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Copenhagen Infrastructure Partners P/S  
Amerika Plads 29  
DK-2100 København Ø  
Denmark  
By email: [cip@cip.dk](mailto:cip@cip.dk)

### **Urannah Dam Pumped Hydro Scheme**

Dear Copenhagen Infrastructure Partners,

We are writing to you on behalf of two Australian Environmental Non-Government Organisations (ENGOS), Mackay Conservation Group and North Queensland Conservation Council, regarding the Urannah Dam Project (the Project) located 80km west of Mackay in Central Queensland, Australia. Your company has a 'co-development and equity partnership' with the proponents, Bowen River Utilities. We urge your company to re-consider the environmental and economic impacts of the Project. We believe that on sustainability grounds, CIP should rescind support for the Project. We would be pleased to meet with you to discuss the issues addressed below.

The ENGOS are community-based environmental organisations that operate in regions that will be directly affected by the Urannah Project. The focus of the ENGOS is to protect Australia's unique and diminishing biodiversity and natural ecological values, including maintenance and restoration of habitat. We work to ensure that the Great Barrier Reef and the waterways that flow into it are sustained. Like ENGOS worldwide, we are fighting against the impacts of climate change by moving beyond fossil fuels.

We were pleased to read CIP's Sustainability and Responsible Investment policy including a statement that one of your company's key strategies is to "create positive impact on the environment". Superficially, the Urannah pumped hydro component has environmental benefits but it must be considered in conjunction with other components of the Project. Unfortunately, the Urannah Project as a whole has the potential to impact negatively on climate change, biodiversity and the Great Barrier Reef.

One of the key uses of the water from Urannah Dam will be to supply the coal mining industry in Central Queensland. The associated pumped hydro scheme is likely to subsidise the cost of that water. The proponents say in their Detailed Business Case that the Pumped Hydro Electricity

Scheme “was not included in the economic analysis however initial indications show that there is potential for the BCR [Benefit Cost Ratio] to move from .95 to around greater than 2.1”. This shows that the dam is not economic without the pumped hydro scheme. With it, the dam will be able to supply water for coal mines, at a subsidised rate, enabling them to expand. The consequence will be a worsening of climate change and other environmental impacts associated with coal mining.

The dam, irrigation scheme and pumped hydro are all part of a single project and none of them can proceed without the others. The proponents, in their *Detailed Business Case - Urannah Water Scheme* (pp.4-7), say that the large-scale water storage at Urannah Dam “provides a platform” for developing hydroelectric power. They go on to say that “renewable power is constrained by suitably located water infrastructure”. Ultimately the economic success of the project is “sensitive to several assumptions but especially mining and pumped hydro revenues and the discount rate.” These statements make it clear that the pumped hydro project is an integral component of the Urannah Dam and pipelines scheme.

The Queensland Government Department of Regional Development, Manufacturing and Water makes the interdependency of the components clear when it says in the *Detailed Business Case - Urannah Water Scheme* (p.11):

*The detailed business case for the Urannah Water Scheme identifies potential for local and regional economic benefits associated with the overall Urannah proposal of a water supply scheme and irrigation precinct, as well as options for inclusion of a pumped hydro energy scheme. The viability and success of the Urannah Water Scheme is reliant on a number of co-dependent components reaching financial close and being developed in conjunction with one another.*

## **Climate Impacts**

The Business Case for the project relies on the [assumption that the coal mining industry in Queensland will continue to grow until 2049](#). One of the purposes of the dam and pipeline project is to provide water to existing and proposed coal mines in the Bowen and Galilee Basins. This water will facilitate coal mining and thereby increase the concentration of carbon dioxide in the atmosphere. Greenhouse gas pollution is the biggest threat to the Great Barrier Reef and to other life on earth. The role that this dam and pipeline project could play in increasing coal mining activity should be considered by CIP before making any further investment decisions.

