

Data Centers in Oregon: Should We Put a Hold on More?



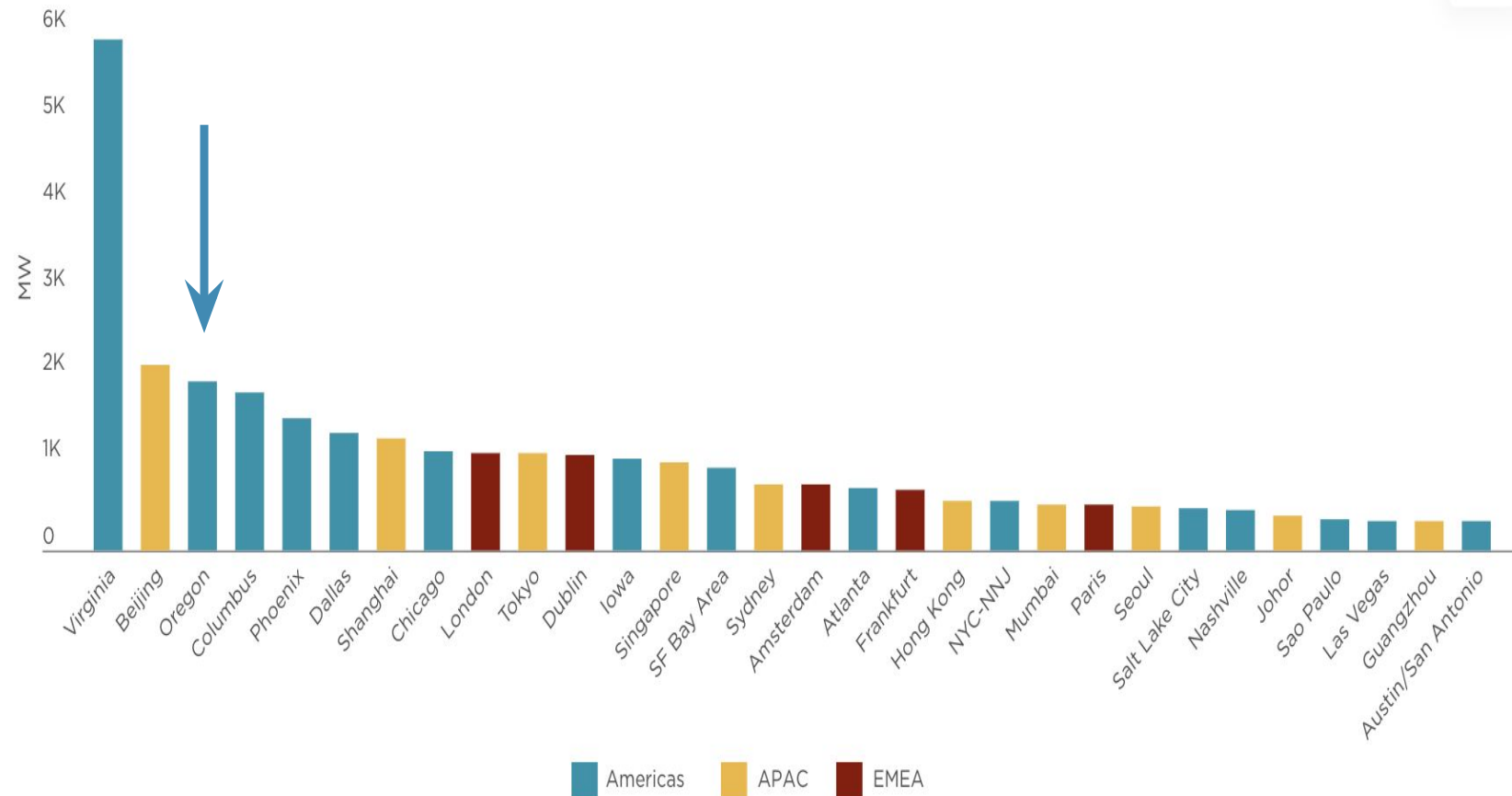
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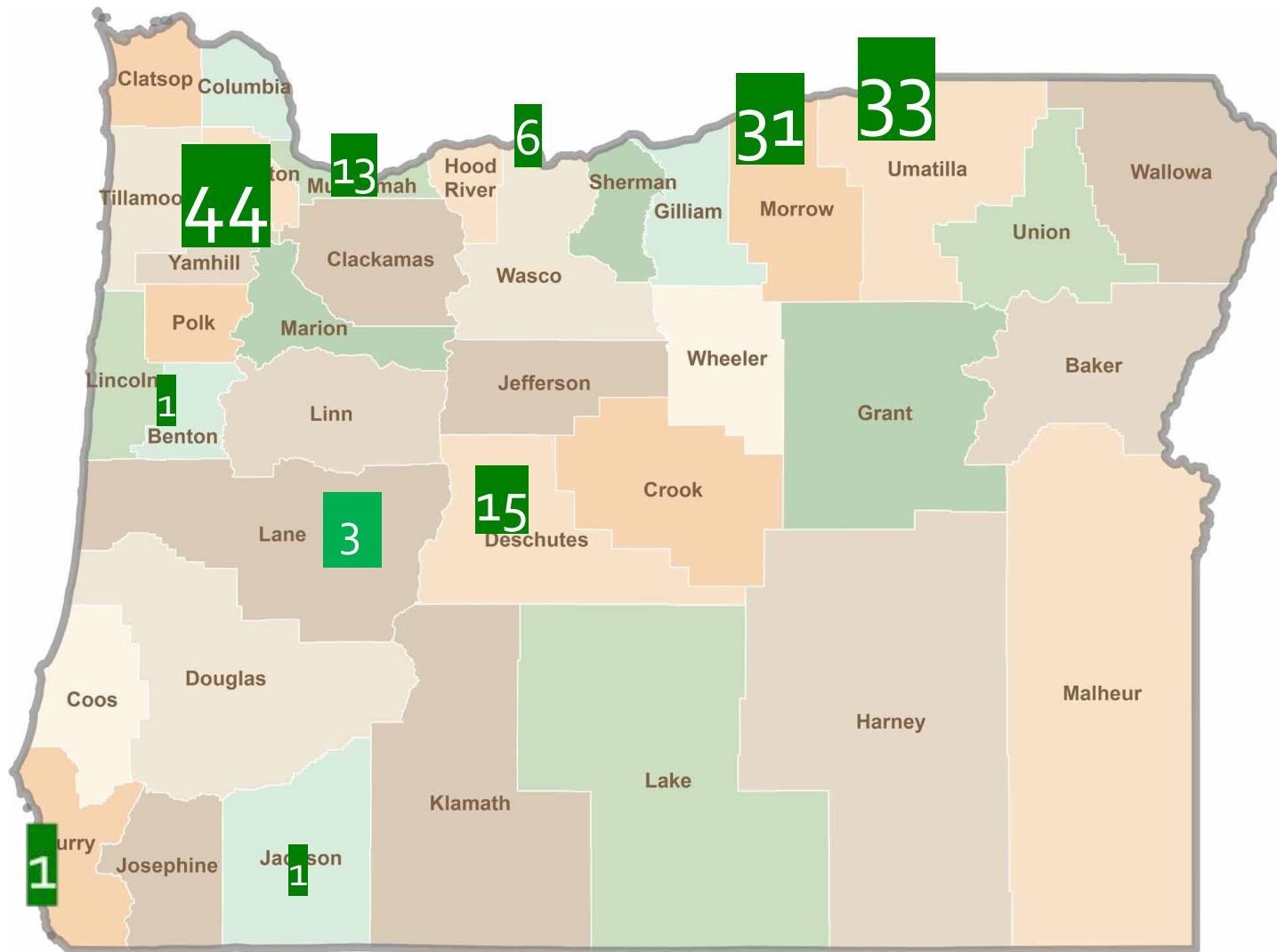
Oregon's data centers are thriving

