

Review of biodiversity considerations for the Secretary's Environmental Assessment Report for the United Wambo Open Cut Coal Mine Project (SSD 7142)

Submission to the Planning and Assessment Commission

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Expert Advice prepared for the Hunter Environment Lobby (HEL)

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Summary

The assessment by the Department of Planning and Environment (DPE) of this major project is deficient in a number of key areas in relation to biodiversity:

- A proper consideration of the assessment of significance test for NSW-listed matters, according to section 5A of the EP&A Act, has not occurred. In my opinion, there are at least 11 threatened fauna species and a number of endangered ecological communities that are at risk of significant impact.
- The assessment approach taken has failed to consider issues of landscape connectivity adequately. The vegetation remnant primarily impacted is one of the last 20 or so patches of Central Hunter Grey Box-ironbark Woodland left in the Hunter Valley that are bigger than 100 ha. This is an important and irreplaceable patch of lowland vegetation in an ecological community which has rapidly diminished, mainly from mine development, in recent times.
- The offset package has not been adequately verified and all offset requirements have not been met under the *NSW Biodiversity Offsets Policy for Major Projects* (NSW Offset Policy) in the Preliminary Assessment Report. Assurances of a staged fulfilment of the offset requirements is not consistent with current offset policy in NSW.
- The assessment report assumes the proposed offset arrangements will be suitable for the Regent Honeyeater and other listed matters through an increase in connectivity for these fauna species. In my opinion, the proposed offsets are likely to be sub-optimal due to location in landscape, the uncertainty associated finding additional suitable offsets, and the time taken to achieve suitable habitat components for these species.
- The current offset package relies on 25% of the requirement to be met using mine rehabilitation which is more than the 15% cap under a revision to the NSW Offset Policy. Reliance on rehabilitation to supplement lowland vegetation communities within the time frame of the consent is not justified by good scientific evidence and DPE's assurances in this regard cannot be relied upon.
- At least 7 out of the 10 objectives of the Commonwealth offset policy have not been met by the current proposal.

- There has been poor consideration of indirect and cumulative impacts on terrestrial biodiversity in the assessment.

Objectives of EP&A Act

As the project is being assessed under the transitional arrangements of the *Biodiversity Conservation (Savings and Transitional) Regulation 2017*; relevant objectives of the EP&A Act in relation to biodiversity and ecosystems, are to encourage:

(i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment;

(vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats; and

(vii) ecologically sustainable development (ESD).

In relation to ESD, the Department of Planning and Environment (DPE) states it has, “... *also noted the Applicant’s consideration of these matters and considers that the Project is able to be carried out in a manner that is consistent with the principles of ESD.*”

A basic tenant of ESD is the precautionary principle; *(a) the precautionary principle--namely, 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. (S.6.2 PoEA Act).*

In my opinion, the DPE has proposed conditions of consent that will have dubious outcomes, has failed to apply the precautionary principle, particularly in relation to rehabilitation success, and has not fulfilled the requirements for offsets either at state or Commonwealth levels.

In relation to objective (vi), the objectives outline consideration of impacts according to Section 5A, of the EP&A Act including consideration of whether activity is "likely to significantly affect threatened species". This has been responded to by the proponent in Appendix 13 of the EIS and in their Response to Submissions (RTS). Glencore have taken the approach that the requirements of the test are covered by the Biodiversity Assessment Report (BAR). But under this approach, only ‘*matters for further consideration*’ are flagged as being sensitive matters subject to possible significant impacts. OEHL did not identify any matters for further consideration for this project even though two matters are critically endangered, the Regent Honeyeater and the Commonwealth Central Hunter Valley Eucalypt Forest and Woodland (CHVEFW) though the DPE note that:

“The FBA assessment, Commonwealth referral determination and submissions from OEHL have identified that, without appropriate mitigation measures, the Project is likely to have significant impacts on three key threatened fauna species listed under the TSC Act and/or the EPBC Act, being the Swift Parrot, Regent Honeyeater and Spotted-tail Quoll”.

The DPE considered the ‘seven-part tests’ as undertaken by Glencore to be satisfactory. However, this approach has not addressed questions of impact on the ‘local population’ within the ‘locality’ of the matter as outlined in section 5A and is still retained within the changes brought by the

introduction of the *Biodiversity Conservation Act 2016*. This question remains open, though given the extent of habitat removal in the locality, it is my opinion that 11 species could potentially be significantly affected, including the Commonwealth listed species, Regent Honeyeater, Swift Parrot and Spotted-tail Quoll along with eight other NSW-listed species.