It is worth noting that, while Scope 3 carbon-dioxide emissions from exported coal have not previously been considered by governments to be the responsibility of Australians, there is recognition of the fact that they impact on Australians and our environment. In a recent judgement [Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors \(No 6\) \[2022\] QLC 21](#), the President of the Queensland Land Court said:

*This case is about Queensland coal, mined in Queensland, and exported from Queensland to be burnt in power stations to generate electricity. Wherever the coal is burnt the emissions will contribute to environmental harm, including in Queensland.*

## Great Barrier Reef

The dam, pipeline and irrigation scheme are likely to have negative impacts on the Great Barrier Reef. Even with current best practice farming methods, the load of nutrients, sediment and pesticide will increase as a result of new intensive agriculture facilitated by the dam, especially when rainfall and flow volumes are high. This will decrease water quality values in the Burdekin River catchment which discharges to the Great Barrier Reef, a World Heritage Area of global significance.

The [Report on the Joint World Heritage Centre/IUCN Reactive Monitoring Mission to the Great Barrier Reef \(Australia\)](#) released in November 2022 singles out the Urannah project for its potential impacts on Great Barrier Reef water quality. The report says it would be absurd for the dam to proceed while attempting to improve Great Barrier Reef water quality.

## Water Flows and Discharge

The Burdekin Basin, in which the proposed Urannah project is located, supports activities such as agriculture, fishing and recreation. The construction of the Burdekin Falls Dam (BFD) in the 1980s has greatly affected the water flows and discharge downstream and provides an example of the damage the Urannah Dam may cause.

The BFD traps riverine sand that replenishes Cape Bowling Green, a truly remarkable sand spit stretching 11km out to sea, off the coast of Ayr. [Recent satellite and aerial photographs](#) reveal that the peninsula is eroding and is likely to breach, possibly within 10-15 years. The spit protects the Ramsar-listed wetland of international significance at Bowling Green Bay. This wetland is a safe haven and home for many migratory birds and protects endangered species of turtle, dugong and juvenile black marlin fish.

The proposed Urannah Dam is likely to compound this problem and accelerate erosion of Cape Bowling Green. The Broken/Bowen catchment is now the only source of coarse sandy sediment for the Burdekin River system downstream of the BFD. The Urannah Dam is likely to slow flood flows, decreasing the quantity of sand reaching the Burdekin River and Cape Bowling Green. That will accelerate coastal erosion at that sensitive location.

## Wildlife and Water Quality

The dam site and downstream area may impact 30 threatened species listed under the *Environmental Protection and Biodiversity Conservation Act* 1999 (EPBC Act). 19 of these are in the inundation area. It will also affect 18 listed migratory species.

One important species that is abundant in the dam impoundment is the Black Ironbox (*Eucalyptus raveretiana*) which is listed as Vulnerable. The proponents propose to retain this vegetation, however, these plants will be inundated below the standing water level of the dam.

Another iconic species is Irwin's Turtle (*Elseya irwini*), discovered in 1990 by Australian environmental icons Bob and Steve Irwin. Irwin's Turtle lives in a specialised habitat. It requires clear, well oxygenated water, with continuous flow. The Broken River, Urannah Creek and Massey Creek make up a nationally important wetland. It is the most permanent river in the Burdekin River System and provides very important habitat for the turtle.

Irwin's turtle is particularly special as they are bimodal respirators, i.e. they can breathe through their mouths and their cloacae. Turtles which respire through their cloacae, including Irwin's Turtle, are

thought to be the most vulnerable to dams and other water management projects, since their habitat requirements are found in natural streams but not in dams. The Australian Government's Threatened Species Scientific Committee [said in 2009 in relation to this species](#) that:

*The Burdekin Dam, built in 1987, has led to a decline in water quality in the impounded areas. This may have led to a contraction of habitat upstream due to water turbidity and loss of riffle and water habitat.*

*Further dam construction is being considered on the Burdekin River system (possibly the Urannah Dam on the Broken River and/or the raising of the Burdekin Dam wall by two metres) and, should they proceed, additional areas of the river system are likely to be flooded, including further high quality river habitat. This is likely to impact on the species given its apparently specialised habitat needs.*

### **Australian Water Policy**

The Council of Australian Governments reached an agreement in 1994 that full cost pricing for water must be implemented if an efficient and sustainable water industry was to be achieved. Water pricing for rural water supply was to be based on full cost recovery, wherever practicable, or alternatively that prices should at least cover the lower bound costs of irrigation schemes (such as operations and maintenance) by 2001. In theory, water would flow to its highest value use, and growers would be driven up the value chain, growing the highest value crops.