- Oregon has over 138 data centers
- We're 3rd in the world by electrical power consumed by IT equipment after Virginia and Beijing (2,000 MW, enough to power 400,000 -2,000,000+ homes)

Top Markets by Operational IT Load



Source: Cushman & Wakefield Research, datacenterHawk, DC Byte



138 DATA CENTERS IN OREGON

- Oregon is 3rd in the world for # of data centers after Virginia and Beijing by power demand.
- 64- Boardman- 31; Hermiston-15; Umatilla 18 almost all Amazon w 4 other entities. All hyperscale Cloud; Prineville-13 Bend 2 all Meta & 4 Apple;
- Dalles 5 or 6-all Google
- Other estimates higher
- Hillsboro(40); Pdx 9 mixed-42 Company-owned DCs such as Flexential, Digital Realty.
- [GoDataCenters](https://www.godatacenters.com/)

Definition

A “data center” is essentially a warehoused collection of computers for “building, running, and delivering applications and services”

1990's Dedicated

Company owned and operated; typically located on site. Low power 100's kW to 1 MW. Uses AC for cooling

2000's Colocation

Multi-Tenant Data Centers in leased space. 10's of MW. Power efficiency improved by amount. (64 total in Pdx, Hillsboro, Eugene)

2010's Cloud Computing

Software as a service; Cloud Computing & Hyperscale Single-Tenant. Capital: 100s of \$M to \$B. 100's of MW-equivalent to typical Power plant

2020's Hyperscale AI

Artificial Intelligence. Private equity driven, 100s of acres. Capitol Expense: 10's of \$B. Power consumption 500-1000 MW. Only 1 scheduled build in Oregon

TYPES OF DATA CENTERS

AGENDA

DATA CENTERS IN OREGON:

- **What are the concerns about data centers?**
- **Can we regulate adequate controls?**
- **How long will regulation take?**
- **What does the Moratorium Bill Look Like?**

IMPACTS OF DATA CENTERS

- Water demand
- No regulation on wastewater
- Huge electricity demand
- Not meeting climate emissions targets
- Air pollution-Backup generators
- Noise pollution
- Land use – loss of agricultural land; zoning issues
- Lack of transparency and accountability

How Data Centers Use Water

- Air-side cooling - Winter
- Evaporative misting – 80% loss as steam
 - Clean potable water
 - Addition of biocides, anti-scaling agents and others
- Closed-loop cooling
- Minimal for worker use/landscaping
- Electricity from coal, natural gas, & nuclear



The Dalles Story

- Municipal water
- Dog River diversion reservoir
- 40% of municipal water use as of 2025 (OregonLive)
- Lack of transparency
- Use of non-disclosure agreements
- Aquifer Storage and Recovery system



Baxtel.com The Dalles Data Centers

High Water Demand

- Water is needed for cooling-
- Large data centers (>100 MW) can use 3-5 million gallons of water per day, enough for a city of 40,000.
- Even more water is used for fossil-fuel-and-nuclear-sourced electricity. **71% of DC water use**
- Closed-loop cooling takes less water but may have more contaminants glycol and other refrigerants



Baxtel.com The Dalles Data Centers

Example: PDX 90



Influent Water Characterization				
SampleDate	Location	Conductivity	TAN	N03-N
10/14/25	Boardman Foods	6545	16.2	7.41
12/11/25	PGE-Unit 1 CT	2150	ND	29.6
12/11/25	PGE-Unit 2 CT	2220	ND	30
12/11/25	PGE-SSP	579	0.33	ND
12/11/25	PGE-Unit 2 Pump	1660	0.23	21.5
12/11/25	Neutralization Tank	188	1.59	ND
8/27/25	PDX 1	1280	ND	35.3
8/27/25	PDX 4	494	0.32	8.76
8/27/25	PDX 62	882	ND	19.9
8/27/25	PDX 90	1200	0.68	23.9
8/27/25	PDX 109	903	0.19	19.4
8/27/25	PDX 178	1190	0.41	25.3

Water in from City of Boardman, July 2025:
4.26 mg/L nitrate (below EPA concern but not healthy)

Wastewater sent to Port of Morrow, August 2025:
23.9 mg/L nitrate (Over 10 mg/L safe level)

Nitrate increased more than five-fold

Wastewater Issues

- No transparency about additives
- Most wastewater is sent to municipal treatment without permits required
- No transparency about levels of toxics in wastewater
 - Nitrate concentration in Umatilla/Morrow increased x5
 - Concentration of PFAS in source water
 - No measurement of additives



