



When a Data Center is Proposed in Your Community

A Local Guide to Understanding Water Use and Asking the Right Questions

Large data centers are increasingly being proposed in communities across the country. These facilities can bring economic development, but they can also be **major water users**, particularly when they rely on evaporative cooling systems that consume significant volumes of drinking water. Local officials and residents should understand how water is used, what the risks may be, and what protections should be in place **before approvals are granted**.

Why Water Use Matters

Large data centers can consume **millions of gallons of water per day**, in some cases comparable to the daily demand of a mid-sized city. In most instances, this water is supplied by **local drinking water utilities**, meaning facilities may rely on high-quality potable water.

Without thoughtful consideration at the application stage, this level of demand can:

- Increase strain on drinking water supplies
- Require new infrastructure investments
- Affect streamflow and aquatic ecosystems indirectly
- Create challenges during drought conditions
- Shift costs to other ratepayers

Why Early Review Matters

Once a data center is approved and operational, **options for reducing water demand become limited**.

Cooling systems, infrastructure, and supply agreements are typically locked in early. That is why:

- Water use should be evaluated **before approvals**
- Efficiency should be required **up front**
- Drought protections should be **established in advance**

How Data Centers Use Water

Data centers primarily use water for cooling. The amount consumed depends heavily on the cooling technology selected.

1. Recirculation and Reuse (Lower Consumption)

- Water is cooled and reused in a closed-loop system
- Significantly reduces total water consumption
- Often requires higher upfront investment
- Considered best practice in water-constrained areas

2. Discharge-Based Cooling

- Water is used for cooling and then treated as industrial wastewater
- Discharged to rivers, lakes, or marine waters
- Requires wastewater permitting and treatment capacity
- May reduce consumption but raises discharge concerns

3. Evaporative Cooling (Highest Consumption)

- Water evaporates to remove heat
- Can require large volumes of make-up water daily
- Most common design in some large facilities
- Highest impact on drinking water supplies

Key Regulatory Gaps to Understand

Local advocates should be aware that large water users like data centers may fall outside some traditional oversight structures.

Water Diversion Oversight

- Data centers typically **purchase water from utilities**
- If a data center is not directly withdrawing from rivers or aquifers, they do **not require a water diversion permit**
- This limits environmental review of large new demands

Legacy Diversions

- Some water supplies rely on **registered diversions that do not require environmental review**
- These withdrawals are not subject to environmental impact analysis and some areas are already overallocated.
- Adding large new users can increase pressure on these systems

Rate and Infrastructure Concerns

- Utilities may offer **large-volume discounts** to attract facilities
- Infrastructure upgrades may be required to serve new demand
- Costs may be distributed among other customers depending on utility structure

Drought Risk Considerations: Water utilities maintain drought response plans, but these vary widely.

- Are large industrial users required to reduce demand during drought?
- Where do data centers fall in conservation priority tiers?
- Will residential users be restricted first?
- What happens if demand exceeds available supply?

Questions Local Officials and Residents Should Ask

When a data center is proposed, communities should request clear answers to:

Water Supply

- How much water will the facility use per day?

- What is peak demand?
- What cooling technology will be used?
- What water source is being used? Drinking water supply? Raw Water? If raw water, from what source?
- Are alternative water sources available (reuse, reclaimed water)?

Infrastructure

- Will new pipelines or storage be required?
- Who pays for infrastructure upgrades?
- Will upgrades increase rates for existing customers?

Environmental Impact

- Will increased demand affect streamflow?
- Are withdrawals from registered or permitted sources?
- Has cumulative demand been evaluated?

Drought Planning

- What restrictions apply during drought?
- Will the facility reduce use before residential restrictions?
- Is curtailment enforceable?

Efficiency

- Will water reuse systems be required?
- Is evaporative cooling necessary?
- Can air cooling or hybrid systems be used?

Best Practices Communities Can Request

1. Water Efficiency Requirements Up Front

- Closed-loop recirculation systems
- Hybrid or air-cooled designs where feasible
- Water reuse and recycling systems
- Limits on evaporative cooling

2. Transparent Water Use Reporting

- Daily and annual water use projections
- Public reporting after operation begins
- Trigger thresholds for review

3. Drought Protection Measures

- Mandatory curtailment tiers for large users
- Priority protection for drinking water customers
- Coordination with state agencies

4. Cost Protection for Ratepayers

- No cross-subsidization of large users
- Developer-funded infrastructure
- Transparent rate structures

A Balanced Approach

Data centers can be part of economic development, but communities benefit from:

- Clear water use limits
- Efficient cooling technology
- Strong drought protections
- Transparent infrastructure costs
- Protection of drinking water supplies and instream flows

With proper planning, communities can ensure that new facilities **do not compromise water resources for residents, ecosystems, or future growth.**

Prepared by Rivers Alliance of Connecticut

The mission of Rivers Alliance is to protect all the waters of Connecticut: surface waters, aquifers, and wetlands. We promote and support good water policies statewide; we assist environmental groups, businesses, and individuals who seek to improve the quality of local waters. We offer educational services for experts and beginners alike.

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