

# HYDRO POWER STATIONS ON THE TULLY AND BARRON RIVERS

## Information for recreational river users

CleanCo Queensland is a state-owned clean energy generator. Our portfolio of energy generation assets currently includes two “run-of-river” hydros, one pumped storage hydro and one gas-fired power station. Ownership of these assets was transferred from Stanwell and CS Energy in October 2019.

We are privileged to operate our two “run-of-river” hydros—the Kareeya Hydro and the Barron Gorge Hydro—in the heritage listed Wet Tropics Area of Far North Queensland on the Tully and Barron rivers. We acknowledge our responsibility to sustainably maintain, and where possible, improve the surrounding environment.

**CleanCo is committed to establishing and maintaining positive relationships with the communities in which we operate with a focus on supporting local businesses and community initiatives. We acknowledge that our assets have deep roots within the local community and, through water releases for generation, have long supported recreational and commercial river activities.**

We would like to continue this support and so have renewed all existing commercial rafting agreements and are committed to engaging with the paddling community to support the continuation of recreational water activities on the Tully and Barron rivers.

As a government-owned organisation, CleanCo has a mandate to strategically operate all our assets in such a way that we increase competition in the energy market and contribute to improved electricity affordability for all Queenslanders. This means that we must consider when and how our assets are offered to the market, balancing our

commercial obligations with our commitments to supporting our local communities. Our Kareeya and Barron Gorge hydros also play an important role in providing network security support for North Queensland. Providing this network support can limit how we operate and when.

### Quick info

While generators like CleanCo offer energy from their generation assets to the National Electricity Market (NEM), it is the Australian Energy Market Operator (AEMO) that decides if and when electricity from those assets is required to meet demand.

Information about future generation activities is commercially sensitive and cannot be made publicly available. However, current and historical generation data is readily available from several sources.

This information can be used to determine if a site is currently generating (releasing water) or gain an understanding of recent releases which may assist in predicting future releases.

[AEMO website](#) (free)

[nemlog website](#) (free)

[PocketNEM](#) (app available for purchase on iPhone)

*Note: The information available through these applications is not provided by CleanCo and as such CleanCo makes no representation related to its accuracy.*

## FREQUENTLY ASKED QUESTIONS

### How do the hydros operate within the CleanCo portfolio?

It is important to note that while generators like CleanCo offer energy from their generation assets to the NEM, it is AEMO that decides if and when electricity from those assets is required to meet demand.

The increased availability of wind and solar power means that typically AEMO does not require energy from our hydros in the middle of the day. It is more common for energy from our hydro power stations to be required (water is released) from mid-afternoon when the peak availability of solar energy has passed and some wind profiles drop away. In this way, hydro power complements renewable energy sources, supporting a reliable supply of clean energy for Queensland.

CleanCo cannot elect to run the hydros to generate energy into the NEM outside of AEMO's requirements.

### What impact does the operation of the hydros have on the Tully and Barron rivers?

The amount of water released for the operation of the Kareeya and Barron Gorge hydros varies according to AEMO's requirements, noting that AEMO will draw electricity from any number of different generators at any given time.

This means that the river water levels in the Tully Gorge and Barron Gorge can increase and decrease rapidly and without warning.

For example, variations in water levels in the Tully Gorge can occur within minutes in areas immediately downstream of the power station but may not be felt for around six hours at the Tully Gorge bridge.

It is also important to note that the power stations cannot and do not control the full flow the rivers as there are other tributaries which also flow into the rivers influencing water levels and flow.

### How does CleanCo manage water levels at Koombaloo Dam?

Water is released from Koombaloo Dam to meet the electricity production requirements of the Kareeya hydro.

Historically, Koombaloo Dam is at its lowest level in January/February each year and it is normal operating practice for CleanCo to proactively manage the dam level prior to the wet season which typically runs from late March to early May.

Water levels of Koombaloo Dam are published on the [CleanCo website](#) and updated weekly.



**Koombaloo Dam**

## FREQUENTLY ASKED QUESTIONS

### Why doesn't CleanCo just operate the hydros or release water anyway?

To operate the hydros in the middle of the day would limit CleanCo's ability to support improved electricity affordability for Queenslanders as we would effectively be paying to generate electricity due to negative pricing at this time of day. Operating in this way would not be a responsible use of assets and would ultimately come at a cost to Queenslanders through increased electricity prices.

Furthermore there are times when the NEM does not require some or all of the electricity we have offered to the market. This means that water releases are not reliable and may fluctuate as frequently as every five minutes. This does not create conditions conducive to paddling activities on the river.

Although water can be released from the weirs when the hydros are not generating, this creates an unacceptable safety risk as CleanCo has significantly less control of the water flow under these conditions.



**Barron Gorge Power Station**

### How does CleanCo's operation of the hydros impact commercial and recreational river use?

The increase of renewables in Far North Queensland has resulted in changes to hydro operational patterns for the Kareeya and Barron Gorge hydros.

Historically the hydros ran through the middle of the day however this demand period is now met mostly by solar.

If CleanCo ran the hydros in the middle of the day now, it would limit our ability to support electricity affordability and Queenslanders would likely pay more for electricity.

The existence of the hydro power stations is what enables commercial rafting operations to take place year-round on the Tully and Barron Rivers. Without the hydros, rafting would only be possible in the wet season or following unseasonal heavy rain when water overflows the weir, supporting continuous operation.

Therefore, in 2020 CleanCo worked with contracted commercial river users to adjust the times of their operations to commence immediately downstream from the power stations in the middle of the afternoon, in line with the anticipated requirements for hydro generation.

This timing was agreed to increase the likelihood that commercial river users would have reliable water to conduct their business activities.

Recreational river users may also elect to plan activities based on this information however, it is important to note that CleanCo can offer no guarantee regarding the timing and volume of water releases.

On occasion we have operated the hydro to support critical swift water rescue training activities for the emergency services, taking into consideration anticipated weather and market conditions.



## FREQUENTLY ASKED QUESTIONS

### Where can I find information about planned water releases?

Electricity is a highly traded commodity and even has its own version of the stock exchange called [ASX Energy](#).

As with any traded commodity, CleanCo must take all reasonable measures to protect commercially sensitive information from unauthorised use or disclosure. This includes information about future generation activities and as such, this information cannot be made publicly available.

However, current and historical generation data is not sensitive and is readily available from a number of sources including the [AEMO website](#) and various commercial applications such as [PocketNEM](#). The [nemlog website](#) shows the previous -48hours of output of all Queensland energy generators.

*\*The information available through these applications is not provided by CleanCo and as such CleanCo makes no representation related to its accuracy.*



Kareeya Power Station

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