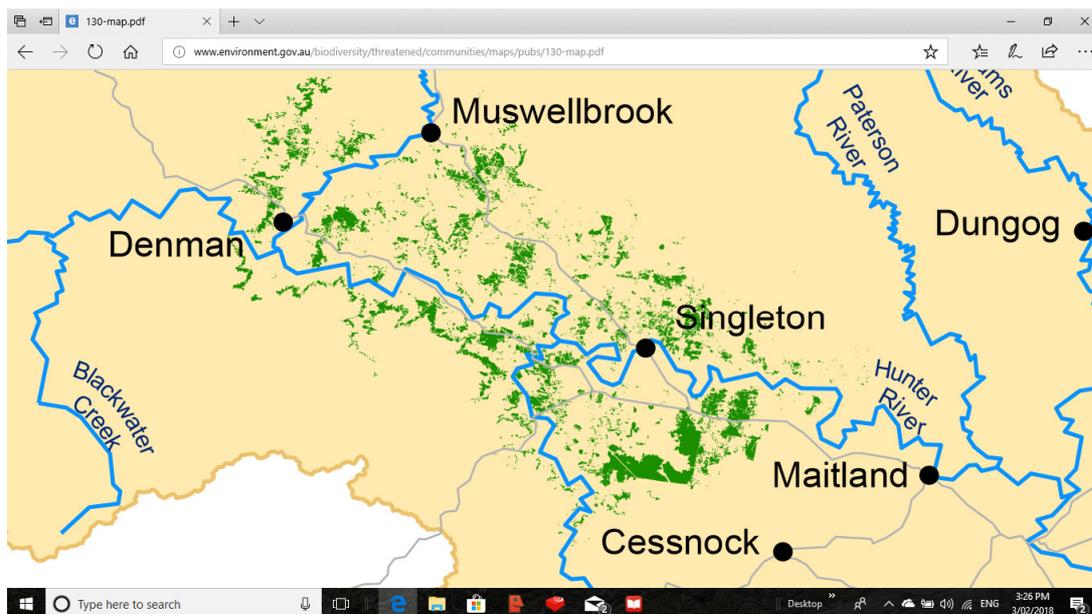
Despite the assurances from DPE, it is my contention that the extent and nature of the impact will result in a 'net loss' for biodiversity. These issues are expanded upon within the following sections.

Key issues

1. The impact on state-listed ecological communities, particularly 'Central Hunter Grey Box – Ironbark Woodland EEC' and 'Central Hunter Ironbark – Spotted Gum – Grey Box Forest EEC'. These communities are equivalent to CHVEFW which is regarded as being critically endangered by the Commonwealth.
2. The impact on Regent Honeyeater. Regarded as being critically endangered by the Commonwealth and critically endangered in NSW.
3. The fragmenting impact on connectivity affecting both species and ecological communities.

'Central Hunter Valley eucalypt forest and woodland' (CHVEFW)

Listed as critically endangered by the Commonwealth, one of the state equivalents is 'Central Hunter Grey Box – Ironbark Woodland' which occupies an area of approximately 46,920 ha. This is estimated to be 32% of the pre-European distribution (Peake 2006). Mapped occurrences of the community include 27 remnants greater than 100 ha and more than 1,000 small remnants less than 10 ha indicating a high level of fragmentation (Peake 2006). However, these estimates are 12 years old and considerable amounts of this Critically Endangered Ecological Community (CEEC) have been removed by the coal industry in the Hunter Valley over the last 12 years, including Glenore, amounting to hundreds of hectares.



Distribution of CHVEFW – confined to Hunter Valley where removal for mining is the chief threat

The remnant affected by the current project is one of the 27 patches 100 ha or greater in size and so should have a high landscape priority.

Regent Honeyeater

This critically endangered species is currently estimated to have total Australian population size of 400-500 individuals even with encouraging numbers detected last year during routine surveys (Birdlife Australia, May 2017).

Further removal of significant areas of habitat for this species is contrary to the efforts underway to re-introduce this species to boost wild numbers, both in terms of decline in available habitat and adverse effects on local connectivity. Loss of lowland corridors is significant as pointed out by the Birdlife Australia Recovery Team;

“Unfortunately for Regent Honeyeaters they liked the lowland, fertile woodlands which were historically cleared for agriculture and other human activity. As a result, the removal of foraging and nesting habitat has been extensive and dramatic in many areas, reducing the available nesting and foraging habitat to small remnants of what previously existed. These remnants are now under further threat from residential, agricultural and industrial developments. Current government policy frameworks in relation to development assessment and the offsetting of impacts don’t adequately address the key threats of habitat loss and degradation and habitat fragmentation.”

