My name is Carmel Flint, I am member of the Northern Inland Council for the Environment based in Armidale. The Council is a network of groups and individuals across northern inland NSW who recognise that the health of our regional communities is directly dependent on the health of our regional environments.

I believe the Boggabri Coal Project represents a critical test of the integrity of the NSW Environmental Planning and Assessment Act 1979. The project will have a significant impact on biodiversity. Any reasonable person would have to reach that conclusion given the outstanding conservation significance of Leard State Forest and the magnitude of the clearing proposed. To conclude otherwise is to concede that no development will ever have a significant impact on biodiversity. To conclude otherwise is to vacate the field and accept that the test of significance has no basis in fact and can be subjectively defined to approve any development. I hope that the PAC will retrieve the integrity of the EP&A Act, restore the meaning of the significant impact test, and conclude that the Boggabri Coal Project should be rejected.

The conservation significance of Leard State Forest is extraordinary. It is located within the Brigalow Belt South bioregion which is recognised as 1 of only 15 national biodiversity hotspots. The Liverpool Plains province in which Leard State Forest is located is very poorly reserved (1.3%) and very heavily cleared (85% of woody vegetation cleared). The region is considered a high priority for additions to protected areas through the National Reserve System program. The NSW Establishment Plan specifically identifies the "Box eucalypt woodlands and native grasslands, particularly on the Liverpool Plains" as a priority for building new reserve nodes. Leard State Forest has been mapped in the Namoi Catchment Management Authority Nature Conservation Strategy as a high priority area for use as a corridor in the Corridor Priority Layer. There is no doubt that the area is a major biodiversity refuge and a source habitat for many species dispersing/colonising to adjoining lower quality habitats. It is valid to describe it as the environmental lynch-pin of the Liverpool Plains.

The Boggabri Coal Project proposes to clear 1,385 hectares of native vegetation, on top of approximately 500 hectares that has already been cleared or is currently proposed for clearing. In conjunction with surrounding mines, it is estimated that over 4,000 hectares of native vegetation will be destroyed in total. To put this in context, in 2009 the total area of vegetation approved for clearing across NSW under the native vegetation laws was 1,870 hectares.

The Boggabri Coal Project will have a significant impact on biodiversity because:

- It will clear 646 hectares of the critically endangered Box-Gum Grassy Woodland ecological community which is in extremely high ecological condition.
- It will, in conjunction with other planned or proposed mines in the area, reduce the amount of woody vegetation below a crucial threshold recognised in the scientific literature of 30%
- It will, in conjunction with other planned or proposed mines in the area, clear close to 50% of the largest remnant of vegetation left on the heavily cleared Liverpool Plains.

Under the Native Vegetation Act 2003 and associated regulation, clearing of critically endangered Box Gum woodland in this condition would be prohibited. A farmer attempting to clear vegetation adjoining Leard State Forest would immediately trigger a red light under the Native Vegetation
Regulation 2005 and would not be allowed to clear Box Gum woodland of this size and condition. These constraints are included in the Regulation because it is explicitly recognised that clearing of ecosystems like these cannot maintain or improve the environment under any circumstances.

Critically endangered Box-Gum woodland in Leard State Forest is in very high structural condition with a high abundance of hollows, very few exotic species and a strong spatial configuration that minimises edge effects. The environmental significance of those woodlands in the project area, occurring on gentle terrain and given the severe degradation of this vegetation type throughout its range, is extremely high. The listing advice on the endangered community provides an estimate of less than 0.1% of Grassy White Box Woodlands remaining in a near-intact condition. Documents referenced in the advice state that "In most of the areas that remain, grazing and pasture-improvement have effectively removed the characteristic understorey, leaving only the overstorey trees with an understorey dominated by exotic species".

Therefore, it is apparent from the listing advice, that 624 hectares of incredibly intact Box-Gum woodland on productive soils is incredibly significant on a national scale. Unfortunately, the Environmental Assessment proposes to 'offset' this unique and significant remnant with highly fragmented and severely degraded vegetation in surrounding areas.

