





Montana Data Centers

Economic Benefits and Resource Demands

Montana State Legislature
Energy & Technology Interim Committee
July 16, 2026

Bob Morris
Lance Energy Chair

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MONTANA
TECHNOLOGICAL UNIVERSITY

A **data center** is a secure facility that houses computer servers and networking equipment to **store, process, and transmit digital information**

Applications

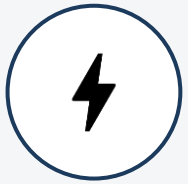
- Internet access and website hosting
- Cloud storage and computing
- Financial transactions
- Healthcare records
- Emergency communications
- Government and public services
- Entertainment
- Travel (air, hotel, car rentals, etc.)
- Maps (GIS)
- Cryptocurrency mining
- Military
- Artificial Intelligence

Purpose & Scale

Hyperscale **Colocation** **Cryptocurrency**

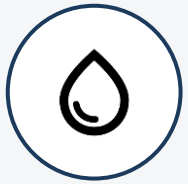
Data Center Infrastructure & Community Impacts

Key resource and community considerations for siting and permitting



Electric Power

Large, continuous electricity demand



Water

Significant withdrawals for cooling



Wastewater

Discharge volume and treatment capacity



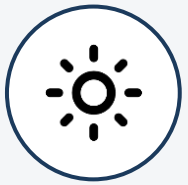
Noise

Continuous mechanical and cooling noise



Vibration

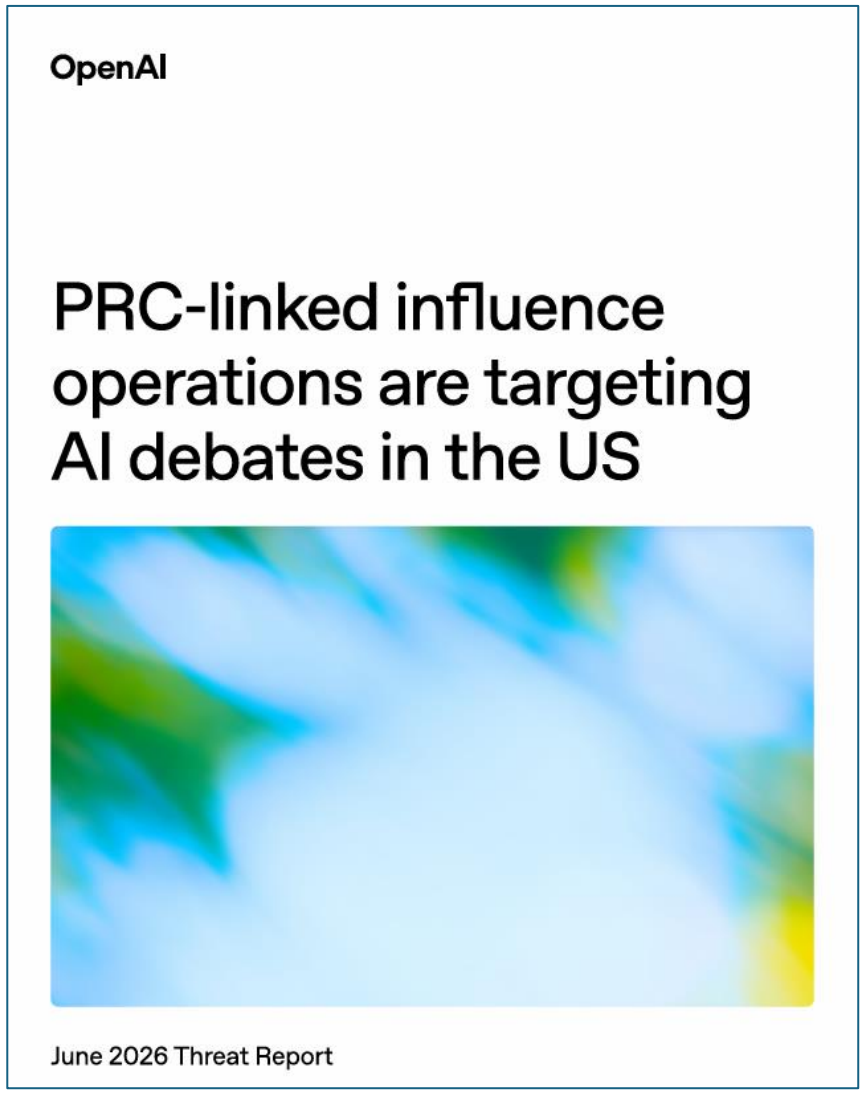
Generators and rooftop equipment



Light

Nighttime lighting and light pollution

Foreign Influence Amplifies Data Center Opposition





Data Center Bandwagon Campaign

US Government Investigates Foreign Influence

U.S. Department of JUSTICE

'Follow the money': Goldman Sachs under fire over $285M money trail in Neville Roy Singham probe

United States House Committee on Ways & Means
CHAIRMAN JASON SMITH

Chairman Smith Exposes U.S. Nonprofit as Likely CCP-Funded Propaganda Arm Operating Under Tax-Exempt Status

ENERGY & COMMERCE
CHAIRMAN BRETT GUTHRIE

Chairmen Guthrie, Joyce, and Latta Request Investigation of Foreign Adversaries' Efforts to Block American Data Center Buildout

Foreign Influence?
- or -
An Attempt to Delegitimize Genuine Local Opposition?

AMERICAN ENERGY INSTITUTE

April 2026

FOREIGN-FUNDED OPPOSITION TO U.S. DATA CENTER EXPANSION

$39M+ in foreign funding

200+ signed moratorium letter

4 foreign donor countries

Jun 5, 2026 - Politics & Policy

China fueling U.S. data center resistance, AI groups claim

Alex Isenstadt

Add Axios on Google



https://www.axios.com/2026/06/05/china-fueling-us-data-center-resistance-ai-groups-claim

Artificial Intelligence: a Bubble or a Trend?

The Rise of AI:

A Reality Check on Energy and Economic Impacts



Mark P. Mills
Executive Director, National Center for Energy Analytics
Distinguished Senior Fellow, Texas Public Policy Foundation
Distinguished Fellow, Hamm Institute for American Energy

A RESEARCH PARTNERSHIP BETWEEN:

The National Center for Energy Analytics
https://energyanalytics.org

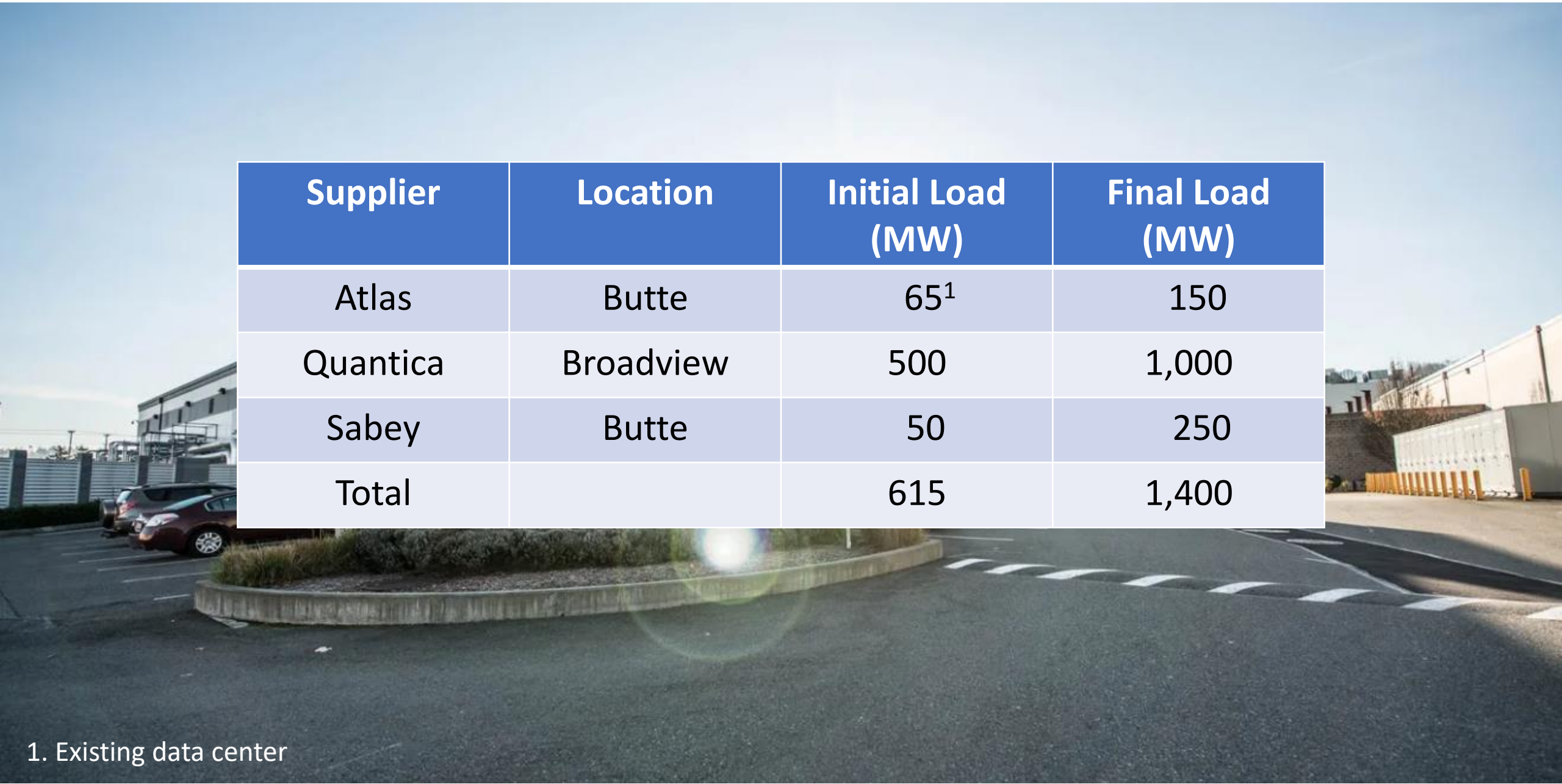
The Hamm Institute for American Energy
https://hamminstitute.org

NATIONAL CENTER FOR ENERGY ANALYTICS

Hamm Institute for American Energy
OKLAHOMA STATE UNIVERSITY

- Annual spend $1T…$2T
- Private capital
- ~5% of GDP
- Interstate Highway or Chemical Industry
- Productivity (GDP) Boost: 1% -> 4%
- National Security

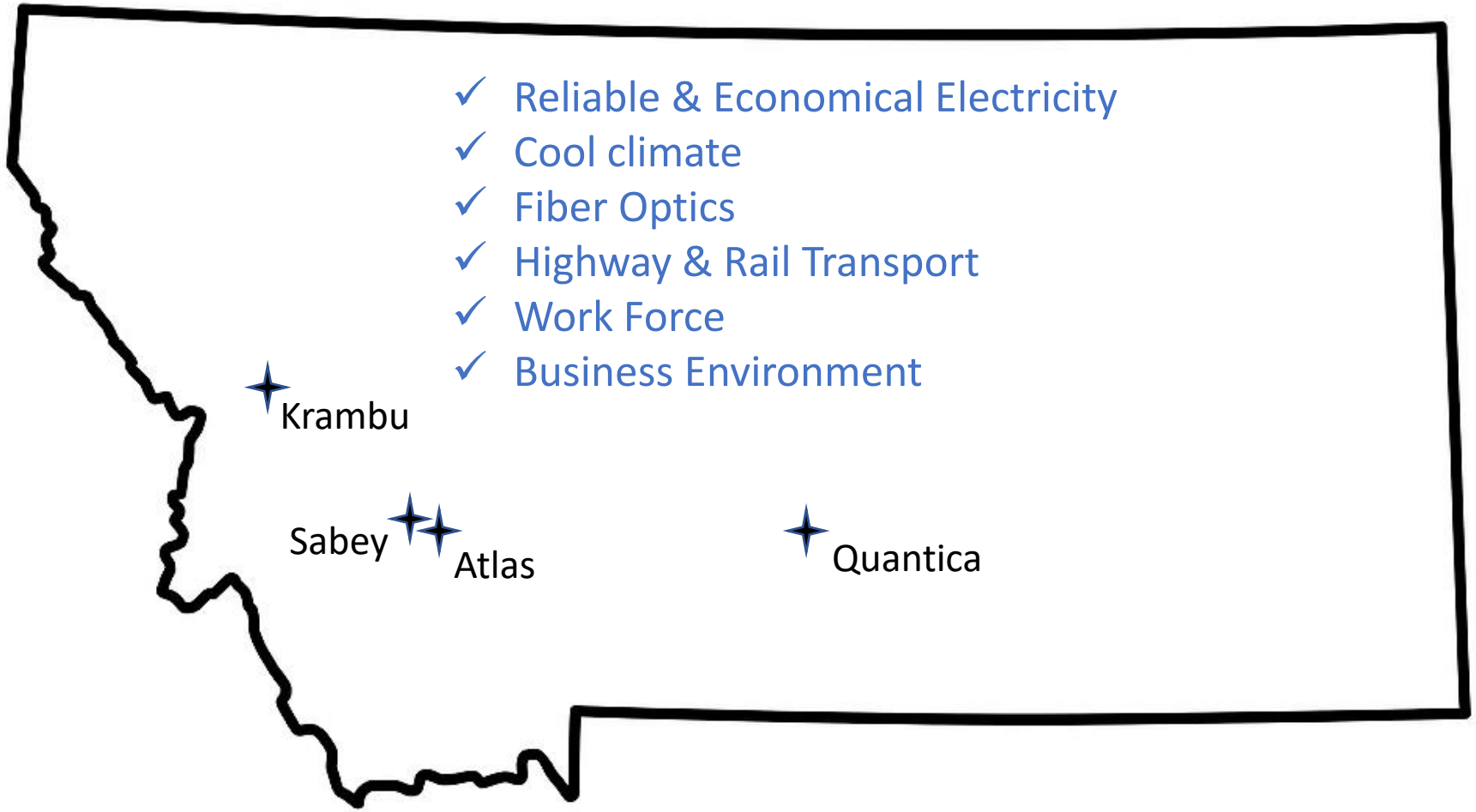
Proposed Montana Data Centers



Supplier	Location	Initial Load (MW)	Final Load (MW)
Atlas	Butte	65[1]	150
Quantica	Broadview	500	1,000
Sabey	Butte	50	250
Total		615	1,400

1. Existing data center

Why Data Centers in Montana?



SW Montana Data Center Economic Impact

Potential Transformational Economic Change

Construction Impact

Year	Direct Jobs	Derivative Jobs	Total Jobs	Direct Wages	Derivative Wages	Annual Income	Population
1-3	900	2,400	3,300	$70K	$57K	$195M	

Operational Impact

4+	175	700	875	$89K	$57K	$56M	1,833

Annual Property Tax Addition: $5M - $8M

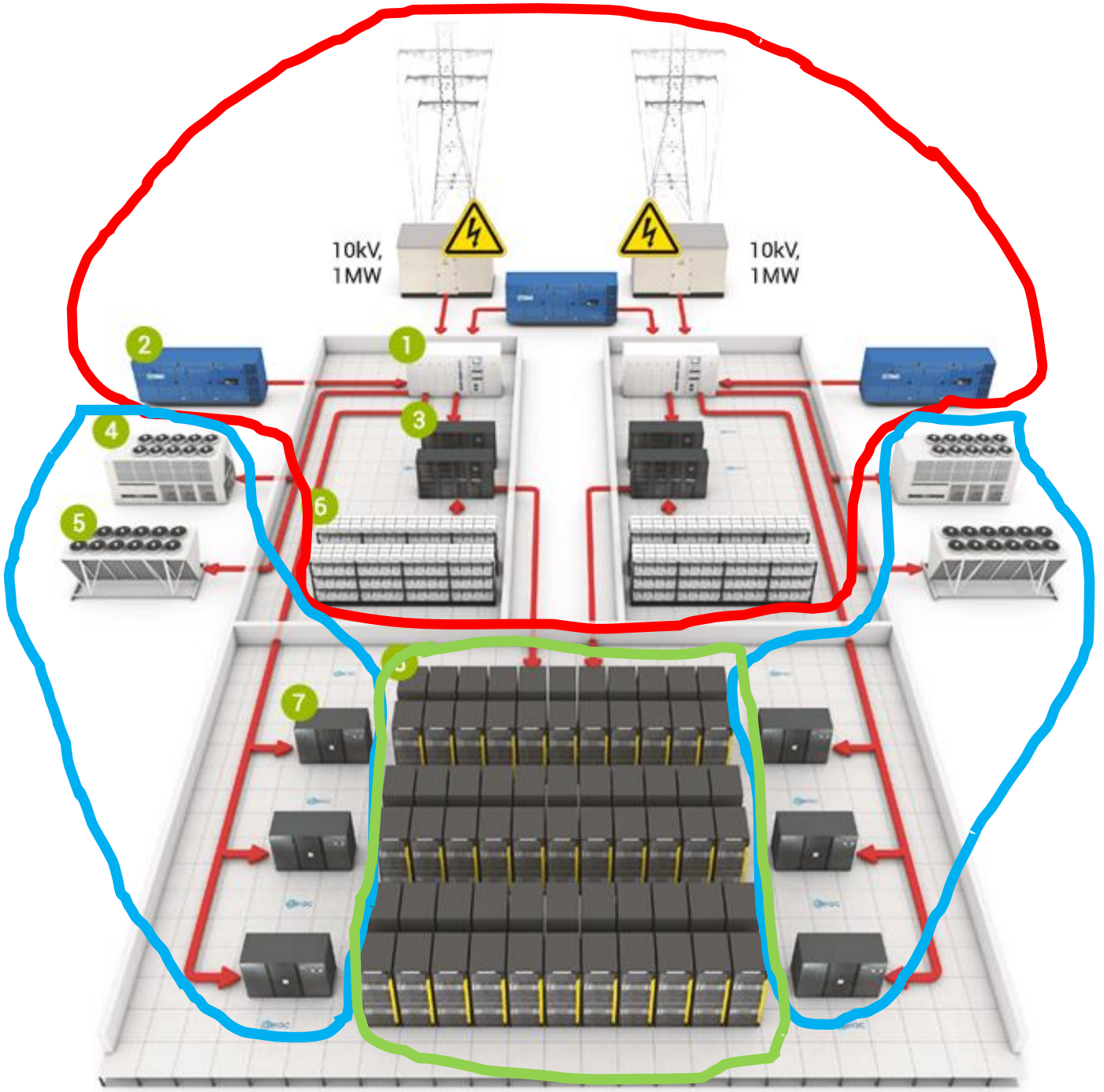
BBER Economic Outlook Seminar, February 2025. John Kasperick, Northwestern Energy, numbers are averaged/rounded