<http://birdlife.org.au/projects/woodland-birds-for-biodiversity/regent-honeyeater-wl>

Loss of habitat and connectivity as proposed by Glenore will not be offset by the existing reserve system as these are generally not within the lowland areas of the valley and not favoured by this species. The DPE’s assessment report clearly states that the proposed mine rehabilitation is to be considered as an offset for the Regent Honeyeater, but questions remain as to the veracity of these claims (see further comments below).

Connectivity

DPE claim that the presence of the Greater Blue Mountains World Heritage Area 0.5 km to the west and southwest of the project and existing offsets provided from other mining companies as well as extensive planned rehabilitation “... would assist in reconnecting the post-mining landscape with surrounding woodland corridors.”

The decline of valley woodlands, leading to the determination of these woodlands as being critically endangered by the Commonwealth, highlights that, while the patch in question is somewhat fragmented internally, it still retains significant biodiversity values. The area of the mine expansion is one of the most significant corridors existing in the central hunter valley lowlands. The assessment approach under the Framework for Biodiversity Assessment (FBA) does not regard this area as being a ‘regional corridor’ though it clearly is, connecting the Hunter River to Wollembi Creek, covers some 8km in length and one of the few remaining patches of its size.

Even if the mine rehabilitation areas could be tuned into healthy, valley woodland, the time delay of 50-100 years for this to occur (time taken for the generation of old-growth components) would mean a reduced level of valley connectivity for this time, well beyond the normal life-span for most fauna species.

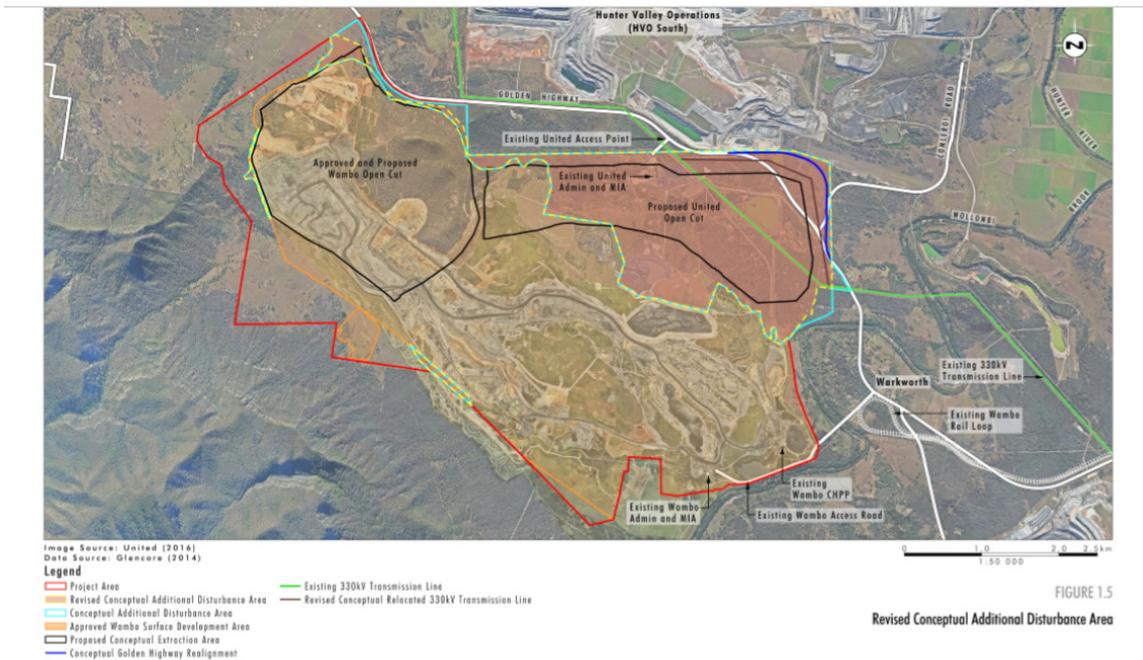


Location of critically endangered lowland woodland within the project area and landscape perspective

Connectivity should be considered both within landscapes and between different landscapes. Most fauna species have specific habitat requirements, and so the reduction of connectivity within landscapes (in this case, valley lowlands) may have significant consequences for a suite of species, such as the Regent Honeyeater for at least the next 50-100 years.

