I strongly object on the basis of biodiversity issues to the development project SSD-9679 " Hills of Gold Wind Farm" consisting of 64 wind turbines in the Nundle, Crawney and Hanging Rock district of Northern New South Wales.

"Over the last 200 years Australia has suffered the largest documented decline in biodiversity of any continent. Despite efforts to manage threats and pressures to biodiversity in Australia, it is still in decline."
The main threats to our biodiversity are:

- Loss, fragmentation and degradation of habitat
- The spread of invasive species
- Unsustainable use of natural resources
- Climate change
- Inappropriate fire regimes
- Changes to the aquatic environment and water flows

The above extract is from the Australian Government Biodiversity website which should be updated to include wind farm developments are the major threat to biodiversity sustainability in Australia today.

Significance of Ben Halls Gap Nature Reserve:

The park features an outstanding area of tall, high nutrient old growth eucalypt forest. Most of the tall high nutrient forests of the region, and elsewhere in the state, have been cleared or logged.

The mountain gum of the park is rare on an Australia-wide basis because of clearing, and is limited in extent in other conservation reserves. The mountain gum trees in the park are probably the tallest in the state, with many over 40m, and the snow gums also unusually large (Benson & Andrew 1990).

Sphagnum moss mounds found in some areas of rainforest are significant. The rainforest and areas of sphagnum moss are remnants of a habitat thought to have been more extensive in past wetter climatic periods. The sphagnum moss cool temperate rainforest community within the park has been listed as an endangered ecological community under Schedule 1 of the Threatened Species Conservation Act 1995 (TSC Act). This community contains a new species of ground orchid Corybas sp. and may also contain the rare orchid Adenochilus nortonii (Metcalf 1995).

The park has a rich bird and mammal fauna for its size. It is located at the overlap of the distributions of many eastern and western bird species. A large proportion of the mammal and bird species recorded are tree-hollow dwellers and the park contains one of the highest recorded densities of the greater glider. This abundance is a result of the high nutrient levels of the eucalypt foliage developed on basalt soils and the number of available suitable sized hollows. The greater glider is a major prey item in the diet of the threatened powerful owl that occurs in the park.

Other threatened animal species recorded in the park (listed on Schedule 2 of the TSC Act) are the tiger quoll, koala, great pipistrelle and olive whistler.

A glider that is either the squirrel glider (a Schedule 2 species) or the sugar glider Petaurus breviceps has also been recorded from scat remains.

Barrington Tops and the Liverpool Range appear to be a stronghold for the tiger quoll (Benson & Andrew, 1990). The park is one of the most inland occurrences of the olive whistler and also of the uncommon red-browed tree creeper Climacteris erythrops.

The rare skink Lampropholis caligula is found in the park. This species has an extremely restricted distribution, occurring only in a few remaining patches of little-disturbed high altitude eucalypt forest.

An invertebrate survey of the park (Gunning, 1995) found it to be very rich in insect species, with a particularly high diversity of butterflies, moths, beetles, bugs and wasps and of soil and ground dwelling insects associated with the large amount of organic matter on the forest floor. Two rare species were identified - an alpine fly and Kershaws brown butterfly, both of which are significant new distribution records. The mountain katydid was also found in the park. This is an alpine species and its finding in Ben Halls Gap is a significant range extension.

Summary of significance

The park is an outstanding area of tall, high nutrient old growth eucalypt forest which is virtually free of weeds. The mountain gum and snow gum oblique association is rare on an Australia-wide basis. The park provides important habitat for several threatened native plant and animal species (broad-leaved pepperbush, fragrant pepperbush, powerful owl, koala, great pipistrelle and olive whistler), the sphagnum moss cool temperate rainforest endangered ecological community, the rare skink Lampropholis Caligula and it is a stronghold for the tiger quoll.

The park provides a refuge for cold-adapted plant and animal communities, providing an overlap for eastern and western bird species with one of the highest recorded densities of the greater glider.

