25. Based on the nature and location of the proposed action, habitat known to be present on the site and survey results, I considered that the proposed action is likely to have significant impacts on:
- Koala (*Phascolarctos cinereus*) (combined populations of Queensland, New South Wales and the Australian Capital Territory) – Vulnerable (as at 30 June 2020, when controlled decision was made); and
 - Squatter Pigeon (Southern) (*Geophaps scripta scripta*) – Vulnerable.
26. On 12 February 2022, the Koala was listed as Endangered. In accordance with section 158A of the EPBC Act, I disregarded this listing event for the purposes of this decision.

Approved conservation advice, recovery plans and threatened abatement plans for the listed threatened species and ecological communities

Koala (Phascolarctos cinereus) (combined populations of Queensland, New South Wales and the Australian Capital Territory) – Endangered

27. A new Conservation Advice for the Koala came into effect on 12 February 2022. The Conservation Advice states that the threats impacting the Koala are:
- loss of climatically suitable habitat;
 - increased intensity/frequency of drought;
 - increased intensity/frequency of heatwaves;
 - increased intensity/frequency of bushfire;
 - declining nutritional value of foliage;
 - clearing and degradation of Koala habitat;

- encounter mortality with vehicles and dogs; and
 - Koala retrovirus (KoRV) and Chlamydia (*Chlamydia pecorum*).
28. The Conservation Advice also identifies the following conservation and recovery actions:
1. Build and share knowledge;
 2. Strong community engagement and partnerships;
 3. Increase habitat protection;
 4. Koala conservation is integrated into policy, and statutory and land-use plans;
 5. Strategic habitat restoration; and
 6. Active metapopulation management.
29. I have given regard to the new Conservation Advice and to the likely impacts of the proposed action on the Koala and my findings are discussed further below.
30. There are no threat abatement or recovery plans relevant to the Koala.

Squatter Pigeon (Southern) (Geophaps scripta scripta) – Vulnerable

31. The Conservation Advice for Squatter Pigeon came into force in 2015 and identifies the major threats to the species as vegetation clearance and fragmentation, overgrazing of habitat by livestock and feral herbivores such as rabbits (*Oryctolagus cuniculus*), introduction of weeds, inappropriate fire regimes, thickening of understorey vegetation, predation by feral cats (*Felis catus*) and foxes (*Vulpes vulpes*), trampling of nests by domestic stock and illegal shooting.
32. The Conservation Advice identifies conservation and management actions, survey and monitoring and information and research as priorities. These include:
- Identifying sub-populations of high conservation priority;
 - Protect and rehabilitate areas of vegetation that support important sub-populations;
 - Monitor selected sub-populations throughout the distribution of the subspecies to identify rates of population change; and
 - Identify preferred food plants, and the responses of these to fire and grazing regimes.
33. The following threat abatement plans are relevant to the Squatter Pigeon:
- a. threat abatement plan for competition and land degradation by Rabbits;
 - b. threat abatement plan for predation by the European Red Fox; and
 - c. threat abatement plan for predation by feral Cats.

Habitat assessment and species presence

34. Between October 2018 and October 2019, the proponent conducted targeted surveys at the site of the proposed action and the surrounding areas (a total of 6,552 ha) for threatened fauna, including the Koala and Squatter Pigeon (Southern), in accordance with the *Terrestrial Vertebrate Fauna Survey Guidelines for Queensland version 3.0 (2018)*. Survey methods used to detect the Koala included diurnal targeted searches (45.3 person hours) and spotlighting

(52.5 person hours). Survey methods used to detect the Squatter Pigeon (Southern) included camera trapping (122 trap nights) and bird surveys (288 person hours).

35. I noted the department's advice that this survey effort was not likely to be adequate in respect of either the Koala or the Squatter Pigeon (Southern). However, the proponent did detect:
 - a. 13 Koala individuals within the survey area, with the nearest record within 500 m of the proposed action area; and
 - b. 60 Squatter Pigeons (Southern) within the survey area, three of which were within the proposed action area.
36. Koala and Squatter Pigeon (Southern) habitat was assessed by the proponent in accordance with the definition provided in the department's RFI. The proponent determined that within the proposed action area there is approximately:
 - a. 329.3 ha of Koala habitat; and
 - b. 375.7 ha of Squatter Pigeon (Southern) foraging habitat, of which 309.4 ha is also breeding habitat.
37. On the basis of the information provided in the PD, I was satisfied that the Koala and Squatter Pigeon (Southern) were present within the proposed action area, and that the proposed action area contained suitable habitat for both of these species.

Impacts on listed threatened species and communities

38. On the basis of the information provided in the PD, I found that the proposed action will result in the clearance of:
 - a. 203.5 ha of Koala habitat; and
 - b. 170.0 ha of Squatter Pigeon (Southern) breeding habitat and 209.8 ha of foraging habitat.
39. I considered that the clearance of this habitat will adversely affect habitat critical to the survival of these species, and the proposed action will accordingly have a significant impact on these species.
40. The department advised, and I accepted, that the proposed action is also likely to have the following indirect impacts on the Koala and Squatter Pigeon, notwithstanding the avoidance and mitigation measures that the proponent has stated it will take during construction and operation of the proposed action:
 - Habitat fragmentation;
 - Edge effects;
 - Direct mortality;
 - Vehicle collisions;
 - Dust;
 - Groundwater drawdown;
 - Noise and vibration;

- Artificial lighting;
- Waste;
- Weeds and pest animals; and
- Cumulative impacts.

Conditions of approval

41. Consistent with the department's advice, I decided that it was necessary and convenient to attach conditions to the approval to protect, and repair and mitigate damage to, the Koala and Squatter Pigeon (Southern).
42. Condition 1 provides that the proponent must not clear outside the designated area of the proposed action, and condition 2 limits the amount of Koala and Squatter Pigeon (Southern) habitat that can be cleared. This condition will ensure that impacts on these species do not exceed those identified in the referral.
43. Conditions 3 to 10 require that the proponent undertake an environmental offset in accordance with the department's EPBC Act Environmental Offsets Policy (2012).
44. The proponent provided an Offset Area Management Plan (OAMP) which describes the offsets that will be provided to compensate for residual significant impacts on listed threatened species. The proposed offset property, "Ellensfield" (Lot 13 SP178466), is located 57 km north of the proposed action site within the Northern Bowen Basin subregion of the Brigalow Belt. The department advised, and I accepted, that the proposed environmental offset described in the OAMP is consistent with the EPBC Act Environmental Offsets Policy (2012) and I found that the proponent legally securing and managing the offset will compensate for residual significant impacts on the Koala and Squatter Pigeon (Southern).
45. The OAMP sets out management actions for the Koala that are consistent with the new Conservation Advice, including:
 - prescribed burns to reduce the risk of uncontrolled bushfire;
 - the provision of permanent drinking water sources to reduce the risk of drought;
 - active dog control measures to reduce the risk of encounter mortality;
 - prohibition of public access to limit vehicle traffic and reduce the risk of encounter mortality; and
 - thinning of dense young regrowth of Koala non-food trees to facilitate growth of retained Koala food trees.
46. The conditions which I decided to attach to the approval require the proponent to:
 - a. implement the proposed OAMP prior to the commencement of the action and for the duration of the approval (condition 3).
 - b. legally secure the offset areas under Queensland legislation within 12 months of the commencement of the action. The offset areas must be legally secured for the duration of the approval (conditions 8, 9 and 10).

- c. submit a report every 5 years that summarises the performance of the offset area against interim performance targets, including any corrective actions undertaken if targets are not met (condition 4).
 - d. at the end of 20 years, submit a report that provides evidence that the offset area has achieved the required ecological outcomes (condition 5), and if the required ecological outcomes have not been achieved, to provide additional environmental offsets (conditions 6 and 7).
47. When the proposed decision was made, condition 9 required that the proponent provide evidence of the legal mechanism used to legally secure the offset areas within 5 business days of the legal mechanism being executed. The proponent requested that the timing be revised so that evidence was provided within 12 months from the date of the commencement of the action. I was satisfied that this change was purely administrative and would not reduce or change the protection afforded by this condition on protected matters.
48. Conditions 11 and 12 require the proponent to make a financial contribution toward the conservation of the Koala in the Bowen Basin. In addition to requiring an environmental offset, the department recommended that the proponent be required to make a \$35,000 payment to a program that will use the funds towards the protection and long-term conservation of the Koala in the Bowen Basin. I was satisfied that this condition was necessary to protect, or repair or mitigate damage to, the Koala.
49. For the reasons set out above, I considered that the recommended conditions are necessary or convenient to protect or to repair or mitigate damage to a matter protected by a provision of Part 3 of the EPBC Act. Accordingly, I was satisfied that the conditions were within the scope of my power in subsections 134(1) and (2) of the EPBC Act.

Conclusion on listed threatened species and ecological communities

50. I was satisfied that, if the proposed action is undertaken in accordance with the conditions I have attached to the approval, the impacts of the proposed action on listed threatened species and ecological communities will not be unacceptable.

Economic and social matters (section 136(1)(b))

51. I considered the following economic and social matters relevant to the proposed action.

Economic matters

52. The proposed action is expected to require 30 employees during the construction phase (approximately 1–2 months) with a peak operational workforce anticipated to comprise 116 employees.
53. The total projected capital expenditure for the proposed action's lifetime is approximately \$21 million (up to \$17 million per year) with total projected operational expenditure for the proposed action's lifetime being approximately \$677 million (up to \$260 million per year). It is estimated that 70 per cent of projected expenditure will be spent locally within the region.

Social matters

54. As part of the PD, the proponent submitted a Social Impact Assessment for the proposed action. The proponent expects the proposed action to have the following positive social impacts:
- Slight increases in the populations of Dysart and Moranbah, which will benefit economically;

- Increased demand for long-term rental accommodation and housing in Dysart and Moranbah;
- Direct employment, including targets for Indigenous employment in accordance with a signed Indigenous Land Use Agreement;
- Increased local spending, improving economic opportunities for local businesses;
- Contributions to government income via royalties and income taxes;
- Slight increases in the demand for local primary and secondary schooling facilities;

The main negative impacts of the Project are:

- Potentially increased demand for early childcare services;
- Increased traffic along local public roads used by haul trucks and commuting vehicles;
- Increased demand for short-term accommodation associated with support services and staff; and
- Slight increases in the demand for local medical services.

Conclusion on economic and social matters

55. I have outlined the relevant economic and social matters above in this statement of reasons. In summary, I considered that the proposed action is estimated to result in an economic benefit to the Queensland community.