Connectivity matters not only for fauna but also for ecological communities themselves. Reduction of connectivity between patches reduces the local seedbank and ability of patches to self-regenerate and cross-pollinate. Isolated pockets of vegetation will reduce in ecological fitness over time.

The Project is seeking approval to retain two final voids further inhibiting long-term connectivity.



Location of proposed open cuts severing lowland corridor.

Impacts of revised proposal

The extent and location of disturbance has changed as the proposal has progressed through the assessment process.

Initially, the EIS stated that over 400 ha of native vegetation and 230 of state-listed TECs and 223 ha of a Commonwealth CEEC would be removed. Then in the Response to Submissions, this was increased to 531 ha of remnant and regenerated native vegetation communities.

As currently proposed, of the native vegetation communities to be cleared under the Project, 210 ha conforms to the definition of an endangered or vulnerable ecological community (EEC or VEC) under the *Threatened Species Conservation Act 1997* (TSC Act).

- 0.29 ha of Hunter Floodplain Red Gum Woodland EEC;
- 29.42 ha of Central Hunter Ironbark – Spotted Gum – Grey Box Forest EEC;
- 1.56 ha of Hunter Valley Foothills Slaty Gum Woodland VEC;
- 178.43 ha of Central Hunter Grey Box – Ironbark Woodland EEC;
- 115.16 ha of Bull Oak Grassy Woodland (part listed)

250.21 ha of these native woodland communities which are ear-marked for clearing by the proponent also conform with the EPBC Act listed Central Hunter Valley Eucalypt Forest and Woodland (CHVEFW) CEEC.

These increases in the amount of threatened ecological communities to be cleared are due to the correction of a mis-identification by Glencore of some vegetation as being CEEC and a revised transmission line footprint which would entail the clearing of an additional 4 ha.

Offsetting shortfalls

The revised offset requirement identifies the need to retire 26,625 ecosystem credits to account for clearing native vegetation and associated fauna habitat and foraging resources. The Project would also need to retire 562 species credits to account for the proposed clearance of 7.3 ha of potential breeding habitat for the Southern Myotis.

The proposed biodiversity offset strategy currently comprises 2,153 ha of land including 1,275 ha of existing native vegetation and 878 ha of land to be rehabilitated. The biodiversity credits currently amounts to:

- 9,264 ecosystem credits and 21 species credits for use in offsetting 'Stage 1' impacts.
- approximately 3,442 ecosystem credits at Jerry's Plains (unverified) for use in offsetting the Stage 1 impacts.
- the addition of 4,230 ecosystem credits from mine rehabilitation for Stage 1 even though credits will not be available on the ground for at least another 20 years.

This will mean that the proponent has identified the source of only 62% of the ecosystem and 4% of the species credits required under the Project at the time of the DPE's preliminary assessment.

The cap of 15% mine rehab for CEEC offset imposed by OEH has also not been adhered to, as the rehabilitation component of the offset currently comprises 25% of the credit requirement for the CEEC. The DPE assessment report states;

“These areas of ‘credit-generating’ rehabilitated woodland includes 258 ha of Bull Oak Grassy Woodland of the Central Hunter Valley that would contribute 23% of the ecosystem credits for this community, and 620 ha of woodland conforming to CHVEFW CEEC and contributing 25% of the ecosystem credits for impacts on Narrow-leaved Ironbark-Grey Box Grassy Woodland of the Central and Upper Hunter.”

The size of the offset in this revised package has increased from 56 to 338 ha including 150 ha of CEEC and 48 ha of grassland without retiring all credits required under the NSW Offset Policy. DPE claims that vegetation types in the offsets will offset these critical matters using ‘similar’ communities, though publicly released verification of these statements have not been forthcoming. At present, the NSW offset shortfall for this project includes:

- NSW: Grey Box: 3,183 credits needed now propose 2,527 credits (1,732 from Mangrove Offset: 795 from mine rehab). **656 credits short**
- NSW: Spotted Gum: 999 credits needed, **748 credits short**
- NSW: Myotis: 562 needed, **541 credits short**
- Comm: CHVEF: 7,268 credits needed, **2,993 credits short.**

The DPE assessment report states;

“In line with its staged mine plans, the Applicant has proposed to secure and retire 81% of the ecosystem and species credits required within one year of commencing the clearance of native vegetation, with the remaining 19% of credits to be retired over two subsequent stages.”