Data Center Anatomy

Electric Power

IT Equipment
Servers & Telecommunications

Cooling

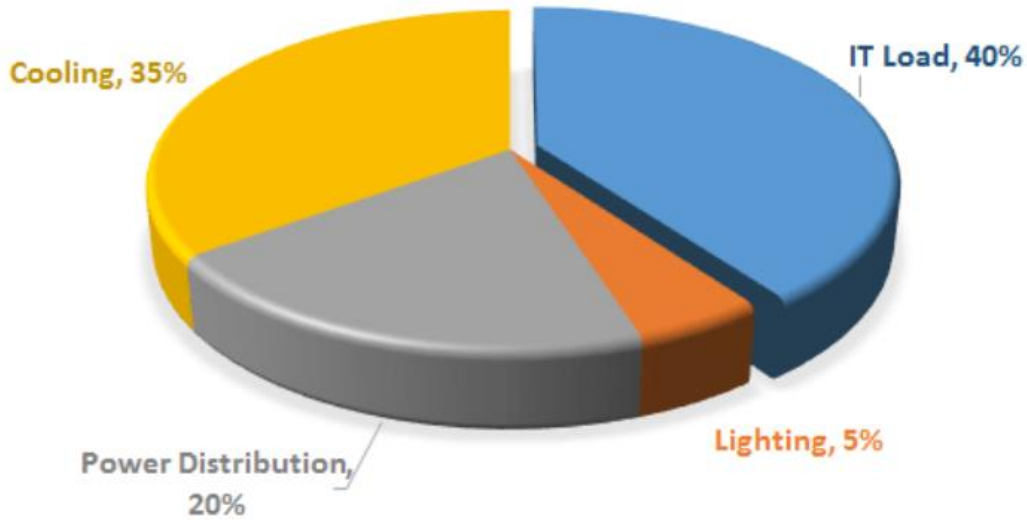


How Efficient is Data Center Power Use?

Power Use Effectiveness PUE = $\frac{\text{Total Facility Power (MW)}}{\text{IT Equipment Power (MW)}}$

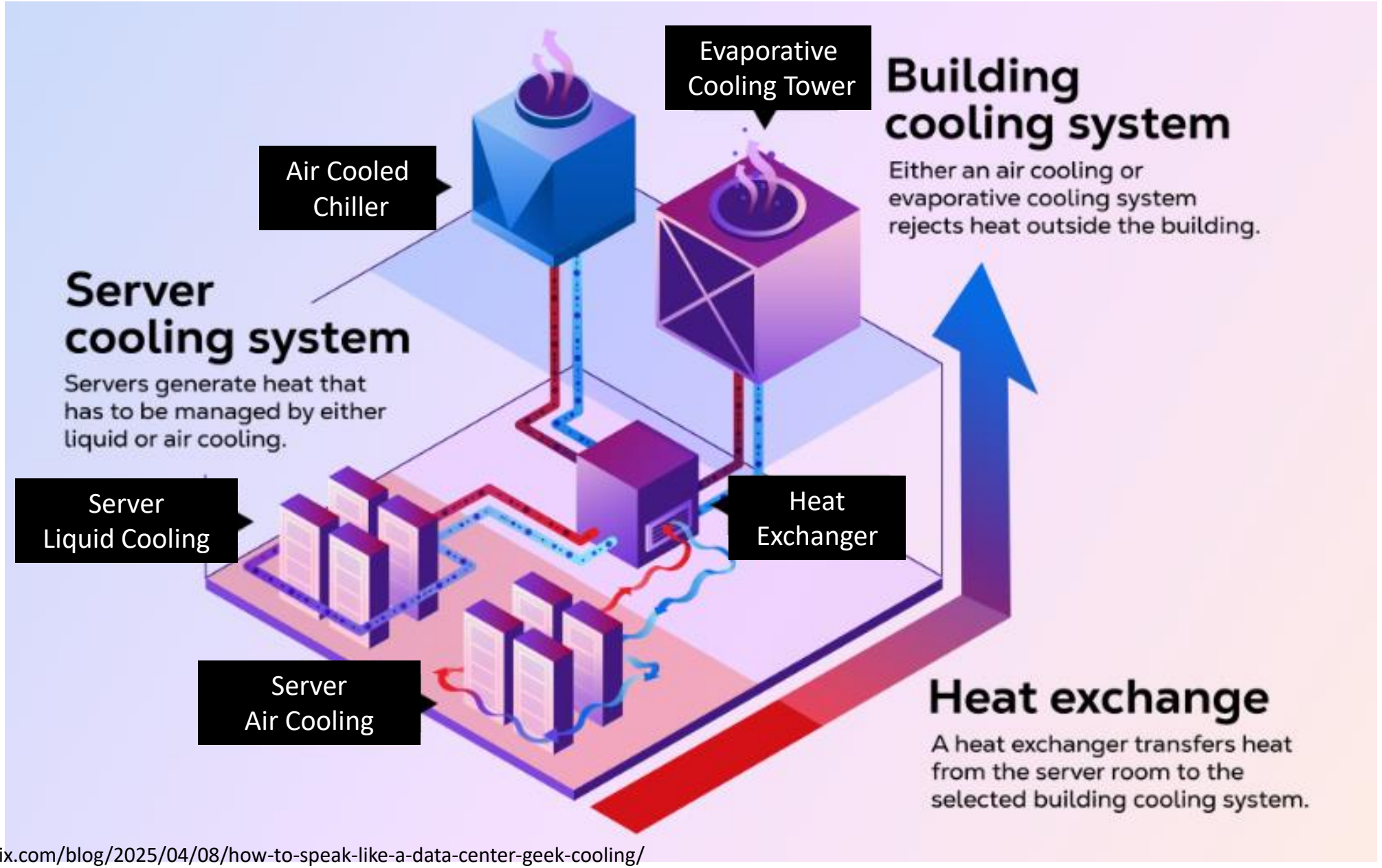
Average PUE = 1.6

Best in Class PUE = 1.1



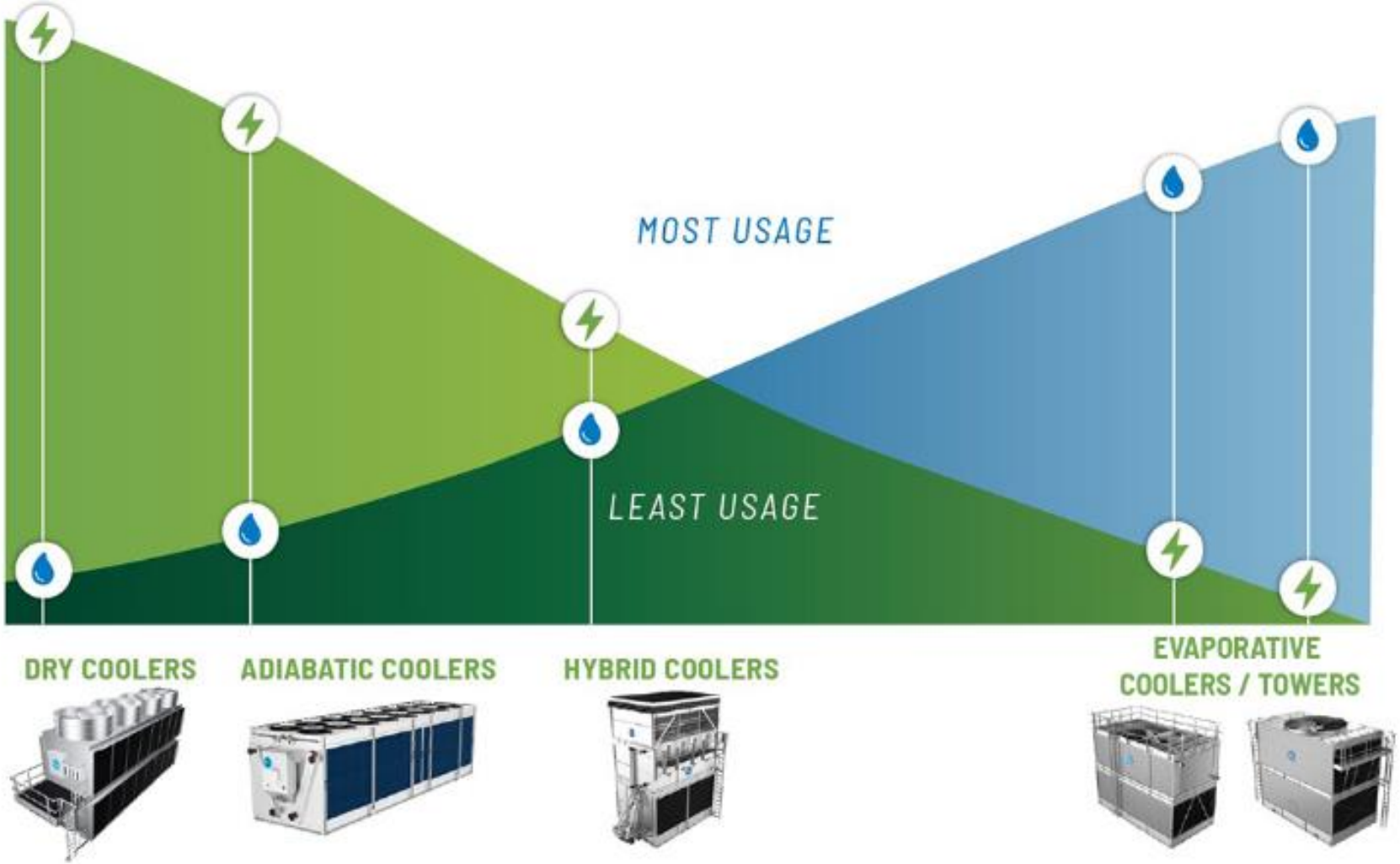
https://datacenters.google/efficiency/

Data Centers Optimize Cooling System Design



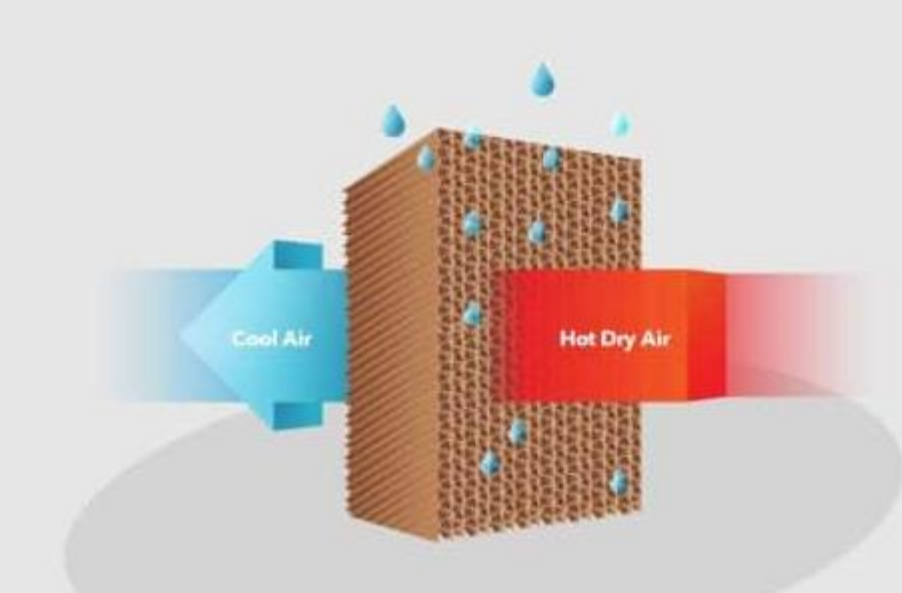
https://blog.equinix.com/blog/2025/04/08/how-to-speak-like-a-data-center-geek-cooling/

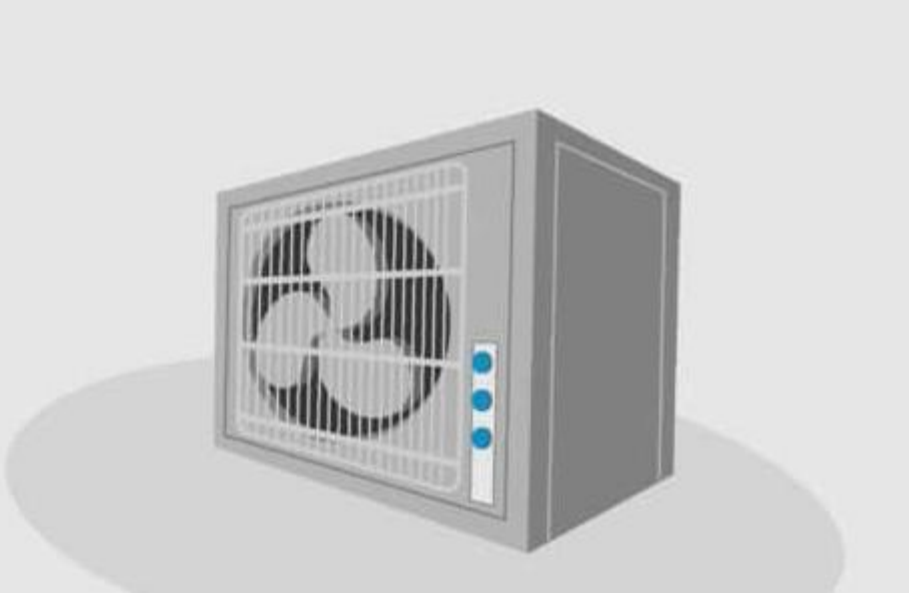
Data Center Building Cooling
Can be a Trade-Off Between Energy and Water



https://baltimoreaircoil.com/articles/data-center-cooling-options

Building Cooling System Tradeoffs





Evaporative Cooler

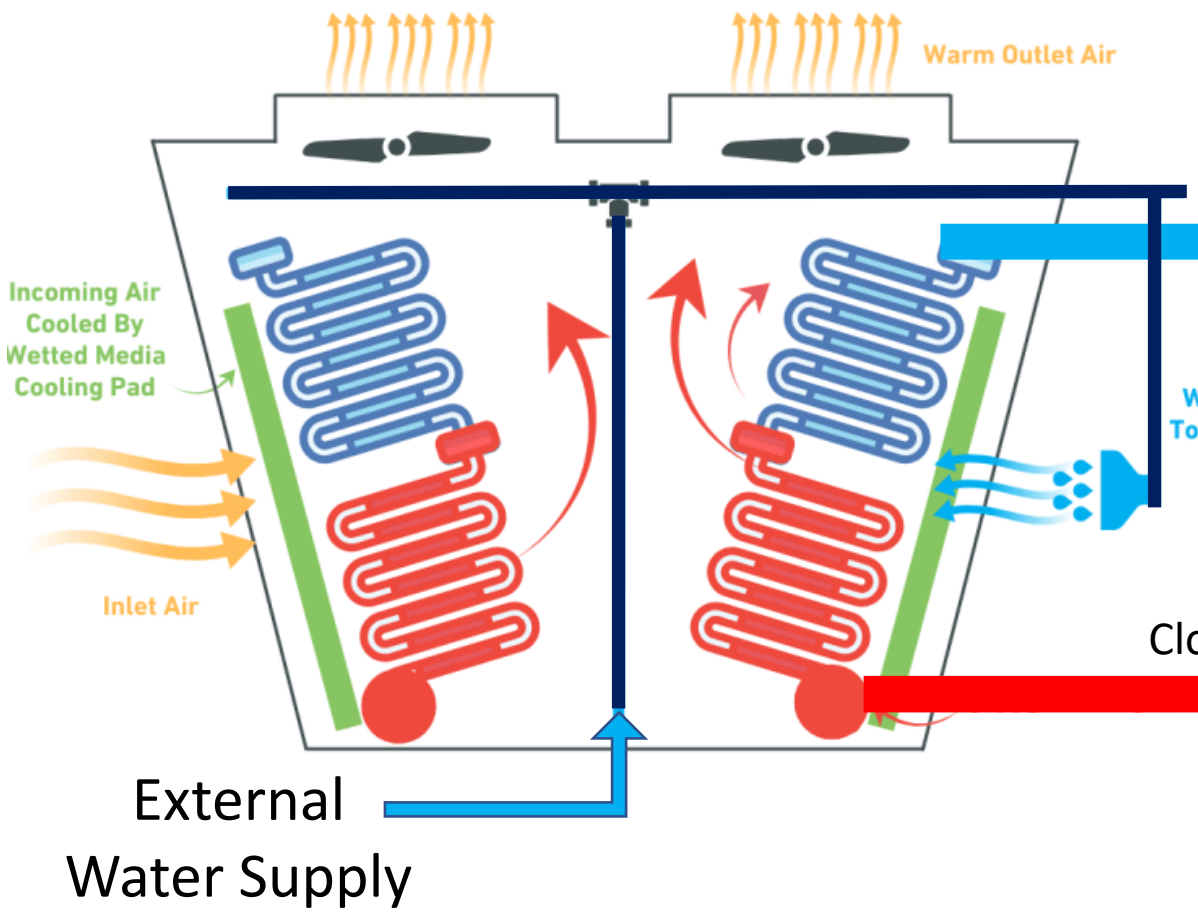
+ Simple: membrane & pump
+ Low power use
- High water use

