



Brolga. IAN MELBOURNE/INATURALIST

EES SUBMISSION

Opposing the Proposed Kentbruck Green Power Hub

Victorian National Parks Association

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Environmental Effects Statement Submission Opposing the Proposed Kentbruck Green Power Hub

The Victorian National Parks Association (VNPA) strongly recommends denying the proposed Kentbruck Green Power Hub (KGPH). Although we generally support the development of renewable energy projects, the KGPH is proposed to be sited in a highly sensitive environmental area and will very likely cause significant impacts to ecosystems that are of state, national and international significance. This includes impacts to a Ramsar-listed wetland, vegetation and habitat within a national park and numerous flora and fauna species listed as threatened under the *Flora and Fauna Guarantee Act 1988* and/or *Environment Protection and Biodiversity Conservation Act 1999*. Among these threatened species are one the world's most endangered birds, the Orange-bellied Parrot (*Neophema chrysogaster*), as well as the critically endangered Southern Bent-wing Bat (*Miniopterus orianae bassanii*). VNPA emphasises the need to preserve these natural assets for current and future generations, in line with our national and international commitments to safeguarding Victoria's unique and irreplaceable natural heritage.

Our view is that the Environmental Effects Statement (EES) has overall downplayed and underestimated the extent of environmental impacts and relied too heavily on uncertain mitigation measures. In this submission we outline our main concerns.

We acknowledge this project (if it proceeds) will be on the Bocara Woorrowarook Mirring – River Forest Country of the Gunditjmarra people.

1. Reduced landscape connectivity

It is a well-accepted view that landscape connectivity is essential for ecosystems to properly function and thrive (Yabsley *et al.* 2016, Mansergh *et al.* 2007, Mansergh *et al.* 2008). This enables fauna to migrate and move between various areas of habitat, maintaining population and genetic viability. The proposed KGPH is situated along a narrow area of land that lies directly between several highly significant reserves, including the Discovery Bay Coastal Park to the south (also encompassing the Glenelg Estuary and Discovery Bay Ramsar Site) and the Lower Glenelg and Cobboboonee National Parks to the north. Various detailed scientific studies have shown that many fauna species will avoid areas that contain wind turbines (Kumara *et al.* (2022), Marques *et al.* (2019)), which is very likely to be the outcome for the proposed KGPH due the large number and size of wind turbines.

Under Victorian State law the *Flora and Fauna Guarantee Act 1988*, 'Habitat fragmentation as a threatening process for fauna in Victoria' is listed as a Potentially Threatening Processes since 1998, and is recognised as an underlying cause of biodiversity decline across Victoria (DEECA 2023).

Threatening Processes require an Action Statement by government to guide reversal of damage to biodiversity by the processes, there is currently no Action Statement for this Process. But advice from the Scientific Advisory Committee (SAC) starts that

'At the level of whole communities, fragmentation results in the loss of species, changes to the composition of assemblages and changes to ecological processes. There is widespread evidence that habitat fragmentation results in the decline and loss of species from fragments, and that such losses may lead to the local and regional extinctions. Changes resulting from fragmentation are not immediate, but become evident over years or decades as, for example, animal populations slowly decline to extinction on a local then regional scale' (FFG SAC 1998) Although the KGPH is an important project that will increase Victoria's production of renewable energy, it must be located in a different location where it will not impact on such an important habitat link.

2. Impacts to Cobboboonee National Park, Lower Glenelg National Park and other protected areas

While the EES ensures that there will be minimal impacts to the Cobboboonee National Park, we believe that siting of over 17 kilometres of underground transmission line through the park is completely unacceptable. Although the project proposes to use directional drilling to prevent impacts to trees along Boiler Swamp Road, this method is not guaranteed to prevent reduced health or mortality of trees (it previously said not guaranteed to cause). If directional drilling causes any roots to be severed or significantly damaged, trees may experience reduced water and nutrient uptake, leading to decline or death. Construction activity, even with minimal surface excavation, can compact soil and reduce oxygen availability for roots, weakening trees over time. We therefore believe that at least 83 Western Peppermint trees (*Eucalyptus falciformis*) could be impacted or even killed by this method, as well as individuals of the FFG-listed Apple Jack (*Eucalyptus splendens*).