In their residual matters report, the proponents admit that the cumulative impact of the Boggabri Coal Project and associated mines will be to reduce the woody vegetation cover in a 10km radius of the mine from 32% to 29%. It is well recognised in the scientific literature that a threshold exists in species number when the percentage of woody vegetation extent falls below 30%. It is apparent that the proposed coal mines will result in this threshold being crossed. At that point, declines are expected in the occurrence of single species and the richness of assemblages. It is important to note that the actual reduction in woody vegetation will be even greater, because the figure above does not take into account the background rate of woody vegetation loss, which the Namoi Catchment Action Plan estimates could be in the order of 1-5% of cover per annum and which is biased towards more productive soil types and regions such as the Liverpool Plains. There is no doubt that the clearing that is being proposed by the Boggabri Coal Project, and associated mines, is going to result in a crucial threshold being crossed towards accelerated species loss. This fact alone should be sufficient grounds on which to conclude there will be a significant impact and to reject the project.

The logic of the environmental assessment documents in relation to significant impact is flawed. They claim repeatedly that displaced fauna will be able to survive in the remaining areas of Leard State Forest. This represents a fundamental misunderstanding of how fauna occupy the landscape. If adjoining areas of Leard State Forest provide suitable habitat, they are likely to be already occupied. If these habitats are already occupied, they will not be available for displaced fauna. Destruction of habitat usually results in death of fauna that cannot find alternative unoccupied habitat, or have high fidelity to their existing home range, and there is no doubt that will be the outcome here.

The same failings are evident when the issue of significant impact is tackled at the species level. I will focus on just one example, that of the South-eastern Long-eared Bat (Nyctophilus corbeni). It is a vulnerable species under both state and federal environment laws. The draft national recovery plan for the species recognises that it has its population stronghold in the Brigalow Belt South region, which is based on capture rates for the region compared to other areas. There is strong evidence to show that larger, intact forest remnants with a distinct canopy and shrub layer are important to the species, with a recorded tenfold difference in relative abundance between trapping sites in large forest remnants compared to small forest areas. It has been concluded by experts that
larger remnants of box/ironbark/cypress woodland are needed to support high densities of the South-eastern Long-eared Bat. Fragmentation is recognised as a major threat for this species in the draft national recovery plan, and it is estimated that within NSW, 75% of the eastern part of the species range has already been cleared. The impact of clearing large areas of a substantial remnant such as Leard State Forest will be significant for the South-eastern Long-eared Bat, and it obviously cannot be offset by protecting small fragmented patches of degraded vegetation as proposed in the offset strategy.

Based on a detailed analysis which we have conducted, the proposed offsets put forward by the proponent in the Environmental Assessment do not provide like for like habitat with regard to bioregion, soil type or depth, productivity, or geomorphology. Nor do they provide like for like habitat with regard to vegetation patch size, condition or integrity.

The disparities in vegetation condition are perhaps the most stark. The map displayed on the screen shows the proposed clearing and proposed offsets against a backdrop of a satellite image. This satellite image highlights starkly the integrity of the Leard State Forest and the sparse, discontinuous and heavily cleared nature of most of the offsets. Vegetated areas within the offsets are in such a poor condition that it is visible from the satellite image. The only substantial offset in terms of size and condition is the Mallee offset in the east, but this area does not contain critically endangered Box-Gum woodland and it will not provide like for like habitat for species that rely on it.

An analysis of patch size indicates that the offset proposes to replace a single intact patch of vegetation with a perimeter to area ratio of 1:1 with at least 16 different patches of vegetation with a perimeter to area ratio of 2.5:1. Therefore, the offsets are far inferior with regard to spatial configuration, and the resultant fragmentation and edge effects will represent a major threat to the integrity of native vegetation and the persistence of fauna species.

The proponents make much of their rehabilitation plans in their environmental assessment. I note that advice has been provided to the Commission earlier today that casts doubt over their predictions. Certainly the history of mine rehabilitation in Australia is not a success story. The precautionary principle needs to be properly applied in this case - the certain destruction of outstanding high conservation value vegetation now cannot be offset by untried and highly uncertain rehabilitation sometime in the future.

The greenhouse gas emissions of the Boggabri Coal project alone represent a significant contribution to the carbon footprint of the state. In conjunction with adjoining proposed and existing mines, the impact will have global significance and it will play a major role in preventing NSW, Australia and planet from reaching the urgent reductions in greenhouse gas emissions that are required to prevent accelerated global warming.

To conclude, I would like to also draw your attention to the social impacts of the proposal. Against the hard dollars and cents figures that mining companies put forward to support their case are the real lives of everyday people. In this case, the Maules Ck community is perhaps best depicted by the cohesion, intellect, grace and good humour they have brought to bear in facing this extraordinary threat to their lifestyle, their economic base and their community. Social factors may in some cases be intangible, but that makes them no less weighty a consideration. I urge you to recommend an outcome that does not destroy the health, livelihoods and wellbeing of the Maules Ck community.