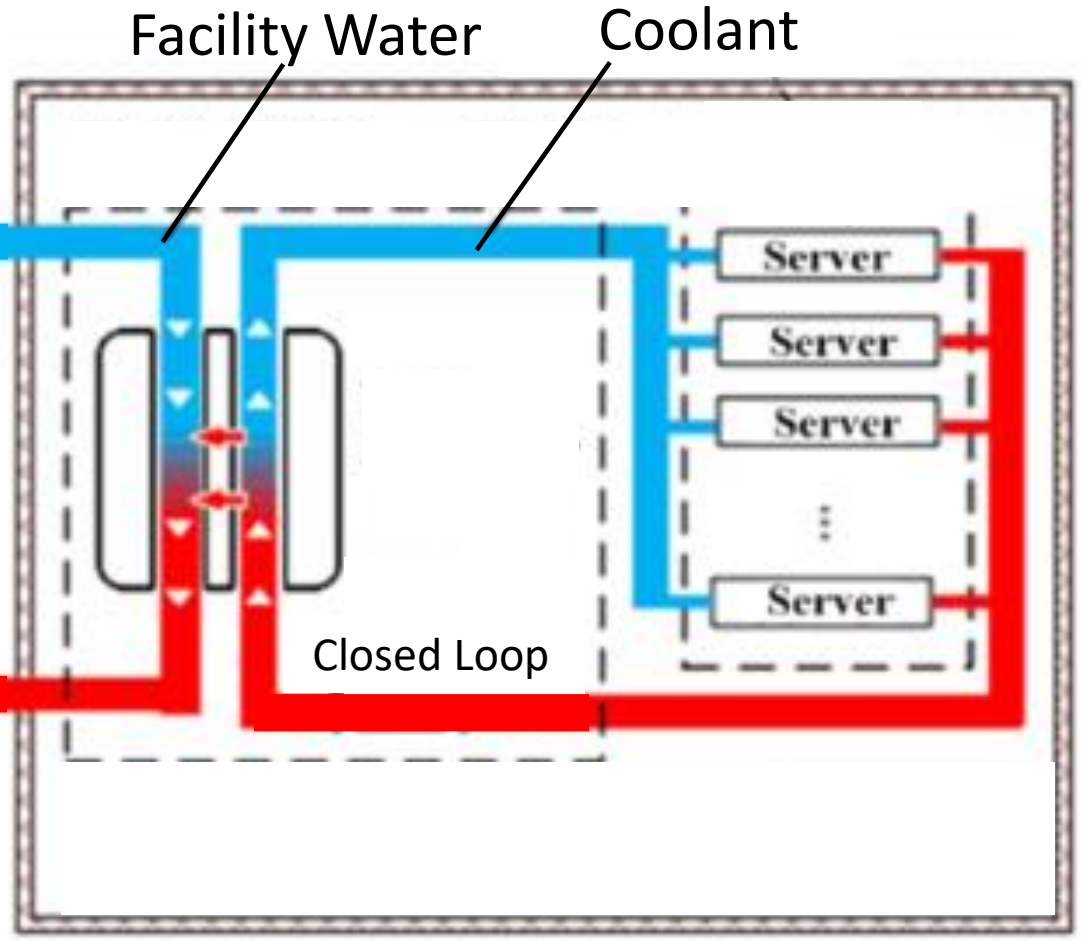
Air Conditioner / Chiller

- Complex: evaporator, compressor, condenser
- High power use
+ Little or no water use

Optimize Energy & Water Use

+ Simple Design + Low Power Use + No Water Use below 80°F





Adiabatic Building Cooling

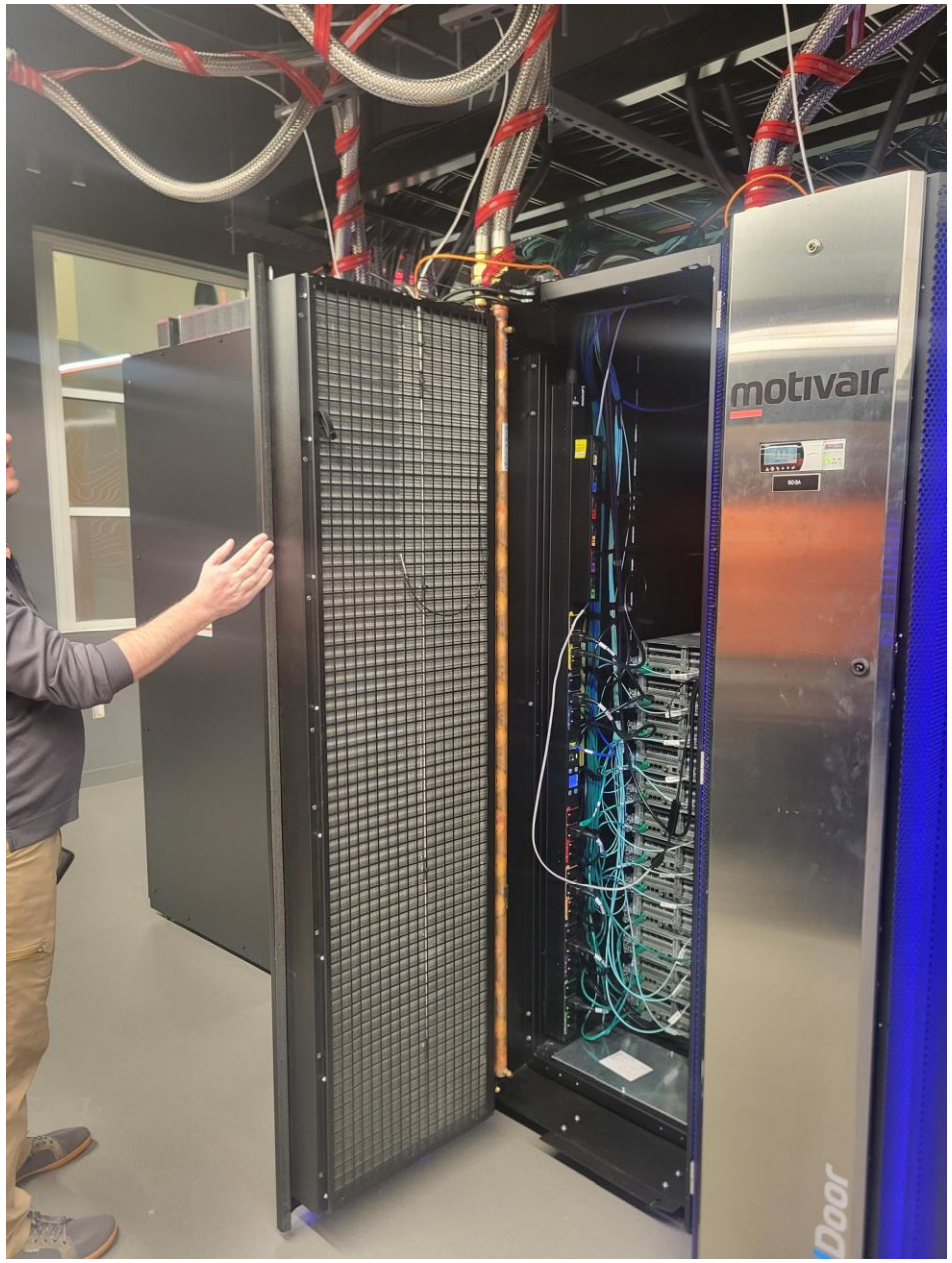
Liquid Server Cooling

https://www.bds-energy.com/how-do-adiabatic-cooling-systems-work/

https://www.researchgate.net/figure/Water-cooling-design-in-the-data-center-25_fig2_359538981

Oklahoma State Data Center

Closed Loop Liquid Cool, No External Water



Chilled Door Liquid Server Cooling



How Efficient is Data Center Water Use?

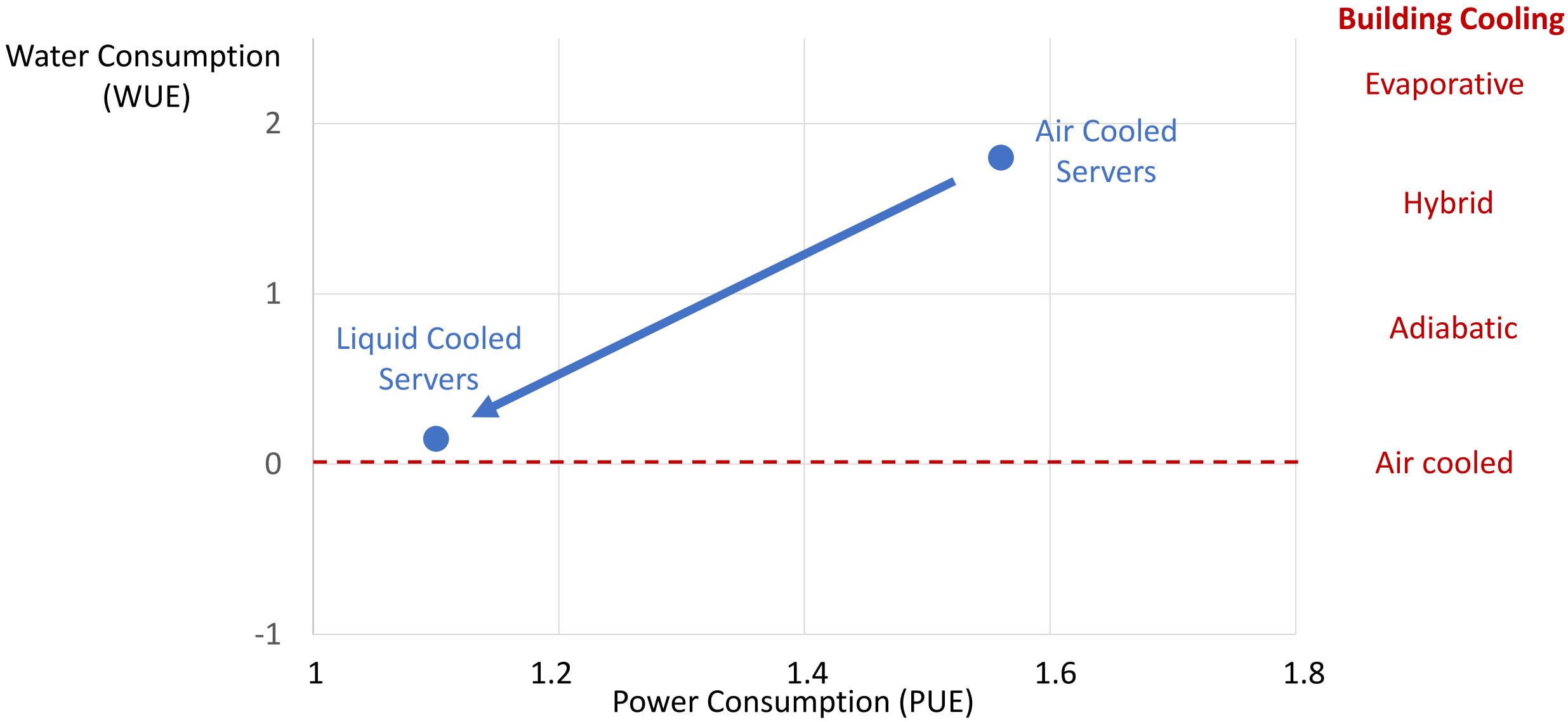
Water Use Effectiveness $WUE = \frac{\text{Annual Water Usage (Liters)}}{\text{IT Equipment Energy (kWh)}}$

Average $WUE = 1.8$ liters/kWh[1]

Best in Class $WUE <= 0.15$ liters/kWh[2]

1. https://www.datacenterknowledge.com/cooling/a-guide-to-data-center-water-usage-effectiveness-wue-and-best-practices
2. https://sustainability.aboutamazon.com/natural-resources/water#approach

New Technology Optimizes Water & Power Use



Sources: 1. https://blog.equinix.com/blog/2026/03/19/a-guide-to-responsible-water-use-in-data-centers/ 2. https://www.datacenterknowledge.com/cooling/a-guide-to-data-center-water-usage-effectiveness-wue-and-best-practices 3. https://sustainability.aboutamazon.com/natural-resources/water#approach 4. https://datacenters.google/efficiency/

How Much Water Will a Dry Cooling Data Center Use?

The City of Round Rock monitored water use from Sabey over the past year and found that the facility uses roughly the same amount of water on an annual basis as about 15 single-family homes ***(2 million gallons).***[1]

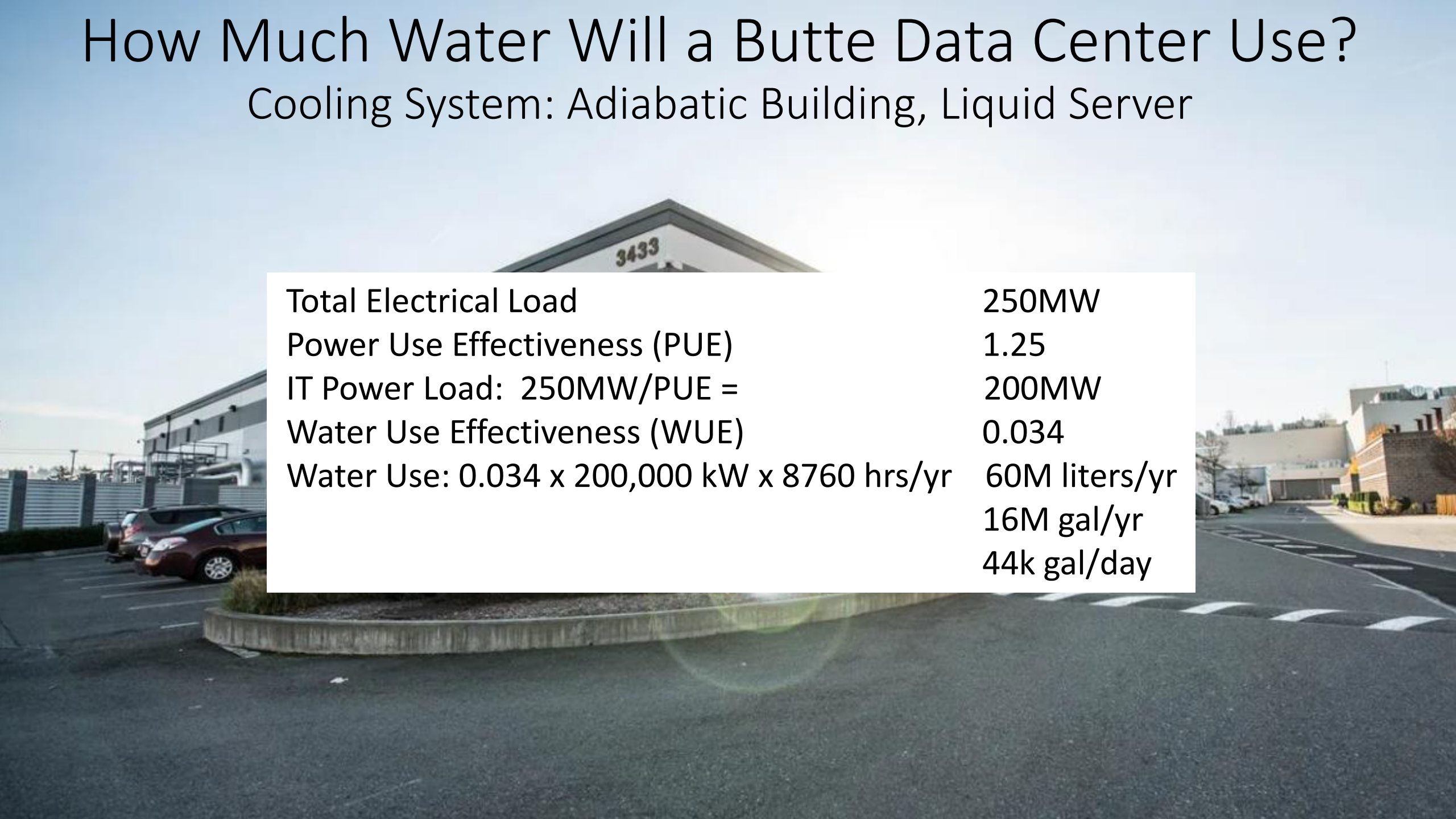
Total Facility Capacity[2]	84 MW
Active Facility	~38 MW
Water Use Effectiveness*	WUE = 0.02

*** Water use is for general facility operations and staff, not for cooling system**

1. https://www.roundrocktexas.gov/city-departments/administration/data-centers-in-round-rock/#7
2. https://sabeydatacenters.com/locations/austin-data-center

How Much Water Will a Butte Data Center Use?