“The Department recognises that the proposed offset package still requires a number of residual credits to be obtained and is partially reliant on the successful rehabilitation of post-mining areas to native woodland communities. Consequently, the Department considers that detailed conditions would need to be developed to ensure the ongoing monitoring, adaptive management and successful establishment of rehabilitated communities and the in-perpetuity protection of biodiversity offsets.”

Essentially the Project is being put up for consideration by PAC without meeting all the offset requirements up front and includes the retirement of 4,230 credits from mine rehabilitation. Somehow, the proponent is proposing to find another 20% of the credit requirement between the time of the preliminary assessment report and the final approval. But, usually in NSW, any stages within a development should be considered together in an up-front package (consistent with both the NSW Offsets Policy and the Upper Hunter Strategic Assessment (UHSA) Interim Policy). The failure to do so appears not only to be a statutory problem but does not pass the test of public scrutiny, raises questions regarding the availability of offsets suitable for retirement and other questions concerning covenants and in perpetuity conservation.

Glencore have proposed three land-based biobanking offset sites comprising the:

- Wambo offset area, a 338 ha property located adjacent to the Project site and contiguous with the Wollemi National Park and existing Wambo biodiversity offset areas;
- Highfields offset area, a 428 ha property located in the Manobalai region, adjacent to the Manobalai Nature Reserve and within the UHSA - Great Eastern Ranges priority area; and

- Mangrove offset area, a 259 ha property also located in the Manobalai region and within the UHSA - Great Eastern Ranges priority area.

With a fourth, as yet unsubstantiated, offset purchased at Jerry's Plains, which;

“contains around 240 ha of CHVEFW CEEC and would generate around 3,442 additional ecosystem credits. Following preliminary verification of these initial survey results by OEH, the Department is satisfied that the four offset sites would deliver significant regional benefits for threatened flora and fauna species and populations and would go a long way toward addressing the Project's ecosystem credit requirements”.

The DPE endorses the location of these four offset areas and notes their proximity to a range of significant landscape features, existing conservation areas and strategic offset corridors.

In particular, *“The Wambo and Jerrys Plains sites are well located in close proximity to the Project and would provide immediate alternative habitat in the local area”.*

The DPE may be unaware that any retained areas of habitat are likely to have existing populations of threatened species, and so displacement of fauna from the loss of 250 ha of valley vegetation (those species which are able to escape habitat destruction) will not be able to find 'alternate' habitat as these areas are likely to already be populated with the same fauna species. Studies have shown that survivability of fauna is greatly diminished even if individuals survive the immediate clearing of their habitat, due to difficulties in finding available territories. Survival under these circumstances is generally only possible using tailored fauna recovery programs (Thompson and Thompson 2015).

Can the offset habitat be regarded as being 'alternate' to the habitat being removed in a future sense? In reality, there will only be a reduction in available habitat following the proposed clearing for at least the next 50-100 years. This DPE Preliminary Assessment Report reflects a lack of understanding of the ecological issues in relation to the impacts of clearing on fauna.

In order for the DPE to contend that the offset arrangements are a satisfactory outcome from both landscape and biodiversity perspectives, reliance is placed on the efficacy of the rehabilitation arrangements. But there are still serious questions about the effectiveness of 'creating' impacted ecological communities on mine spoil as discussed below.

Rehabilitation issues

“While the Department has noted some minor areas for improvement, the proposed offset and rehabilitation package would lead to an overall improvement in the area and connectivity of woodland communities on the Hunter Valley floor over the medium to long-term.”

Glencore have been conducting rehabilitation trials at the Ravensworth/Mt Owen Complex over the last ten years or so in conjunction with the University of Newcastle, known as the 'Ravensworth Hunter Ironbark Complex Research Program' (Glencore 2016). The rationale of this project is to develop an experimental approach to rehabilitating towards EECs on a spoil dump area. However, final results were characterised as being, *“... over the long term, plant diversity on rehabilitation areas declines ...(this) could jeopardize meeting rehabilitation objectives.”*

Successful rehabilitation it seems depends on whether suitable topsoils can be successfully established. Mulching appears to increase success rate of planted species as does the addition of organic matter.

However, “... a major problem is that (organic matter and mulching) also encourages weedy species and invasive grasses which require intensive management and can ultimately threaten the outcome”. In order for ecosystems to become self-sustaining, ie. self-generating, the seedstock in the patch needs to be able to germinate and grow successfully free from weeds. This has not been demonstrated in the experimental plots and it seems a lot of species die out, even if given special attention (including watering) by ecologists.