Furthermore, such a major construction project within the park will require machinery, fencing, loud noise, vibrations and human traffic that will all likely cause major disruptions to fauna species residing within the park. This includes threatened species such as Long-nosed Potoroo and Southern Brown Bandicoot.

The Victorian *National Parks Act 1975* aims to protect, conserve, and enhance Victoria's national parks, ensuring the preservation of natural ecosystems, biodiversity, and cultural heritage for future generations. Importantly, the Act seeks to prevent activities that may damage park ecosystems. We believe that the proposed underground transmission line through the Cobboboonee National Park threatens the Park's ecological integrity and so is at odds with the aims of the Victorian *National Parks Act 1975*.

We understand that alternative options for the transmission line such as through private land were ruled out in the early stages of the project. Alternative options should have been explored as part of the EES process to ensure that impacts could be assessed and compared.

The vegetated rises where the thickly forested landscapes of Cobboboonee and Lower Glenelg national parks are conserved in an area where plantation forestry is prevalent and are considered to be regionally significant for their distinctive landscape character (Dept. of Planning and Community Development 2013), this character will be lost if the development proceeds.

The Lower Glenelg and Cobboboonee National Parks provide the largest tracts of remaining natural areas in the region. The parks and reserves make a significant economic contribution to these towns through tourism, employment and other uses (Parks Victoria 2013).

We also hold concerns about the impact of the development on the Kentbruck H15 Bushland Reserve, Kentbruck H50 Bushland Reserve and Hedditch Hill Scenic Reserve.

Using the *Development of wind energy facilities Policy and planning* guidelines (Department of Transport and Planning 2023) the proposed development of KGHP will violate the following Guidelines

- **2.1.4 Exclusion of wind energy facilities in National Parks, State Parks, Coastal Parks and other high-quality environmental and landscape locations in the state.** The proposed underground transmission line through the national park does not meet this requirement
- **5.1.3 Landscape and visual impact-landscape values associated with nearby parks described in a schedule to the National Parks Act 1975 or Ramsar wetlands-** The development will have a significant impact on the landscape as described in the planning scheme (including in an overlay, a relevant strategic study or landscape features referenced in the planning scheme), proximity to sensitive areas, proximity to an existing or proposed wind energy, facility, regarding cumulative visual effects and flora and fauna habitat

3. Impacts to groundwater

The proposed KGHP occurs to the immediate north of Long Swamp, a wetland that is listed as a Groundwater Protected Ecosystem and included in the internationally significant Glenelg Estuary and Discovery Bay Ramsar Site. The management plan for the Ramsar Site states that Long Swamp is dependent on groundwater for its survival and describes future infrastructure projects as a possible threat to local groundwater due to the potential for salinity intrusion and changes to flow patterns (DELWP 2017).

Although the EES ensures that any impacts to groundwater will be mitigated, we believe that there are serious risks that the construction and operation of the wind farm could negatively affect groundwater resources. Studies indicate that even minor fluctuations in groundwater levels can cause stress to GDEs, leading to biodiversity loss and ecosystem degradation (Zolfaghar et al., 2014). Additionally, the wind farm site is located within the Otway Basin, an area where excessive groundwater extraction has historically led to saline water intrusion into freshwater aquifers (Morgan et al., 2018). The combined effects of proposed groundwater extraction, dewatering, and subsurface barriers could all contribute to long-term degradation of GDEs, affecting local biodiversity and ecosystem services.