Boardman-Amazon complex

Data Centers: Demand Gas

- 23% of all electricity is consumed in Oregon by data centers (2025)
- Demand expected to increase 2-3 times by 2030 in PNW
- Higher rates due to shared cost of infrastructure
- More pipelines will be needed
- Umatilla Electric Coop now third largest carbon emissions from market electricity purchases*
- Gas plants last for 30-50 years
- OR/WA slow to bring on solar
 - Interconnection backlog
 - Permitting challenges

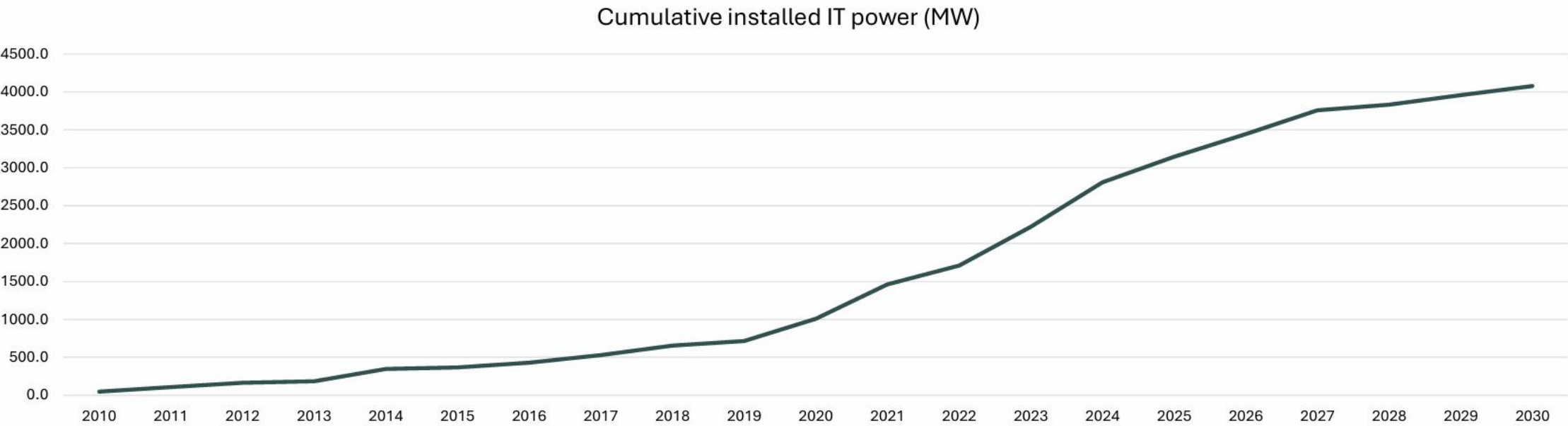


Carty Gas Plant Boardman, OR

Columbia Riverkeeper DCs x Gas Report;

*Clean energy Transition Institute report: Demystifying Electricity Resources and Emissions in Oregon and Washington

Installed IT Power: Statewide Growth and Regional Concentration



Looking from 2010 to 2030 makes the acceleration after 2020 much easier to see.



Eastern Oregon holds most operational IT power; Western Oregon accounts for much of the identified 2026–2030 growth.

Source: S&P Global 451 Research data; Weldon Cooper Center analysis. Preliminary draft.

HB 3546 POWER Act

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In 2025, the Oregon Legislature passed the POWER Act:

- Requires PGE and PAC to establish a separate rate class for “large energy use facilities” (aka data centers)

(3) In deciding whether to approve a proposed tariff schedule of an electric company for a classification of service described under subsection (2) of this section, the commission shall consider whether the rates:

(a) Result in, or have the potential to result in, increased costs or unwarranted risk to other retail electricity consumers;

(b) Provide for equitable contributions to grid efficiency, reliability and resiliency benefits;

(c) Impede the electric company's ability to meet the clean energy targets set forth in ORS 469A.410 or reduce the emissions of greenhouse gases consistent with state policy;

(d) Allow for procurement of or contracts for generation resources that support the electric company's ability to meet the clean energy targets set forth in ORS 469A.410 or reduce the emissions of greenhouse gases consistent with state policy; and

(e) Meet any other conditions the commission may require in the public interest.

POWER Act Key Provisions

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- 1) Applies to data centers 20 MW and larger
- 2) Costs should be allocated “in a manner that is equal or proportional to the costs of serving the class”
- 3) Changes PUC standard of review for data center tariff as compared to its review of other tariffs
 - Does it have the potential to shift costs or risk?
 - Does it allocate costs for grid efficiency equitably?
 - Does it impede progress towards HB 2021?
 - Does it allow for the procurement of renewable resources?
 - Does it meet other conditions in the public interest?
- 4) Requires data centers to sign contracts with certain minimum requirements
 - contract length
 - minimum demand

Is the POWER Act Good Enough?

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The Oregon Public
Utility Commission
made several decisions
to lower Greenhouse
Gas emissions (GHG)
and data centers

- 1) DC establishes a plan or “queue” for new generation. First one to deliver new energy plan gets on line
- 2) Allows data centers to bring their own renewable resources through special contracts
- 3) Requires data center to pay for energy efficiency and distributed energy resources for low-income customers (1 cent/Kwh for DC >100MW or roughly \$6 to \$7 million per-100 MW)
- 4) Requires a contract for 10-30 years even if goes out of business