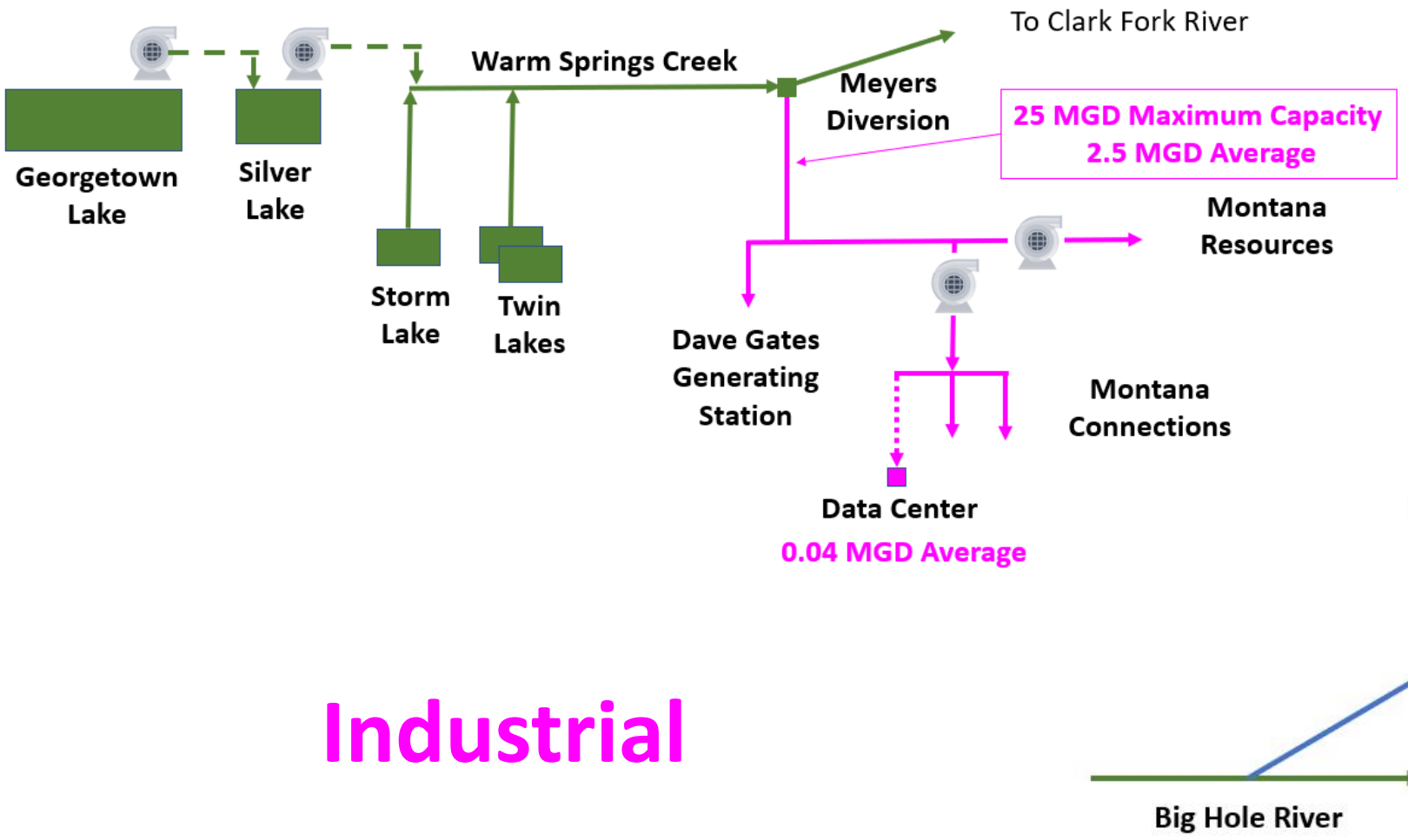
Cooling System: Adiabatic Building, Liquid Server

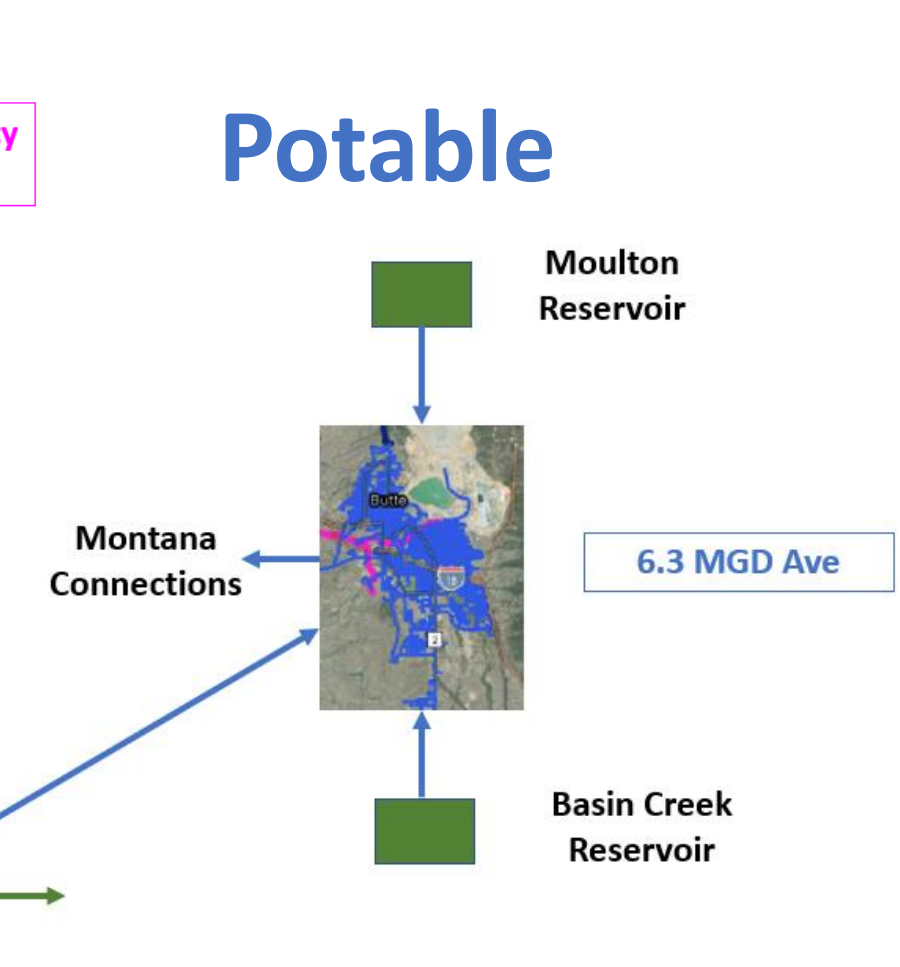


Total Electrical Load	250MW
Power Use Effectiveness (PUE)	1.25
IT Power Load: 250MW/PUE =	200MW
Water Use Effectiveness (WUE)	0.034
Water Use: 0.034 x 200,000 kW x 8760 hrs/yr	60M liters/yr
	16M gal/yr
	44k gal/day

Butte Has a Robust Industrial Water System

MGD = Million Gallons Per Day





Bob Morris 26 January 2026. Per analysis of BSB Silver Lake Water System and proposed Montana Connections data center per Sabey Data Centers





Typical Water Use Rates
gallons/day

Average Home	300
Garden Hose	15,000
100 Room Hotel	44,000
Proposed Butte Sabey Data Center	44,000
Butte Copper Mtn Sports Complex	47,000

Montana Bureau of Mines and Geology

Open-File Report 567

Developing a Viable Water Supply for the Town of Broadview, South-Central Montana