4. Impacts to Southern Bent-wing Bat

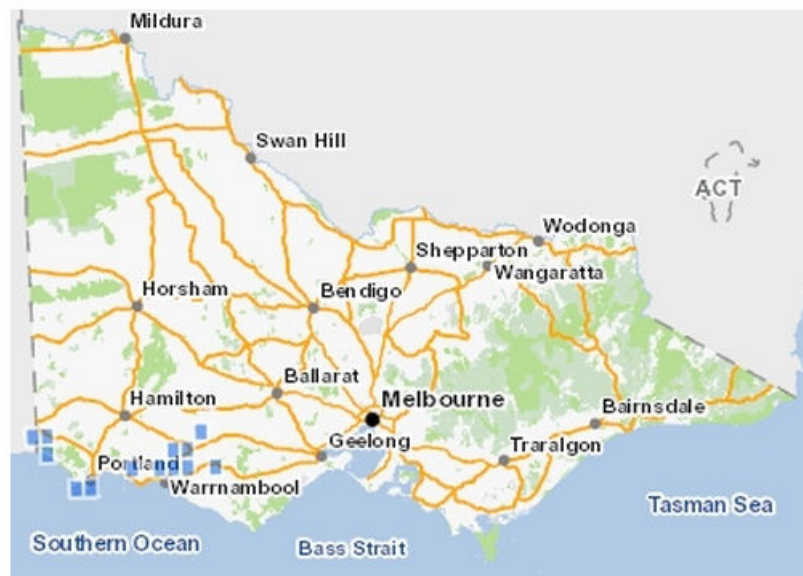
DECCA (2021) highlights the fragility of the Southern Bent-wing Bat population, and states that its population has declined dramatically in recent decades. This severe decline could lead to extinction without intervention (DECCA 2021).

The species is listed as Critically Endangered under State and Commonwealth Law.

Southern Bent-wing Bat is a designated Icon Species in the Icon Species funding program (DEECA 2024) as well as a Priority Mammal in the Commonwealth's Threatened Species Action Plan 2022-2032 (DCCEEW 2022).

The Commonwealth recognises *Collision with windfarm turbines* as a key threat to the species (DCCEEW 2023).

The species has an incredibly restricted home range in south-west Victoria to just across the South Australian border, it is considered a range restricted species and found nowhere else on Earth.



Victorian Distribution of Southern Bent-wing Bat, State Wide Integrated Flora and Fauna Teams (2025)

The impact assessment report for the proposed wind farm concludes that the risk to the Southern Bent-wing Bat (SBWB) is low, based on findings that the species predominantly flies below turbine rotor-swept height. However, we believe that proposal still poses significant threats to the species for the following reasons:

Population Viability Analysis (PVA) Highlights High Sensitivity to Additional Mortality

The PVA included in the report acknowledges that the Portland sub-population of SBWB is already in severe decline, with or without additional wind farm-related mortality. Even low levels of additional fatalities, such as 10 deaths per year, accelerate the risk of extinction. While the report assumes that mortality will remain below this threshold, the uncertainty in collision rates and potential underreporting of bat fatalities suggests that any increase in mortality could have a disproportionately negative impact on the species.

Uncertainty in Flight Behaviour and Detection Methods

The report itself highlights limitations in the detection of bat flight paths and heights. While surveys indicate that most flights occur below rotor height, these findings are not definitive due to factors such as:

- Limited sampling periods and locations.
- Potential bias in detection methods, as acoustic surveys may underrepresent actual bat activity at heights susceptible to turbine collisions.
- The possibility that bats engage in vertical movement during foraging or in response to environmental conditions, which could increase their risk of collision.

Cumulative Impacts and Lack of Comprehensive Assessment

The assessment concludes that cumulative impacts are unlikely to be significant. However, conservation advice (TSSC 2021) explicitly notes that wind farms near roosting sites could have major consequences due to the species' limited range and migratory behaviours. The report does not fully assess how the proposed wind farm, in combination with existing and future developments, might contribute to population stressors, particularly given ongoing habitat loss and climate change.

Evidence of Wind Farm Mortality Underreporting

Past studies of wind farms in south-west Victoria (Moloney et al. 2019) indicate that SBWB mortalities have been recorded, yet carcass searches are often limited in effectiveness due to scavenger activity and detection biases. Given that the actual mortality rate is likely higher than reported, dismissing collision risk as 'low' underestimates the true impact.