Major Issues Remaining

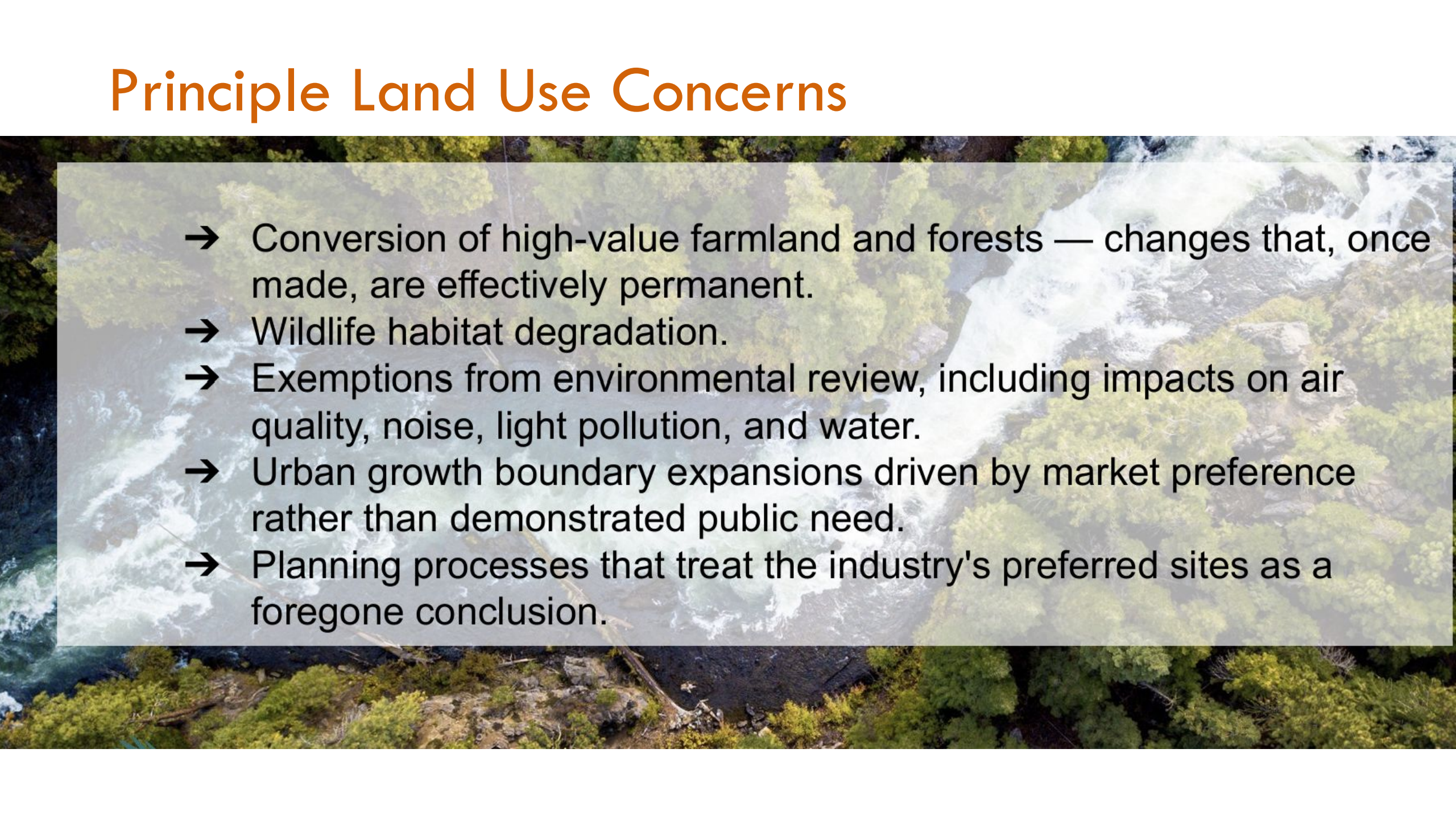
- Grid instability potential with new loads at peak
- Instability from sudden drop in load
- Demand on small Public Utility Districts and Electricity co-ops without bargaining power
- Can or will DC reduce demand at peak times
- Requiring new DC bring their own renewable energy in non-investor-owned utilities



Climate Change Issues

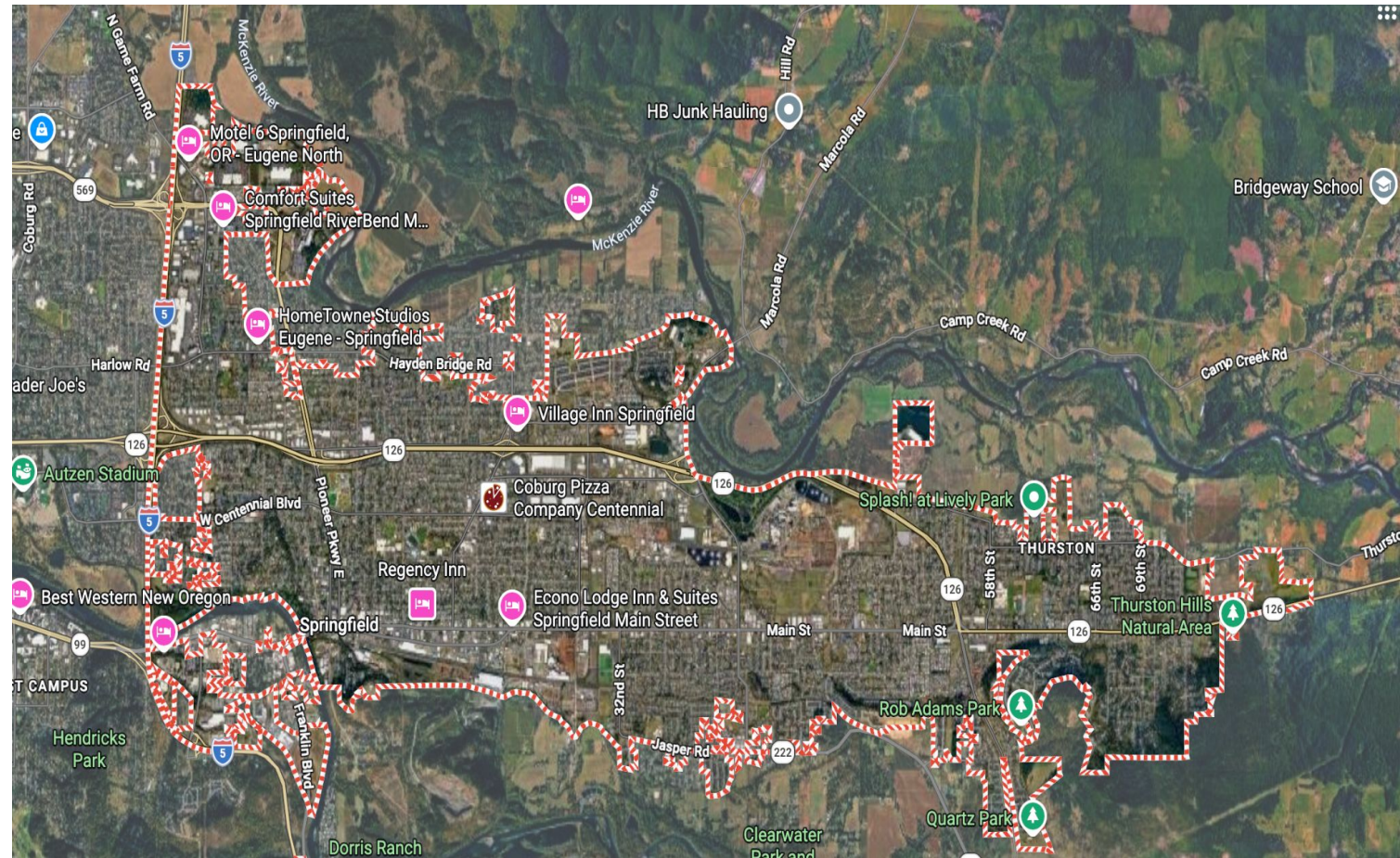
- Unable to reach our climate goals
- Increased out-of-state fossil fuel electricity
- Reduction in hydropower with loss of summer flows & threats to salmon
- Limited grid capacity for new renewable electricity projects-without a state transmission authority or change at Bonneville Power Authority (BPA)
- Resistance to distributed energy