Indigenous and Cultural matters

56. The Barada Barna People, represented by the Barada Barna Aboriginal Corporation, are the native title holders for the broader project area.
57. The PD included a Stakeholder Engagement Plan for the proposed action.
58. I understand that the proponent and the Barada Barna Aboriginal Corporation have entered into an indigenous land use agreement in respect of the proposed action, which is in the process of being registered with the National Native Title Tribunal.

Duty of care and human safety

59. Notwithstanding that I have appealed the Federal Court decision in *Sharma v Minister for Environment* [2021] FCA 560 (*Sharma No 1*) and *Sharma v Minister for Environment (No 2)* [2021] FCA 774 (*Sharma No 2*), in making my decision I have had regard to the impacts of the proposed action on the lives and safety of Australian children and my duty to take reasonable care, in the exercise of my powers under ss 130 and 133 of the EPBC Act, to avoid causing personal injury or death to persons under 18 years of age and ordinarily resident in Australia, arising from emissions of carbon dioxide into the Earth's atmosphere. I gave human safety elevated weight in making my decision.
60. This part of my reasons addresses the risks to human safety posed by the proposed action and my duty to take reasonable care to avoid causing death or injury to Australian children in making my decision. This section is structured as follows:
- a. Global coal markets and the likelihood of the proposed action's increasing global GHG emissions;

- b. How GHG gas emissions are managed under international and national frameworks;
 - c. Summary of GHG emissions for the proposed action and measures being undertaken by the company to manage the proposed action;
 - d. Risks of a warming climate;
 - e. Social and economic considerations; and
 - f. Conclusion.
61. The proposed action will produce 6 million tonnes of coal over a 4 year period. This will be made up of 80 per cent metallurgical coal which will be used for steel making, with the remaining 20 per cent being thermal coal which will be used for electricity generation.
62. According to the proponent, all of the coal produced will be shipped to South Korea, Japan, India or China. No thermal or metallurgical coal will be consumed domestically.

Global coal markets and the likelihood of the proposed action's increasing global greenhouse gas emissions

63. The department sought the advice of the Department of Industry, Science, Energy and Resources (DISER) in relation to the extent to which, if at all, the approval of the proposed action would affect the global level of consumption of coal in possible future scenarios (DISER Advice). I have taken this advice into account, in addition to considering publications of the International Energy Agency that analyse trends in global markets including the 'World Energy Outlook 2021'¹ (WEO 2021), 'Iron and Steel Roadmap 2020'² (2020 IEA Iron and Steel Roadmap) and '2021 IEA Net Zero by 2050' (Net Zero by 2050).
64. I have also considered the expert reports of Professor Steffen filed in the *Sharma* proceedings, dated 30 June 2020, 7 December 2020 and 17 January 2021. These reports are referred to as the 'Steffen Reports'. I have taken into account the Steffen Reports as well as the other reports filed in the *Sharma* proceeding from Dr Ramona Meyricke, Professor Anthony Capon and Dr Karl Mallon.
65. The DISER Advice explains that the two primary uses of coal are for energy and steelmaking. Coal used for steelmaking is referred to as metallurgical or coking coal. Coke makers use multiple coals when formulating a coking coal blend to meet these specifications. Coal used for energy is referred to as thermal coal.

Global steel production

66. Global crude steel production reached 1,864.0 Mt for the year 2020, down by 0.9% compared to 2019³.
67. Steel is produced via two main routes: the blast furnace-basic oxygen furnace route (using predominantly iron ore and coal) and electric arc furnace route (using mainly recycled steel and electricity). Variations and combinations of production routes also exist.
68. Around 70 per cent of steel is produced using the blast furnace-basic oxygen furnace Route.

¹ <https://www.iea.org/reports/world-energy-outlook-2021>

² https://iea.blob.core.windows.net/assets/eb0c8ec1-3665-4959-97d0-187ceca189a8/Iron_and_Steel_Technology_Roadmap.pdf

³ <https://www.worldsteel.org/media-centre/press-releases/2021/Global-crude-steel-output-decreases-by-0.9--in-2020.html>

69. In 2019, worldwide, blast furnace-basic oxygen furnace production increased by 6.5 per cent to 1.343 billion tonnes whereas the global electric furnace total was virtually unchanged at 523 million tonnes⁴.
70. Most steel products remain in use for decades before they can be recycled. Therefore, there is not enough recycled steel to meet growing demand using the electric arc furnace steelmaking method alone⁵. Current demand is met through a combined use of the blast furnace-basic oxygen furnace and electric arc furnace production methods.

Global demand for steel

71. Steel is and will be critical for supplying the world with energy, as it is an integral ingredient for energy transition, with solar panels, wind turbines, dams and electric vehicles all depending on it to varying degrees. Steel is the main material used in onshore and offshore wind turbines. Almost every component of a wind turbine is made of steel. Steel provides the strength for taller, more efficient wind turbines. ArcelorMittal (one of the world's largest steel manufacturers) claims that each new megawatt of solar power requires between 35 to 45 tonnes of steel, and each new megawatt of wind power requires 120 to 180 tonnes of steel⁶.
72. Transmission and distribution lines also require steel. As installations move further offshore more steel will be required. Demand is growing for electrical steels to serve this market.
73. Steel is also a fundamental building block for modern and developing economies. The construction of homes, schools, hospitals, bridges, cars and trucks rely heavily on steel for strength. The DISER Advice notes that steel demand is driven by construction and infrastructure development.
74. OECD modelling⁷ predicts that global steel demand is not expected to peak until mid-century, with a growth rate for steel demand from about 1.4% per annum to 1.1%. Demand in mature economies will show zero to slightly negative growth rates over the period, while demand growth in emerging economies will be in the range 2.5% to 4%. Further, the modelling predicts that iron ore demand for steelmaking will peak in 2025-2030.
75. The IEA Iron and Steel Roadmap notes that the steel sector is currently responsible for about 8% of global final energy demand and 7% of energy sector CO₂ emissions (including process emissions). However, through innovation, low-carbon technology deployment and resource efficiency, iron and steel producers have opportunities to reduce energy consumption and GHG emissions, develop more sustainable products and enhance their competitiveness.

Global demand for coal

76. The WEO 2021 identifies a number of scenarios for future global energy demand and supply to 2050. These scenarios include the:
- **Sustainable Development Scenario (SDS):** based on the International Energy Agency's Sustainable Development Scenario, assumes global coal consumption will be constrained so energy-related United Nations Sustainable Development Goals are achieved: universal access to affordable, reliable and modern energy services by 2030;

⁴ Bureau of International Recycling: [World Steel Recycling in Figures 2015 – 2019](#)

⁵ https://iea.blob.core.windows.net/assets/eb0c8ec1-3665-4959-97d0-187ceca189a8/Iron_and_Steel_Technology_Roadmap.pdf

⁶ <https://corporate.arcelormittal.com/media/case-studies/steel-is-the-power-behind-renewable-energy>

⁷ https://www.oecd.org/industry/ind/Item_4b_Accenture_Timothy_van_Audenaerde.pdf

a substantial reduction in air pollution, and effective action to combat climate change.⁸; and

- Stated Policies Scenarios (STEPS): based on the International Energy Agency's Stated Policies Scenario, assumes global coal consumption is determined by the IEA's sector-by-sector assessment of stated policy ambitions (as of mid-2021), taking account not just of existing policies and measures but also of those under development.⁹

77. The DISER Advice notes that global demand for coal will gradually decline to 2050, in either the SDS or STEPS scenario. In the STEPS scenario demand for coal will decline to 4,020 million tonnes of coal equivalent (Mtce) with an associated 10.3 gigatonnes (Gt) of CO₂ emissions. However, demand for coal varies by region.

78. The DISER Advice details predicted coal demand in the STEPS scenario and demonstrates that demand in some regions (including India and China) will increase. The DISER Advice states:

Coal demand in India is expected to grow from 557 Mtce in 2020 to 691 Mtce in 2050. Coal demand in South East Asia is also expected to grow rapidly, from 257 Mtce in 2020 to 393 Mtce in 2050. Coal use rebounds in China in the near term, peaking around 2025, before declining to 2050. Japan is expected to see the largest reduction in coal demand over the period to 2050, declining by 81 Mtce from 2020 levels. By 2050, the Asia Pacific region will account for 84 per cent of global coal demand.

79. The DISER Advice details predicted coal demand in the SDS scenario and demonstrates that global demand falls rapidly and consistently across all regions. All of Australia's historically major coal export destinations experience substantial falls in coal consumption: China by 2,372 Mtce; India by 342 Mtce; Japan by 107 Mtce; and Southeast Asia by 178 Mtce. Although in this scenario there is a decline in overall demand, this decline is much less significant for the life of the proposed action which is 4 years. In the Asia Pacific region, where the proposed action coal will be consumed, demand will decrease from 4,216 Mtce in 2020 to 3,310 Mtce in 2030. The WEO 2021¹⁰ also projects that Australia will see a small increase in coal exports after 2030, most of which is coking coal. Australia is also projected to remain the largest exporter of metallurgical coal.

80. The DISER Advice notes that, in either the SDS or STEPS scenario, the global demand for coal beyond 2050 can be met by alternative sources of coal. Alternative sources of coal include all currently approved Australian coal mines, as well as all known or likely coal mines and coal deposits outside Australia, but excludes this project and other unapproved Australian coal mining developments.

81. The IEA's STEPS scenario projections include use of coal in the power generation, iron and steel and cement industries. The coal used in the iron and steel industries is metallurgical coal. Under the IEA's STEPS, global metallurgical coal demand is expected to increase by 12%

⁸ In the SDS, annual energy sector and industrial process CO₂ emissions fall continuously over the period to 2050 from 34.2 gigatonnes (Gt) in 2020 to 28.5 Gt in 2030 and 8.2 Gt in 2050, on course towards global net-zero CO₂ emissions by 2070. If emissions were to remain at zero from this date, the SDS would provide a 50% probability of limiting the temperature rise to less than 1.6 °C in 2100, in line with the Paris Agreement to limit global warming to well below 2 °C, preferably 1.5 °C, compared to pre-industrial levels.

⁹ In the STEPS, broad energy and environmental objectives (including country net-zero targets) are not automatically assumed to be met. They are implemented in this scenario to the extent that they are backed up by specific policies, funding and measures. In the STEPS, annual energy sector and industrial process CO₂ emissions increase from 34.2 gigatonnes (Gt) in 2020 to 36.3 Gt in 2030 and the fall to 33.9 Gt in 2050, leading to a long-term temperature rise of around 2.6 °C in 2100.