***In 1991 the NSW National Trust listed the park area as the 'Ben Halls Gap old growth forest landscape conservation area' in recognition of its outstanding natural heritage features. The park is also listed on the register of the National Estate*.**

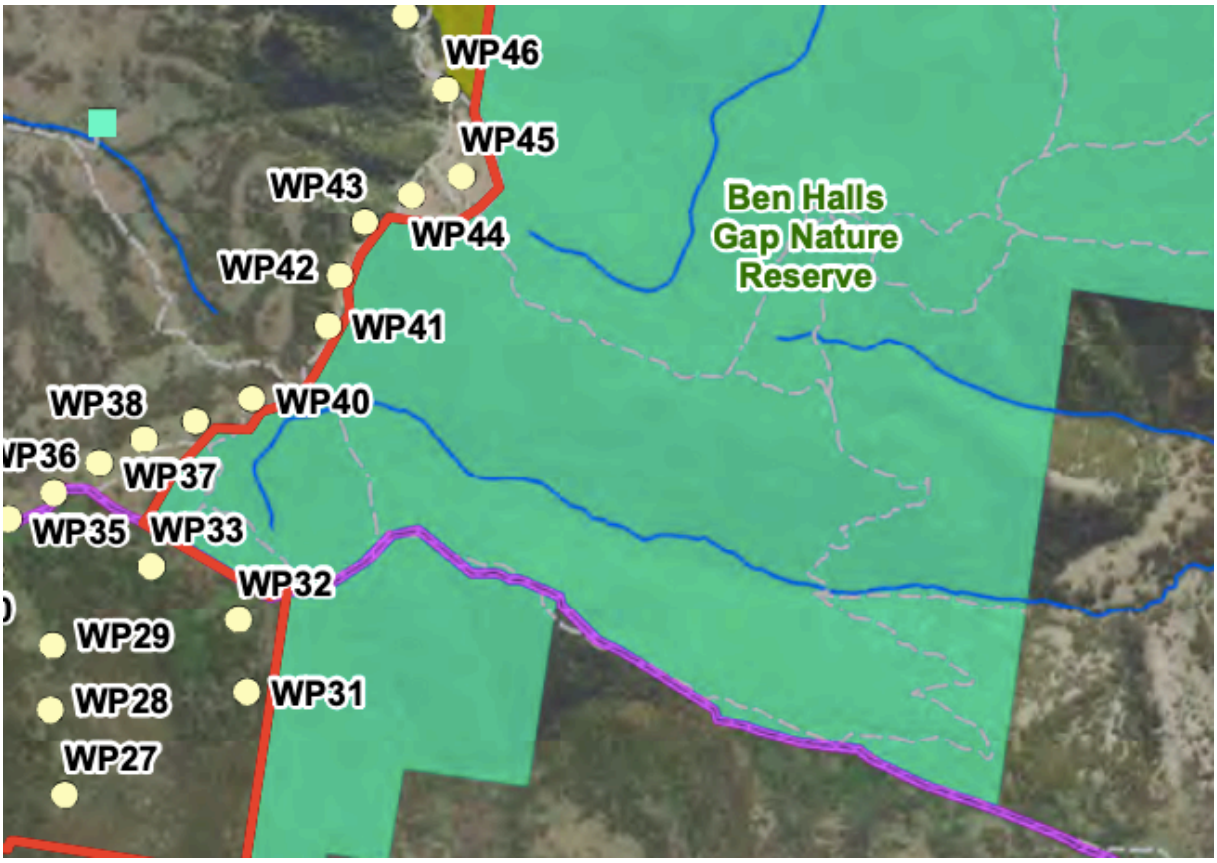
Question 1: Do WEP recognize the significance and status of the Ben Hall's Gap Nature Reserve for the preservation of flora & fauna for future generations?