Principle Land Use Concerns

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- Conversion of high-value farmland and forests — changes that, once made, are effectively permanent.
 - Wildlife habitat degradation.
 - Exemptions from environmental review, including impacts on air quality, noise, light pollution, and water.
 - Urban growth boundary expansions driven by market preference rather than demonstrated public need.
 - Planning processes that treat the industry's preferred sites as a foregone conclusion.

9,100 acres of land is being planned for data centers

- More than tripling Oregon's footprint ([OregonLive](#))
- Size of Springfield
- 1,300-acre exascale data center in Eastern OR



List of Land use issues

- Difficult local moratorium process
 - 45 days application to Dept. of Land Conservation & Development
 - 3month duration
 - Re-application for 6 months
- Land speculation especially in Eastern Oregon but also in Washington Co.
- Loss of prime farmland and forestland
- Reduction in adjacent property values
- Local heat islands
- Loss of wetlands

Recommendations

Siting

- Local policy prohibiting data center siting
- Defend urban growth boundaries
- Prohibit data center construction on prime farmland
- Require increased stacking of data centers
- Prioritize the utilization of existing buildings

Air Pollution from Data Centers

- Air pollution from data centers comes from their **energy generation**
 - Primary - **Electric Grid**
 - Secondary - **Backup Generators**
- The VAST majority of backup generators in Oregon and nationwide are **diesel powered**



Mackenzie Springer-Neighbors for Clean Air

The Use Of Diesel Generators & Their Impact

- Data centers require **backup power** to minimize downtime from power outages



- *In Oregon, data centers have 6 GW in permitted and proposed diesel generators, which is double the average power usage of all the homes in the state.*
- Even if used **only** for emergency backup and maintenance, this can create significant harmful air pollution, particularly in areas with many large data centers.

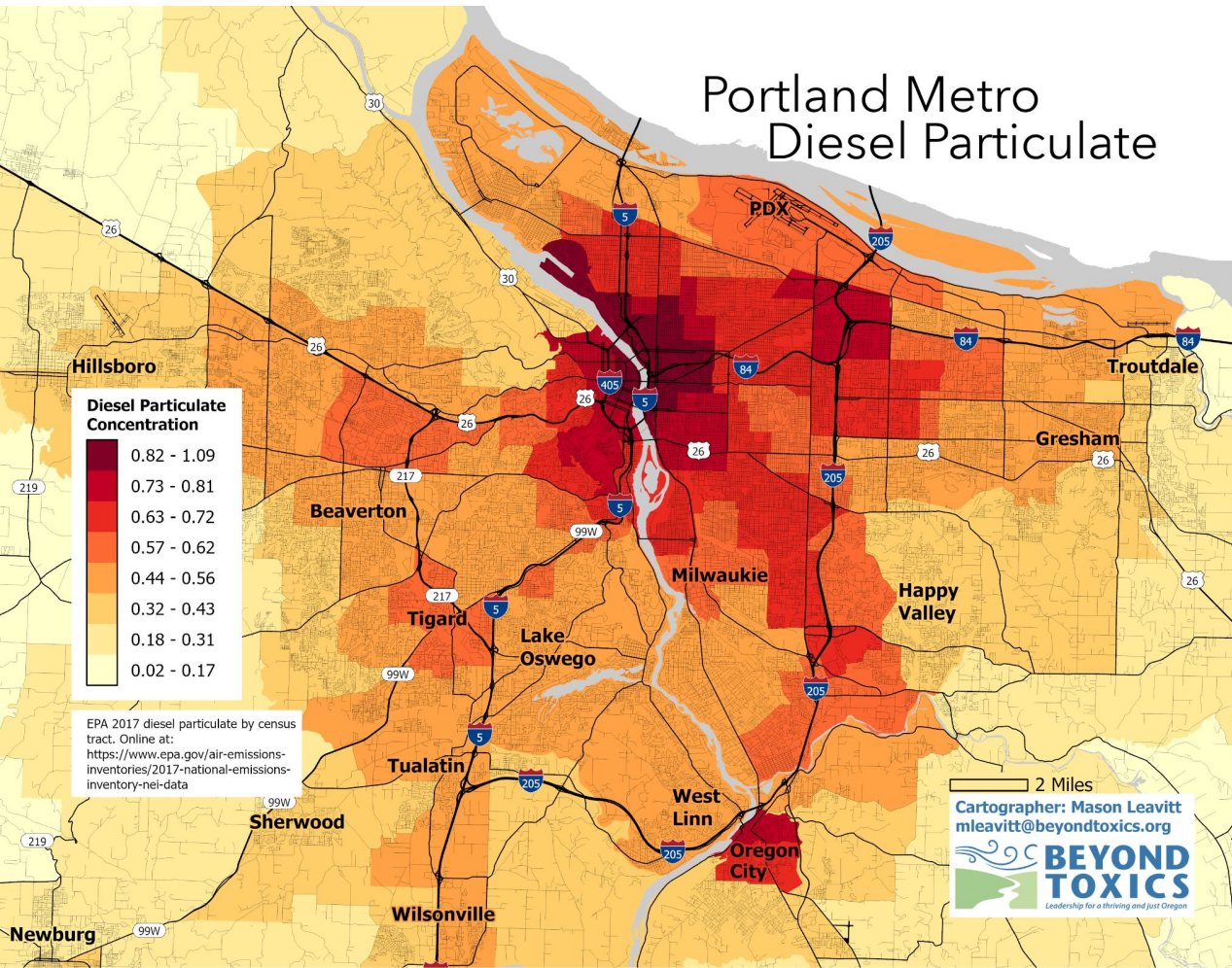
Cumulative Impacts

What are cumulative impacts?

