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The Cost of Compute: Why Oregon is Pushing Back on Big Tech

AI * Ethics * Computing

Introduction: The Infrastructure Paradox of Hyperscale Compute in Oregon

For over a decade, Oregon functioned as a premier North American hub for hyperscale digital infrastructure, attracting roughly 125 data centers by mid-2026 across Hillsboro, The Dalles in the Columbia River Gorge, and Central Oregon through zero state sales taxes, property tax abatements, mild ambient temperatures, and Columbia River Basin hydroelectricity[1][2]. However, the exponential power and cooling demands of generative artificial intelligence (AI) have triggered a statewide regulatory backlash[1]. The evolution of Oregon's data center conflict encapsulates a fundamental systems challenge: reconciling gigawatt-scale compute expansion with municipal fiscal equity, grid decarbonization, and thermodynamic heat-rejection limits.

Voter Sentiment and the Macroeconomic Paradox of Enterprise Zones

In July 2026, a statewide survey of 600 registered voters by DHM Research (+/- 4% margin of error) revealed broad bipartisan skepticism toward both AI platforms and the physical data centers sustaining them[2][3]. Opposition to data center tax breaks reached 75% in the Portland metro, 72% in the Willamette Valley, and 73% across rural Oregon, transcending urban-rural and partisan divides[2].

| Polling Metric | | Aggregate Voter Sentiment | | Key Demographic and Geographic Variances |

| Overall impression of data centers | | 71 percent hold negative views | | Consistent across the Portland metro, Willamette Valley, and rural regions. |

| Support for a temporary moratorium on new data centers | | 66 percent support | | 77 percent support among Democrats; 51 percent support among Republicans. |

| Providing tax breaks to attract data centers | | 73 percent oppose | | 83 percent opposition among Democrats; 54 percent opposition among Republicans. |

| Impression of artificial intelligence and chatbots | | 60 to 61 percent hold negative views | | Consistently high negative perception applied to specific models like ChatGPT, Claude, and Gemini. |

| Require safety tests and state monitoring for powerful AI | | 89 percent support | | Universally high support across all age brackets and political affiliations. |

| Require companies to notify consumers of chatbot interactions | | 93 percent support | | Universally high support, indicating a strong desire for algorithmic transparency. |

At the heart of this backlash is the mismatch between Oregon's Enterprise Zone

statutes -- which waive local property taxes for 3 to 15 years -- and the extreme capital-to-labor ratio of hyperscale compute[4]. A modeled 1 GW, 16-building exascale campus represents ~$8 billion in capital investment yet employs only ~560 permanent operational staff -- roughly 100 times fewer direct jobs per megawatt than traditional manufacturing, at an abated tax cost of up to $2.6 million per permanent job[5][6]. Industry coalitions such as Oregon Connects counter that data centers contribute $10.4 billion annually to state GDP, $3.5 billion in local operational spending, and a 4.5-6x indirect job multiplier across construction and services (such as AWS supporting 7,400 FTEs in Morrow and Umatilla counties alongside Meta's long-term Prineville employment and local investments)[7][8][9][10].

| Economic Metric | | Industry-Reported Impact (Oregon) | | Contextual Caveats |

| Total GDP Contribution | | $10.4 billion annually | | Heavily weighted by initial, temporary construction capital rather than sustained operational output. |

| Job Multiplier | | 1 direct job supports ~4.5 to 6 indirect/induced jobs | | Multipliers are highest during the construction phase; operational multipliers are significantly lower. |

| Labor Income Supported | | $5.6 billion annually | | Direct operational jobs pay well (often over $100,000/year), but represent a small fraction of the total labor pool. |

| Tax Contributions | | $727 million generated in 2022 | | Must be weighed against hundreds of millions in property taxes explicitly abated through Enterprise Zones. |

Nevertheless, Good Jobs First estimated that 191 Oregon school and education districts lost $275 million in a single year to property tax abatements[4]. After Hillsboro and Washington County officials hurriedly approved 17 Enterprise Zone waivers in March-April 2026 locking in tax exemptions through 2051 for firms including Nvidia, Adobe, and Dropbox, Tax Fairness Oregon and the Oregon Education Association sued the municipalities for bypassing public notice and draining the State School Fund[1][11][4].

Grid Congestion, Decarbonization Mandates, and the POWER Act

Scaling AI training clusters from tens of megawatts to gigawatt baseloads has strained Bonneville Power Administration transmission corridors and investor-owned utilities (Portland General Electric and PacifiCorp), historically socializing substation and capacity upgrade costs onto residential ratepayers[5][6][12]. To end cross-subsidization, the Oregon Legislature enacted the 2025 POWER Act (HB 3546), establishing a large-load tariff class for facilities exceeding 20 MW that raised data center and crypto-mining electricity rates by ~30% while trimming residential bills by 1.3%[12].

