Planning our water future

Central Coast Council is planning for our future now to ensure our region has a sustainable and resilient water system that can adapt and respond to change. We need to consider new sources of water (supply) and find new ways to reduce the water we all use (demand). This series of information sheets provide an overview of the potential water supply and demand option types we are discussing with our community as we plan our water future together.

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Central Coast Council

Supply option: **Environmental flow substitution (EFS)**

What is it and how does it work?

Environmental flow substitution (EFS) is similar to purified recycled water as it recycles wastewater into clean and safe drinking water. However, the process substitutes treated wastewater for natural river water at a point downstream of where raw drinking water is collected.

To achieve this, wastewater would be treated at a new, more advanced treatment plant. This would purify the water by removing any microbes or extremely small particles such as viruses and chemicals, while also including a disinfection process to manage public health.

The resulting high-quality treated water either meet or exceed the standard of the water which usually flows in our rivers and creeks, complying to strict standards set by NSW Government regulators.

On the Central Coast, this treated water would then be released into Wyong River downstream from the weir. Our drinking water is then collected from upstream of the weir for treatment and distribution to the community. This means there is minimal disruption to the river's natural environmental flow.

One benefit of this process is that by returning a highly treated recycled water downstream to meet environmental flow requirements Council would be able to extract more river water upstream for drinking.

Under Council's regulated water sharing plan, there are rules and limits as to how much water can be extracted from our rivers for drinking, as enough water flow is required to allow fish to move freely and to ensure the health of the river downstream and its associated biodiversity.

What is currently in place on the Central Coast?

There are currently no existing EFS schemes operating on the Central Coast. However, Sydney Water operates an EFS scheme on the Nepean River which ultimately discharges into the Hawkesbury River.

Things we need to consider

Using treated recycled water as a substitute for environmental flows is a new technology for the Central Coast and there will likely be strong community interest in the process, its reliability and safety.

EFS is a reliable rainfall independent supply of water.

It provides environmental benefits by improving the quality of the treated water being released to waterways.

Due to advanced treatment requirements and relatively high energy use, the cost to build and operate EFS schemes can be high.

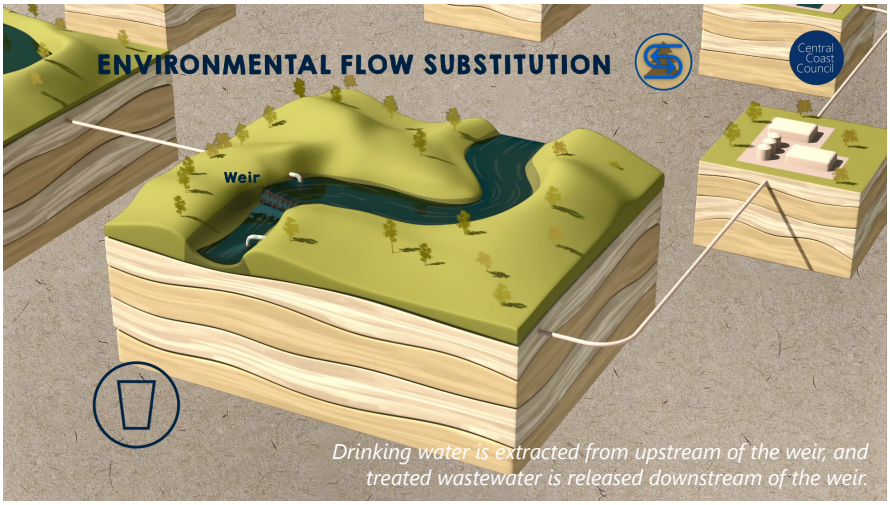
How we're considering this option for the Central Coast Integrated Water Resource Plan

We're investigating an EFS scheme that involves a new, advanced water treatment plant at the current Wyong South sewage treatment plant. This would further treat and purify the water out of the sewage treatment plant, then pipe the highly treated, recycled water to be released into Wyong River, just downstream of the weir. The scheme could be scaled up over time, as required. This substituted flow of treated water means we can extract more water for drinking upstream, subject to our regulated limits.

We have started to speak with our community to learn more about their thoughts on the use of EFS to supplement water supplies and will continue to do so into the future.

A long term EFS education and engagement program would need to be implemented with the community. Actions in the short term would be limited to community engagement and establishing more detailed environmental data baselines within Wyong River.

See key results table for further detail about how this option is being considered in the plan.



Key results

The table below provides further detail about how this option is being considered in the plan.

	Category	Additional information
Potential additional water available	Medium	Dependent on the available flow at the relevant treatment plants and their proximity to suitable receiving water bodies.
Reliability and resilience	High	Improves the reliability of our system as it does not rely on rainfall. Ensures an ongoing water supply in long and severe droughts. Can be adaptable to upgrade over time to meet growth requirements.

	Impact	Cost	Additional information
Indicative cost to build		$40 million	Involves the construction of additional treatment and pipeline assets.
Indicative cost to operate		$800,000 per year	Ongoing costs with chemicals, energy and maintenance.

	Impact	Additional information
Environmental impacts		Moderate energy use dependent on the level of treatment provided. Options exist for offsets for greenhouse gas emissions to reduce impact. Environmental baseline monitoring required to ensure potential ecological risks are understood and managed.
Cultural and social impacts		Community interest in process, reliability and safety.
Timeframe for delivery		Around seven to 10 years including community engagement and environmental baseline monitoring.

Key: High Medium Low

Some information contained in this fact sheet was sourced from Hunter Water Corporation