- Combined effects of *current* and *past* pollution, other stressors, and how they impact the health and quality of life of residents in those communities

Diesel Cumulative Impact

- Multiple diesel emission sources combine with existing socioeconomic vulnerabilities – amplifying toxic exposures and health risks far beyond the damage of any single data center.
- This compounding burden creates systemic health inequities in frontline communities – leading to chronic, lifelong illnesses that traditional, single-facility regulations fail to prevent.



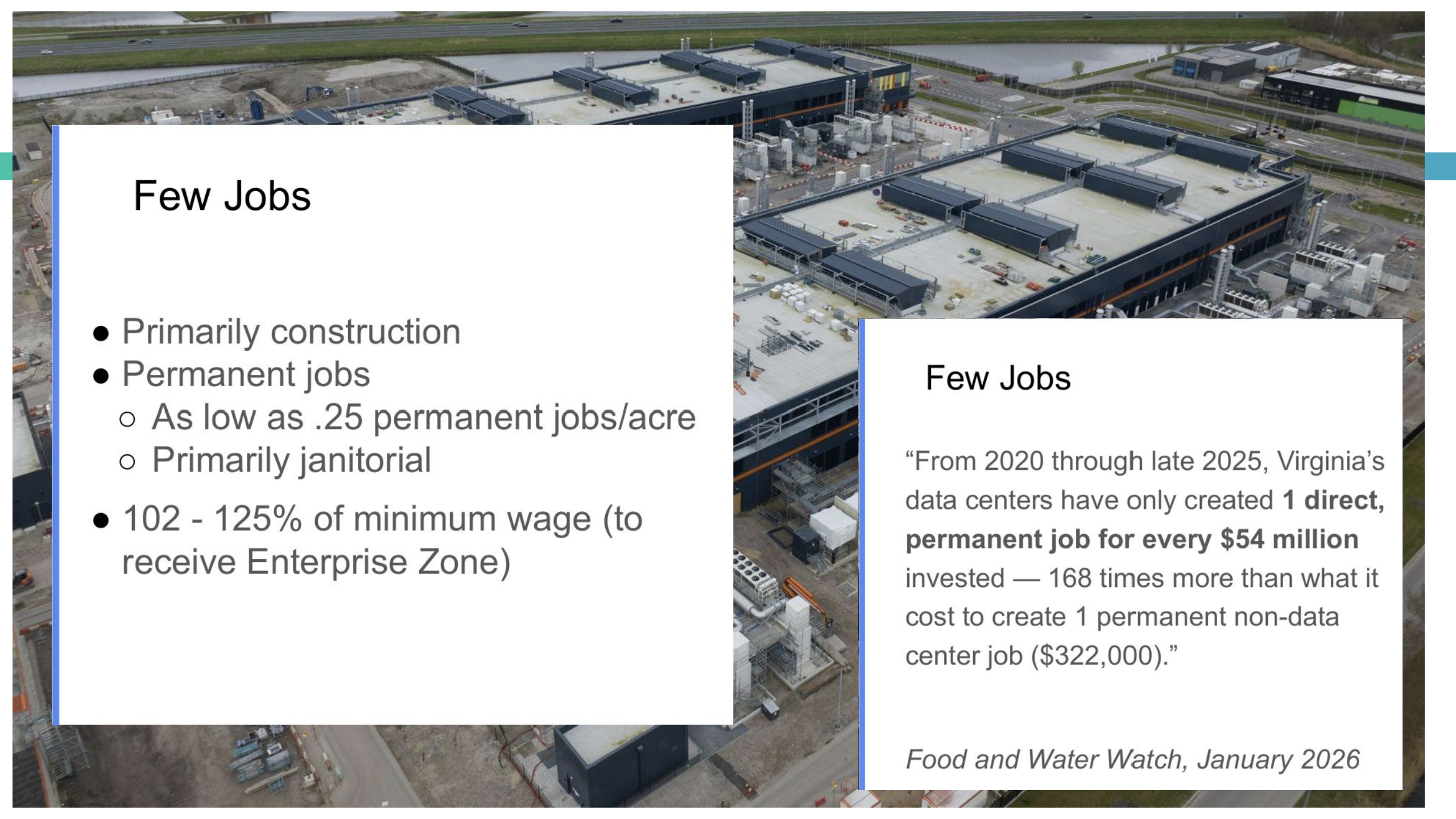
Paths Forward

- **AT MINIMUM - Implement protective measures**
 - **Require Tier 4** - Lowest-emissions technology
 - **Monitoring and transparency** -
 - Pre-construction air quality and cumulative health impact assessments
 - **Site planning:** Require setbacks from sensitive sites (schools, hospitals, homes, etc.)
- **Require or Incentivize the Use of Batteries**
- **Reduce backup power needs**
 - **Alleviate grid stress**
 - Implement efficiency measures
 - Curtailment of work by sending load to another center.

Noise Pollution-Constant low frequency

- **Impact of Noise Pollution:**
 - Sleep disruption & fatigue
 - Cardiovascular impacts
 - Mental health & stress
 - Learning & concentration issues
- **What noise pollution is produced by Data Centers?**
 - **Constant, 24/7, low-frequency “hum”**
 - It is felt as vibrations by residents
 - Data center noise pollution **does not** decrease at night
 - Noise pollution can be heard/felt up to a mile away
 - High decibel sounds- diesel
- **Regulatory Gaps**
 - Local zoning ordinances - outdated for data centers
 - Little to no federal oversight
 - Even when regulations exist - enforcement is limited
 - Standard measurements leave out low-frequency noise