Barotrauma and Non-Collision Risks

Even if direct collisions are rare, barotrauma (lung damage caused by rapid air pressure changes near turbine blades) remains a significant and largely unquantified risk (Baerwald *et al.* 2018). Many bat species are known to be highly susceptible to barotrauma, and dismissing this risk without targeted studies undermines the credibility of the impact assessment.

Reliance on Unproven Mitigation Measures

The report proposes adaptive management strategies such as curtailing turbines at low wind speeds. However, studies (e.g. Arnett et al. 2011) show that while such measures reduce fatalities, they do not eliminate them. Furthermore, adaptive management relies on post-construction monitoring, which may be too late to prevent irreversible declines in an already endangered species.

5. Impacts to Migratory birds

The Glenelg Estuary and Discovery Bay Ramsar Site to the south of the proposed KGPH is recognised to be of international significance for migratory birds. The site is known to support over 30 migratory birds, including those listed under the Japan-Australia Migratory Bird Agreement (JAMBA), China-Australia Migratory Bird Agreement (CAMBA), and the Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA). Migratory shorebirds use the site as a staging area during their long migrations, stopping to rest and refuel (DELWP 2017).

The EES concludes that the proposed KGPH will not significantly impact migratory birds. However, we believe the EES underestimates the risks of collision, displacement, and cumulative mortality. Studies have shown that wind energy projects can disrupt migration patterns and lead to measurable population declines, especially for species that have long migration routes or rely on specific stopover sites.

While the EES proposes mitigation strategies such as a Bird and Bat Adaptive Management Plan (BBAMP) and bird diverters, there is limited evidence that these measures significantly reduce collision rates:

- Studies show that bird deterrent markers on power lines are only partially effective, as birds do not always perceive them in time (Barrientos et al., 2011).
- Adaptive management relies on post-construction monitoring, which means that damage could already be done before corrective measures are implemented.
- The effectiveness of turbine shutdowns during high-risk periods (e.g. peak migration) is difficult to enforce and may not always align with the birds' movements.

The EES claims that the individual risk to migratory birds is low, but it does not adequately address the cumulative impact of multiple wind farms in the region. Multiple studies highlight the dangers of cumulative mortality (Gove et al., 2013; Thaxter et al., 2017). Small-scale mortality from individual wind farms can add up, especially for long-lived species with low reproductive rates (e.g., raptors). As wind energy development expands across the region, overlapping risks from multiple farms could lead to regional declines in bird populations.

In *Table 7.20: Summary of flora and fauna impacts* it lists 'other threatened waterbirds/shorebirds, gulls and terns' which have all been lumped into one category. Different birds will have different behaviours and potential flight heights and should be assessed separately. For example, shore birds are different to gulls and terns. While their habitats may overlap, they should not be considered as an all-in-one category.

<p>Other threatened waterbirds / Shorebirds, gulls and terns</p>	<ul style="list-style-type: none"> • Collision with turbines or transmission lines. 	<ul style="list-style-type: none"> • Construction of the wind farm within non-preferred environments for this species (farmland and pine plantation). • Locating the transmission line underground. • Minimum blade sweep height of turbines to be greater than 60 m above ground level. • Exclusion of turbines within 300 m of conservation reserves. • Exclusion of turbines within farmland between conservation reserves and the Kentbruck Heath. • Adaptive Bird and Bat Management Plan (BBMP). 	<ul style="list-style-type: none"> • Some potential for threatened waterbird collisions but population level impacts highly unlikely. • Potential for rare collisions by some shorebirds, gulls and terns, however it is unlikely that the project will have population level significant impacts on these species.
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Regarding the other mitigation measures listed for threatened birds, there seems to be a blanket mitigation measure of *Minimum blade sweep height of turbines to be greater than 60 m above ground level*. We question is this is based on bird sightings from the surveys or if based on other science and if this height is appropriate for all threatened bird species (migratory and otherwise).