Despite this, DPE in their Preliminary Assessment Report, state;

“Following the successful rehabilitation of woodland communities, the Applicant would be able to retire a further 4,230 ecosystem credits”.

To date there is very little evidence to support the assertions by Glencore and DPE that mine rehabilitation can be counted as a successful EEC offset, certainly the biodiversity credits proposed to be generated for rehabilitation appear to be very generous, given the circumstances outlined above.

Commonwealth offset requirements

I provide the following comments on the suitability of the offsets proposed against the Commonwealth Offset Policy. The objectives of the policy are given below:

- 1. deliver an overall conservation outcome that improves or maintains the viability of the aspect of the environment that is protected by national environment law and affected by the proposed action*

Two key factors, beside the quantum of the offset, is the time taken until ecological benefit accrues and the confidence in the result. These are dealt with below. Best estimates, given a lot of the required information is not publicly available, strongly suggest that the proposed offset package is insufficient to affect an improved outcome for Matters of National Environmental Significance.

- 2. be built around direct offsets but may include other compensatory measures*

Offsets through direct measures, no compensatory measures have been proposed.

- 3. be in proportion to the level of statutory protection that applies to the protected matter*

The appropriateness of any offset proposal can be assessed using the ‘Offset Assessment Guide’. Use of this guide suggests that for a loss of 250 ha of critically endangered ecological community and habitat for a critically endangered species (Regent Honeyeater), the quantum of the offset proposed, including the Jerrys Plains site, for the CEEC is 390 ha of woodland and 800 ha of rehabilitation.

The veracity of the Offset Assessment Guide is dependent on a range of variables which are added by the proponent. I undertook consideration of the proposed offset against the Offset Assessment Guide using the following assumptions:

- I valued the condition of CEEC to be removed as being ‘8/10’ due to some internal fragmentation and edge effect,
- the start quality of the offsets I valued as being ‘9/10’, I assumed that all the proposed offset areas contained good quality CEEC in entirety, even though this is unlikely to be the case,
- the risk of loss of offset if not protected at being 10% (though is more likely 0% as removal of these land parcels is unlikely over the next 20 years), and

- the future quality of offset as being '10', giving an increase through management of one point, which is typical level of increment to be expected under the FBA.

Given these considerations, the proposed quantum for the offset does not meet the minimum (90%) direct offset requirement for CHVEFW or for habitat for the Regent Honeyeater. This is most likely because of the critically endangered status of the ecological community, which require more substantial offset under the Commonwealth offset rules. As it stands the area of CEEC currently in the offset package, including Jerry's Plains accounts for only 390 ha or 20.5% of the required minimum. The addition of 800 ha of rehabilitation, assuming all will be converted to CEEC, still only accounts for 62.5% of the Commonwealth requirement.

But there is a question mark as to whether the Commonwealth could accept an offset package where the non-direct offset component (rehabilitation) is larger than the direct offset component, presumably the proponent is proposing that rehabilitation is a direct offset.

4. be of a size and scale proportionate to the residual impacts on the protected matter

As mentioned above, the scale of the proposed offset seems to be insufficient to achieve the minimum requirement.

5. effectively account for and manage the risks of the offset not succeeding

This scenario has not been adequately taken into account, as risks in the FBA methodology used to derive credits for rehabilitation are under-stated.

6. be additional to what is already required, determined by law or planning regulations or agreed to under other schemes or programs (this does not preclude the recognition of state or territory offsets that may be suitable as offsets under the EPBC Act for the same action, see section 7.6)

All new offset parcels scored for biodiversity credits are additional to currently in-place land arrangements.

7. be efficient, effective, timely, transparent, scientifically robust and reasonable

Due to the delay in the finalisation of the offsets, there are question marks surrounding the delivery of some of the required offset.

8. have transparent governance arrangements including being able to be readily measured, monitored, audited and enforced.

These details have been addressed in part in the current proposal, though tenure for the mine rehabilitation is unclear.

9. In assessing the suitability of an offset, government decision-making will be informed by scientifically robust information and incorporate the precautionary principle in the absence of scientific certainty

There is a noted lack of application of the precautionary principle.

10. conducted in a consistent and transparent manner.

The offset package is stated to have been undertaken according to current policy, though has failed to meet expected outcomes due to the high level of rehabilitation in the offset package and the delayed implementation of the delivery of the offsets.

In conclusion, **at least 7 out the 10** objectives of the Commonwealth offset policy have not been met by the current proposal.

References

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