Few Jobs

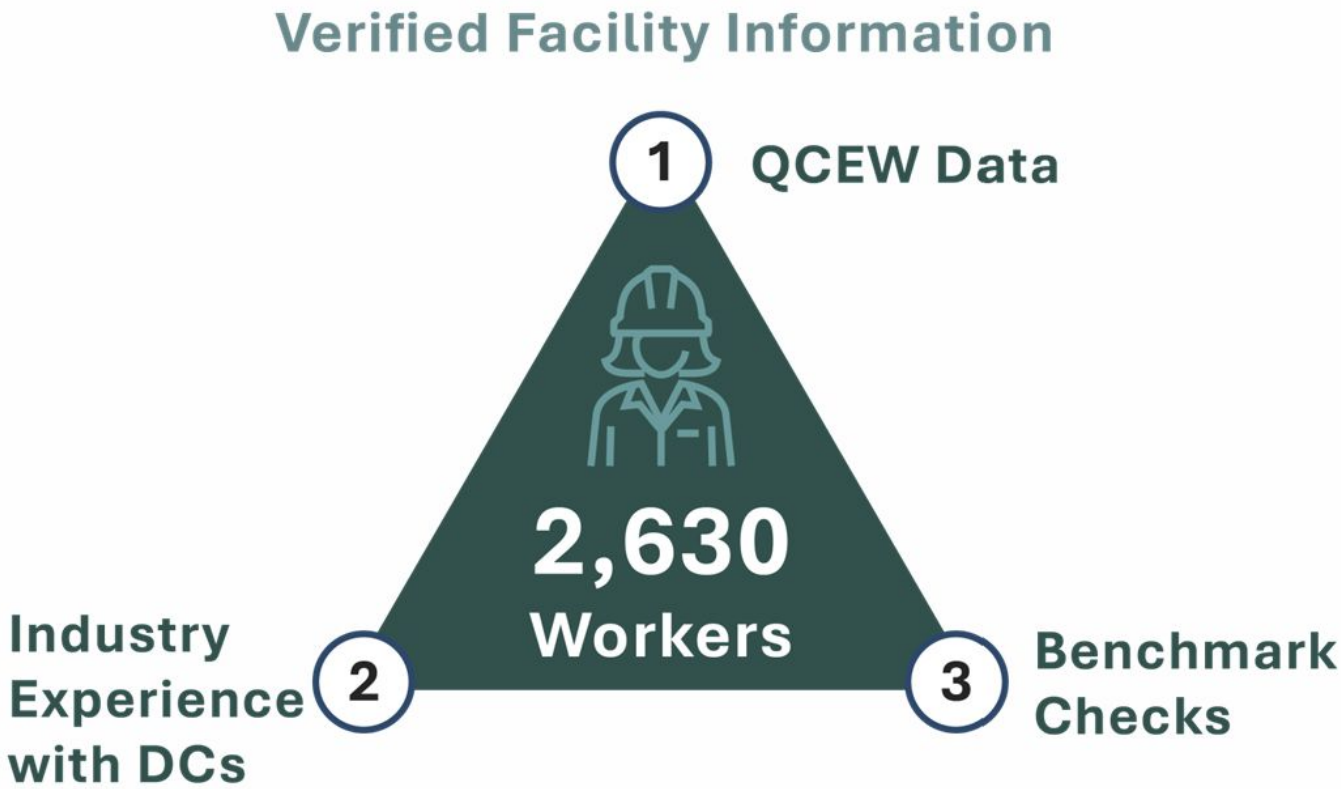
- Primarily construction
- Permanent jobs
 - As low as .25 permanent jobs/acre
 - Primarily janitorial
- 102 - 125% of minimum wage (to receive Enterprise Zone)

Few Jobs

“From 2020 through late 2025, Virginia’s data centers have only created **1 direct, permanent job for every \$54 million** invested — 168 times more than what it cost to create 1 permanent non-data center job (\$322,000).”

Food and Water Watch, January 2026

Operational Data Center Employment Was Estimated by Triangulating Multiple Sources



QCEW is used as the primary estimate; the other methods test whether the result is plausible and internally consistent.

Source: OED QCEW, 2024; ECONorthwest analysis.
Employment values rounded

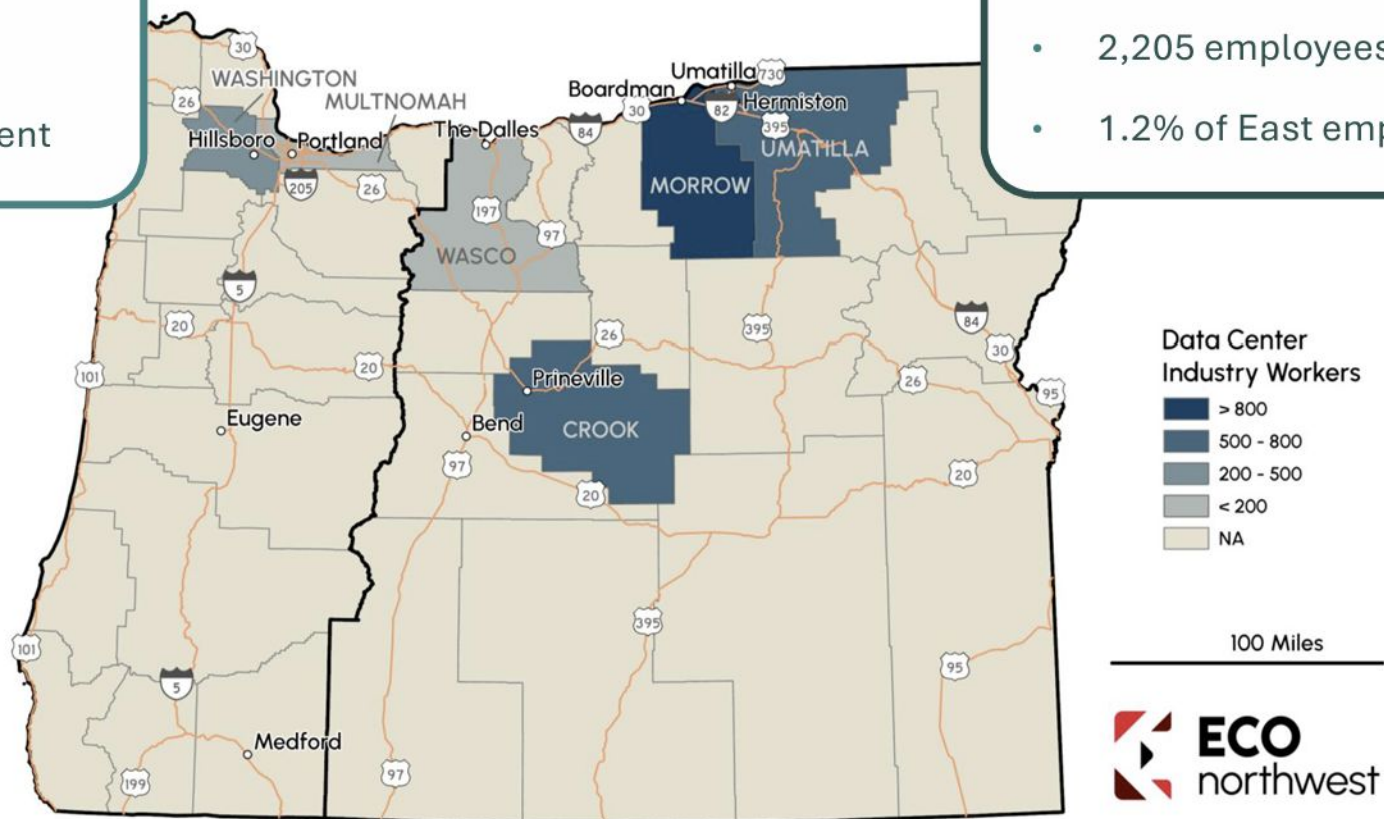
Operational Employment is Concentrated in Eastern Oregon

