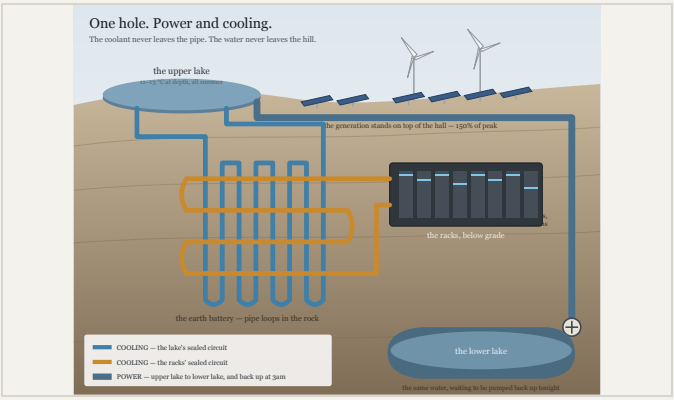
Make data centers great again

The building is **under the street.** The surface is whatever the town says it is — and the bill hands that choice to the town, not the builder.

Below grade, closed loop, passively cooled. The coolant is de–ionised water, **bought outside the basin and shipped in.** It never evaporates — so this building **adds water to the basin** instead of drinking it.

No need to go nuclear

All the generation and storage one hall needs, on **less than a hundred acres** — **ten Salt Lake blocks** — and the hall is under none of them; the farm keeps farming under the panels. This is what **thirty–six hours of storage** and **150% of peak load** look like: 1,748 feet of head, a pond you could throw a stone across, and a fire you are allowed to light because it is nobody's drinking watershed.



Two sealed loops in the same rock, and they never touch. **All winter the lake pushes cold down into the stone.** All summer the racks pull it back out. Rock is slow — it takes years to warm, and if it ever does you dig deeper or make the lake bigger. No tower, no plume, nothing lost to the sky. **It is ancient tech.** Persian qanats ran cold water through rock three thousand years ago; building below grade to stay cool is older still.

At three in the morning it buys power nobody wants and pumps the lake uphill. At four in the afternoon, when every air conditioner in the valley switches on, **it sells that power back down the hill** while its own panels are peaking. The grid gets a customer it can lean on instead of one it has to plan around — and the owner **gets paid twice for the same power**, every day, forever.

Try putting seven hundred megawatt–hours of lithium and a windowless grey concrete box heat island full of racks that sound like jet engines in the nice part of town, and you will meet the fire marshal, a concerned citizen with a decibel meter and a folding chair, the leader of every HOA within reasonable driving distance, and the six o'clock news.

Propose a reservoir in Utah and you get asked whether there'll be fishing.

Never Trust Polished Boots

Utah Code 54–26 Part 10 — Thermal Load Facility Siting. Working draft, published in order to be corrected.

THERMAL LOAD FACILITY SITING AMENDMENTS

LONG TITLE

General Description:
This bill enacts siting conditions for large thermal load facilities within the Great Salt Lake basin, relating to water used for heat rejection, generation and storage capacity, surface use, and measurement.

Highlighted Provisions:
This bill:
▸ charges, rather than prohibits, the evaporative use of basin water for heat rejection, and charges treated drinking water at a higher rate;
▸ requires a thermal load facility to bring generation and storage sufficient to serve its own load, at a stated multiple, from renewable sources;
▸ requires a facility to place heat rejection and computing equipment below finished grade, and leaves the use of the surface to the land use authority;
▸ requires measurement of withdrawal and return, and presumes unmeasured water to have been consumed;
▸ provides a compliance schedule for a facility already operating under a published water reduction plan; and
▸ deposits collections in the Great Salt Lake Watershed Enhancement Program.

Money Appropriated in this Bill:
None

Utah Code Sections Affected:
ENACTS:
54-26-1001 through 54-26-1007, Utah Code Annotated 1953

Be it enacted by the Legislature of the state of Utah:

Section 1. Section 54-26-1001 is enacted to read:

Part 10. Thermal Load Facility Siting

54-26-1001. Definitions.
Terms defined in Section 54-26-101 apply to this part. In addition, as used in this part:
(1) "Basin" means the Great Salt Lake watershed as defined in Section 65A-16-101.
(2) "Evaporative loss" has the same meaning as in Section 73-32-401.
(3) "Land use authority" means the same as that term is defined in Section 10-9a-103 or 17-27a-103, as applicable.
(4) "Potable water" means water treated to the standards established under Title 19, Chapter 4, Safe Drinking Water Act.
(5) "Potable rate" means the highest volumetric rate charged during the preceding calendar year by a public water supplier in the basin to residential customers.
(6) "Reference rate" has the same meaning as in Section 73-32-401.
(7) "Thermal load facility" means a facility within the basin having an installed heat rejection capacity of five megawatts or more, including a data center, and does not include a hospital, a public or private school, a correctional facility, or a residential building.

