



# BARANGAROO: BRINGING SUSTAINABILITY TO THE HEART OF SYDNEY

*Municipal*

*Veolia's advanced digital integration supports Australia's first Carbon Neutral Precinct of its size, enabling efficiency and sustainable optimisation.*

## | The challenge

Barangaroo South is a multipurpose cultural hub of Sydney's CBD, comprised of 13 buildings that offer world-class boutique shopping, dining, and residence in a harbourside location which holds over 7,000 years of indigenous history.

The site's developer, having attained the contract in 2009, designed the precinct to integrate technologies that enable carbon-neutral and water-positive performance outcomes, setting a new benchmark for sustainable urban infrastructure.

Since its initial construction, the precinct has undergone incremental growth with the consecutive buildings connecting to the site's energy and water services network. This has resulted in 500+ data entry points between various stakeholders to monitor and maintain over 3,000 assets located within the precinct.

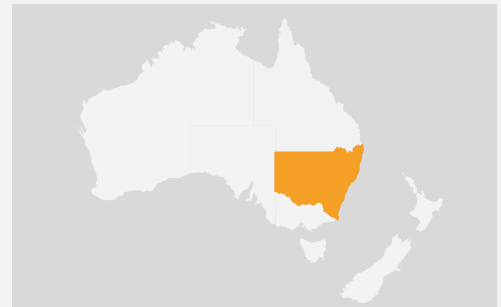
## | Veolia's solution

Veolia first became involved in the project prior to the site's construction, and since its opening we have continuously operated and managed the district's cooling plant, recycled water plant, and embedded network.

Veolia's **Hubgrade** platform was connected to various SCADA and standalone systems to aggregate data across the precinct into a centralised repository. This enables Veolia to efficiently monitor and enhance the performance of the various energy and water systems to optimise their sustainable operation.

The Hubgrade services implemented are:

- Hubgrade SUPPORT (Assist and Asset management)
- Hubgrade IMPROVE (Performance and Footprint).



Sydney, NSW, Australia



### Contract Facts:

Duration: 2015 - 2028

Type: O&M

**44GWh**

Cooling production

**60%**

Wastewater diversion for reuse

**120ML**

Recycled water used per year



## | The benefits

### District Cooling Plant (DCP)

The district cooling plant is a critical service for the tenancies within Barangaroo South. The chilled water supplied through the plant provide climate control and refrigeration to residential and commercial tenants.

- With **52 MW of installed chilled water capacity**, the centralised DCP provides chilled water to the site's 550,000m<sup>2</sup> footprint
- **44 GWh of cooling production per year**
- Heat is rejected via Sydney Harbour using the seawater intake system

### Recycled Water Plant

The recycled water plant has been built with two trains, each supporting approximately 50% of the total plant capacity.

- Capable of recycling **1 million litres of sewage each day**
- Recycled water promotes water conservation by replacing potable water for toilet flushing, irrigation, and wash-down activities across the precinct
- The plant makes the precinct water-positive by exporting excess recycled water to other developments across Sydney's CBD

### Embedded Network

Veolia is charged with operating **14 HV substations** that supply electricity to the Barangaroo South precinct.

- Each substation has a **triplex 33kV** feed from Sydney's electricity network supplier, which enables more consistent and reliable energy provision

### Other Assets

- **Solar panels** are located on seven separate buildings which generate a total peak of approximately **1GWh of electricity per annum**. This is enough to offset the power consumption of the recycled water plant plus the public domain lighting and power requirements

### Hubgrade

Veolia's digital platform is used for performance analysis, maintenance compliance and tracking, and meter verification. Hubgrade enables us to monitor and optimise the precinct's performance and enhance its sustainability.

- **Access to data points across the entire precinct, including 13 separate buildings**
- Ease of access to data monitoring, analyses, and reporting functions



#### SOCIAL

Supporting the customer's environmental objectives.

Meeting stringent environmental regulatory obligations.



#### ENVIRONMENTAL

Reducing environmental footprint by harnessing renewable energy and promoting water conservation



#### HUMAN RESOURCES

Upholding safety culture and standardisation