¹⁰ <https://www.iea.org/reports/world-energy-outlook-2021>

from 2020 to 2030 before declining to 2020 levels by 2050. Under the IEA's SDS, global thermal coal demand is expected to decline by 40% from 2020 to 2050, reflecting a steady decline in demand over the next 30 years.

82. The DISER Advice refers to industry estimates that state that, if Australian coking coals were not available and had to be replaced by coking coal from alternative sources, the amount of CO₂ produced from blast furnaces currently using the Australian products may increase by 7-25 million tonnes per annum or 0.8-2.8%.¹¹

Iron and Steel Roadmap and Net Zero by 2050

83. The 2020 IEA Iron and Steel Roadmap developed in conjunction with industry indicated that opportunities to reduce emissions from the sector in the next 10 years will primarily rely on improvements in material efficiency (light weighting of steel requirements in buildings) greater recycling of steel and iron (electric arc furnace), energy efficiency and performance improvements. Additionally, alternatives to steel (such as carbon fibre, engineered timber) and new methods for making steel without metallurgical coal, using hydrogen or electrolysis (using electricity) are being developed and piloted globally. However, these methods are not currently projected to be operating at scale until the 2030s.
84. The IEA Net Zero by 2050 report notes that the steel industry will remain one of the last sectors using significant amounts of coal in 2050, primarily due to its importance as a chemical reduction agent, albeit mostly in conjunction with carbon capture, utilization and storage. To reach net zero by 2050 the IEA extrapolates that by 2030 the world will need to have developed and commercialized and be producing 2% of primary steel by hydrogen-based DRI-EAF, rising to 28% in 2050 and 6% of steel production using carbon capture, utilization and storage in 2030, rising to 53% in 2050.
85. The DISER Advice also notes that, while it is technically possible to replace coking coal in the steel making process through the combination of a Direct-Reduced Iron (DRI) facility and an Electric Arc Furnace (EAF) using either zero-emission electricity or green hydrogen, such a process currently presents technical challenges, and is not yet available at the scale needed to meet global demand for steel, particularly in developing economies.

Global demand for electricity from fossil-fuels

86. The IEA Electricity Information: Overview (Statistics Report August 2021)¹² states that in 2019, generation from combustible fuels (e.g. coal, oil, natural gas, biofuels and industrial and municipal waste) accounted for 65.3% of global gross electricity production. Electricity generation from combustible fuels accounted for 57.1% of total OECD gross electricity production (compared with 71.1% for non-OECD). The IEA report¹³ found that coal accounted for 36.7% of global electricity production in 2019, natural gas 23.5%, hydro 16%, nuclear 10.3%, wind 5.3%, solar 2.6% and biofuels and waste 2.4%.
87. The IEA Electricity Market Report – January 2022¹⁴ states that, after a small drop in 2020, global electricity demand grew by 6% in 2021. Coal met more than half of the increase in global demand. Coal-fired electricity generation reached an all-time peak, growing by 9%, the fastest since 2011, propelled by the exceptional demand and coal's cost competitiveness in some markets compared to gas. Renewables grew strongly, by 6%, despite growth being

¹¹ Minerals Council of Australia, 2020. *Best In Class: Australia's Bulk Commodity Giants. Australian Metallurgical Coal: Quality Sought Around the World.*

¹² <https://www.iea.org/reports/electricity-information-overview/electricity-production>

¹³ <https://www.iea.org/data-and-statistics/charts/world-gross-electricity-production-by-source-2019>

¹⁴ <https://www.iea.org/reports/electricity-market-report-january-2022>

limited by unfavourable weather conditions (in particular for hydropower). Gas-fired generation grew by 2 per cent, while nuclear increased by 3.5 per cent, almost reaching its 2019 levels.

88. According to the IEA Electricity Market Report – January 2022, during 2022-2024 they expect renewables to be responsible for the vast majority of the supply increase, growing on average by 8 per cent per year. By 2024 renewable electricity could provide more than 32 per cent of the world's electricity supply (from 28 per cent in 2021). They also expect coal-fired electricity generation to provide 34 per cent of global generation in 2024, down from 36 per cent in 2021 after the steep increase in 2021, and anticipate coal-fired generation to remain flat until 2024.
89. The IEA Electricity Market Report – January 2022 states that coal generation increased in the Asia Pacific region in 2021 by 8 per cent. This increase was led by significant growth in coal-fired generation in both China and India in line with economic recovery from the pandemic, despite coal shortages late in 2021. Although coal-fired generation grew the most in absolute terms in 2021, renewables saw the highest growth rate (up 10 per cent). This trend is again led by China and India, but is also seen in most countries of the region and is expected to continue, reflecting ongoing renewables deployment across the region.
90. The IEA Coal 2021 Report¹⁵ also forecasts that coal demand will rise in South and Southeast Asia as electricity demand and infrastructure expand. This region has strong economic growth prospects, and relies on coal to supply part of the additional energy needs, especially for power generation. A large portion of demand for coal in Southeast Asia originates in the power sector.

The future of coal exploration in Queensland

91. In 2020, the Queensland Treasury released a report¹⁶ summarising recent developments in the global economy and their potential impact on coal demand in the short and medium term.
92. The report states that it is likely that international demand (i.e., key economies in China and India) will support Queensland's coal exports over the coming two decades, with the long-term prospects for Queensland's metallurgical coal likely to be more robust than for thermal coal.
93. Although recognising that emissions reduction measures will be required in line with the *Paris Agreement*, the analysis highlights that developments in China and India are likely to be the most significant factors impacting on future demand for both metallurgical and thermal coal in Queensland.

Alternative sources of coal and related GHG emissions

94. The DISER Advice differentiates between the global coal market for thermal coal and metallurgical coal. The long-term demand for metallurgical coal depends primarily on its price, and the demand for steel, which in turn depends on demand for steel uses, including construction and infrastructure, which, in part, depends on population and economic growth as well as government policies that support these industries. The long-term demand for thermal coal depends primarily on its price, the demand for energy, which, again, depends in part on population and economic growth, the cost of alternative energy products, such as oil, gas and renewables, as well as consumer preferences for different types of energy. The DISER Advice concludes that, putting aside prices of metallurgical and thermal coal, my decision would not affect any of the demand factors identified above. I accepted this conclusion.
95. Supply of both metallurgical and thermal coal depends on availability in nature, the technology used for extraction, the labour and capital costs associated with production, the cost of

¹⁵ <https://www.iea.org/reports/coal-2021>

¹⁶ [A Study of Long-Term Global Coal Demand \(treasury.qld.gov.au\)](https://www.treasury.qld.gov.au/publications/long-term-global-coal-demand)

transporting the coal to the demand source (normally by rail and ship) and the regulatory costs associated with environmental protection and worker health and safety. However, the prices of metallurgical and thermal coal are linked because there is a degree to which the different coal types can be used in the alternative market. Steelmakers may substitute some metallurgical coal with high-end thermal coal.

96. I accepted the DISER Advice that recent trade disruptions have demonstrated the substitutability of coal, where coal destined for China has been resold or redirected to various countries and China has managed to source its coal needs in the absence of previously substantial Australian supply. The DISER Advice concludes:

Regardless of any feasible scenario of future global demand, the small fraction of current global supply the project represents, combined with the competitiveness of global seaborne coal markets, indicates the Decision will not have any discernible impact on global coal prices. The alternative sources of coal identified in sub-question 1 are readily substitutable for any coal that might be produced by the Project.

97. According to DISER, apart from CO₂ emissions, consumption of coal from alternative coal sources may create dangers to human safety that are different from the dangers associated with the consumption of coal from the proposed action. For example, combustion of coal from alternative sources may result in greater sulphur dioxide emissions, a contributor to acid rain and respiratory illnesses.¹⁷

98. I also took into account DISER's advice that the carbon dioxide emissions of electricity generated from coal are dependent on a number of factors. DISER advised:

It is not possible to identify specific mine sources that would be the alternative sources of coal in the event the Project was not approved. This makes it not possible to conclude that any Decision to approve the Project will necessarily increase greenhouse gas emissions associated with coal consumption.

99. I noted that 20% of the proposed action's product coal is anticipated to be thermal coal for electricity generation.

Impact of a decision to approve or refuse the proposed action on global GHG emissions and climate change

100. I accept the department's recommendation that I find that the available evidence indicates that a decision to approve the proposed action would be unlikely to lead to an increase in global average surface temperatures. This is because the proposed action is not likely to cause more coal to be consumed globally (and therefore more GHG emissions) than if the proposed action was not approved.

101. The DISER Advice states that 'any decision of the Minister to the Project (Decision) is not expected to materially impact on the total amount of coal consumed globally'. I agreed with this conclusion. DISER states that the approval or refusal of the proposed action will not affect global demand for coal and there are sufficient alternative sources of coal to supply future demand for coal in projected future scenarios. In those circumstances, I agreed that the rejection of the proposed action is unlikely to have an impact on total global coal consumption, or to impact the price of coal.

102. The DISER Advice noted that it is not possible to identify specific mines that will be used in substitution for the proposed action's coal. I accepted the department's advice that, in circumstances where the refusal of the proposed action would not impact the total amount of

¹⁷ <https://www.eia.gov/energyexplained/coal/coal-and-the-environment.php>

coal consumed, and other coal sources will be available to meet demand, it is not possible to conclude that the amount of GHG emissions that would occur even if the proposed action was approved would necessarily increase in any material degree.

103. I also took into account the Steffen Reports in reaching the above conclusion. Professor Steffen acknowledges the argument that 'if a proposed new coal development is not allowed to proceed, another new coal resource, either in Australia or overseas, will be developed to take its place'. Professor Steffen states that this argument is flawed because it presumes that there is and will continue to be a demand for new coal resources beyond those that already exist, whereas he is of the view that evidence demonstrates that coal production is in steady decline. I note that this is inconsistent with other available evidence which indicates that demand for coal is likely to continue (see paragraphs [76-82]-[86-90] above). I also took into account that demand for metallurgical coal in particular is likely to remain in circumstances where alternative steelmaking methods are not available at scale, and are not anticipated to be available until the 2030s, and steel is required for the construction of safe buildings, infrastructure and energy infrastructure in developing economies.

Conclusion on coal markets and substitution

104. The Court in *Sharma* decided an increase to total global GHG emissions poses a risk to human safety by increasing total global average surface temperatures. The relevant risk to human safety found to exist in *Sharma* was the risk of death or personal injury from heatwaves or bushfires.
105. As previously noted, I have appealed the *Sharma* decision, which is pending.
106. I accepted the department's advice that the approval of the proposed action is not likely to cause harm to human safety because, if the proposed action is not approved, it is likely that a comparable amount of coal will be consumed in substitution of the proposed action's coal. Therefore, I found that the proposed action is unlikely to result in an increase to global GHG emissions.