Section 2. Section 54-26-1002 is enacted to read:

54-26-1002. Water used for heat rejection.
(1) A thermal load facility may use water for heat rejection by any means.
(2) A facility shall pay, for the evaporative loss of water withdrawn from within the basin, the reference rate for each acre-foot of that loss.
(3) A facility shall pay, for the evaporative loss of potable water, the potable rate for each acre-foot of that loss, in place of the amount under Subsection (2).
(4) An amount owed under this section is reduced by any amount the facility paid for the same water under Title 73, Chapter 32, Part 4.
(5) This section does not apply to water conveyed into the basin from outside it; water recovered and returned to the waters of the basin, including vapor that is condensed and returned; water used for human consumption, sanitation, or food service at the facility; fire suppression; or a use during a state of emergency declared under Title 53, Chapter 2a.
(6) Money collected under this section shall be deposited in the Great Salt Lake Watershed Enhancement Program created in Section 65A-16-201.

Section 3. Section 54-26-1003 is enacted to read:

54-26-1003. Generation and storage.
(1) A thermal load facility shall own, or hold under contract for the life of the facility, generation capacity deliverable to the serving utility's system from renewable sources equal to not less than 150% of its peak load, and energy storage sufficient to serve its peak load for not less than 36 hours.
(2) "Renewable" has the same meaning as "qualifying energy resource" in Section 54-17-601. "Peak load" means the highest hourly electrical demand of the facility, determined by measurement after 12 months of operation and by design capacity before that time.
(3) A facility may satisfy Subsection (1) by any

technology or combination of technologies, including pumped hydroelectric storage whether at the surface or in existing underground workings, gravitational storage, compressed air storage, thermal storage, hydrogen or another chemical carrier, or electrochemical storage of any chemistry. This subsection is illustrative, and a technology absent from it is not thereby disqualified.

(4) Nothing in this section requires a particular technology, ownership structure, or location for capacity held under contract.

Section 4. Section 54-26-1004 is enacted to read:

54-26-1004. Grid support.

(1) A thermal load facility shall provide for the dispatch of the generation and storage held under Section 54-26-1003 in support of the serving utility's system, for compensation, in the agreement required of a large load customer under this chapter.

(2) Providing dispatch under this section does not make a thermal load facility a public utility.

Section 5. Section 54-26-1005 is enacted to read:

54-26-1005. Surface use.

(1) A thermal load facility commencing operation after the effective date of this part shall place its heat rejection equipment and its computing or process equipment below finished grade.

(2) The surface estate above equipment placed under Subsection (1) shall remain available for non-industrial use, and the use shall be determined by the land use authority.

(3) A facility satisfies Subsection (2) by dedicating an easement, covenant or other instrument of record that runs with the land and is enforceable by the land use authority.

(4) Subsection (2) does not require a facility to construct, fund, operate or maintain a use selected under that subsection, and does not require public access to security, electrical, mechanical or ventilation appurtenances.

(5) A facility may retain at the surface only access, ventilation, electrical and emergency appurtenances; generation and storage permitted under Section 54-26-1003; and an impoundment used for heat rejection or storage.

(6) The land use authority may reduce or waive a requirement of this section for a site where below-grade placement is infeasible by reason of groundwater, bedrock, subsidence or flood hazard.

Section 6. Section 54-26-1006 is enacted to read:

54-26-1006. Measurement and reporting.

(1) A thermal load facility shall install and maintain measuring devices recording, at intervals established by rule, all water withdrawn for use at the facility by source, all water returned by the facility to the waters of the basin, and for an impoundment gauged stage, metered inflow and outflow, and recorded precipitation sufficient to determine evaporative loss by water balance.

(2) A facility shall report the measurements annually to the state engineer and shall retain the underlying records for six years.

(3) The state engineer may inspect a device, a record, or a facility to verify a measurement reported under this section.

(4) Water withdrawn by a facility that is not measured under Subsection (1) is presumed to be consumed in its entirety, and the facility bears the burden of establishing any lesser amount.

Section 7. Section 54-26-1007 is enacted to read:

54-26-1007. Compliance schedule.

(1) A facility placed in service before the effective date of this part shall comply with Sections 54-26-1003 and 54-26-1005 on or before December 31, 2035, and with Section 54-26-1006 on or before December 31, 2030.

(2) A facility that, on the effective date of this part, measures its withdrawal and return and has published a schedule for reducing its evaporative loss shall comply with Sections 54-26-1003 and 54-26-1005 in accordance with its published schedule.

(3) A facility proceeding under Subsection (2) that fails to meet its published schedule is subject to the dates in Subsection (1).

(4) Nothing in this section relieves a facility of an obligation under Section 54-26-1002.

Section 8. Effective date.

This bill takes effect on May 6, 2027.