

How the TWDB Tracks and Plans for Digital Infrastructure Facility Water Use in Texas

The Texas Water Development Board (TWDB) is actively working to understand and incorporate water use associated with digital infrastructure facilities (data centers, artificial intelligence (AI) facilities, and cryptocurrency facilities) into Texas' long-range water planning process. These rapidly developing industries present new planning considerations due to their scale, evolving technologies, and impacts on water use and energy demand.

The TWDB efforts include reviewing available research, coordinating with other state agencies, engaging with academic partners, and refining existing data collection and projection methodologies to better capture current and future water demands associated with these facilities. The TWDB is collaborating with The University of Texas at Austin Bureau of Economic Geology, which is researching data center resource usage—particularly in energy, water, and infrastructure planning—and has issued a white paper on *Water Use Requirements for Data Centers in Texas*.¹

The TWDB also supported the Public Utility Commission of Texas (PUCT) with developing a “Study to Address Water and Emerging Technologies,” as required by the General Appropriations Act of the 89th Legislative Session. This study will focus on industries in which energy demands have an inverse relationship with water usage. The PUCT is required to prepare and submit a report with the findings of the study to the Legislative Budget Board and the Governor by December 31, 2026.

Digital Infrastructure Water Use Characteristics

These fast-developing industries can primarily impact water supplies in two ways:

1. Direct water use: Onsite water use at individual facilities, which may include water for cooling, operation, and onsite power generation. The amount of water used and how it is consumed or recycled can vary significantly depending on facility design, cooling technology, and operational practices.
2. Indirect water use: Water associated with generating the electricity required to operate these facilities. Like other large industrial electricity users, indirect water use at data centers depends on the type and location of power supplies used to meet their energy needs.

How the TWDB Captures Water Use Data

As required by statute (Texas Water Code § 16.012(m)), the TWDB administers a statewide annual Water Use Survey to approximately 8,000 water systems and industrial facilities. The survey collects information

¹ COMPASS Research Affiliates Program at the University of Texas at Austin, 2026.

https://compass.beg.utexas.edu/assets/publications/Water_Requirements_for_DC_White_Paper.pdf

on groundwater and surface water use, sources of supply, water sales, and other data used to inform the water supply planning process. The TWDB produces annual water use estimates for six categories: municipal, manufacturing, mining, power generation, irrigation, and livestock.

Water use associated with operational digital infrastructure facilities is captured through the Water Use Survey in several ways. For operational facilities that purchase water from municipalities or other public water systems, water use is typically reported as municipal water use within the commercial category. For facilities that are self-supplied, water use is reported directly to the TWDB through the survey and captured in the manufacturing water use category.

Starting with the 2025 Water Use Survey (which captures 2024 water use), the TWDB began tracking operational digital infrastructure direct water use—if available—as part of the manufacturing sector. This change improves the ability to monitor water use trends as the industry expands. The TWDB also proactively monitors industry developments to identify new facilities to survey each year.

Indirect water use associated with generating electricity for digital infrastructure facilities is tracked within the power generation sector. When facilities purchase electricity from the Texas electric power grid, indirect water use may be reported by power plants, depending on the fuel source and cooling technology used. Renewable energy sources generally have little to no associated water use. If a digital infrastructure facility operates an onsite fossil fuel power plant, water use for that facility is reported directly through the Water Use Survey.

How the TWDB Projects Future Water Demand

The TWDB develops water demand projections as a foundational component of Texas' regional and state water planning process, which has a 50-year planning horizon. For the 2026 regional water plans and the 2027 State Water Plan, the TWDB did not have sufficient water use data to incorporate digital infrastructure water use into the projections. When demand projections were finalized and adopted by the Board in 2023, the best available data was limited to a small number of responsive facilities. These projections were adopted to support timely development of regional and state water plans, consistent with statutory timelines.

Regional water planning groups review the TWDB draft water demand projections and may use locally available information to recommend revisions. During the most recent planning cycle, none of the planning groups requested changes to demand projections specifically related to digital infrastructure facilities.

Planning Uncertainty and Future Improvements

The recently approved 2027 State Water Plan shows increasing manufacturing water demand over the 50-year planning horizon, informed by historical trends. This projected growth captures a portion of future digital infrastructure water use, even in the absence of precise, facility-specific estimates. However, projecting long-term water demands associated with digital infrastructure remains difficult due to several factors, including

- rapidly changing cooling and power technologies,
- varying water requirements across different energy sources,
- increasing use of behind-the-meter and onsite power generation, and

- uncertainty about the location of future facilities, which is often proprietary until projects are near construction.

Future planning cycles will consider multiple data sources and will likely rely on available information to produce water demand projections, or ranges, for future digital infrastructure facility water use. The TWDB already has the authority necessary to collect all the information TWDB needs regarding ongoing digital infrastructure facility water use. The TWDB has already expanded the scope of its water use survey reporting to improve the data being collected from digital infrastructure facilities for future demand projections.

Texas' water planning process is adaptive, and regional water plans are updated every five years to reflect changing conditions. If regional water planning groups have concerns about water demand projections for any water use sector, they can plan for supply volumes greater than projected demands. The plans can also be amended at any time to revise the water demand projections or add water management strategies if new information becomes available. This framework allows state and regional planners to respond as better data emerges and as the scale and characteristics of these industries are better understood.

Key Takeaways

- The TWDB collects available direct water-use data from digital infrastructure facilities through its annual Water Use Survey of operational facilities,
- Indirect water use is reflected in the power generation sector,
- Available facility-specific data were insufficient for inclusion in the 2026 regional water plan and 2027 State Water Plan demand projections, and
- Future planning cycles will incorporate improved survey data and other available information as the industry evolves.