Bird survey methodology

It is unclear which locations the bird surveys were undertaken at Discovery Bay Coastal Park. *Figure 7.9 Map Migratory Shorebird Survey Locations* indicates there were surveys done but does not detail the sites within the survey area. *Was this the entire beach or just a small section of beach? Was the length of the beach surveyed adjacent to the project area?*

6. Impacts to Australasian Bittern

The Australasian Bittern (*Botaurus poiciloptilus*) is a cryptic, low-density wetland species with limited data on its flight behaviour and movement patterns. Targeted surveys conducted between 2018 and 2023 demonstrated that south-west Victoria supports a significant proportion of the Australasian Bittern population (DELWP 2022).

Australasian Bittern is a Priority Bird in the Commonwealth's Threatened Species Action Plan 2022-2032 (DCCEEW 2023b). The species is listed as Endangered under Commonwealth law and Critically Endangered under Victorian legislation.

The estimated number of mature individuals is <2,000 globally with approximately 1,300 (range 750–1,800) in Australia with approximately 86–248 in Victoria (DCCEEW 2022)

The Australasian Bittern has been in decline for at least the past 30 years and declines since 2000 have been more pronounced. The decline has been detected across both the eastern and western subpopulations and is associated with the loss of key breeding habitats driven by loss of suitable wetland ecosystems due to groundwater extraction and alteration, drainage of swamps, invasive species, reduced water quality, detrimental fire regimes (DCCEEW 2022)

Further stress on this fragile species will lead to declines in their populations and possible localised extinctions.

Studies suggest that:

- The species engages in long-distance dispersal, particularly in response to drought or habitat changes (Buchanan et al., 2020).
- Flight heights are highly variable, meaning that birds could fly at turbine rotor heights, making collision risk difficult to predict (Garnett et al., 2011).
- Unlike more studied migratory species, avoidance rates for bitterns are not well understood, making it difficult to model accurate risk projections.

Since the Environmental Effects Statement (EES) relies on models that assume certain avoidance behaviours, any underestimation of flight behaviour increases the likelihood of unexpected collisions.

One of the primary mitigation strategies proposed in the Bird and Bat Adaptive Management Plan (BBAMP) is the installation of bird diverters on overhead powerlines. However:

- Research on bird diverters primarily applies to species with good forward vision, such as raptors and waterfowl (Barrientos et al., 2011).
- Bitterns, being stealth predators that rely on camouflage, have different visual perception and may not detect diverters as effectively as other species.
- Diverters have shown limited effectiveness at night and during poor weather conditions, when bitterns are more likely to be flying (Martin et al., 2012).

This suggests that bird diverters are unlikely to significantly reduce collision risk for Australasian Bitterns.

