



# Hunter Environment Lobby Inc.

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**Presentation  
Independent Planning Commission of NSW  
Bylong Coal Project  
Public Meeting 7 November 2018**

Hunter Environment Lobby Inc. is a regional community-based environmental organization that has been active for over 20 years on the issues of environmental degradation, species and habitat loss, and climate change.

We strongly object to the proposal to extract more coal from the Hunter River catchment, particularly from a new greenfield site in the fertile, state significant heritage landscape of the Bylong Valley.

The assessment of this coal mine proposal has not been rigorous in the requirement to assess cumulative impact, especially the impacts on water sources and the Goulburn River. We consider this to be a high risk project on many fronts that have not been adequately addressed.

Hunter Environment Lobby strongly disagrees with the conclusion in the Department's Final Report that the Bylong Coal Project can comply with relevant performance measures and standards and that predicted residual impacts can be effectively minimised, mitigated and/or compensated.

We object to the quality of the assessment of impacts on water sources for a number of key reasons and consider that the predicted residual impacts have been vastly under estimated. The lack of a rigorous cumulative impact assessment needs to be addressed.

Some of the key failings in the assessment of impacts on water sources and other water users include:

1. The failure to recognize that the Bylong River water source is vastly over allocated
2. The failure to consider the regulatory significance of a cease-to-pump rule in the Water Sharing Plan
3. The failure to comply with the Aquifer Interference Policy
4. The failure to consider the current cumulative impact of the three existing mining operations on base flows to the Goulburn River

We feel that the high risk to the Bylong River and Goulburn River water sources, water sharing for the environment and other users and long term cumulative impacts have not been adequately assessed or addressed by the Department or adequately managed under the proposed conditions of approval.

Firstly, the Department has failed to consider the fact that the Bylong River is vastly over-allocated with water licences. The relationship between allocated water shares or entitlements and actual water availability has not been considered.

The recognised high connectivity between the alluvial aquifer and surface water flows is a significant issue. The groundwater and surface water in the Bylong Valley is basically the same body of water.

The predicted drawdown of the alluvial system and capture of rainfall runoff by the proposed mine has not been assessed in relation to water availability across entitlements, particularly during dry years.

The Bylong River water source Report Card, released in 2009 during the development of the Hunter Unregulated and Alluvial Water Sharing Plan, contains a number of critical facts that appear to have been ignored by the Department.

The low flow index shows the 80<sup>th</sup> percentile of days with flow during December is 0.3 million litres per day. The peak inflow into the revised mine is predicted to be 0.2 million litres per day, that is two-thirds of the daily low flow.

The estimated rainfall recharge to the alluvial aquifer is 2, 580 million litres per year. In dry years, like the one we are having now, this rainfall recharge is much less.

The volume of water licences allocated in the Bylong Water Source bears no relationship to water availability. There is 65 million litres per year of surface water entitlement and 5,843 million litres per year of groundwater entitlements.

The fact that Kepco has acquired 3,045 unit shares of water across 11 access licences is meaningless if the water isn't there.

The assessment of impacts on the water source and other users does not identify current annual average water use in the Bylong Valley.

The Report Card shows a peak daily demand of 1.4 million litres from the two surface water licences but provides no information on the daily demand from the ground water licences. It is essential for the current water usage to be known to understand the likely impact of the mine water use and water interception.

Mining uses and intercepts water 24 hours per day, 7 days per week. Agriculture is a seasonal user of water with a higher demand during drier times. This is when water sharing arrangements are the most important.

The Department's final assessment report and the supplementary information provided by Kepco does not give the Commission adequate information on water availability or water shares in the Bylong Water Source.

The second key issue is the upcoming water sharing rule change. The final assessment report does not address the management of cease-to-pump rules to be implemented in the Water Sharing Plan next year.

The purpose of water sharing plans under the NSW Water Management Act 2000 is to share water between the environment and water users, with planned environmental water having the highest priority.

The newly formed Natural Resources Access Regulator in NSW has the task of regulating rules in water sharing plans to ensure they are not breached.

All water licences in the Bylong Water Source will have the cease-to-pump rule attached to ensure its implementation. The uncontrolled inflows of alluvial groundwater into the Bylong Mine opencut will not be able to meet the cease-to-pump rule on licences held by Kepco.

