

34. James Tomlin

Good ~~morning~~/afternoon everyone. Thank you for the opportunity to talk today. My name is James Tomlin, and I am a director at Australasian Groundwater and Environmental Consultants (AGE). KEPCO Bylong Australia engaged our company to prepare the reports on groundwater for the Bylong Coal Project. I have been the lead author of these reports. I have worked as a groundwater consultant for 22 years, and this is my 18th year with AGE.

As we all know groundwater resources are hidden from view. This often results in some mystery forming around groundwater systems and how they work. There are however tried and tested methods to investigate groundwater systems which have been used on Bylong Coal Project. The most common method is to drill bores and undertake testing. KEPCO Bylong Australia have installed more than 100 monitoring sites since 2011. From experience, this is an extensive monitoring network.

From this work we know there is a thin permeable aquifer that occurs in the alluvial flats. Underlying this is a sequence of coal measures that comprise low permeability non coal rocks, and coal seams of moderate permeability. The non-coal rock forms a separating layer between the alluvial aquifer and the coal seams over much of the floodplain - this ^{reduces} ~~reduces~~ the connectivity between these ^{systems} ~~systems~~. KEPCO Bylong Australia have monitored these systems over a five year period, and now have a thorough understanding of how the groundwater ^{systems} ~~work~~. We have used this information to build computer models.

Computer models are tools to assist decision making. We have worked hard on this project to assess the range in the uncertainty and provide upper and lower bounds on our predicted impacts. Our groundwater model and assessments have also been peer reviewed on behalf of state and federal governments, community stakeholders and our client. We have addressed all the their recommendations and consider the modelling exercise has identified the likely impacts of the Project for the decision making process.

KEPCO Bylong Australia will need to draw groundwater from the alluvium to supplement water collected in dams ~~and from the mining areas~~. They hold water licenses to do this. In addition they have purchased properties surrounding the proposed mining area, and this has created a large protective buffer zone. Our modelling indicates that this large buffer means private bores will not be significantly affected.

For this Project, KEPCO Bylong Australia have committed to backfill the open voids with reject materials from underground mining operations. This means that there will not be any legacy lakes that form post mining. This approach has obvious merit as a safe, stable and free draining landform remains after mining is complete.

Finally we know that our reports have a lot of industry specific terminology that can make them difficult to read. At the proponent's request, we have met with surrounding landholders to listen to their concerns, and to explain our work. KEPCO Bylong Australia have also accepted landholder's requests to monitor a number these properties.

In summary, our work has shown that, yes of course, the Bylong Coal Project will affect the groundwater systems in the local area. ~~However~~, these effects will be constrained to land owned by KEPCO Bylong Australia and will be appropriately licenced. The effects of the Project will not impact on the ability of neighbouring private landholders to extract and use groundwater for their businesses. The work that our company has done indicates that mining and agriculture can sustainably share the water resources in this area. The peer reviews have concurred with this conclusion.