7. Impacts to Orange-bellied Parrot

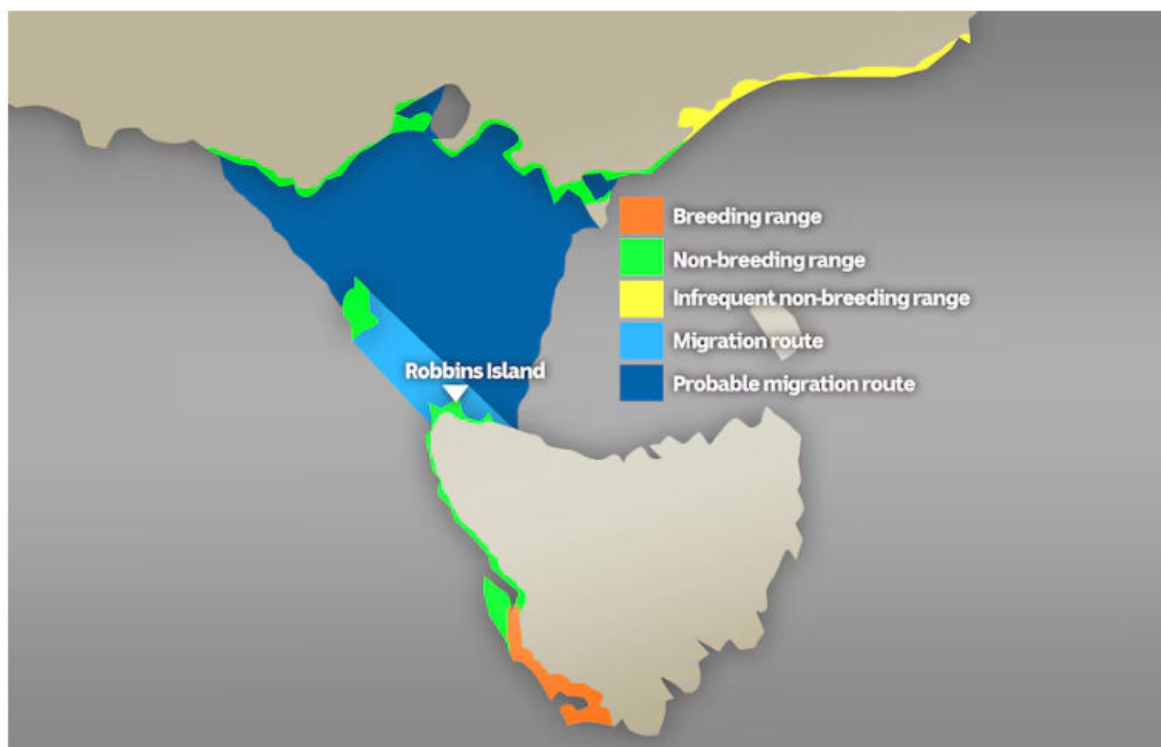
South-west Victoria is one of the few mainland hotspots for the critically endangered Orange-bellied Parrot (OBP).

OBP is a Priority Bird in the Commonwealth's Threatened Species Action Plan 2022-2032 (DCCEEW 2023c). The species is listed as Critically Endangered under Victorian legislation and Commonwealth law.

Between 90-200 OBP remain in the wild, with numbers getting as low as 17. The cumulative impact of wind farm developments in the migratory route of the OBP across Victoria and Tasmania is of concern (ABC 2025).



Orange-bellied Parrot. Photo: Ron Knight



Distribution and migration routes of the orange-bellied parrot, based on information from the orange-bellied parrot recovery team (ABC 2025)

The EES claims that impacts to this species are unlikely, citing a lack of nearby records and no previous evidence that individuals have been killed by wind turbines. However, it must be remembered that the numbers of wild OBP are now so low (less than 100 individuals) that the species is very difficult to detect, and any mortalities caused by wind turbines could easily have been over-looked.

Furthermore, the EES also makes it clear that there is no reliable flight height data for the species and instead relies on comparison with the similar Blue-wing Parrot. **We believe that impacts to this species are more than likely, and that given the very small number of wild individuals remaining, any impact is unacceptable.**

8. Impacts to Brolga

The proposed wind farm is located in an area that supports breeding Brolga pairs, as identified in the Brolga Impact Assessment. Eleven breeding pairs were recorded, with an additional five assumed within 3 km of the project area.

Brolga (*Antigone rubicunda*, originally listed as *Grus rubicundus*) is listed as Endangered under Victoria's *Flora and Fauna Guarantee Act 1988*.

The Victorian Brolga population is independent to the northern Brolga population and further genetic work is needed to understand if the species across Victoria and should be managed as a genetically distinct population here in Victoria.

As highlighted by Miller (2006) "The potential self-recruiting nature of the Victorian population also emphasises its vulnerability to negative demographic factors and stochastic processes. Small isolated populations (less than 500 breeding individuals) are particularly prone to rapid losses of genetic diversity and the negative effects of inbreeding".