The current bulk water assets development policy does not support the pursuit of the Urannah Dam proposal. The proposed dam fails to meet the basic economic requirements for major water infrastructure funded by taxpayers through the [National Water Grid Investment Framework](#). The dam, pipelines and irrigation scheme requires a cross-subsidy from the pumped hydro component in order to have any chance of complying with the framework.

### **Water usage**

The project has a strong chance to become a stranded asset in the face of climate change and high cost of providing water to existing agricultural areas. Projections from the proponents for water demand include the Collinsville and the Moranbah coal mining region and irrigated agriculture near Collinsville.

There is no transparency in the documents provided in any of the business cases about the likelihood of customers purchasing water from the dam. Another proposed dam in Central Queensland, at Connors River, [was abandoned in 2012](#) due to a lack of customers, especially in the coal industry. Given the uncertainty around the meaning of net-zero emissions for coal mining and global moves towards decarbonisation, it is possible that the dam owners may not be able to sell water to high value purchasers in the future. That will put further pressure on the pumped hydro scheme to subsidise dam operations.

## Economic Impacts

The Australian Federal government recently reversed their previous commitment to provide \$483 million of taxpayer's funds to subsidise construction of Urannah Dam. The previous commitment was on the proviso that the proponents' economic and environmental analysis showed the project was viable. They have not yet demonstrated either of those.

Andrew Buckwell from economic consultants, Altus Impact, undertook [independent economic analysis](#) of the proposal's preliminary business case. He found that — excluding the \$700 million construction cost of the unfunded Burdekin Falls Dam to Moranbah Pipeline and taking into account factors such as projected crop mix, biodiversity offsets, costs of mitigating pollution to the Great Barrier Reef and carbon emissions — the dam, pipelines and irrigation project delivers a Benefit Cost Ratio (BCR) of as little as 0.26. Mr Buckwell noted that the project does not meet the Building Queensland requirements for Benefit Cost Analysis.

Bowen River Utilities' own economic assessment in their Detailed Business Case shows that the project will produce a BCR of 0.95. In other words it is not viable and will not produce a profit. The company has indicated that there may be potential for the proposal to achieve a BCR of 2.1 with the inclusion of the Pumped Hydro Energy Scheme. That is at best an educated guess. The Detailed Business Case includes no assessment of a BCR that includes the pumped hydro scheme. As such, it is not appropriate to make an estimate or statement about the Benefit Cost Ratio in relation to a Pumped Hydro Energy Scheme.

## Conclusion

We urge CIP to re-examine whether involvement will have a beneficial outcome for the local and global environment. One of the significant outcomes of this dam would be to provide water security to the coal mining industry in Queensland, which will inevitably increase the impact of global heating. This dam also has the potential to damage places of environmental and cultural significance through declining water quality and flow rates. The project depends economically on a number of components that must all come to fruition at the appropriate time otherwise it may never be profitable.

The ENGOs urge Copenhagen Infrastructure Partners to consider the broader implications of this project and to rescind support for the proposed Urannah Project.

Please feel free to contact us should you wish to discuss this matter further.

Regards



Peter McCallum  
Coordinator  
Mackay Conservation Group  
PO Box 826, Mackay Qld 4740  
Email: [peter@conservation.org.au](mailto:peter@conservation.org.au)  
Phone +61402966560



Crystal Falknau  
Coordinator  
North Queensland Conservation Council  
PO Box 364, Townsville City, Qld 4810  
Email: [coordinator@nqcc.org.au](mailto:coordinator@nqcc.org.au)  
Phone: +61406421061