Question 2: Given the status of Ben Hall's Gap Nature Reserve what would DPIE, leading ecologists and the proponent expect the minimum distance for buffer zones for turbine placement to the boundary of BHGNR?

Turbine placements adjoining Ben Halls Gap Nature Reserve

The map below highlights the proposed distances and extreme proximity of turbine placements to the boundary of the reserve.

Turbine 31 : 180 metres
Turbine 32 : 205m
Turbine 33 : 207m.
Turbine 38 : 178m
Turbine 39 : 137m.
Turbine 40 : 99m
Turbine 41 : removed
Turbine 42 : 87m.
Turbine 43 : 88m.
Turbine 44 : 177m.
Turbine 45 : 113m



Upper Hunter Shire Council has a Development Control Plan for wind farm developments that clearly outline distances of turbine placement to non-associated boundaries. ***"The proposal is not located within a distance equivalent to 2 times the height of the turbine (including the tip of the blade) from the boundary."***

Question 3: Given Upper Hunter Shire Council's Development Control Plan requirement of 460 metres (2 x 230 metres proposed turbine height) distance from non-associated boundaries why are all 10-turbine placements surrounding Ben Halls Gap Nature Reserve less than 45% of the requirement from the boundary?

Hills Of Gold Ridgeline

The image below highlights the turbine placement restrictions due to the narrow ridgeline of the proposed project area. Subsequent close proximity placements of turbines will create extreme risks for wildlife movement within known habitat corridors and reduced bushfire control capabilities.

The image below is an extract from Engie's project update Oct 22. Turbine 41 has been removed and some turbine placements relocated. This statement is a disgrace and does not reflect any material change to the effects upon the biodiversity of the project area.

Removal and Relocation of Turbines

- The removal of Wind Turbine Generator 41 and the relocation of 19 turbines:
  - WTG 41 is proposed to be removed to create a 1.2km buffer along Ben Halls Gap Nature Reserve that will:
    - Reduce bird and bat barrier effects.
    - Reduce NSWS aerial fire-fighting concerns.
  - 9 turbines (WTG; 2, 3, 4, 32, 35, 36, 40, 64, 70) are to be relocated withing 100m of previous locations.
  - 10 turbines (WTG; 10, 11, 37, 38, 42, 43, 44, 45, 46, 47) are to be relocated within 150m of previous locations.

- These turbines have been relocated in response to ongoing discussions with BCD, with the goal to create greater buffers in proximity to Ben Halls Gap Nature Reserve and habitat contributing to collision risk.

Question 4: Please explain how the removal of one turbine (41) makes any material change to reducing NSWS aerial fighting concerns?

Question 5: Please outline exact distances turbine placements 32, 35, 36 and 40 have been moved from the boundary of the reserve?

Question 6: Please explain how relocating turbines 42,43,44 and 45 from East to West along the ridgeline and no further away from the reserve makes any difference to the biodiversity protection of the reserve?

Question 7: The removal of turbine 41 and replacement of 42 has increased the buffer to 1.2km along the reserve- this buffer was already 1.1km. Given this buffer already existed due to the narrowness of this portion of ridgeline please explain how a 100 metre change makes any difference to the risks associated for the biodiversity of the Reserve?

Biodiversity Conservation Science Directorate

Please read the response from the department Director below regarding issues raised by the BCS during the previous submission.

Dear Anthony

Hills of Gold Wind Farm – Response to Submissions

Thank you for your e-mail dated 12 January 2022 to the Biodiversity, Conservation and Science Directorate (BCS) of the department inviting comments on the Response to Submissions (RTS) for the Hills of Gold Wind Farm.

Many of the issues raised by BCS in our submission of 4 February 2021 have been addressed; however, concerns remain around several issues, particularly the proximity of the development to the high biodiversity values of adjoining Ben Halls Gap Nature Reserve and nearby national park estate, the ability of the proponent to mitigate blade strike given the high levels of species diversity and densities, and the lack of ability to apply large buffers to turbines due to landform constraints. BCS recommends that the proponent be requested to provide, prior to project determination, a statement of commitments outlining blade strike trigger points and associated mitigation measures.