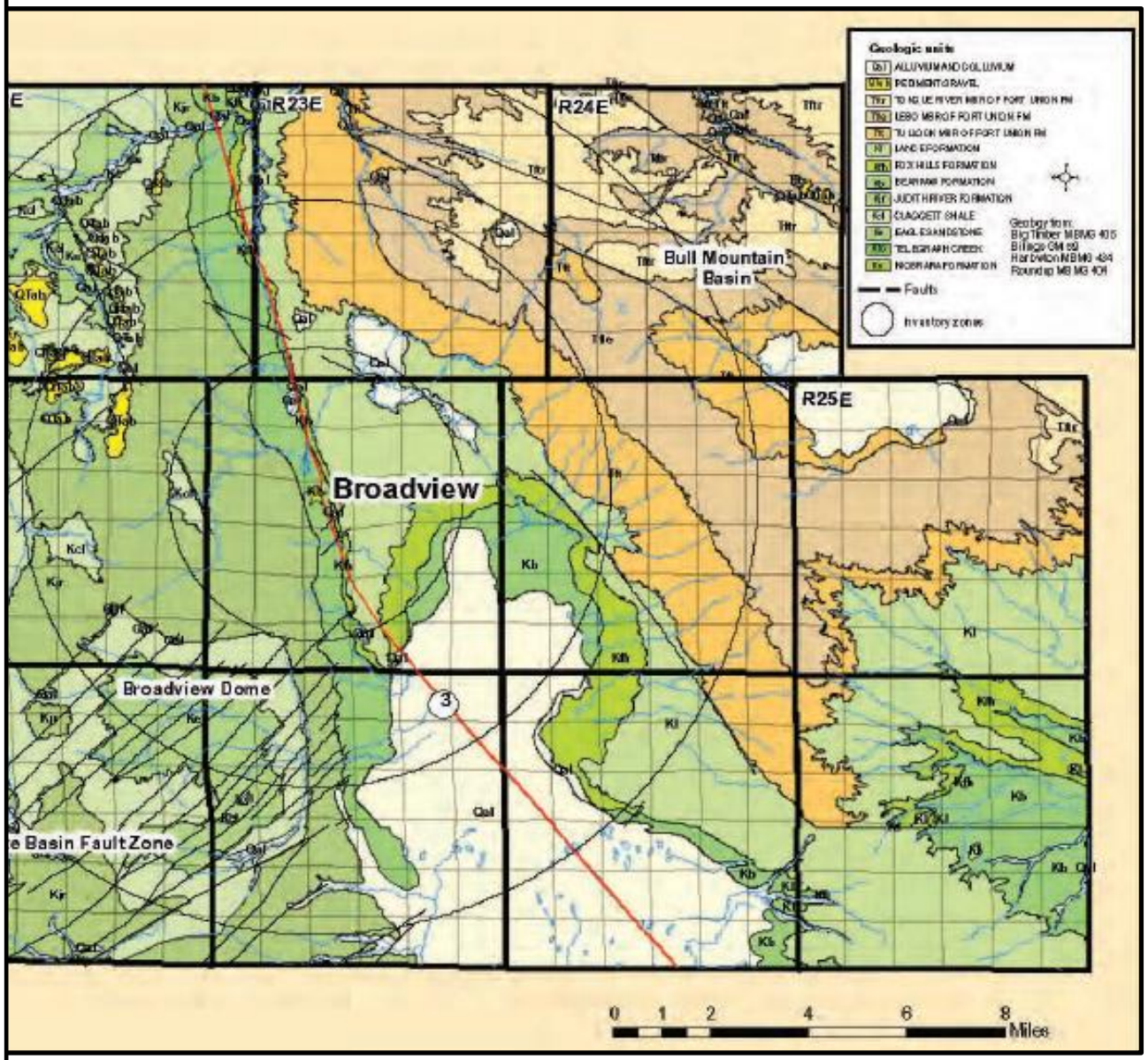


by

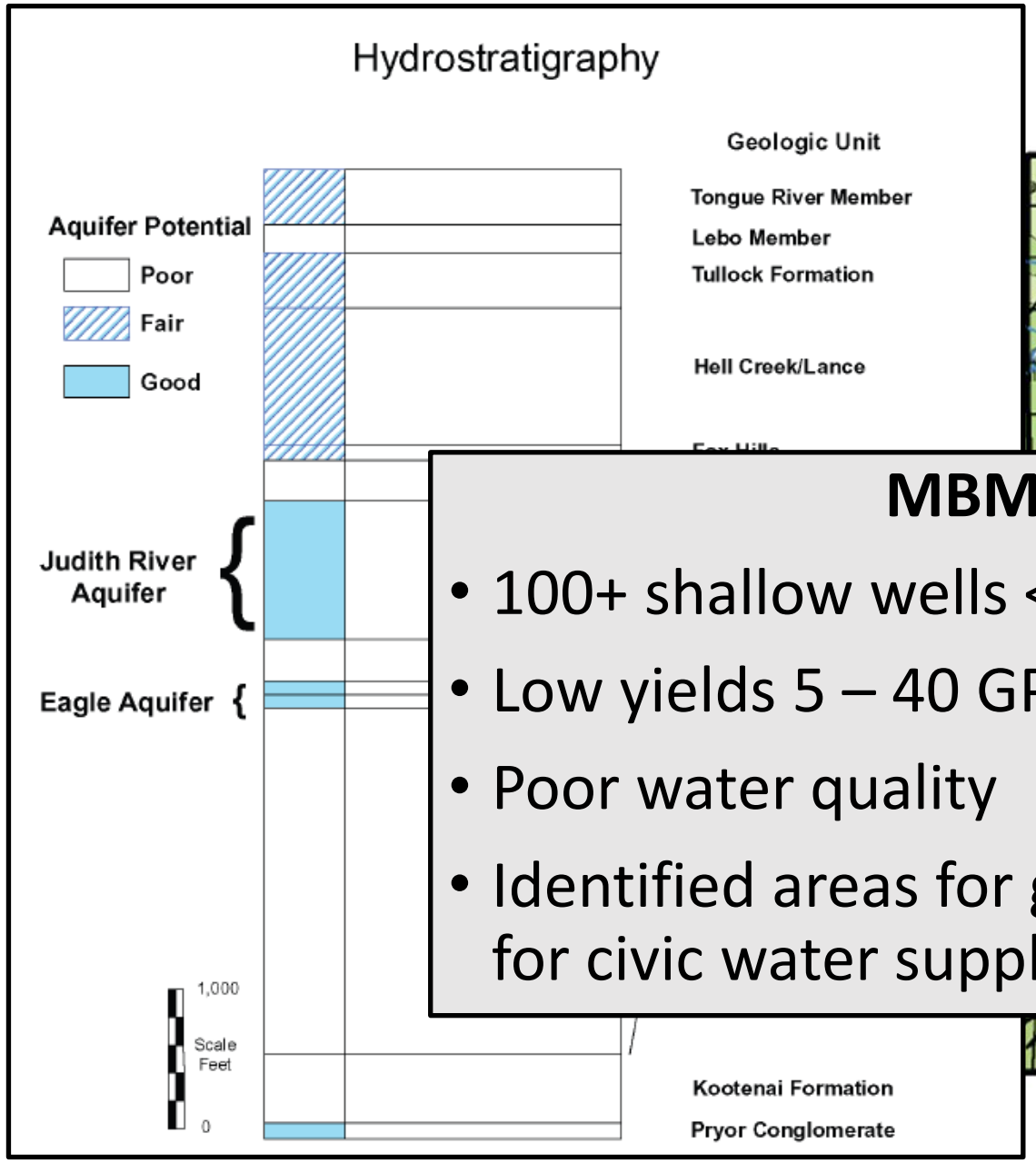
Jon C. Reiten and Jay Hanson

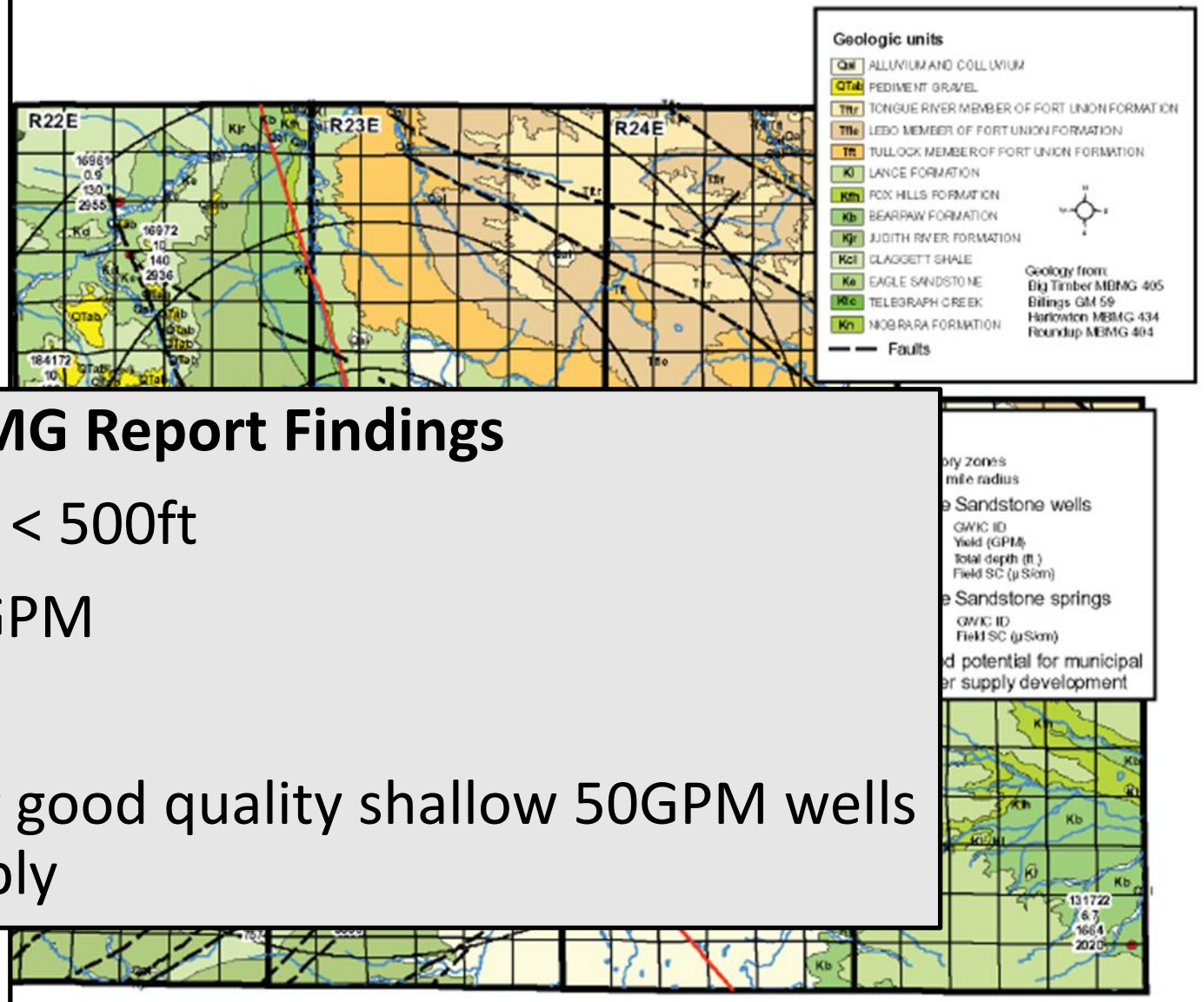
Montana Bureau of Mines and Geology

2008



Montana Bureau of Mines and Geology Open-File Report 567



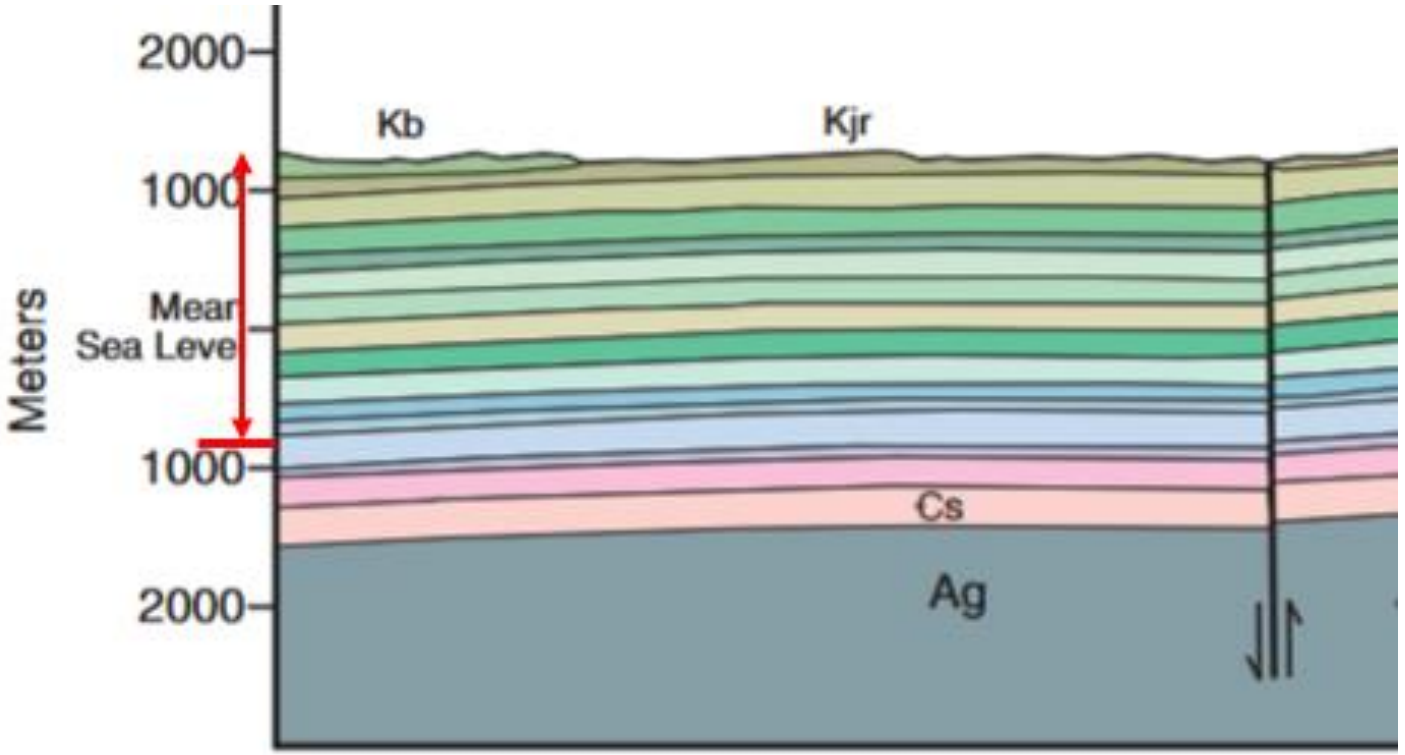


MBMG Report Findings

- 100+ shallow wells < 500ft
- Low yields 5 – 40 GPM
- Poor water quality
- Identified areas for good quality shallow 50GPM wells for civic water supply

Montana Bureau of Mines and Geology Open-File Report 567

Broadview Water Supply Options



Present Aquifer, < 500 FT

Potential Madison Limestone Aquifer, ~6,500 FT

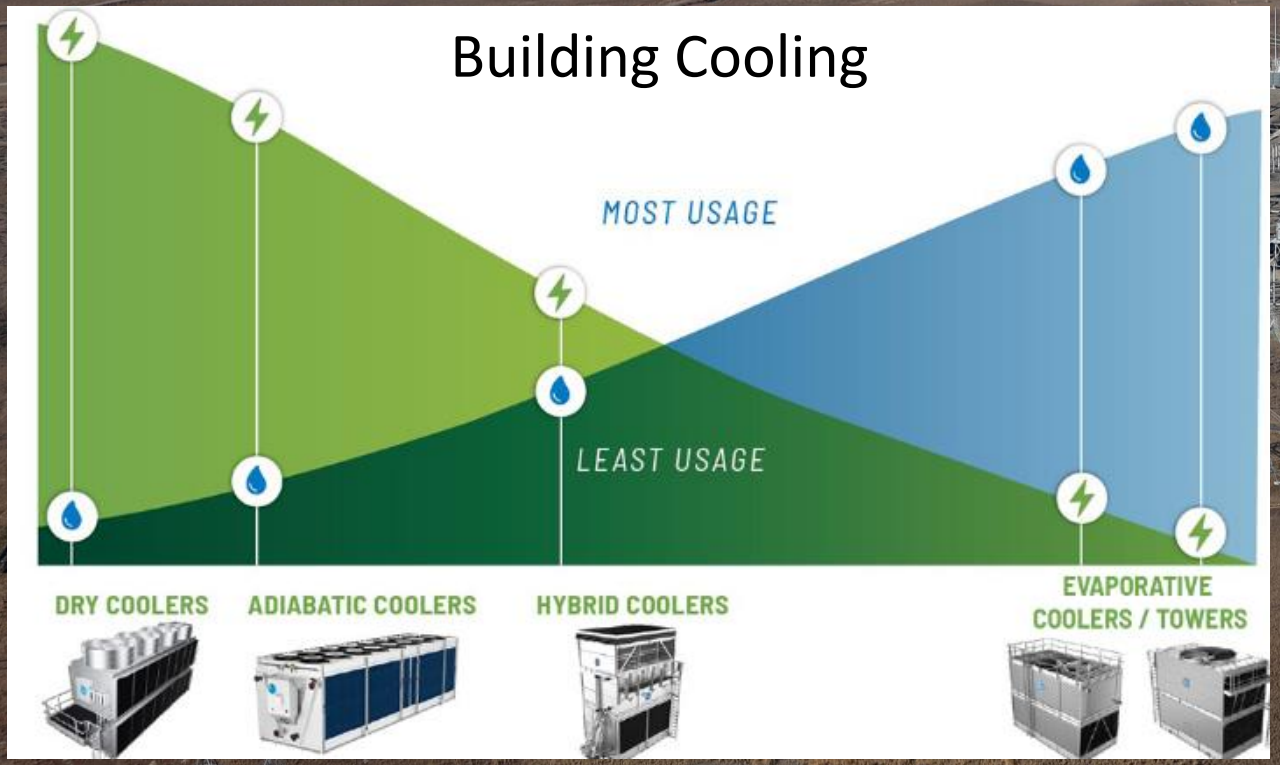
Broadview Data Center Water Use Considerations