All other water users in the Bylong Valley will have to comply with this rule. It is applied to protect the environmental health of the Bylong River and highly connected groundwater system. Once all other water users cease pumping under this rule, the inflows into the opencut pits are likely to increase above the predicted volumes.

The purpose of the rule will fail by removing the protected water from the water source through uncontrolled flows into the mine.

This likely increase in mine inflows will also impact on the proposed management of the mine water balance and further erode the conclusion that the mine will not have to discharge water during the period of opencut operations.

We urge the Commission to closely consider the implications of the cease to pump rule on the water impact predictions for the Bylong Coal Project.

The third key issue is the application of the Aquifer Interference Policy. The likelihood of aquifer drawdown being greater than 2 metres is highly probable and the increase in salinity levels in the alluvial system is also likely to be above the threshold of the policy. The risk of this policy not being met, even with the proposed revised mine plan, is very high and needs further assessment.

Finally, the cumulative impact of this mine proposal on the environmental health of the Goulburn River and downstream water users has not been adequately assessed.

The Bylong River is a major tributary of the Upper Goulburn River water source.

The water licence entitlements in the Bylong River make up 20.29% of the Goulburn Extraction Management Unit entitlement. The Bylong Mine proposes

to use over half of this entitlement more regularly than current usage. This will impact on flows to the Goulburn River.

The prediction with the revised mine plan is that the peak loss of base flows to the Bylong River will be 994 million litres per year. We consider this volume to be an under estimate, as has been demonstrated through water modelling for the other mines in the Goulburn River catchment.

The loss of this volume of water is substantial in an over-allocated resource. It is also substantial in terms of long term annual average flows to the Goulburn River.

The cumulative impact of the Ulan, Moolarben and Wilpinjong Mines on the Goulburn River has been much greater than predicted in water models for these operations.

There has been no independent analysis of the cumulative impact of mining on regional groundwater sources and surface flows for the Goulburn River. The assessment of the impacts of the Bylong Mine has not considered the cumulative impact of current mining operations.

The current mining footprint on the headwaters of the Goulburn River is 190 km<sup>2</sup>. The Bylong project will add another 27.61 km<sup>2</sup> to this footprint - pushing it to over 200 km<sup>2</sup>. This is a substantial area of impact in the catchment of an unregulated river system.

Key finding 6 in the recently released Federal Bioregional Assessment of the impact of mining on water resources in the Hunter subregion states that:

*"Modelled changes in ecologically important flows indicate a higher risk to the condition of riverine forested wetlands along the Goulburn River compared to other riverine forested wetlands in the subregion"*

Additional impact through loss of base flows and increased salinity from Bylong Mine is likely to further threaten the condition of the riparian vegetation along the river system.

In 2017 the three current mining operations on the headwaters of the Goulburn River captured 15,000 million litres of water that may have flowed to the river.

The additional loss of up to 994 million litres or more of base flow from the Bylong River has not been assessed in regard to current mining impacts and cumulative flow loss.

During the recent dry year in 2014, the mines used an equivalent of a third of the total annual flow measured at the Coggan mid stream gauge.

The other key issue not addressed is increased salt load in the Goulburn River. The current mining operations are licenced to discharge a combined total of 27 tonnes of salt per day. This will rise to 30 tonnes per day if the Moolarben modification 14 is approved by an upcoming Independent Planning Commission.

Measurements of salt load at the Coggan gauge have demonstrated an increase in flow heights with salinity levels above 900 EC. This level of salinity has been recorded at flow heights of 107 million litres per day, whereas pre-mine, this level was recorded at very low flows of 63 million litres per day.

The Hunter River Salinity Trading Scheme has a target of 600 EC at Denman, where the Goulburn River joins the Hunter River. A rising salt load in the Goulburn River has a direct impact on the operation of the Trading Scheme for mines operating in the Muswellbrook area and for the Bayswater Power Station.

The assessment of the Bylong Mine has not considered a cumulative increase in salt load for the Goulburn River, caused by a decrease in diluting base flows and an increase in salt reporting to groundwater from the Bylong Mine coal rejects and tailings emplacements.

It is of interest that documents from Department of Industry Water predict an 11% increase of salinity in the Bylong alluvial aquifer. This is significant as a cumulative impact that has not been assessed.

In closing, Hunter Environment Lobby considers the Bylong Coal Project to be a high risk proposal with too much uncertainty to be approved.

The Commission should at least conduct an independent review of the assumptions in the water models before making a final determination.