BCS notes that the proponent proposes to stage the construction of the project and that a detailed Staging Plan will be prepared and submitted in advance of construction. The intention is that prior to works commencing the biodiversity offset requirements associated with each stage will be confirmed and secured through the legal mechanisms required by the NSW Biodiversity Offset Scheme and the EPBC Act Offsets Policy. We further note the commitment that the project impacts will remain within the "worst-case" scenario assessed as part of the updated Biodiversity Development Assessment Report (BDAR). BCS requests that the Staging Plan and supporting credit obligation calculations be provided to us for review and verification. BCS welcomes the opportunity to discuss the mechanisms of how this may be achieved and conditioned.

Recommendations and comments on the RTS are provided in **Attachment A** and detailed comments are provided in **Attachment B**.

If you require any further information regarding this matter, please contact David Geering, Senior Conservation Planning Officer, via david.geering@environment.nsw.gov.au or (02) 6883 5335.

Yours sincerely

Sarah Carr
Director North West
Biodiversity, Conservation & Science Directorate

1 February 2022

The response from this Government organization is extremely concerning given the role this body represents. Protection of biodiversity issues should be paramount for any renewable project and government bodies that represent biodiversity protection should not simply roll over and offer Biodiversity Offset Schemes especially for such a significant Reserve as Ben Halls Gap Nature Reserve.

NSW PARKS WILDLIFE SERVICE

The extract from March '22 below highlights a Government organization willing to represent the biodiversity issues affecting the Australian landscape today. Engie should accept the response from the NPWS, acknowledge the effects of the turbine placements in close proximity the Ben Halls Nature Reserve has on biodiversity issues and remove 10 turbines from the proposal.

Hills of Gold Windfarm proposal
-- NPWS reply to updated BDAR and Bushfire Risk Assessment and proponent's Response to Submissions

1) BDAR & environmental considerations:

Reference[1]	Issue	Source/s	Remaining comments/concerns
NPWS_1 & 9, EES_8 & 9a	Potential for blade-strike impacts on avifauna.	s5.4.2, 7.2, 8.3.1, 8.3.2,	The removal of two turbines adjacent to national park estate is welcomed, but the remaining adjacent turbines remain of concern, given that the Ben Halls Gap Nature Reserve (BHGNR) comprises significant habitat, especially for species reliant on tree hollows and higher quality habitat. Seven of the eight threatened bat species and four bird species (two threatened) are described as likely to suffer moderate impact from the proposal, including at the local population level. 28 turbines are described as posing a "Moderate Risk" to local threatened bird and bat species. This needs further mitigation as it is unknown how the proposed adaptive management will mitigate impacts once the turbines are constructed. What options are there for the proposed adaptive management measures once the turbines are in place? A key question is whether a moderate level of risk to threatened species acceptable adjacent to high quality habitat on national park? For these reasons and for potential impacts on NPWS operations, **NPWS recommends the removal from the proposal of all turbines adjacent to Ben Halls Gap Nature Reserve.**

Question 8: Will Engie accept the response from the NPWS and remove the following turbines from the project 31,32,33,38,39,40,42,43,44 & 45?

Conclusion:

Increasing the supply of renewable energy will allow us to replace carbon-intensive energy sources and significantly reduce global warming emissions. However land use changes trigger biodiversity decline therefore we have a duty for a greater policy protection of conservation areas of significance such as the Ben Halls Gap Nature Reserve for future generations.

It is imperative that the State Government and various Government bodies accept the NSW Park and Wildlife recommendations and remove all 10 turbines adjacent to the Ben Halls Gap Nature Reserve. This development is not a "green project" if it destroys the very thing it aims to protect.