

03 / COMPARISON LAB

Water

Select a cooling approach for an early planning estimate, compare it with the other profiles, or enter project-specific WUE or peak-day water use.

Controls

Facility type and load

Select Enterprise, Colocation, Hyperscale, or Edge for a starting MW, then replace that value with the maximum documented project phase.

Water input basis

Choose Planning profiles, Project WUE, or Peak-day gallons. Project inputs are displayed separately and carried into copied and saved summaries.

Planning cooling approach dropdown

Choose Traditional air, Open-loop, Closed loop with chillers, Closed loop with liquid-to-chip, or Dry / near-zero-water design. The selected profile becomes the primary planning result.

Project WUE (L/kWh)

Converts the selected facility MW to 24-hour energy, applies the entered liters per kWh, and converts liters to gallons.

Documented peak-day water use (gal/day)

Uses the entered project value directly and annualizes it only as a constant-rate comparison ceiling.

Starting values

Hyperscale facility; 150 MW; Planning profiles; and Closed loop with liquid-to-chip selected at 50 planning gallons per MW per day.

How the estimates are calculated

Planning daily gallons = facility MW x planning gallons per MW per day

WUE daily gallons = facility MW x 1,000 kW/MW x 24 hours x WUE L/kWh / 3.78541 L/gal

Annual comparison = daily gallons x 365

The five planning rates remain 3,500; 4,500; 100; 50; and 10 gallons per MW per day for the listed approaches.

How to read the result

- Selected cooling profile: Shows the chosen planning gallons per day and annual comparison at the selected facility load.
- Five planning rows: Keep every broad cooling comparison visible while highlighting the selected approach.
- Assumption range: Shows the low-to-high planning range at the selected MW.
- Equivalent-use context: Expresses the same daily volume as illustrative homes, restaurants, and golf courses.
- My Ally Brief handoff: Saving a planning profile carries the selected cooling approach into the brief and uses it as the scorecard cooling fact when project intake still says unknown.

Recommended use

- Use the correct project phase and maximum documented facility load.
- Enter project WUE only when the source states its units, boundary, load basis, and operating period.
- Prefer documented average-day, peak-day, seasonal, and annual withdrawal and consumption data when available.
- Separate potable, reclaimed, withdrawal, consumption, discharge, domestic, landscape, and emergency water.

Limit

Climate, load factor, water quality, controls, heat-rejection design, and operating mode can materially change demand. The project-specific control improves traceability but does not turn the lab into a water permit or engineering forecast.