Western Oregon

- 425 employees
- 0.03% of West employment

Eastern Oregon

- 2,205 employees
- 1.2% of East employment



Source: OED QCEW, 2024; ECOnorthwest analysis. Preliminary draft.

OREGON'S FOUR TAX BREAKS

- No sales tax
- Property tax breaks
- Infrastructure paid for by the public
- Income tax breaks

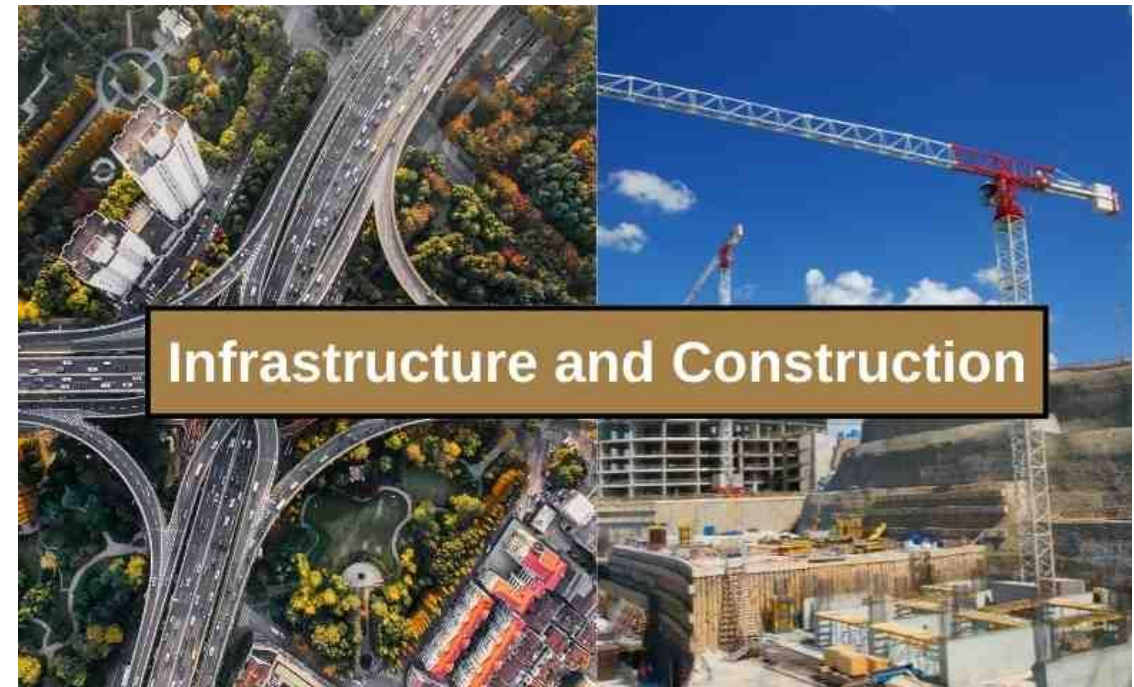
No Sales Tax in Oregon

39 states have given data centers partial sales tax breaks

- Oregon is 1 of only 5 states with 100% sales tax breaks - on all goods and services
- Amazon has saved \$3B on \$39.3B invested in data centers in eastern OR

INFRASTRUCTURE COSTS

- Homebuyers pay for the internal infrastructure when they buy (water, roads, utilities)
- Industrial land – often the public pays
- Stop the giveaway for data centers



Will Data Centers Stop Coming to Oregon?

- If we disqualify data centers from Oregon's property tax breaks
- No, we'll still be the best deal on the west coast
 - No sales tax
 - 13 fiberoptic international data cables to Oregon
 - Relatively cheap electricity
 - Lower temperatures



Questions?

Moratorium Resolution Bill

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Moratorium

A 3-year pause on new large-scale Data Centers gives time to create a regulatory framework to protect Oregonians and communities.



Performance Standards

Standards for existing and future data centers to protect public health & safety, with reasonable time to implement.

-  Noise volume limits
-  Low-frequency noise limits
-  Light pollution standards
-  Water pollution standards for nitrates and PFAS
-  Generators limited to emergencies, and maintenance & testing
-  New generators require tier 4 emission controls



Transparency

Public reporting, public hearings, and disclosure requirements to ensure transparency and accountability.

-  No NDAs
-  Type III Land Use procedures
-  Public notice
-  Public reporting

Moratorium Resolution Bill

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Power and water use

Prioritize power and water for residential, agricultural, and public use, and allow electric utilities to set rates.



Residential, agricultural, and public use takes priority.



Electric utilities can set rates, not just investor-owned utilities.



Responsible Land Use

Protect Oregon's land use goals by siting data centers where they belong.



Minimum separation for vulnerable communities, residences, and tribal land.



No rezoning of farm and forest land for data centers.



Task Force on Data Center Impacts

Creates a task force to study impacts of data centers, and report findings and recommendations before the moratorium expires.

Why a 3-Year Moratorium

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- First legislation then Regulation, then Implementation
- It took 1 y for the Public Utility Commission to regulate PGE after the POWER Act was passed.
- Water/Wastewater and Land Use policy is very complex
- Doing research for difficult issues like PFAS in data center water systems.