The KGPH is likely to impact this species in various ways:

Habitat Disruption and Breeding Disturbance

The disturbance caused by construction activities, including increased noise, artificial lighting, and vehicle movement, poses a substantial risk to breeding success. Although the EES states that construction will be restricted during the breeding season, this assumes that Brolgas will reliably follow a predictable breeding schedule. In reality, breeding periods can vary based on environmental conditions, and disturbance outside the designated season may still impact breeding outcomes. The report acknowledges that "numbers can vary annually" and that breeding can occur outside the general July–November period. Given the species' sensitivity to disturbance, even limited construction activity near breeding sites could lead to nest abandonment and lower chick survival rates.

Collision Risk Underestimated

The collision risk modelling assumes a 99% avoidance rate, predicting only one collision every 20 years. However, this assumption is overly optimistic for several reasons:

- **Lack of Comprehensive Collision Data:** The report states that only one confirmed Brolga collision has been recorded at Victorian wind farms. However, it also acknowledges that Brolga powerline collisions have been reported in the Portland district.

- If powerlines pose a collision risk, then wind turbines, which are larger and harder to manoeuvre around, should be considered a greater threat.
- Underestimation of Flight Height: The study recorded Brolgas flying at heights of 2m, 10m, 20m, and 70m, suggesting that at least some individuals are flying within the rotor-swept zone. Since wind turbines are significantly larger than powerlines, even occasional flights at rotor height could result in a greater number of fatalities than predicted.

Barrier Effect on Seasonal and Daily Movements

The EES identifies that the wind farm is in an area used by Brolgas for seasonal and daily movements. The presence of wind turbines could create a barrier effect, making it more difficult for Brolgas to move between foraging, breeding, and flocking sites. Even though the project has attempted to create turbine-free movement corridors, these do not account for unobserved flight paths or variations in movement behaviour. If Brolgas avoid crossing the wind farm due to perceived danger, this could:

- Increase energy expenditure as individuals take longer routes.
- Limit access to important wetlands and food sources.
- Reduce genetic exchange between populations by restricting movement between breeding and flocking areas.

Policy issues

9. No reference to the Marine and Coastal Act, policy or strategy

The proposed project is 2-3km from the coast, which according to the definition under the *Marine and Coastal Act 2018*, is part of the marine and coastal environment. The definition states that

'In Victoria, the "marine environment" as defined by the Marine and Coastal Act 2018 encompasses waters and land extending 3 nautical miles (5.5 kilometres) from the high-water mark, including bays, inlets, estuaries, and the Gippsland Lakes, down to a depth of 200 metres below the seabed, and all associated biodiversity.'

The project proposal is therefore governed by the [Marine and Coastal Act 2018](#), [Marine and Coastal Policy 2020](#), and the [Marine and Coastal Strategy 2021](#). We could not see any reference made to this legislation or policy in the EES documents. The project needs to follow them.

Chapter 9: Marine & Coastal Industries refers to the need to:

9.1 Strategically plan and manage industry use and development in the marine and coastal environment in a coordinated way to: a. provide for industry uses in appropriate locations (preferably on private land) b. minimise impacts and risks to the marine and coastal environment c. appropriately manage competing or conflicting uses d. facilitate coexistence and co-location of compatible uses e. take into account and minimise direct, cumulative and synergistic impacts f. minimise exposure to coastal hazard risk and impacts of climate change.

3 Use the Marine Spatial Planning Framework to guide planning, management and decision making across marine sectors in Victoria to enable equitable and ecologically sustainable marine uses and

industries, and to coordinate and integrate managing risks, impacts and change in the marine and coastal environment.

The Marine and Coastal Policy can be found [here](#).

10. Conclusion

The Victorian National Parks Association (VNPA) strongly opposes the proposed Kentbruck Green Power Hub (KGPH) in its current form due to its siting in a highly sensitive environmental area and likely impacts to threatened species and ecosystems. If approved, we have grave concerns that the project will cause negative impacts to the Cobboboonee National Park and an internationally significant Ramsar Site, as well as leading to the decline and local extinction of various threatened fauna species. Overall, it is our view that the EES has downplayed and under-estimated the extent of environmental impacts and relied too heavily on uncertain mitigation measures.

Given the high conservation value of the affected areas, VNPA urges the project to be relocated to a less ecologically sensitive site.

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