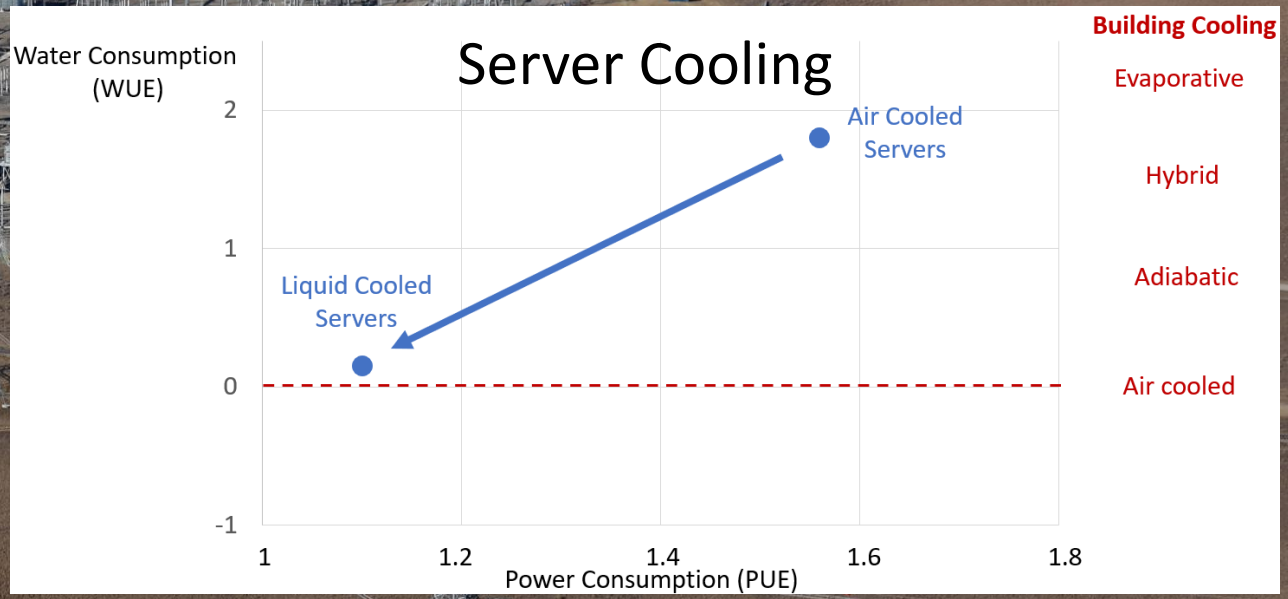
Tap into deeper aquifer

Build a water treatment facility

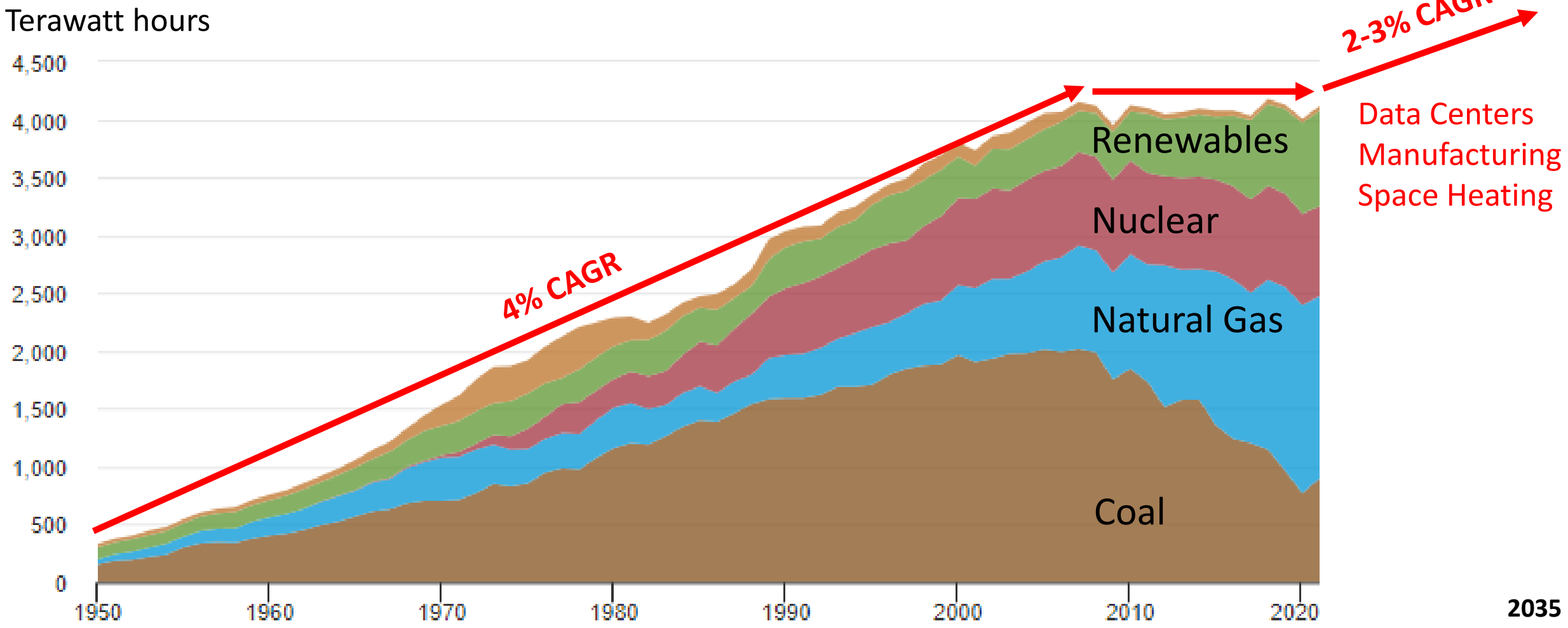
Use dry building cooling

Use closed loop liquid server cooling



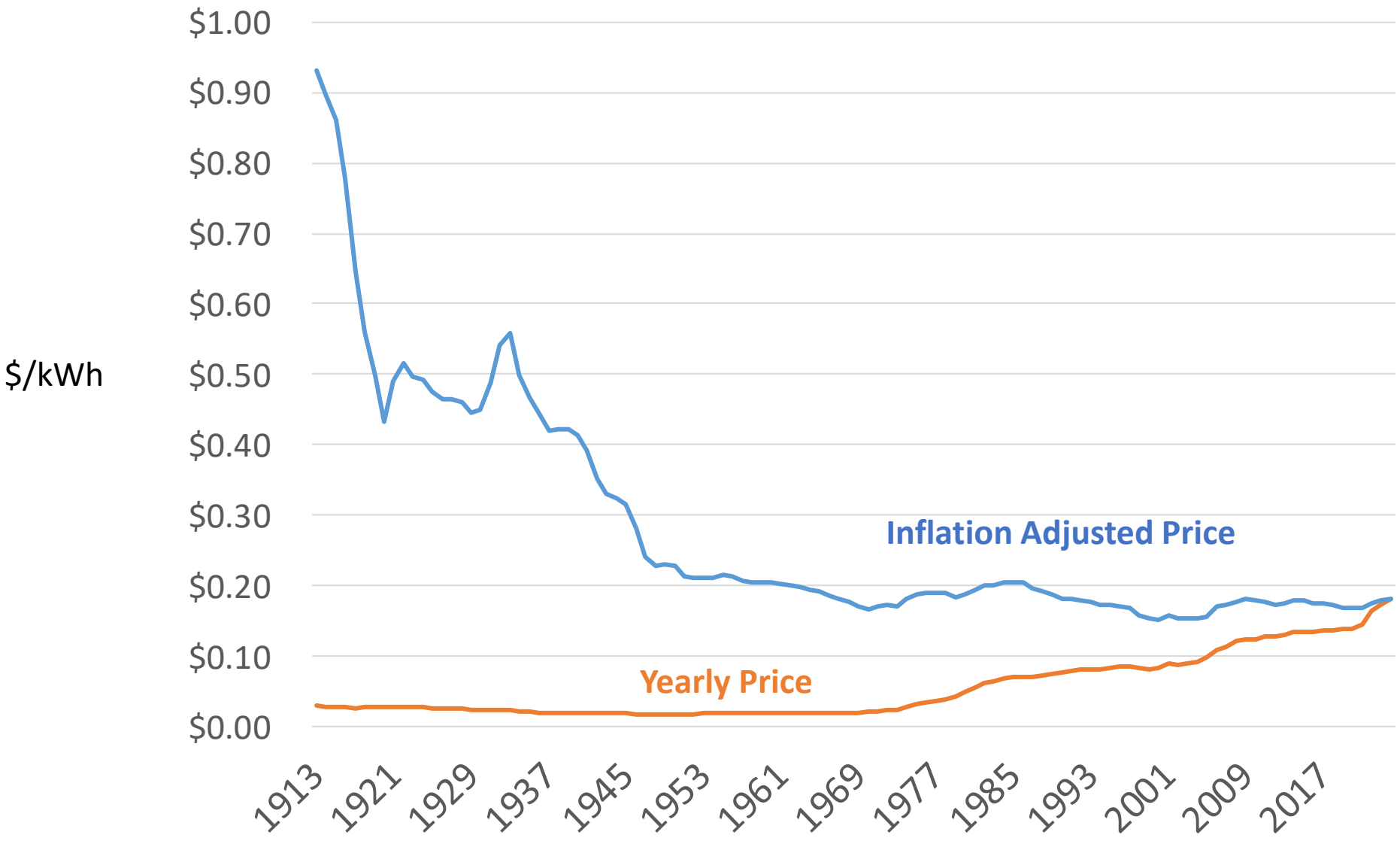


U.S. Electricity Grew Rapidly in the 1900's



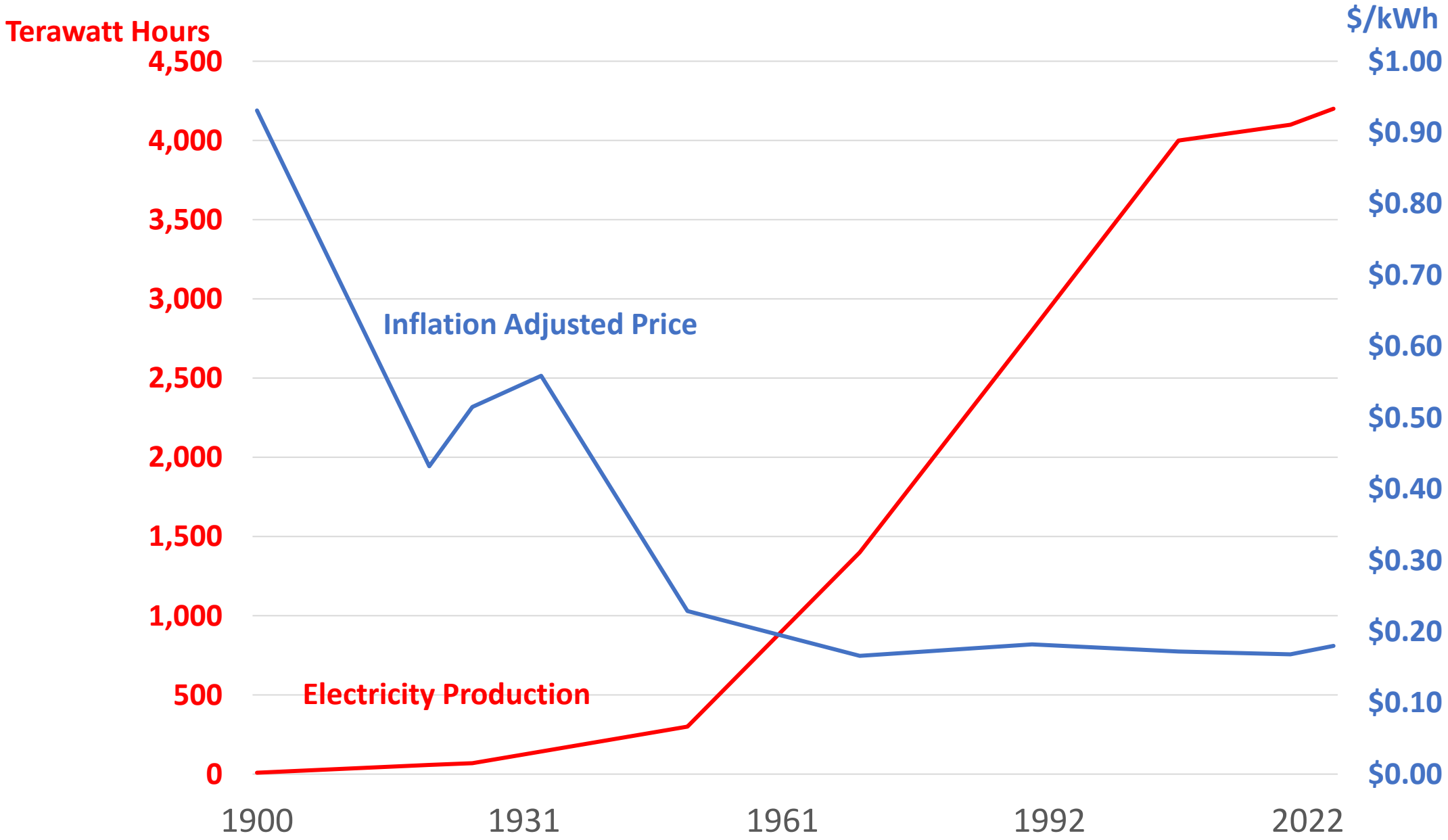
U.S. Energy Information Administration, *Electric Power Monthly*, February 2024

Public Service Companies Reduce Prices for a Century



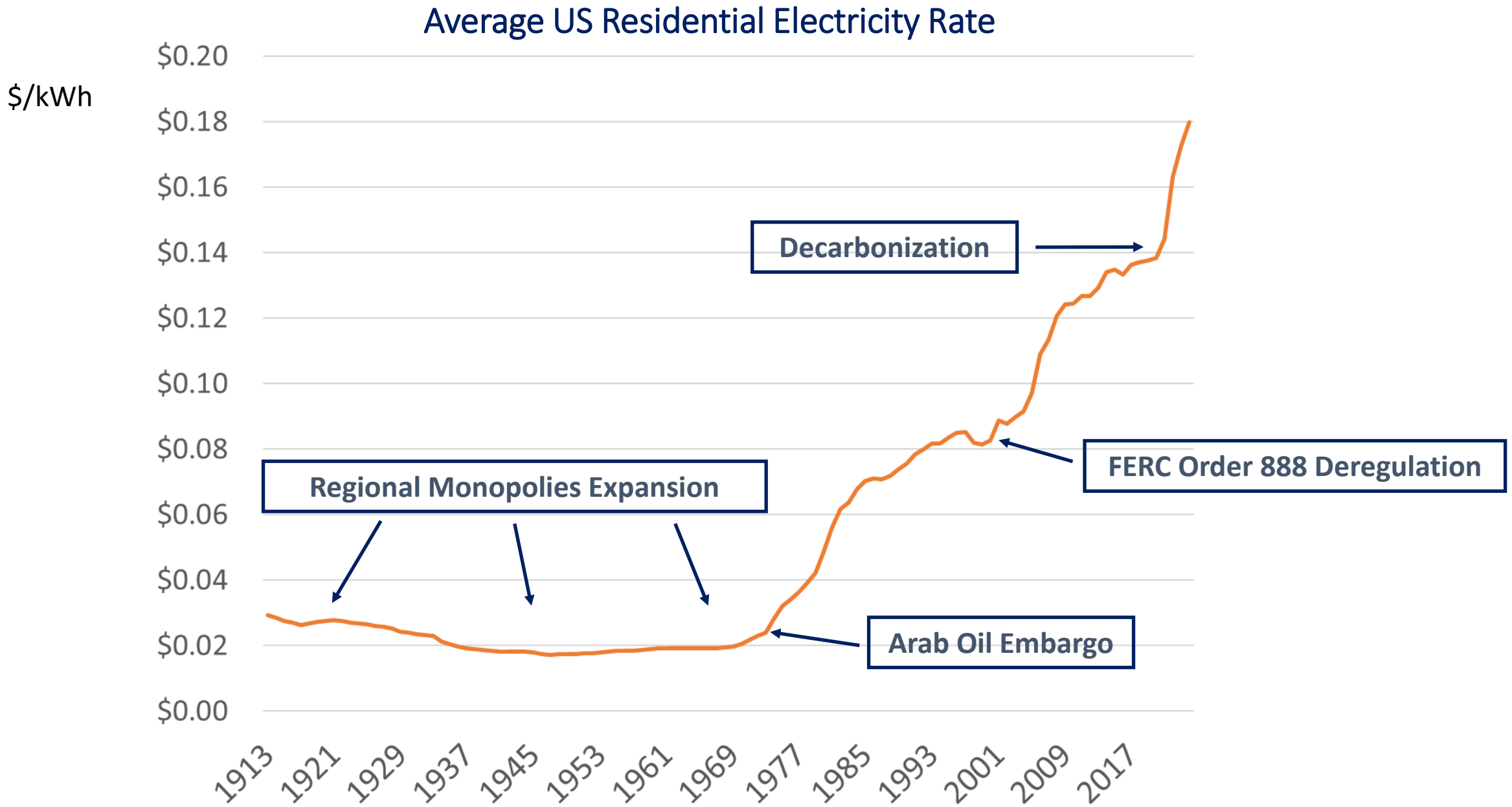
Sources: US Bureau of Labor Statistics; www.in2013dollars.com/electricity/price-inflation

US Electricity Production vs Price



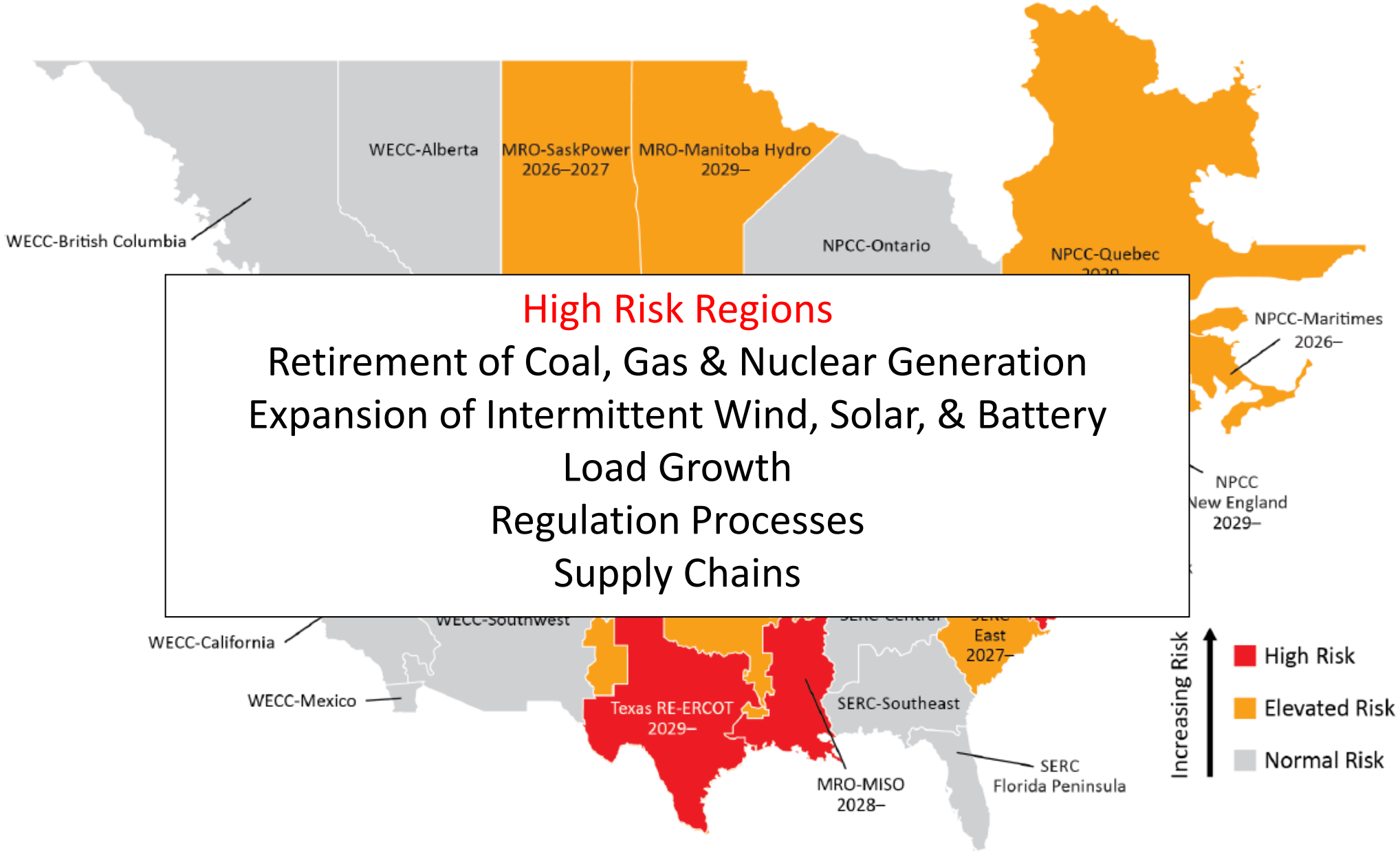
Sources: US Bureau of Labor Statistics; www.in2013dollars.com/electricity/price-inflation; US Energy Information Administration

Engineering, Economics, and Politics Drive US Electricity Prices



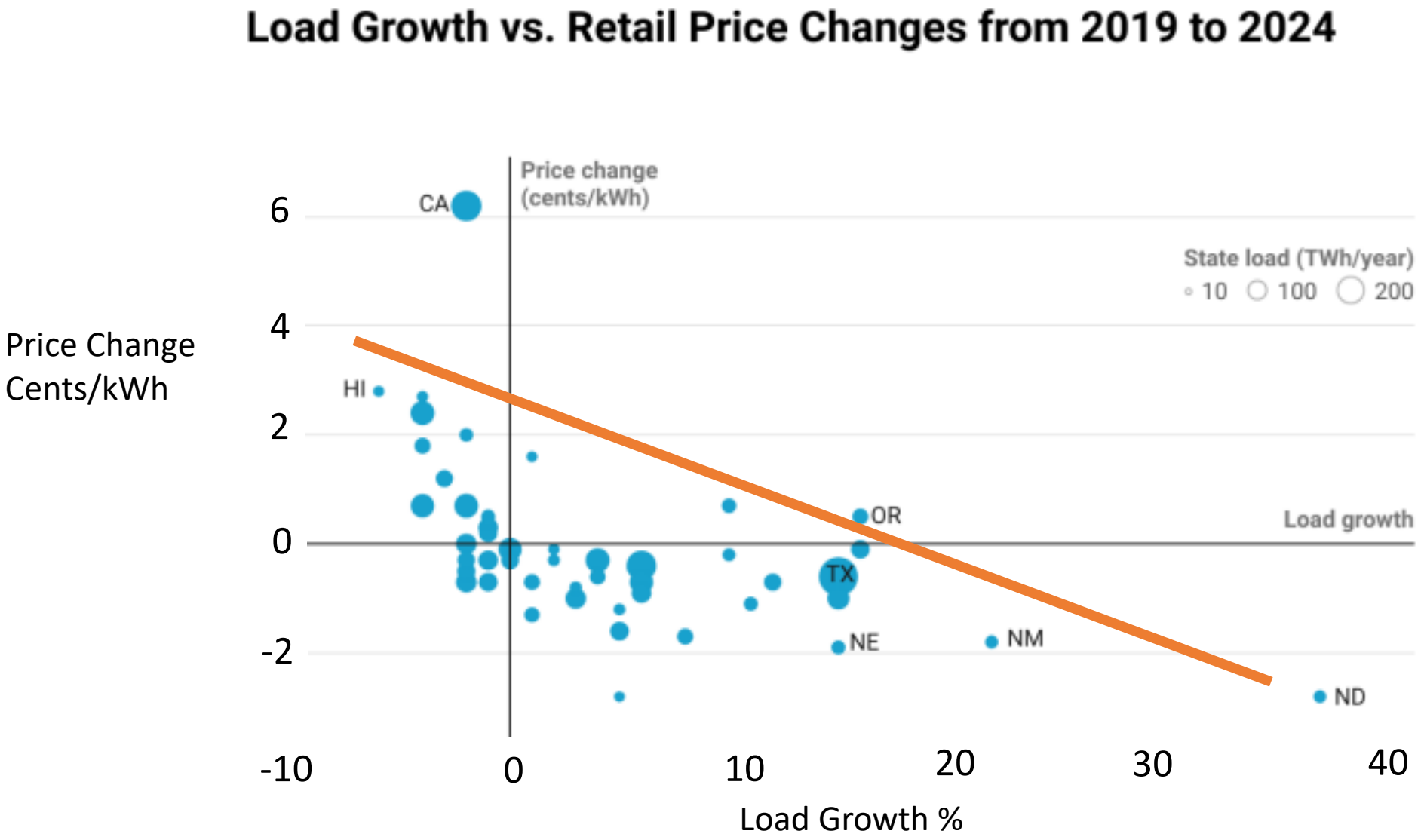
Sources: US Bureau of Labor Statistics; www.in2013dollars.com/electricity/price-inflation