How GHG Emissions are managed under international and national frameworks

107. Out of an abundance of caution, and in the event that (contrary to the above conclusion) the small amount of emissions from the proposed action are additional and are not substituted by emissions from other coal production, I have considered the national and international frameworks within which those emissions will be managed and measures to mitigate their impacts. I have summarised these frameworks below. These matters have further informed my consideration of my duty of care and my consideration of the impact of the proposed action on human safety.

International framework for climate change

108. The international climate treaties, the Paris Agreement, done at Paris on 12 December 2015, the Kyoto Protocol, done at Kyoto on 11 December 1997, and the United Nations Framework Convention on Climate Change (UNFCCC), done at New York on 9 May 1992, are the primary multilateral mechanisms governing the international response to climate change.
109. The Paris Agreement entered into force on 4 November 2016. 193 countries are Party to the Paris Agreement, including Australia.
110. The temperature goal of the Paris Agreement is to limit the increase in global average temperature to well below 2°C and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

111. Under the Paris Agreement all parties must prepare, communicate and maintain successive nationally determined contributions (NDCs) and pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions. In Australia, our emissions reduction targets and national climate mitigation policies are the responsibility of the Minister for Industry, Energy and Emissions Reduction, supported by DISER.
112. The department advised that projections in the IPCC Special Report, 'Global Warming of 1.5°C' (8 October 2018) indicate that, if NDCs in place in 2018 were implemented successfully, the world would reach 2.7-3.2 degrees Celsius above pre-industrial levels by 2100. Under the Paris Agreement successive NDCs are required to represent a progression beyond each submitting country's current NDC, reflecting its highest possible ambition (Article 4.3).
113. Importantly, under Article 4 of the Paris Agreement, parties aim to reach global peaking of GHG emissions as soon as possible, and to undertake rapid reductions thereafter in accordance with best available science, to achieve a balance between anthropogenic emissions by sources and removal by sinks of GHG in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty. 147 governments around the world including Australia have announced intentions to reach net zero emissions which better align with the Paris Agreement temperature goal to limit the increase in global average temperature to well below 2°C and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.
114. To respond to climate change, industry, legal and financial fiduciary bodies have also called on business to recognise, understand and respond appropriately to the risks and consequences posed by climate change, potentially independent of government policy. Many companies and businesses have also established net zero by 2030 – 2050 targets. Industry is increasingly acknowledging that effort across the whole supply chain is required to enable sectors to decarbonise.

Climate commitments made by markets for the proposed action's coal

115. I found on the material before me that the coal from the proposed action is proposed to be used for steelmaking and electricity generation in India, Japan, South Korea and China.
116. I noted that all coal products from the proposed action will be sold to countries that are signatories to the Paris Agreement. Further these countries have net zero commitments established or proposed to be established in domestic legislation. The proposed coal market emission reduction commitments are summarised in Table 1 below.

Table 1: Summary of proposed action market GHG emission reduction commitments

Expected Coal market	NDC	Net zero commitment	Strategy under the Paris Agreement ¹⁸
India	Reduce emissions intensity of its GDP by 33% to 35% below 2005 levels by 2030	India net zero by 2070	Yes
Japan	Reducing emissions by 46% below 2013 levels by 2030.	Japan net zero by 2050	Yes
South Korea	Reducing emissions by 40% below 2018 levels by 2030	South Korea net zero by 2050	Yes
China	Reduce emissions intensity of its GDP by 65% below 2005 levels by 2030.	China net zero by 2060	Yes

117. On 17 December 2021, DISER provided supplementary information (DISER Supplementary Information) in relation to the proposed action, including emission reduction measures, commitments, goals and policies for the identified importing countries.

India

- At the UNFCCC Conference of the Parties (COP26) in November 2021 Prime Minister Narendra Modi announced "By 2070, India will achieve the target of net-zero emissions".
- India first announced a target of 450 GW of renewable energy capacity by 2030 at the 2019 Climate Action Summit, and reiterated the target at the US-hosted Leaders Summit on Climate in April 2021.

Japan

- In its 2021 NDC communication, Japan stated it aims to reduce GHG emissions to net-zero, that is, to realize carbon neutrality by 2050.
- Japan's Global Warming Countermeasures Law 2021 commits that "a decarbonised society will be realized by 2050".
- At the US-hosted Leaders' Summit on Climate in April 2021, Japan announced it will reduce emissions 46% below 2013 by 2030.
- Japan's Ministry of Economy, Trade and Industry (METI) released its Basic Energy Policy draft in July 2021. Under the plan, by 2030:
 - coal use will be reduced from 26% to 19%
 - gas use will be reduced to 56% to 41%
 - solar is set to increase to 15% from 6.7% in 2019
 - wind is set to increase to 6% from 0.7% in 2019.

Republic of Korea (South Korea)

¹⁸ Long-term low greenhouse gas emission development strategies, submitted in accordance with Article 4, paragraph 19, of the Paris Agreement

- In its 2020 NDC communication, South Korea confirmed it aims to achieve carbon neutrality by 2050.
- At the US-hosted Leaders' Summit on Climate in April 2021, South Korea announced a commitment to ending financing of overseas coal fired power plants.

China

- At the General Debate of the 75th Session of the United Nations General Assembly, China's President Xi Jinping announced China would:
 - Scale up its NDC with more vigorous policies and measures,
 - Peak CO₂ emissions before 2030,
 - Achieve carbon neutrality before 2060.
- China's 14th Five Year Plan (released March 2021) includes a number of intentions aligned with the President's announcement:
 - Develop an action plan to achieve peak carbon emissions by 2030, anchored to efforts to achieve carbon neutrality by 2060, and the need to adopt more vigorous policies and measures.
 - Aim to reduce carbon dioxide emissions per unit of GDP by 18% over the 2021 to 2025 period (the same target as the 13th Five Year Plan), peak carbon emissions by 2030 and achieve carbon neutrality by 2060.
 - Detailed targets will be revealed when sectoral plans are released towards the end of 2021. For the first time, the Ministry of Ecology and Environment will also release a Five Year Plan for Climate Change in late 2021, which will serve as a blueprint for China's climate action.

Domestic measures

118. Under the UNFCCC, Kyoto Protocol and Paris Agreement, the Australian Government has committed to reduce national GHG emissions, track progress towards those commitments, and report annually on Australia's GHG emissions.¹⁹ Australia first communicated its NDC under the Paris Agreement in 2015, committing to an economy-wide target to reduce GHG emissions by 26 to 28% below 2005 levels by 2030. Australia communicated an updated and enhanced NDC on 28 October 2021²⁰. The updated NDC:
- adopts a target of net zero emissions by 2050;
 - commits to 7 low emissions technology stretch goals;
 - reaffirms Australia's target to reduce emissions by 26 to 28% below 2005 by 2030; and
 - notes Australia will exceed its 2030 target by up to 9 percentage points.
119. Australia has in place a comprehensive suite of emissions reduction policies, which are working to reduce emissions in all sectors of the economy. Building on these policies, the

¹⁹ <https://www.industry.gov.au/policies-and-initiatives/australias-climate-change-strategies/tracking-and-reporting-greenhouse-gas-emissions>.

²⁰

<https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Australia%20First/Australia%20Nationally%20Determined%20Contribution%20Update%20October%202021%20WEB.pdf>

government is currently focused on low-emissions technologies that are globally scalable, commercial, and achievable.

120. In October 2021, the Australian Government Released its Long-Term Emissions Reduction Plan²¹ (**the Plan**) which is a whole-of-economy plan to achieve net zero emissions by 2050. The technology-based plan is supported by five principles:
- Technology not taxes
 - Expand choices not mandates
 - Drive down the cost of a range of technologies
 - Keep energy prices down with affordable and reliable power
 - Be accountable for progress.
121. The Plan has a five yearly review and refine cycle aligned with Australia's successive NDCs under the Paris Agreement to assess the impact of Commonwealth and state emissions reductions actions and ensure Australia's policies are calibrated to reflect the latest technology advances and international developments. The Plan notes that Australia beat its Kyoto-era targets by 459 million tonnes and that Australia is expected to beat its 2030 Paris target by up to 343 million tonnes. The Plan also notes that Australia will continue to export its traditional energy exports (such as liquified natural gas and coal) as long as Australia's customers demand them.
122. The cornerstone of the Plan is the Technology Investment Roadmap (the Roadmap)²². The Roadmap will drive down the cost of low emissions technologies and accelerate their deployment, both in Australia and overseas. The Roadmap brings a strategic and system-wide view to future investments in low-emissions technologies, in partnership with the private sector, states and territories, and key international partners. The Roadmap will guide more than \$20 billion of Government investment in low emissions technology to 2030, including through the Clean Energy Finance Corporation, the Australian Renewable Energy Agency, the Clean Energy Regulator and other programs. The Government is aiming to drive at least \$80 billion of new investment by 2030 by working with state and territory governments, research institutions and the private sector.
123. The Roadmap's annual Low Emissions Technology Statements (LETS) outline the role the Australian Government will play in reducing the costs of low-emissions technologies. The first LETS in 2020²³ articulated five priority technologies (clean hydrogen, energy storage for firming, carbon capture and storage, soil carbon measurement and low emissions materials like steel and aluminium) and accompanying stretch goals – ambitious but realistic goals to bring priority low-emissions technologies to economic parity with existing mature technologies.
124. The 2021 LETS²⁴ added a 6th priority technology – ultra low-cost solar. The stretch goal is to achieve solar electricity generation at \$15 per MWh, or around one-third of today's cost. It also included a new technology category – Enabling Infrastructure – to enable the commercial deployment of priority, and emerging, low-emissions technologies. An impact evaluation

²¹ <https://www.industry.gov.au/sites/default/files/October%202021/document/australias-long-term-emissions-reduction-plan.pdf>

²² <https://www.industry.gov.au/data-and-publications/technology-investment-roadmap>

²³ <https://www.industry.gov.au/sites/default/files/September%202020/document/first-low-emissions-technology-statement-2020.pdf>

²⁴ <https://www.industry.gov.au/sites/default/files/November%202021/document/low-emissions-technology-statement-2021.pdf>

framework for the Roadmap, including metrics to track progress through the annual LETS was also introduced.