Simultaneously, continuous hyperscale demand collides with House Bill 2021, which mandates retail electricity greenhouse gas reductions of 80% by 2030, 90% by 2035, and 100% by 2040[13]. Because firm 24/7 compute loads outstrip intermittent wind and solar capacity and encounter transmission bottlenecks across the Cascade Mountains, utilities face pressure to delay thermal plant retirements[13]. Furthermore, in 2024 the Oregon Public Utility Commission and Green-e regulators closed an accounting loophole in HB 2021 that had allowed Renewable Energy Certificates (RECs) reported

for state utility compliance to be unbundled and resold to corporate buyers, preventing double-counting of carbon dioxide reductions[14][15].

| Oregon Energy Legislation | | Primary Objective | | Impact on Data Center Industry |

| House Bill 2021 (2021) | | Mandates 100% clean energy for retail electricity providers by 2040. | | Forces data centers and their utilities to procure massive amounts of verified renewable energy, constraining grid supply. |

| HB 2021 REC Ruling (2024) | | Eliminates double-counting of Renewable Energy Certificates. | | Prevents data centers from buying unbundled RECs if the underlying power was already used for state utility compliance. |

| POWER Act / HB 3546 (2025) | | Ensures large energy users pay the full cost of their grid impacts. | | Places data centers (>20 MW) in a higher tariff class, raising their electricity rates by nearly 30% to protect residential ratepayers. |

| House Bill 2816 (Proposed) | | Applies emission standards directly to high-energy use facilities in non-IOU territories. | | Aims to force facilities to reduce emissions independently, utilizing fines and the revocation of Enterprise Zone benefits for non-compliance. |

Hydrological Strain and the Thermodynamics of Data Center Cooling

Under the second law of thermodynamics, nearly 100% of electrical power consumed by microprocessors is dissipated as waste heat, linking compute density directly to regional hydrology. Traditional evaporative cooling towers reject sensible heat from server halls by evaporating potable water to absorb the latent heat of vaporization -- cutting summer chiller electricity demand but consuming 1 to 5 million gallons of water per day at large campuses[16][17].

In The Dalles, Google's annual municipal water draw quintupled from 104 million gallons (12% of city supply) in 2012 to nearly 550 million gallons (~40% of city supply) by 2024, alongside transferred groundwater rights from a defunct aluminum smelter permitting up to 3.88 million gallons/day from a critical aquifer[18][17]. Following a 13-month public records lawsuit brought against The Oregonian, the city and Google dropped their "trade secret" claims and began disclosing site-level water consumption globally[17].

While state-of-the-art hyperscale designs have reduced Power Usage Effectiveness (PUE = Ptotal/PIT) from >2.0 down toward 1.1, minimizing PUE via evaporative cooling creates a thermodynamic trade-off with on-site Water Usage Effectiveness (WUE)[20][21][22]. Moreover, Lawrence Berkeley National Laboratory estimates that U.S. data centers consumed 17 billion gallons of direct cooling water in 2023 alongside 211 billion gallons indirectly through thermoelectric and hydroelectric power generation across the broader water cycle[19]. Consequently, researchers now evaluate siting via Water Scarcity Usage Effectiveness (WSUE), weighting both direct and indirect consumption by regional Available Water Remaining (AWARE) scarcity factors[22].

| Efficiency Metric | | Focus Area | | Description and Relevance |

| Power Usage Effectiveness | | Electrical Efficiency | | The ratio of total

facility power to IT equipment power. Lower values indicate highly optimized cooling and power delivery. The industry gold standard is approaching 1.1. |

| Water Usage Effectiveness | | Direct Hydrological Impact | | The volume of water consumed directly on-site per unit of IT energy. Fails to account for off-site water use at power generation plants. |

| Water Scarcity Usage Effectiveness | | Holistic Hydrological Impact | | A composite metric integrating direct and indirect water use, weighted by regional water scarcity (AWARE factors) and source water intensity. Crucial for advanced site selection. |

| Carbon Usage Effectiveness | | Greenhouse Gas Impact | | The ratio of total CO2 emissions caused by the facility to the IT energy consumed. Heavily dependent on the local grid's renewable energy mix. |

To decouple compute from potable water consumption, operators are transitioning to liquid cooling architectures that exploit the high specific heat capacity and thermal conductivity of liquids[23]: (1) Direct-to-Chip Liquid Cooling, circulating coolant through micro-channel cold plates mounted directly on CPUs and GPUs to capture 70-80% of rack heat at the source; and (2) Two-Phase Immersion Cooling, submerging server boards in low-boiling-point dielectric fluids that vaporize and condense in sealed closed loops while enabling high-grade waste-heat export to district heating[23][24][25][26].

Conclusion: Moratoriums and Oregon's Regulatory Recalibration

Following Hillsboro's emergency 120-day data center moratorium and the enactment of Oregon House Bill 4084 -- which took effect on June 5, 2026, and barred new data centers from Enterprise Zone property tax exemptions until 90 days after adjournment of the 2027 legislative session -- state oversight tightened further across autumn 2026[11]. After endorsing local moratoriums in August and halting data center construction on state-owned lands in September, Governor Tina Kotek directed the Oregon Department of Environmental Quality (DEQ) on October 9, 2026, to pause air and water pollution permits for new or expanding data centers (as well as municipal wastewater permit modifications serving them) through July 1, 2027, while the Oregon Data Center Advisory Committee prepares statutory recommendations[27][28]. In response, the City of Umatilla declared a local state of emergency on October 20, 2026, and joined Umatilla County on November 11, 2026, in petitioning Umatilla County Circuit Court to lift the administrative permitting freeze[29][30]. By pairing ratepayer protections under the POWER Act, mandatory water and power disclosures, and closed-loop liquid cooling with reformed tax-abatement thresholds, Oregon is establishing a contested but consequential regulatory template for governing hyperscale AI infrastructure.

Updates... (Nov 22, 2026): Verified all 30 references, adding the May 22, 2014 publication date for Data Center Knowledge, correcting Tom's Hardware (July 8, 2026) and InvestigateWest (Mar. 29, 2022; updated Aug. 6, 2025) publication dates, replacing the IEEE Computer Society portal shell with the CrossRef-verified IEEE Transactions on Cloud Computing DOI (Latif et al., Jan. 2025), and inserting exact publication dates throughout.

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