NERC Assesses Electrical Supply Risks



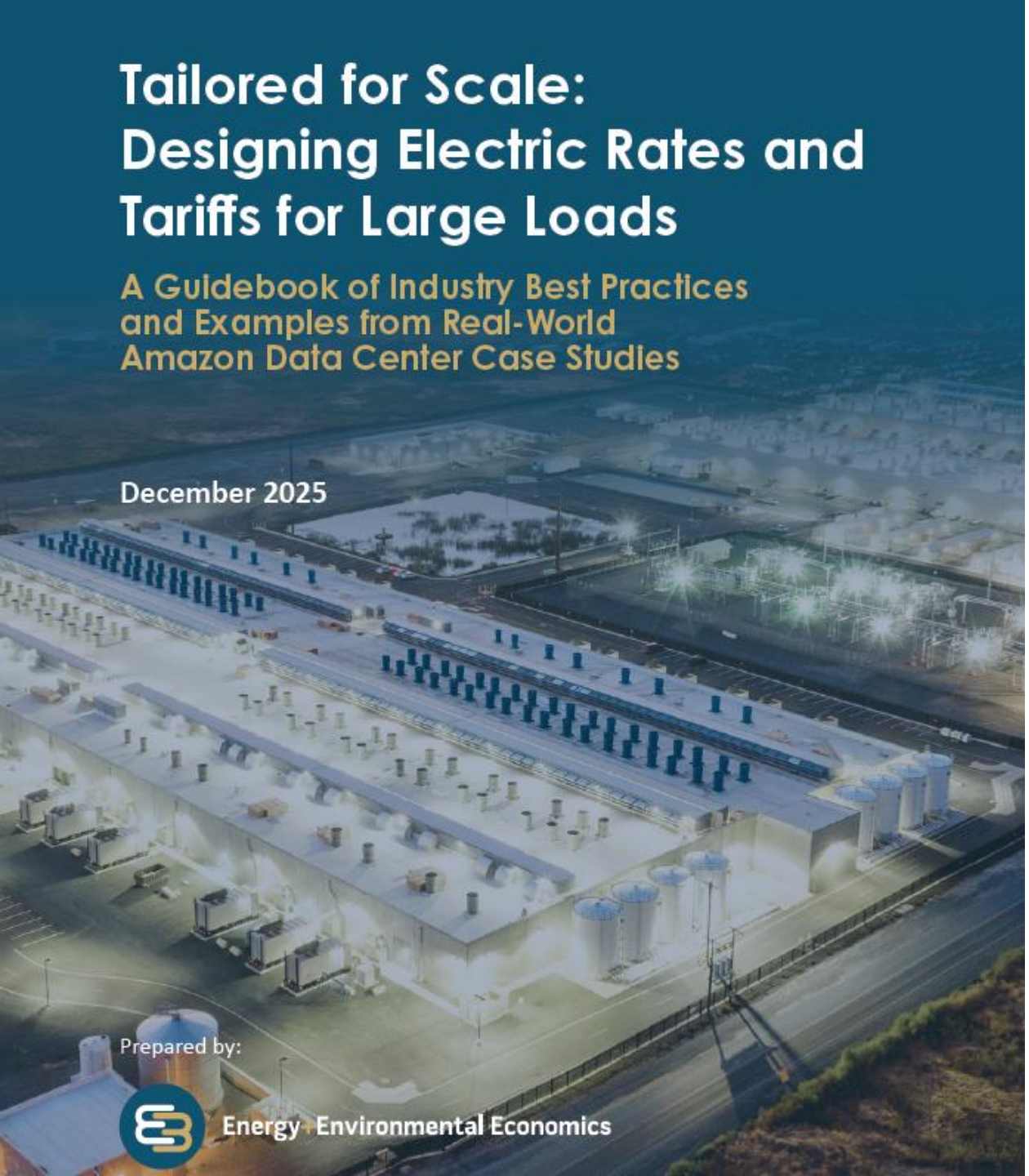
NERC 2025 Long Term Reliability Assessment

Load Growth Reduces Retail Electricity Prices



Price Change Cents/kWh

Factors Influencing Recent Trends in Retail Electricity Prices in the United States: Lawrence Berkeley National Laboratory & The Brattle Group, October 2025



Data Centers Benefit Ratepayers, Communities, and the Environment

Driving Load Growth: Data centers are a major source of new U.S. electricity demand and grid investment after decades of flat growth.

No Cost Shift: They pay full cost to serve and can lower rates through surplus revenue.

Investment & Jobs: Large loads accelerate grid upgrades and economic development.

Clean Energy & Innovation: Support renewables and emerging technologies; rate design and regulation is evolving.

No Correlation Between Data Centers and Electricity Rates



Sources: (1) EIA Electric Power Monthly December 2025; (2) Institute for Energy Research: Blue States, High Rates; (3) https://www.visualcapitalist.com/mapped-u-s-states-with-the-most-data-centers-in-2025/

North Dakota

ND

$38.4M returned to customers over the past three years

$64 average annual savings per residential customer

// Based on 2025 data; savings can change year to year

South Dakota

SD

$1.1M returned to customers over the past three years

$42 average annual savings per residential customer

// Based on 2025 data; savings can change year to year

Montana

MT

$2.2M returned to customers annually

$35 average annual savings per residential customer

// Pending MT PSC approval

MONTANA-DAKOTA UTILITIES CO.
A Division of MDU Resources Group, Inc.
In the Community to Serve®

Data centers pay their own costs and offset costs for others

https://www.montana-dakota.com/rates-services/large-customers-shared-value-customer-benefits/

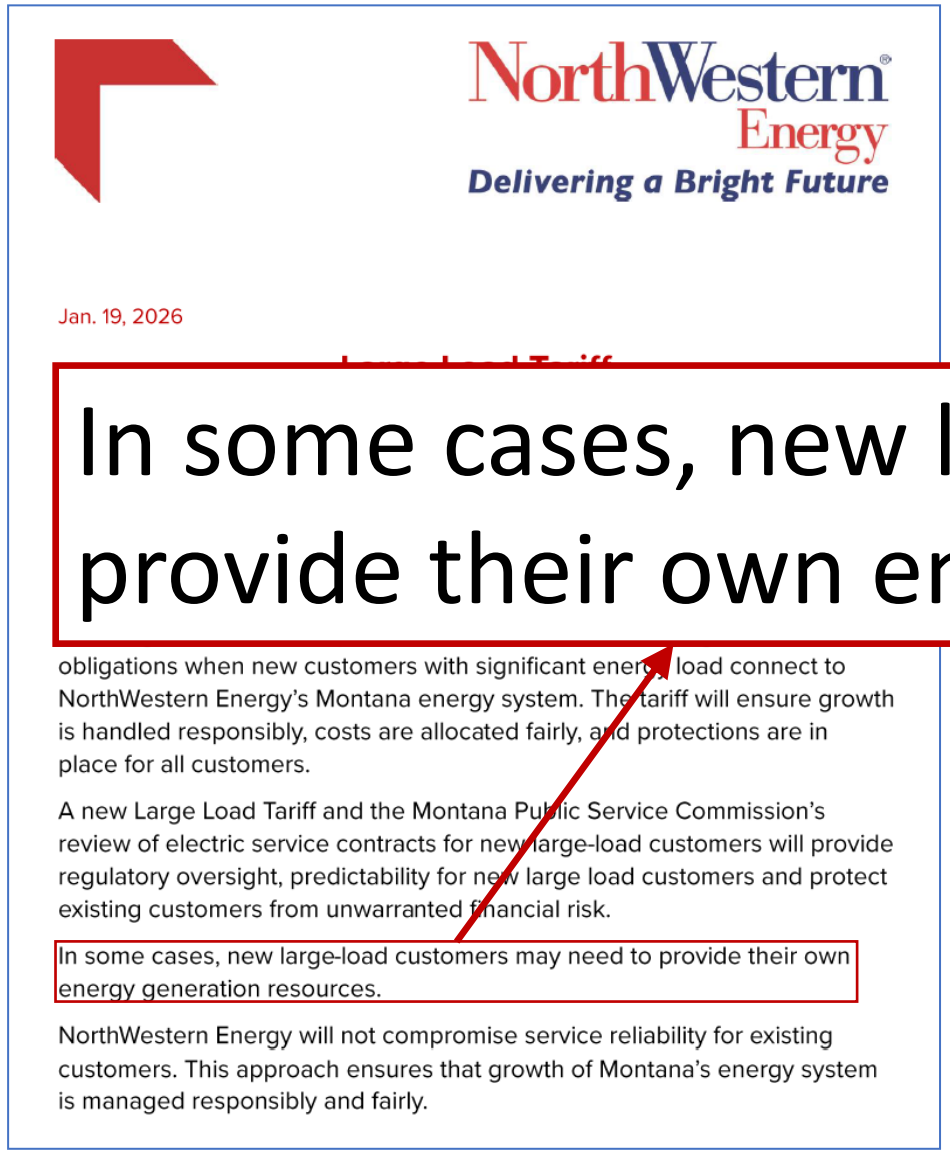
Data Centers Have Electricity Supply Options

- Northwestern Energy
  - Regulated by Montana PSC
  - Comply with statute 69-8-201(1)(b) "…**electricity service shall not adversely impact existing customers..**"
  - Integral to the Northwestern Energy rate base

- Market "Choice"
  - Bilateral agreement with independent power producer (IPP)
  - Regulated by FERC, uses WECC transmission network
  - Independent of Northwestern Energy rate base

- Bring Your Own
  - Behind/In Front of Meter

Structured Safeguards for Data Center Electric Service



NorthWestern Energy
Delivering a Bright Future

Jan. 19, 2026

obligations when new customers with significant energy load connect to NorthWestern Energy's Montana energy system. The tariff will ensure growth is handled responsibly, costs are allocated fairly, and protections are in place for all customers.

A new Large Load Tariff and the Montana Public Service Commission's review of electric service contracts for new large-load customers will provide regulatory oversight, predictability for new large load customers and protect existing customers from unwarranted financial risk.

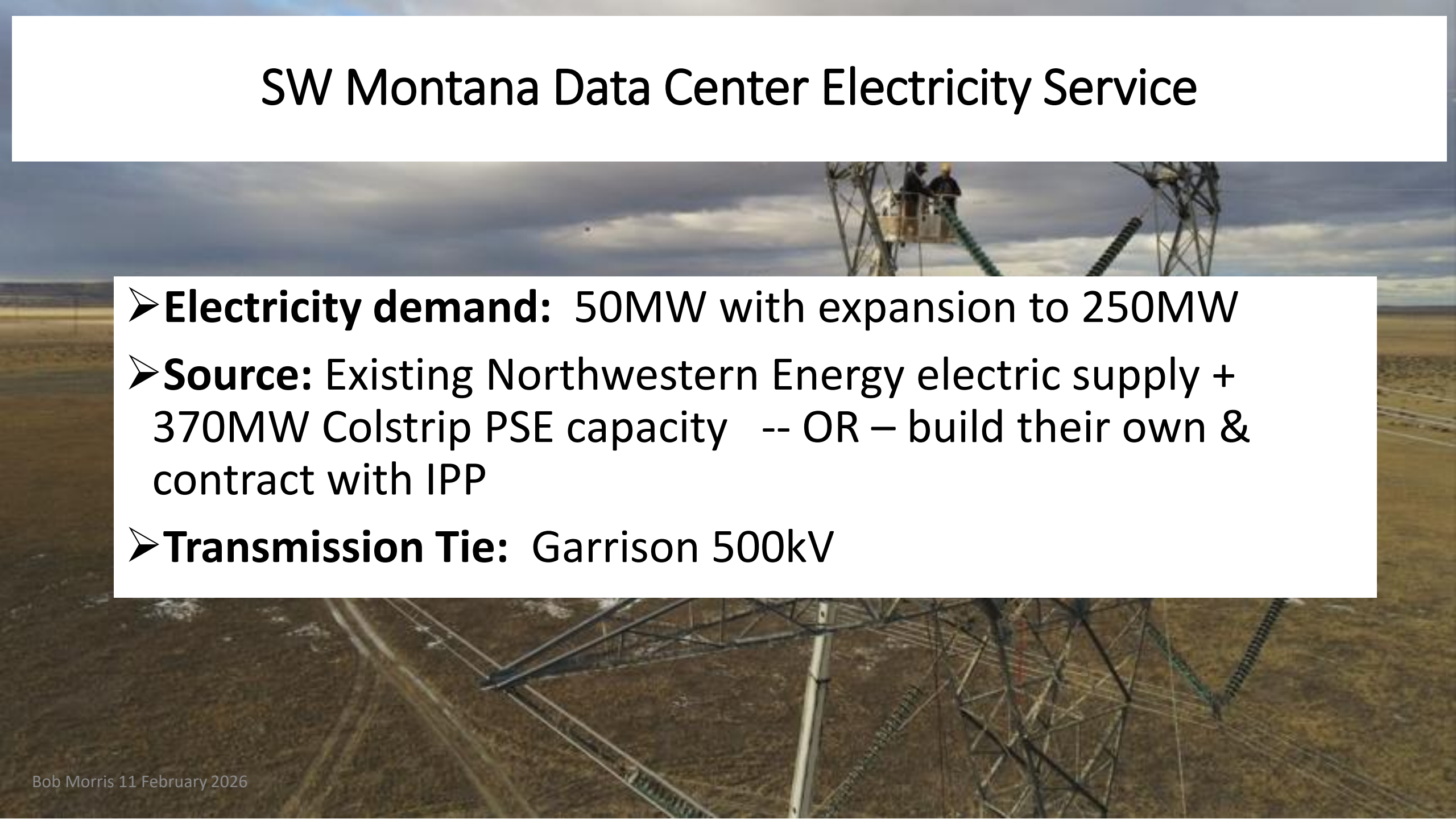
In some cases, new large-load customers may need to provide their own energy generation resources.

NorthWestern Energy will not compromise service reliability for existing customers. This approach ensures that growth of Montana's energy system is managed responsibly and fairly.

- **Rates are protected by law:** State law requires PSC to ensure new large loads to not increase rates for existing customers
- public input through hearings.

In some cases, new large-load customers may need to provide their own energy energy resources.