125. Commonwealth legislation relating to the Australian Government's policies and programs to reduce emissions and fulfil its emissions reporting and target tracking obligations are regulated by the Clean Energy Regulator (CER). The CER is responsible for administering the *National Greenhouse and Energy Reporting Act 2007* (NGER Act), the *Carbon Credits (Carbon Farming Initiative) Act 2011*, the *Greenhouse and Energy Minimum Standard Act 2012*, and the *Australian National Registry of Emission Units Act 2011*.
126. Greenhouse gas emissions are categorised into three different types:
- scope 1: direct emissions from owned or controlled sources of an organisation/ development;
 - scope 2: indirect emissions from the generation of purchased energy electricity, heat and steam used by an organisation/ development; and
 - scope 3: all other upstream and downstream emissions related to an organisation/ development.
127. Australia's National Inventory System (NIS) estimates and reports Australia's GHG emissions in accordance with Intergovernmental Panel on Climate Change (IPCC) guidelines and rules adopted by the Parties to the Paris Agreement. The NIS comprises an independent national monitoring system to compile Australia's national GHG inventory. The scheme established under the NGER Act is a primary data collection tool for the NIS, with high quality facility level NGER data used where possible for the energy, industrial processes and waste sectors. The UN climate treaties, including the Paris Agreement, specify that Parties are responsible for the emissions occurring within their jurisdictions.
128. The department advised that this means that emissions across each jurisdiction, conceptually equivalent to scope 1 emissions, are aggregated to fulfil Paris Agreement emission reporting and target accounting obligations. Scope 2 and scope 3 emissions that occur within the same jurisdiction are not added to this calculation as it would result in double counting of emissions: one facility's scope 2 and 3 emissions are another facility's scope 1 emissions. Scope 3 emissions associated with Australian facilities that occur outside Australia's jurisdiction (e.g. emissions from the combustion of Australia's coal in an export destination) are accounted for in the countries where those emissions occur.

Queensland

129. The Queensland Government has developed the Queensland Climate Transition Strategy²⁵ (QCTS), and a suite of other resources which provide guidance and measures to achieving net zero emissions in Queensland by 2050.
130. The aim of the QCTS is to maximise economic, social and environmental outcomes in Queensland in the context of changing national and international policy, with the aim to achieve net zero emissions by 2050.
131. The QCTS does not set prescriptive emission reduction targets, but sets policy directions for Government action, for example, to improve opportunities for private sector investment in low emissions technology in the energy industry, which is needed for a transition to a net zero emissions inventory.

²⁵ Queensland Climate Transition Strategy – Pathways to a clean growth economy (www.qld.gov.au)

132. In addition to the above strategies, the Greenhouse Gas Storage Act 2009²⁶ establishes a comprehensive legislative framework for CO₂ storage. The primary role for Government is to set the regulatory and policy frameworks that will allow the deployment of carbon capture and storage and access to secure storage sites in Queensland.
133. The Queensland Government is currently drafting a Queensland Resource Industry Development Plan²⁷ (QRIDP). The QRIDP is expected to be released soon and will set out a long-term vision to ensure the future of the resources industry recognising the global shift to low carbon. Including identifying the immediate actions needed to achieve this, with a focus on:
- removing barriers to resources industry growth;
 - helping regional communities recover from the impacts of COVID-19; and
 - responsibly unlocking our precious resources.

Summary of GHG emissions for the proposed action

134. A full description of the proposed action is contained earlier in these reasons. The proposed action will facilitate the recovery of 6 million tonnes of run-of-mine coal over a 4 year period. Product coal will be sold to international markets for use in steelmaking and electricity generation. The emissions of the proposed action consist of approximately:
- 210,164 t CO₂-e of scope 1 emissions during its operational phase; and
 - 9,997,269 t CO₂-e of scope 3, which would be generated by third parties who transport and consume the extracted coal.
135. The proposed action's average annual metallurgical coal production represents 0.09% of global metallurgical coal production and 0.29% of global metallurgical coal exports in 2020. The project average annual thermal coal production represents 0.004% of global thermal coal production and 0.02% of global thermal coal exports in 2020.

Scope 1 Emissions

136. The main greenhouse gas emissions at the Vulcan Complex Project are scope 1 emissions from 4 main streams:
- Extraction of coal;
 - Equipment used in the production of coal;
 - Vehicles used for transport and haulage; and
 - Diesel generators.
137. Fugitive emissions are produced from extracting the coal from the mine. These represent 63% of total scope 1 emissions.

Scope 2

138. There will be no Scope 2 emissions as part of the Vulcan Complex Project as it will not be connected to the Queensland electricity network. All power at the Vulcan Complex Project will

²⁶ [View - Queensland Legislation - Queensland Government](#)

²⁷ [Queensland Resources Industry Development Plan to set strong vision - Ministerial Media Statements](#)

be generated by diesel powered generators, the emissions for which are included in the Scope 1 emissions calculations.

Scope 3

139. Scope 3 emissions (9,997,269 t CO₂) account for approximately 98% of the proposed action's total greenhouse gas emissions, with these emissions arising from the consumption of coal for steelmaking and electricity generation by third parties.
140. Coking coal is a key raw material in steel production. As iron occurs only as iron oxides in the earth's crust, the ores must be converted, or 'reduced', using carbon. The primary source of this carbon is coking coal.
141. As outlined above, steel is an indispensable material for virtually all aspects of the built environment. Steel is both a contributor to and a key enabler of mitigating CO₂ emissions from the energy system. It is also one of the most energy and emissions-intensive bulk materials produced globally. The IEA states Global demand for steel is projected to increase by more than a third through to 2050²⁸.
142. Considerable growth in steel production in India is expected in the coming years, driven by economic development and the government's stated intention to build up the nation's steel industry. By 2050 almost one-fifth of the steel produced globally is expected to come from India, compared to around 5 per cent today²⁹.

State Government approval

143. Under the Queensland Government approval process, the proponent has been granted an EA (EA0002912) by DES. There are no specific conditions contained within the EA relating to the management of GHG emissions. However, as noted in the proponent's Projected GHG Emissions Assessment, the *Environmental Protection Act 1994* (Qld) includes a general environmental duty that "a person must not carry out an activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm".

Company commitments

144. The project will be the first operational mine for the proponent. The proponent currently has no specific initiatives or commitments in place around GHG management or minimisation.
145. The proponent has stated all its exploration programs operate in compliance with EAs issued by the state, which outlines the allowable extent and nature of the environmental impact.

Risks of a warming climate

146. The department sought internal advice from Climate Adaptation and Resilience Division regarding the current state of climate change and, in particular, the outcomes from the IPCC Report 'Climate Change 2021: The Physical Science Basis'³⁰ (2021 IPCC Report). The Climate Adaptation and Resilience Division advised that the Government receives its primary advice on climate science from the Bureau of Meteorology (BoM) and the CSIRO. This advice

²⁸ <https://iea.blob.core.windows.net/assets/4719e321-6d3d-41a2-bd6b-461ad2f850a8/NetZeroBy2050-ARoadmapfortheGlobalEnergySector.pdf>

²⁹ https://iea.blob.core.windows.net/assets/eb0c8ec1-3665-4959-97d0-187ceca189a8/Iron_and_Steel_Technology_Roadmap.pdf

³⁰ <https://www.ipcc.ch/report/ar6/wg1/>

aligns with information provided by the IPCC and other national and international organisations.

147. I noted that the 2021 IPCC Report provides an update on the latest climate science, including the rates, causes and likely future trajectories of global warming and other changes to the climate system. I accepted the advice of the Climate Adaptation and Resilience Division advised that the key findings in IPCC Report are consistent with the findings of the *State of the Climate 2020* report, produced by BoM and the CSIRO.
148. I also took into account the Intergovernmental Panel on Climate Change report 'Climate Change 2022: Impacts, Adaptation and Vulnerability'³¹, which was published on 28 February 2022 (2022 IPCC Report). This report sets out the latest scientific advice on observed and projected impacts of climate change, including as they relate to human safety. The 2022 IPCC report describes the relationship between increasing global GHG emissions, rising global average surface temperatures and impacts to natural and human systems.
149. I noted that the 2021 IPCC Report and 2022 IPCC Report finds that increasing global GHG emissions will increase total global average surface temperatures with the consequences described in those reports. These consequences pose risks to human safety.
150. I noted that to better adapt to these climate risks and impacts the Australian Government released the National Climate Resilience Adaptation Strategy 2021-2025 (Strategy) in October 2021. The Strategy sets out what the Australian Government will do to support efforts across all levels of government business and the community to better anticipate, manage and adapt to the impacts of climate change.
151. I also noted the expert evidence regarding the risks of a warming climate filed by the Applicants in and the consideration of that evidence in the *Sharma* judgment. I also noted my appeal from certain findings in the judgment which arguably go beyond aspects of the evidence that was before the Court, with particular reference to the Steffen reports.
152. I considered the expert advice from Dr Meyricke, Professor Capon and Dr Mallon, on impacts on human health as a result of a warming climate and the Court's finding of the relevant risk to human safety on the basis of this evidence.

Contribution of the proposed action to climate change

153. Notwithstanding my appeal from the *Sharma* judgment, I took into account that the Court in *Sharma* found that, even though the emissions of the proposed action were 'tiny' on a global scale, there was a real risk that even an infinitesimal increase in global average surface temperature may trigger a tipping point or a 4°C Future World: *Sharma* No 1 at [253].
154. I agreed with the department's conclusion that if, contrary to the DISER Advice, the proposed action caused 'additional' coal to be consumed, the proposed action would risk a very small increase in global GHG emissions (see below), and therefore a small increased risk to human safety.
155. However, I found that this risk was particularly low given the total emissions from the proposed action are extremely small and significantly less than those associated with the Extension Project. The total GHG emissions of the proposed action would be approximately 10,207,434 t of CO₂ equivalent (approximately 10-11 per cent of the emissions of the Extension Project).

Reasonable measures to mitigate climate change

³¹ <https://www.ipcc.ch/report/ar6/wg2/>

156. As outlined above at [108-128], climate change is a global problem that the international community has responded to through the UNFCCC and now the Paris Agreement. Parties to the Paris Agreement have committed to prepare, communicate and maintain the NDCs that they aim to achieve, with the goal of limiting the increase in global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.
157. As outlined above, the proponent has advised that the coal from the proposed action is intended to be used for steelmaking and electricity generation in South Korea, Japan, India and China. All of these countries are signatories to the Paris Agreement. In addition, Japan and South Korea have already committed to further reductions to their NDC's in line with Net Zero by 2050. China and Japan have committed to Net Zero by 2060 and 2070 respectively.
158. Further, scope 3 emissions occurring overseas will become the consumer country's scope 1 and 2 emissions and be accounted for under the Paris Agreement in their respective national inventories. The Paris Agreement does not require parties to take particular measures to achieve their NDCs; rather, parties may determine which domestic mitigation measures to pursue, with the aim of achieving the objective of their NDC. Consumer countries have made a number of commitments to reduce GHG emissions, refer Table 1. Countries where the coal will be consumed have a discretion to determine what climate change mitigation measures they will pursue in accordance with their national policies and pursuant to their NDCs.
159. I noted the advice of DISER which stated:
- CO₂ emissions associated with the Vulcan Coal Mine (the Project) that occur within Australia's jurisdiction would be covered by the Australian Government's Paris Agreement Nationally Determined Contribution³² (NDC) as updated on 28 October 2021.
160. I also noted DISER's Supplementary Information that the Project will not impact Australia's Paris Agreement emission reduction commitments and that the inclusion of the Project would not affect Australia's ability to achieve Australia's net zero emissions target.
161. DISER's Supplementary Information stated that the proposed action would not affect Australia's ability to achieve Australia's net zero emissions target, as set out in the Long Term Emissions Reduction Plan³³.
162. I accepted DISER's advice that the approval of the proposed action would not affect Australia's ability to achieve the commitments in its NDC, or ability to achieve the net zero emissions target.
163. I found that the approval of the proposed action is consistent with Australia's commitments under the Paris Agreement.
164. While I also took into account the Steffen Reports in considering the impact of the proposed action on climate change, I disagreed with Professor Steffen's conclusion and accepted the department's advice that a decision to refuse the proposed action is likely to have no impact on total GHG emissions.
165. The department noted the following points, which I took into account:
- First, consistent with the Paris Agreement, national governments have a discretion to determine what measures will be employed to reduce GHG emissions. There is no government policy requiring approval of coal mines to be refused in order to meet

³² Nationally Determined Contribution

³³ Long Term Emissions Reduction Plan

Australia's commitments under the Paris Agreement, or to prevent coal being available to other countries to reduce other countries' emissions.

- Second, the scope 3 emissions from the burning of the coal are taken into account in the country where they are emitted, consistent with the Paris Agreement. The majority of the proposed action's emissions are scope 3 emissions, and the proposed consumers of the coal will be parties to the Paris Agreement.
- Third, evidence as discussed above indicates that there is an ongoing demand for metallurgical coal, particularly for use in steelmaking. A decision to refuse the proposed action is likely to have no reduction of total GHG emissions.
- Fourth, there are myriad sources of GHG emissions including from the burning of coal, but also many other sources. I did not accept that the use of coal in particular cannot continue as a source of such emissions. The fact that most fossil fuels must remain unburned accepts that some fossil fuels can be exploited (see *Gloucester Resources v Minister for Planning* [2019] NSWLEC 9 at [551]) and does not consider other measures that may be taken to reduce or offset emissions.

166. While recent projections indicate that parties' current NDCs under the Paris Agreement are insufficient to limit global average temperatures to below 2°C, I noted that there are mechanisms under the UNFCCC and Paris Agreement (Article 4 to increase the commitments made for future NDCs) to achieve the Paris goal of well below 2°C.

Social and economic considerations

167. I have outlined my consideration of the relevant economic and social matters at [51-55] above in this statement of reasons.
168. In summary, I considered that the proposed action is estimated to result in an economic benefit to the Queensland community. I considered that the refusal of the proposed action would prevent the opportunity for positive economic and social impacts.

Conclusion on human safety risks

169. For the reasons discussed above, I found, after giving elevated weight to human safety as required by the *Sharma* decision, approval of the proposed action is not likely to cause harm to human safety and decided that the proposed action should be approved.
170. I found that, even if, contrary to the DISER Advice, the coal from the proposed action would not be substituted by other coal if the proposed action is not approved, it is appropriate to approve the proposed action, taking into account and balancing the other relevant considerations discussed throughout these reasons.
171. I further found that approval is appropriate having regard to the social and economic benefits of the proposed action, the global need for steel and the absence of any currently viable alternatives at scale to the use of metallurgical coal in steelmaking. I reached this conclusion after taking into account the matters referred to in these reasons and, in particular, that any contribution of the proposed action to global GHG emissions will be extremely small.

Additional considerations

172. In considering the matters relevant to the matters protected by the applicable controlling provisions, and economic and social matters, I took into account:

- a. the principles of ecologically sustainable development (set out in section 3A of the EPBC Act), including the precautionary principle (set out in sections 3A(b) and 391(2) of the EPBC Act) (section 136(2)(a));
- b. the documents provided under subsection 95B(3), and the recommendation report relating to the action given to me under section 95C (section 136(2)(bc)); and
- c. relevant comments given to me by another Minister in accordance with an invitation under 131, 131AA or 131A ((section 136(2)(f) and section 131AA(6)).

Principles of ecologically sustainable development (section 136(2)(a)) including the precautionary principle (section 391)

173. In deciding whether or not to approve the taking of an action and the conditions to attach to an approval, section 136(2)(a) of the EPBC Act provides that I am required to take into account the principles of ecologically sustainable development (ESD). The principles of ESD, as defined in Part 1, section 3A of the EPBC Act, are:
- a. decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations;
 - b. if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (the precautionary principle);
 - c. the principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;
 - d. the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making;
 - e. improved valuation, pricing and incentive mechanisms should be promoted.
174. In addition, section 391 of the EPBC Act provides that I must take into account the precautionary principle in deciding whether or not to approve the taking of an action. The precautionary principle requires that, if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
175. In making this decision, I took into account the principles of ecologically sustainable development, including the precautionary principle. In particular:
- I was satisfied that the recommendation report and assessment documentation contain information on the long-term and short-term economic, environmental, social and equitable considerations.
 - I agreed with the department's conclusion that any lack of certainty related to the potential impacts of the proposed action is addressed by conditions that restrict environmental impacts, impose strict monitoring and adopt environmental standards which, if not achieved, require the application of response mechanisms in a timely manner to avoid adverse impacts.
 - I considered that the conditions will ensure protection of EPBC listed species and communities, and allow for the proposed action to be delivered and operated in a sustainable way to protect the environment for future generations.

- I considered the importance of conserving biological diversity and ecological integrity, and a range of information on the economic costs, benefits and impacts of the proposed action.

Preliminary documentation and recommendation report (section 136(2)(bc))

176. In accordance with section 136(2)(bc)(i), I considered the statement given to me under section 95B(3).
177. In accordance with section 136(2)(bc)(ii), I considered the recommendation report relating to the action given to me in accordance with section 95C.

Any relevant comments given to the Minister by another Minister in accordance with an invitation (s 136(2)(f))

178. As noted above, comments on the proposed decision were received from Geoscience Australia in response to an invitation provided to the Minister for Resources and Water. To the extent that these comments were relevant to matters under section 136(1), I took these comments into account, and they are addressed above.

Comments from the proponent (section 131AA(1) and section 131AA(6))

179. In making my decision I took into account the proponent's comments on the proposed decision, as addressed above in the discussion of the conditions.

Any other information the Minister has on the relevant impacts of the action – (section 136(2)(e))

180. All of the information on the relevant impacts of the proposed action that I considered was contained in the final approval decision brief, and is listed above.

Proponent's history in relation to environmental matters – section 136(4(a))

181. In deciding whether to approve a proposed action, and what conditions to attach to any approval, I may, under section 136(4) of the EPBC Act, consider whether the person proposing to take the action is a suitable person to be granted an approval.
182. On 27 October 2021, the department's Environment Compliance Branch advised that an environmental history check on the proponent (Queensland Coking Coal Pty Ltd) and its related companies, Vitrinite Pty Ltd and Queensland Coal Aust No.1 Pty Ltd, indicated that there is no adverse compliance history for the proponent or its related companies.
183. The PD states that Vitrinite Pty Ltd (the proponent's parent company) has a proven record of responsible environmental management and has not received any infringement notices or faced any proceedings under a Commonwealth, State or Territory law relating to any environmental incidents in its operating history.
184. On the basis of this information, and consistent with the Department's recommendation, I decided that the proponent is a suitable person to be granted an approval.

Considerations in deciding on condition – section 134

185. In accordance with section 134(1), I may attach a condition to the approval of the action if I am satisfied that the condition is necessary or convenient for:
- (a) protecting a matter protected by a provision of Part 3 for which the approval has effect (whether or not the protection is protection from the action); or

- (b) repairing or mitigating damage to a matter protected by a provision of Part 3 for which the approval has effect (whether or not the damage has been, will be or is likely to be caused by the action).

186. In accordance with section 134(2), I may attach a condition to the approval of the action if I am satisfied that the condition is necessary or convenient for:

- (a) protecting from the action any matter protected by a provision of Part 3 for which the approval has effect; or
- (b) repairing or mitigating damage that may or will be, or has been, caused by the action to any matter protected by a provision of Part 3 for which the approval has effect.

187. Section 134(2) does not limit section 134(1).

188. As discussed earlier in my reasons, I found that each of the conditions attached to the approval is necessary or convenient to protect, repair and/or mitigate impacts on listed threatened species or communities.

189. Subsection 134(3A) states certain conditions cannot be attached to the approval of an action unless the holder of the approval has consented to the attachment of the condition. As noted above, prior to the decision being made the proponent indicated that it agreed to the conditions to be attached.

Considerations in deciding on conditions - section 134(4)

190. In accordance with section 134(4), in deciding whether to attach a condition to an approval I considered:

- (a) any relevant conditions that have been imposed, or I considered are likely to be imposed, under a law of a State or self-governing Territory or another law of the Commonwealth on the taking of the action;

I considered the conditions attached to the EA to the extent they are relevant to matters of national environmental significance. I was satisfied that the conditions of approval I decided to attach are consistent with the EA conditions, and avoid duplication with the EA conditions and other relevant Queensland legislation.

- (aa) information provided by the person proposing to take the action or by the designated proponent of the action;

All relevant information provided by the proponent, including the proponent's comments on the proposed conditions, is addressed above

- (b) the desirability of ensuring as far as practicable that the condition is a cost-effective means for the Commonwealth and a person taking the action to achieve the object of the condition.

As outlined above, I considered the conditions imposed by the Queensland Government, as described in the EA. I considered that the conditions described in the Queensland EA do not include adequate requirements for the protection of MNES and to compensate for the residual significant impact on MNES resulting from the proposed action. I considered that environmental offsets in accordance with the EPBC Act Environmental Offsets Policy (2012) are required to compensate for the residual significant impact on the Koala and the Squatter Pigeon (Southern) as a result of the proposed action.