SW Montana Data Center Electricity Service



- **Electricity demand:** 50MW with expansion to 250MW
- **Source:** Existing Northwestern Energy electric supply + 370MW Colstrip PSE capacity -- OR – build their own & contract with IPP
- **Transmission Tie:** Garrison 500kV

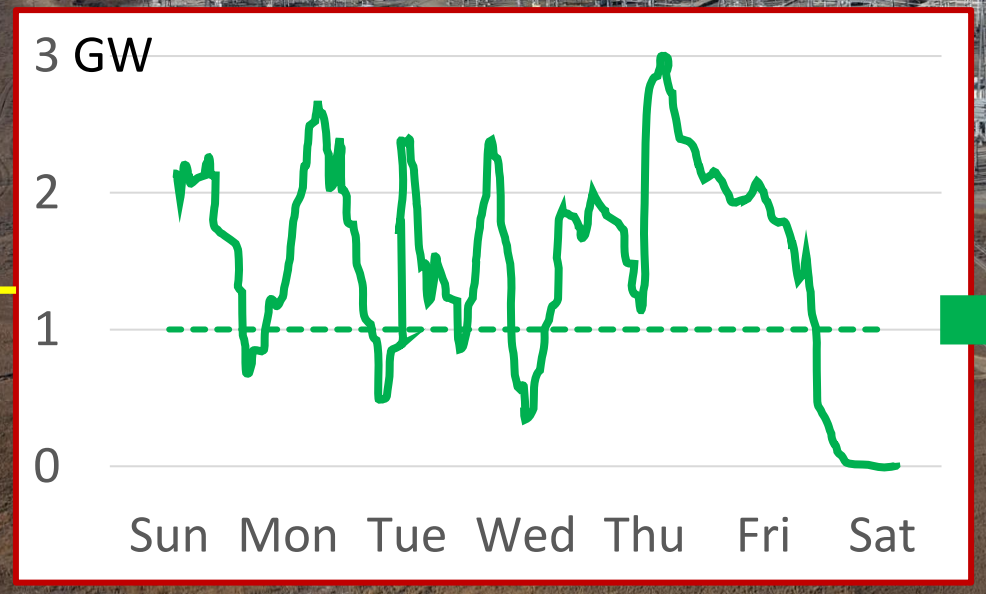
Broadview Data Center Energy Concept







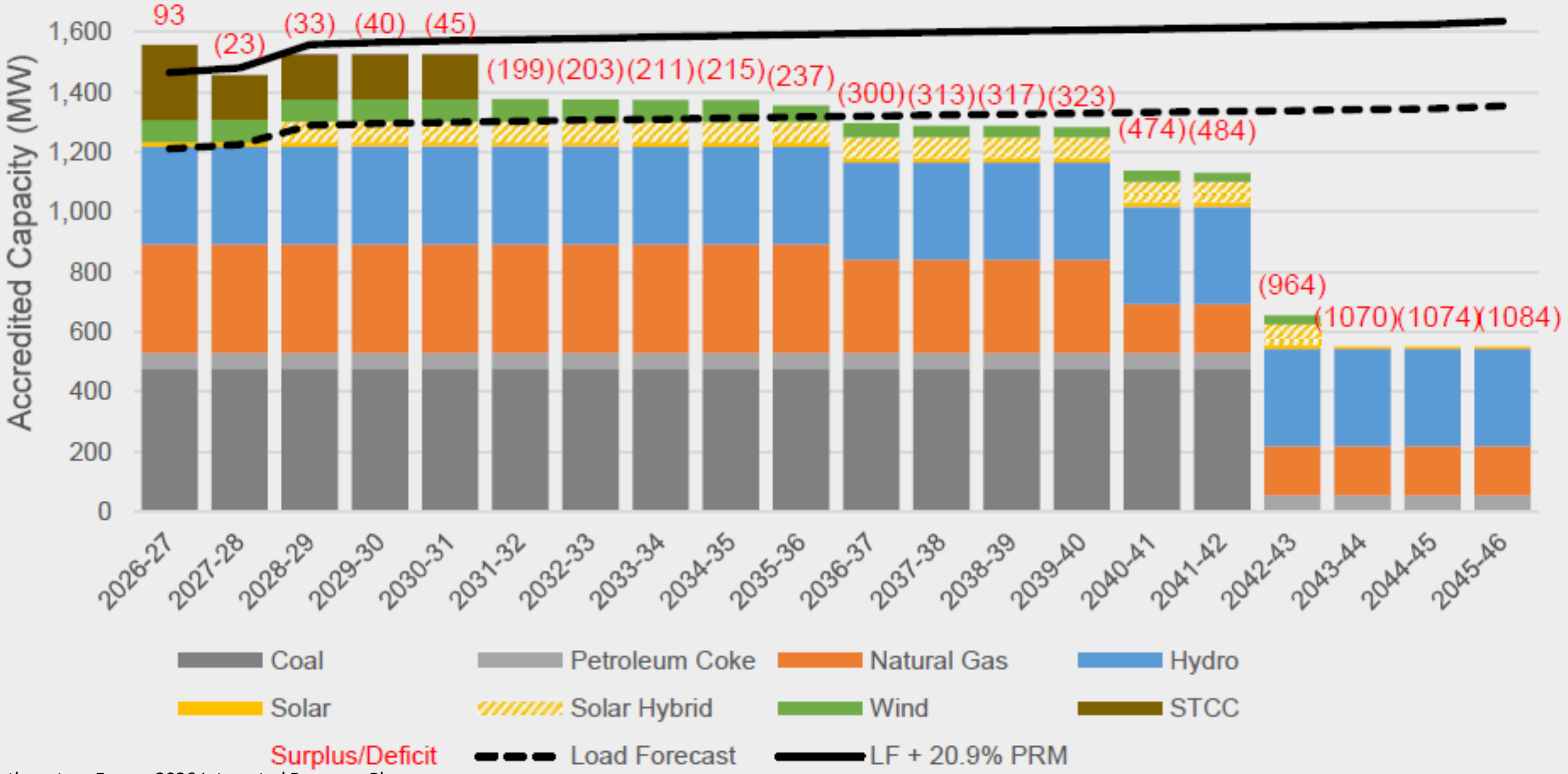




WECC

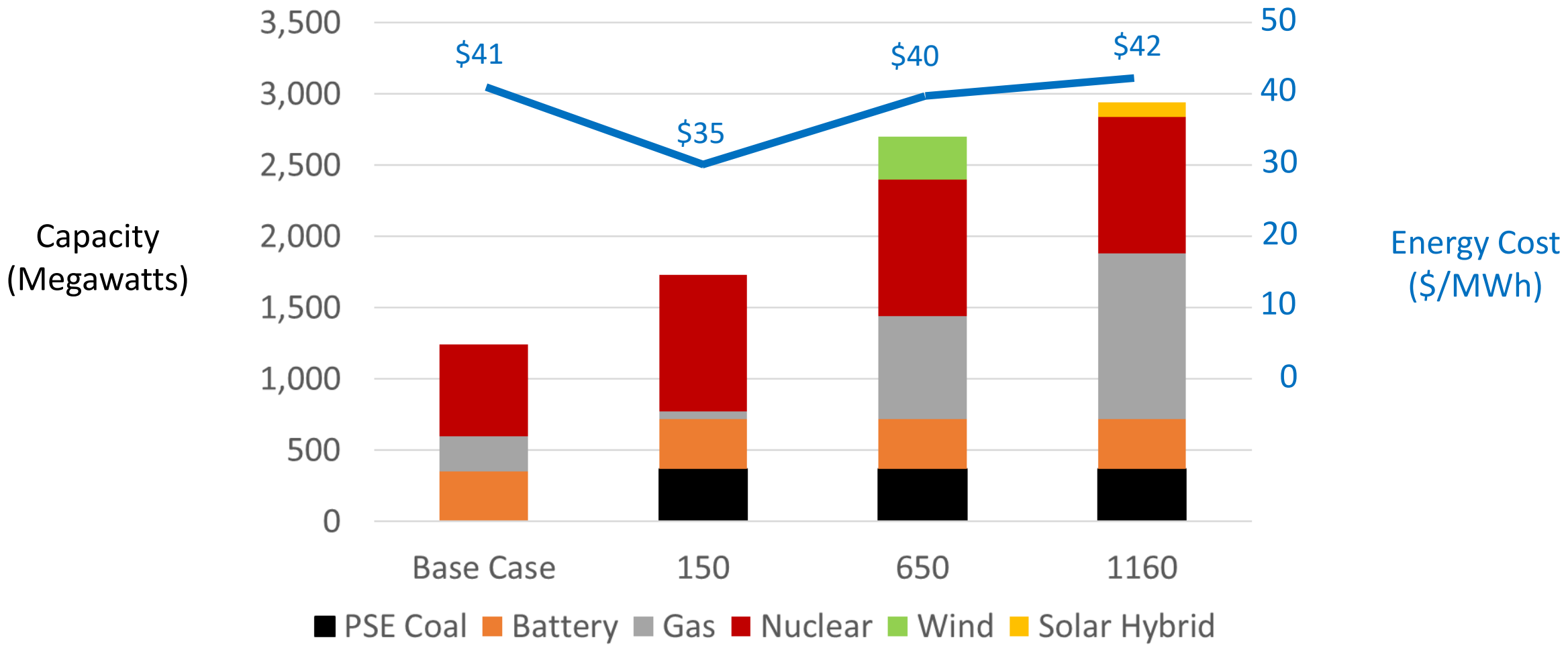


Northwestern Energy Long Term Energy Forecast



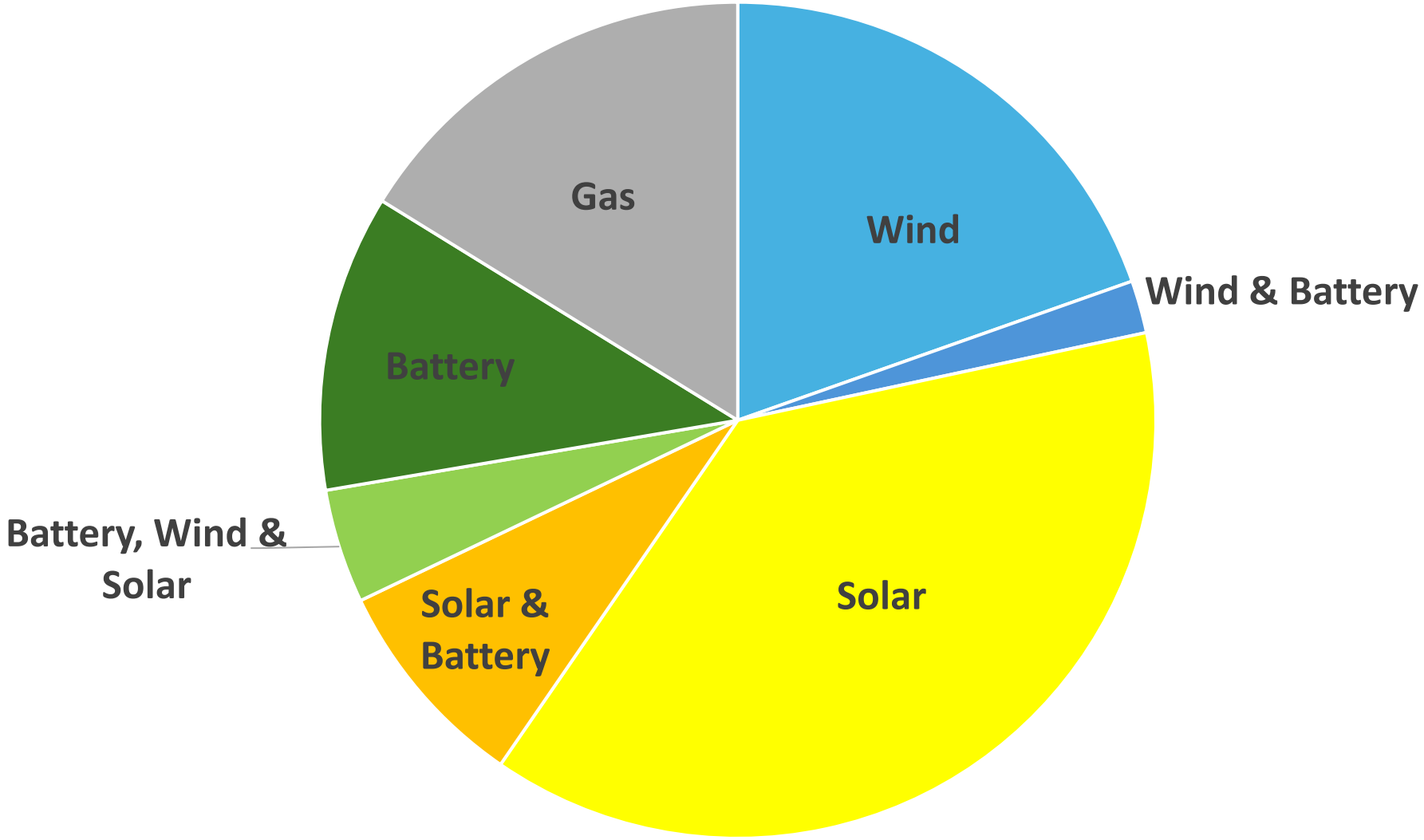
Northwestern Energy Plans for Data Center Growth

Capacity Additions (MW) for Base Case and Data Center Loads of 150, 650, 1160 MW



Montana Power Producers Plan for 11GW New Resources

Northwestern Energy Interconnection Queue



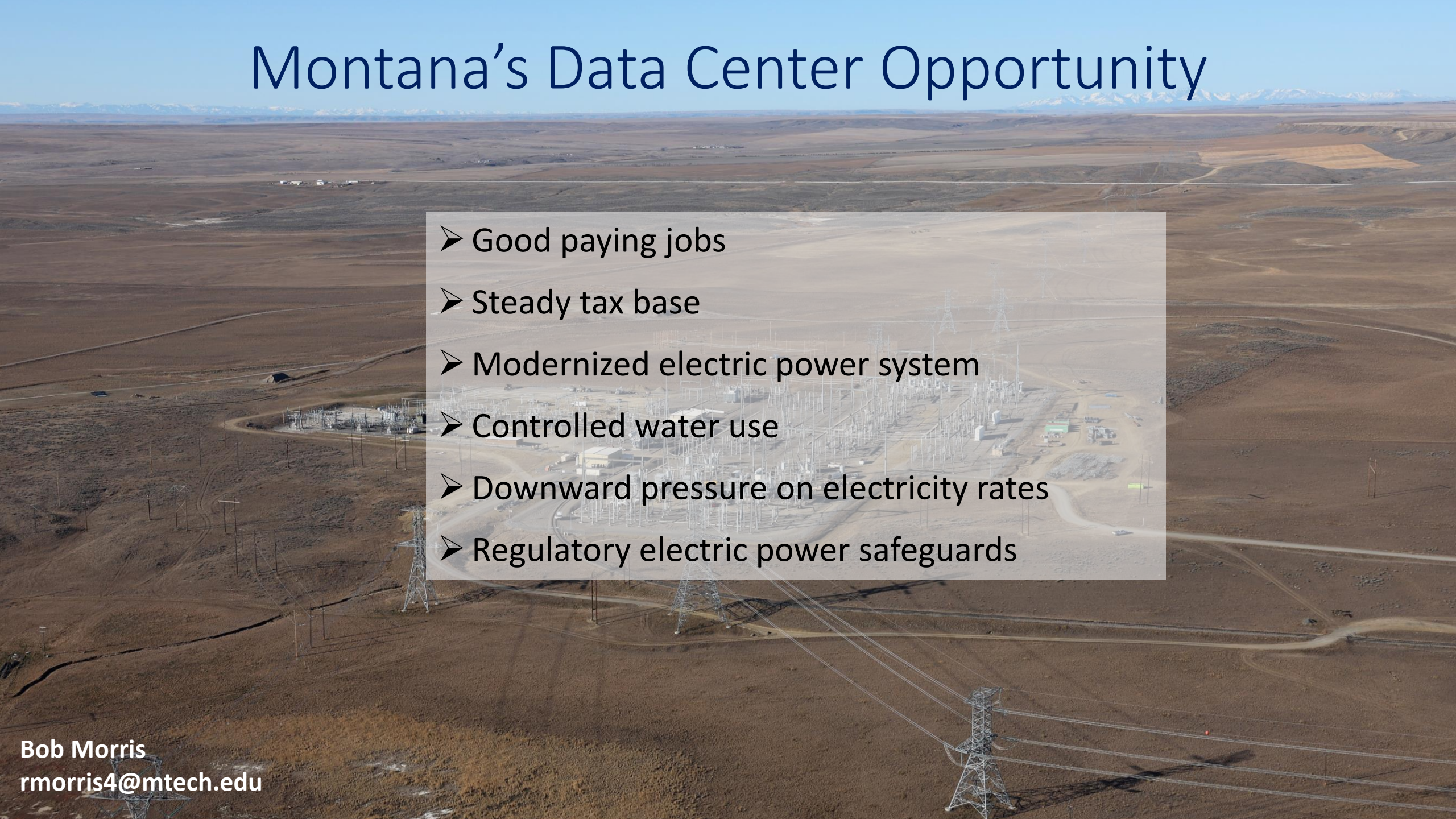
source: https://www.oasis.oati.com/NWMT/index.html, updated 6/3/2026

Quincy, WA: A Data Center Success Story

- **7 Data Centers: 269 → 515 MW**
- No rate increase (residential: $0.062/kWh)
- 5% of city water (food processors: 57%; residential/commercial: 33%)
- 57% of city taxes: schools, roads, medical center, wastewater plant, city hall, emergency services, water park, sports complex
- 900 direct jobs; 3,600–5,300 indirect
- Poverty rate: 30% → 15%
- Personal property tax: $3.50 → $1.25 per $1,000

1. WA State Representative Alex Ybarra R-Quincy
WATCH: How data centers rescued a struggling central Washington community | Washington | thecentersquare.com
2. The Tulsa Flyer, James G. Wright, February 24, 2026.
3. Grant County PUD

Montana's Data Center Opportunity



- Good paying jobs
- Steady tax base
- Modernized electric power system
- Controlled water use
- Downward pressure on electricity rates
- Regulatory electric power safeguards

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