In addition to its offset obligations, I considered that the proponent is required to provide a financial contribution to a program for the better protection and long-term conservation of the Koala, in particular the rehabilitation and restoration of Koala habitat in the Bowen Basin in Queensland.

I accepted the department's advice that the conditions I decided to attach are cost-effective means of ensuring that matters of national environmental significance are protected.

Requirements for decisions about listed threatened species and communities – section 139

191. Under section 139(1) of the EPBC Act, in deciding whether or not to approve for the purposes of a subsection of section 18 or section 18A the taking of an action, and what conditions to attach to such an approval, I must not act inconsistently with:
- (a) Australia's obligations under:
 - (i) the Convention on Biological Diversity (Biodiversity Convention); or
 - (ii) the Convention on the Conservation of Nature in the South Pacific (Apia Convention); or
 - (iii) the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); or
 - (b) a recovery plan or threat abatement plan.

192. Section 139(2) states, if:

- (a) the Minister is considering whether to approve, for the purposes of a section of section 18 or section 18A, the taking of an action; and
- (b) the action has or will have, or is likely to have, a significant impact on a particular listed threatened species or a particular listed threatened ecological community;

the Minister must, in deciding whether to approve the taking of the action, have regard to any approved conservation advice for the species or community.

The Biodiversity Convention

193. The objectives of the Biodiversity Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.
194. The Biodiversity Convention promotes environmental impact assessment (such as this process) to avoid and minimise adverse impacts on biological diversity. As outlined above, I considered the appropriate combination of avoidance and mitigation measures to address the potential impacts of the proposed action on particular species.
195. The conditions of approval require information related to the proposed action to be publicly available to ensure equitable sharing of information and improved knowledge relating to biodiversity.

196. I was satisfied that approving the undertaking of the proposed action, subject to conditions, was not inconsistent with the Biodiversity Convention.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

197. CITES is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival.
198. I am satisfied that approving the proposed action, subject to conditions, is not inconsistent with Australia's obligations under CITES as the proposed action does not involve international trade.

Convention on the Conservation of Nature in the South Pacific (Apia Convention)

199. The Apia Convention encourages the creation of protected areas which together with existing protected areas will safeguard representative samples of the natural ecosystems occurring therein (particular attention being given to endangered species), as well as superlative scenery, striking geological formations, and regions and objects of aesthetic interest or historic, cultural or scientific value.
200. The Apia Convention was suspended with effect from 13 September 2006. While this Convention has been suspended, I accepted the department's advice that approving the proposed action, subject to conditions, is not inconsistent with the Convention which has the general aims of conservation of biodiversity.

Recovery Plans and Threat Abatement Plans

201. There are no adopted or made Recovery Plans for the Koala or Squatter Pigeon (Southern).
202. The threat Abatement Plans (TAPs) relevant to the proposed action are:

- a. Department of the Environment (2015). *Threat abatement plan for predation by feral cats*. Canberra, ACT: Commonwealth of Australia. Available from: www.environment.gov.au/biodiversity/threatened/publications/tap/threat-abatement-plan-feral-cats. In effect under the EPBC Act from 23-Jul-2015.

The goal of the Feral Cat TAP is to provide a national framework to guide and coordinate Australia's response to the impacts of Feral Cats (*Felis catus*) on biodiversity. The Feral Cat TAP notes that, as Feral Cats are so thoroughly established in Australia, the focus of management is generally on impact abatement rather than eradication.

- b. Department of the Environment and Energy (2016). *Threat abatement plan for competition and land degradation by rabbits*. Canberra, ACT: Commonwealth of Australia. Available from: www.environment.gov.au/biodiversity/threatened/publications/tap/competition-and-land-degradation-rabbits-2016. In effect under the EPBC Act from 07-Jan-2017.

The goal of the Rabbit TAP is to support the long-term maintenance of native species and ecological communities affected by competition and land degradation caused by Rabbits (*Oryctolagus cuniculus*). The Rabbit TAP notes that direct impacts of Rabbits include competition for native wildlife for resources, preventing plant regeneration, and overgrazing and general damage to plant species.

- c. Department of the Environment, Water, Heritage and the Arts (DEWHA) (2008). *Threat abatement plan for predation by the European red fox*. DEWHA, Canberra. Available

from: www.environment.gov.au/biodiversity/threatened/publications/tap/predation-european-red-fox. In effect under the EPBC Act from 01-Oct-2008.

The goal of the Fox TAP is to guide and coordinate Australia's response to the effects of predation by the European Red Fox (*Vulpes vulpes*) on biodiversity. The Fox TAP notes that eradication of the European Red Fox on mainland Australia is not currently a viable proposition, as this is well beyond the capacity of available techniques and resources.

203. Squatter Pigeon (southern) is identified in the Feral Cat TAP, Rabbit TAP and Fox TAP as a species that may be adversely affected by Feral Cats, Rabbits and the European Red Fox (respectively). However, these TAPs do not identify specific management measures for the Squatter Pigeon (southern) or relevant to the proposed action. As such, I did not consider that it is not necessary or convenient for protecting the Squatter Pigeon (southern) to apply any conditions of approval to control the effects of Feral Cats, Rabbits or the European Red Fox.
204. I was satisfied the approval of the proposed action, and the conditions of approval, are not inconsistent with the above TAPs.

Conservation advices

205. The approved conservation advices relevant to this proposed action, which I refer to above, are:
- a. Department of Agriculture, Water and the Environment (2022). *Conservation Advice for Phascolarctos cinereus (Koala) combined populations of Queensland, New South Wales and the Australian Capital Territory*. Canberra: Department of Agriculture, Water and the Environment. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/85104-conservation-advice-12022022.pdf>. In effect under the EPBC Act from 12-Feb-2022.
 - b. Threatened Species Scientific Committee (2015). *Conservation Advice Geophaps scripta scripta squatter pigeon (southern)*. Canberra: Department of the Environment. Available from: www.environment.gov.au/biodiversity/threatened/species/pubs/64440-conservation-advice-31102015.pdf. In effect under the EPBC Act from 27-Oct-2015.
206. In making my decision I had regard to these conservation advices, and was satisfied that approval of the proposed action with conditions would not be inconsistent with these conservation advices.

Bioregional Plans section 176(5)

207. In accordance with section 176(5), I was required to have regard to a bioregional plan in making any decision under the Act to which the plan is relevant.
208. The proposed action is not located within or near an area designated by a bioregional plan.

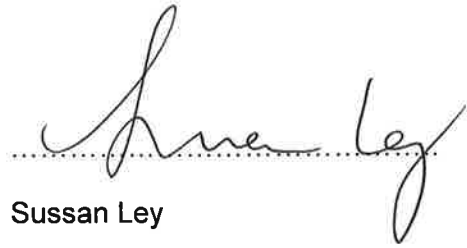
Duration of approval

209. I decided to approve the proposed action until 31 December 2045. This will allow sufficient time for construction, operation and decommissioning of the proposed action, and for the implementation of measures to protect matters of national environmental significance, and realisation of the conservation benefit of the required offset.

CONCLUSION

210. In light of the findings above, and having not considered any other matter which I am not required or permitted to consider, I decided to approve, subject to conditions, the taking of the action for the purposes of sections 18 and 18A of the EPBC Act.

Signed

A handwritten signature in cursive script, appearing to read "Sussan Ley", written over a horizontal dotted line.

Sussan Ley

Minister for the Environment

Date: 9th March 2022

ANNEXURE A

Section 130 of the EPBC Act relevantly provides:

Basic rule

- (1) The Minister must decide whether or not to approve, for the purposes of each controlling provision for a controlled action, the taking of the action.
- (1A) The Minister must make the decision within the relevant period specified in subsection (1B) that relates to the controlled action, or such longer period as the Minister specifies in writing.

Notice of extension of time

- (4) If the Minister specifies a longer period for the purposes of subsection (1A), he or she must:
 - (a) give a copy of the specification to the person proposing to take the action; and
 - (b) publish the specification in accordance with the regulations.

Section 131 of the EPBC Act provides:

- (1) Before the Minister (the **Environment Minister**) decides whether or not to approve, for the purposes of a controlling provision, the taking of an action, and what conditions (if any) to attach to an approval, he or she must:
 - (a) inform any other Minister whom the Environment Minister believes has administrative responsibilities relating to the action of the decision the Environment Minister proposes to make; and
 - (b) invite the other Minister to give the Environment Minister comments on the proposed decision within 10 business days.
- (2) A Minister invited to comment may make comments that:
 - (a) relate to economic and social matters relating to the action; and
 - (b) may be considered by the Environment Minister consistently with the principles of ecologically sustainable development.

This does not limit the comments such a Minister may give.

Section 131AA of the EPBC Act relevantly provides:

- (1) Before the Minister decides whether or not to approve, for the purposes of a controlling provision, the taking of an action, and what conditions (if any) to attach to an approval, he or she must:
 - (a) inform the person proposing to take the action, and the designated proponent of the action (if the designated proponent is not the person proposing to take the action), of:
 - (i) the decision the Minister proposes to make; and
 - (ii) if the Minister proposes to approve the taking of the action—any conditions the Minister proposes to attach to the approval; and

- (b) invite each person informed under paragraph (a) to give the Minister, within 10 business days (measured in Canberra), comments in writing on the proposed decision and any conditions.
- (2) If the Minister proposes not to approve, for the purposes of a controlling provision, the taking of the action, the Minister must provide to each person informed under paragraph (1)(a), with the invitation given under paragraph (1)(b):
 - (a) a copy of whichever of the following documents applies to the action:
 - (i) an assessment report;
 - (ii) a finalised recommendation report given to the Minister under subsection 93(5);
 - (iii) a recommendation report given to the Minister under section 95C, 100 or 105; and
 - (b) any information relating to economic and social matters that the Minister has considered; and
 - (c) any information relating to the history of a person in relation to environmental matters that the Minister has considered under subsection 136(4); and
 - (d) a copy of any document, or part of a document, containing information of a kind referred to in paragraph 136(2)(e) that the Minister has considered.
- (3) The Minister is not required to provide under subsection (2):
 - (a) information that is in the public domain; or
 - (b) a copy of so much of a document as in the public domain; or
 - (c) in the case of information referred to in paragraph (2)(b) or (c)—any conclusions or recommendations relating to that information included in documents or other material prepared by the Secretary for the Minister.
- (6) In deciding whether or not to approve, for the purposes of a controlling provision, the taking of the action, the Minister must take into account any relevant comments given to the Minister in response to an invitation given under paragraph (1)(b).

Section 131A of the EPBC Act provides:

Before the Minister decides whether or not to approve, for the purposes of a controlling provision, the taking of an action, and what conditions (if any) to attach to an approval, he or she may publish on the Internet:

- (a) the proposed decision and, if the proposed decision is to approve the taking of the action, any conditions that the Minister proposes to attach to the approval; and
- (b) an invitation for anyone to give the Minister, within 10 business days (measured in Canberra), comments in writing on the proposed decision and any conditions.

Section 133 of the EPBC Act relevantly provides:

Approval

- (1) After receiving the assessment documentation relating to a controlled action, or the report of a commission that has conducted an inquiry relating to a controlled action, the Minister may approve for the purposes of a controlling provision the taking of the action by a person.
- (1A) If the referral of the proposal to take the action included alternative proposals relating to any of the matters referred to in subsection 72(3), the Minister may approve, for the purposes of subsection (1), one or more of the alternative proposals in relation to the taking of the action.

Content of approval

- (2) An approval must:
 - (a) be in writing; and
 - (b) specify the action (including any alternative proposals approved under subsection (1A)) that may be taken; and
 - (c) name the person to whom the approval is granted; and
 - (d) specify each provision of Part 3 for which the approval has effect; and
 - (e) specify the period for which the approval has effect; and
 - (f) set out the conditions attached to the approval.

Persons who may take action covered by approval

- (2A) An approval granted under this section is an approval of the taking of the action specified in the approval by any of the following persons:
 - (a) the holder of the approval;
 - (b) a person who is authorised, permitted or requested by the holder of the approval, or by another person with the consent or agreement of the holder of the approval, to take the action.

Notice of approval

- (3) The Minister must:
 - (a) give a copy of the approval to the person named in the approval under paragraph 133(2)(c); and
 - (b) provide a copy of the approval to a person who asks for it (either free or for a reasonable charge determined by the Minister).

Notice of refusal of approval

- (7) If the Minister refuses to approve for the purposes of a controlling provision the taking of an action by the person who proposed to take the action, the Minister must give the person notice of the refusal.

Section 134 of the EPBC Act provides:

Condition to inform persons taking action of conditions attached to approval

(1A) An approval of the taking of an action by a person (the **first person**) is subject to the condition that, if the first person authorises, permits or requests another person to undertake any part of the action, the first person must take all reasonable steps to ensure:

- (a) that the other person is informed of any condition attached to the approval that restricts or regulates the way in which that part of the action may be taken; and
- (b) that the other person complies with any such condition.

For the purposes of this Chapter, the condition imposed by this subsection is attached to the approval.

Generally

- (1) The Minister may attach a condition to the approval of the action if he or she is satisfied that the condition is necessary or convenient for:
 - (a) protecting a matter protected by a provision of Part 3 for which the approval has effect (whether or not the protection is protection from the action); or
 - (b) repairing or mitigating damage to a matter protected by a provision of Part 3 for which the approval has effect (whether or not the damage has been, will be or is likely to be caused by the action).

Conditions to protect matters from the approved action

- (2) The Minister may attach a condition to the approval of the action if he or she is satisfied that the condition is necessary or convenient for:
 - (a) protecting from the action any matter protected by a provision of Part 3 for which the approval has effect; or
 - (b) repairing or mitigating damage that may or will be, or has been, caused by the action to any matter protected by a provision of Part 3 for which the approval has effect.

This subsection does not limit subsection (1).

Examples of kinds of conditions that may be attached

- (3) The conditions that may be attached to an approval include:
 - (aa) conditions requiring specified activities to be undertaken for:
 - (i) protecting a matter protected by a provision of Part 3 for which the approval has effect (whether or not the protection is protection from the action); or
 - (ii) repairing or mitigating damage to a matter protected by a provision of Part 3 for which the approval has effect (whether or not the damage may or will be, or has been, caused by the action); and

- (ab) conditions requiring a specified financial contribution to be made to a person for the purpose of supporting activities of a kind mentioned in paragraph (aa); and
- (a) conditions relating to any security to be given by the holder of the approval by bond, guarantee or cash deposit:
 - (i) to comply with this Act and the regulations; and
 - (ii) not to contravene a condition attached to the approval; and
 - (iii) to meet any liability of a person whose taking of the action is approved to the Commonwealth for measures taken by the Commonwealth under section 499 (which lets the Commonwealth repair and mitigate damage caused by a contravention of this Act) in relation to the action; and
- (b) conditions requiring the holder of the approval to insure against any specified liability of the holder to the Commonwealth for measures taken by the Commonwealth under section 499 in relation to the approved action; and
- (c) conditions requiring a person taking the action to comply with conditions specified in an instrument (including any kind of authorisation) made or granted under a law of a State or self-governing Territory or another law of the Commonwealth; and
- (d) conditions requiring an environmental audit of the action to be carried out periodically by a person who can be regarded as being independent from any person whose taking of the action is approved; and
- (e) conditions requiring the preparation, submission for approval by the Minister, and implementation of a plan for managing the impacts of the approved action on a matter protected by a provision of Part 3 for which the approval has effect such as a plan for conserving habitat of a species or ecological community; and
- (f) conditions requiring specified environmental monitoring or testing to be carried out; and
- (g) conditions requiring compliance with a specified industry standard or code of practice; and
- (h) conditions relating to any alternative proposals in relation to the taking of the action covered by the approval (as permitted by subsection 133(1A)).

This subsection does not limit the kinds of conditions that may be attached to an approval.

Certain conditions require consent of holder of approval

- (3A) The following kinds of condition cannot be attached to the approval of an action unless the holder of the approval has consented to the attachment of the condition:
 - (a) a condition referred to in paragraph (3)(aa), if the activities specified in the condition are not reasonably related to the action;
 - (b) a condition referred to in paragraph (3)(ab).

(3B) If the holder of the approval has given consent, for the purposes of subsection (3A), to the attachment of a condition:

- (a) the holder cannot withdraw that consent after the condition has been attached to the approval; and
- (b) any person to whom the approval is later transferred under section 145B is taken to have consented to the attachment of the condition, and cannot withdraw that consent.

Conditions attached under paragraph (3)(c)

(3C) A condition attached to an approval under paragraph (3)(c) may require a person taking the action to comply with conditions specified in an instrument of a kind referred to in that paragraph:

- (a) as in force at a particular time; or
- (b) as is in force or existing from time to time;

even if the instrument does not yet exist at the time the approval takes effect.

Considerations in deciding on condition

(4) In deciding whether to attach a condition to an approval, the Minister must consider:

- (a) any relevant conditions that have been imposed, or the Minister considers are likely to be imposed, under a law of a State or self-governing Territory or another law of the Commonwealth on the taking of the action; and
- (aa) information provided by the person proposing to take the action or by the designated proponent of the action; and
- (b) the desirability of ensuring as far as practicable that the condition is a cost-effective means for the Commonwealth and a person taking the action to achieve the object of the condition.

Effect of conditions requiring compliance with conditions specified in another instrument

(4A) If:

- (a) a condition (the **principal condition**) attached to an approval under paragraph (3)(c) requires a person taking the action to comply with conditions (the **other conditions**) specified in an instrument of a kind referred to in that paragraph; and

- (b) the other conditions are in excess of the power conferred by subsection (1);

the principal condition is taken to require the person to comply with the other conditions only to the extent that they are not in excess of that power.

Validity of decision

(5) A failure to consider information as required by paragraph (4)(aa) does not invalidate a decision about attaching a condition to the approval.

Section 136 of the EPBC Act provides:

Mandatory considerations

- (1) In deciding whether or not to approve the taking of an action, and what conditions to attach to an approval, the Minister must consider the following, so far as they are not inconsistent with any other requirement of this Subdivision:
 - (a) matters relevant to any matter protected by a provision of Part 3 that the Minister has decided is a controlling provision for the action;
 - (b) economic and social matters.

Factors to be taken into account

- (2) In considering those matters, the Minister must take into account:
 - (a) the principles of ecologically sustainable development; and
 - (b) the assessment report (if any) relating to the action; and
 - (ba) if Division 3A of Part 8 (assessment on referral information) applies to the action—the finalised recommendation report relating to the action given to the Minister under subsection 93(5); and
 - (bc) if Division 4 of Part 8 (assessment on preliminary documentation) applies to the action:
 - (i) the documents given to the Minister under subsection 95B(1), or the statement given to the Minister under subsection 95B(3), as the case requires, relating to the action; and
 - (ii) the recommendation report relating to the action given to the Minister under section 95C; and
 - (c) if Division 5 (public environment reports) of Part 8 applies to the action:
 - (i) the finalised public environment report relating to the action given to the Minister under section 99; and
 - (ii) the recommendation report relating to the action given to the Minister under section 100; and
 - (ca) if Division 6 (environmental impact statements) of Part 8 applies to the action:
 - (i) the finalised environmental impact statement relating to the action given to the Minister under section 104; and
 - (ii) the recommendation report relating to the action given to the Minister under section 105; and
 - (d) if an inquiry was conducted under Division 7 of Part 8 in relation to the action—the report of the commissioners; and
 - (e) any other information the Minister has on the relevant impacts of the action (including information in a report on the impacts of actions taken under a policy, plan or program under which the action is to be taken that was given to the Minister under an agreement under Part 10 (about strategic assessments)); and

- (f) any relevant comments given to the Minister in accordance with an invitation under section 131 or 131A; and
- (g) if a notice relating to the action was given to the Minister under subsection 132A(3)—the information in the notice.

Person's environmental history

- (4) In deciding whether or not to approve the taking of an action by a person, and what conditions to attach to an approval, the Minister may consider whether the person is a suitable person to be granted an approval, having regard to:
 - (a) the person's history in relation to environmental matters; and
 - (b) if the person is a body corporate—the history of its executive officers in relation to environmental matters; and
 - (c) if the person is a body corporate that is a subsidiary of another body or company (the **parent body**)—the history in relation to environmental matters of the parent body and its executive officers.

Minister not to consider other matters

- (5) In deciding whether or not to approve the taking of an action, and what conditions to attach to an approval, the Minister must not consider any matters that the Minister is not required or permitted by this Division to consider.

Section 139 of the EPBC Act provides in part:

- (2) If:
 - (a) the Minister is considering whether to approve, for the purposes of a subsection of section 18 or section 18A, the taking of an action; and
 - (b) the action has or will have, or is likely to have, a significant impact on a particular listed threatened species or a particular listed threatened ecological community;

the Minister must, in deciding whether to so approve the taking of the action, have regard to any approved conservation advice for the species or community.