



# Data Center Impacts and Policy Solutions for Water and Energy Use

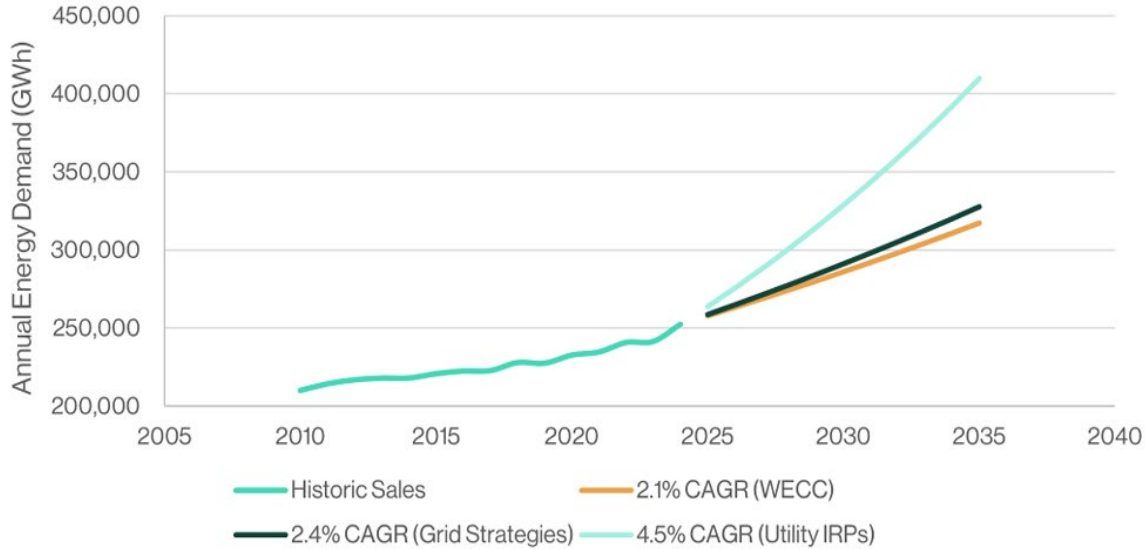
Stacy Tellinghuisen, Deputy Director of Policy Development, Clean Energy

# Overview of Data Center Resource Use in the West

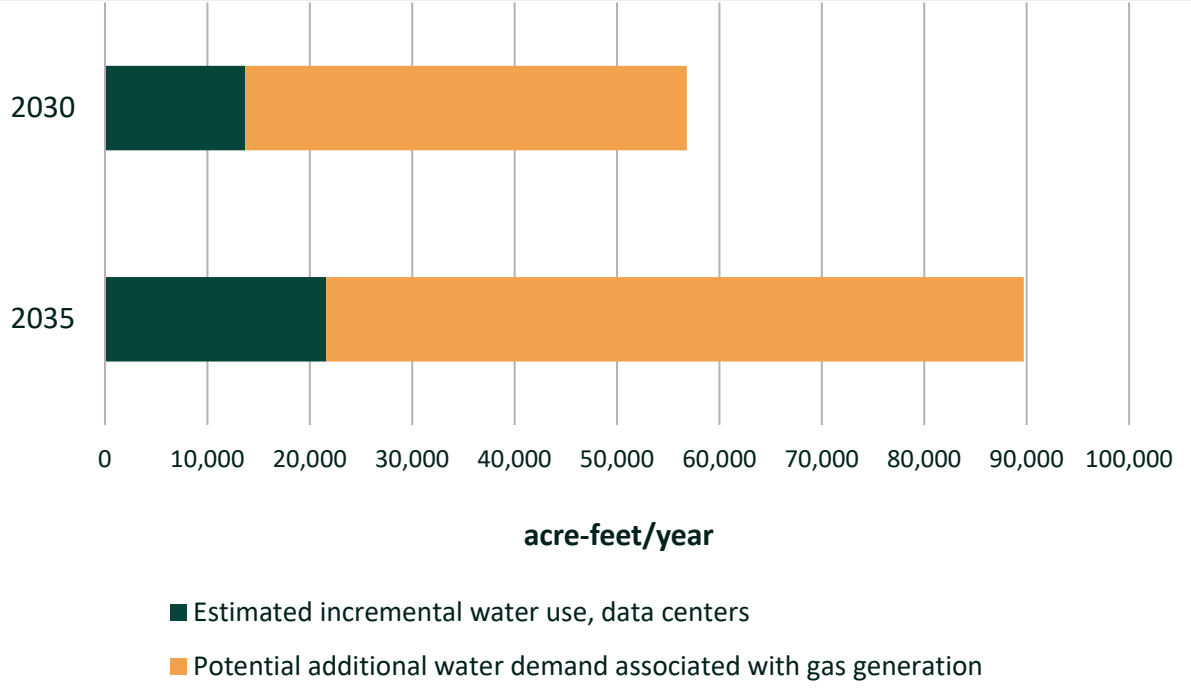


## Energy

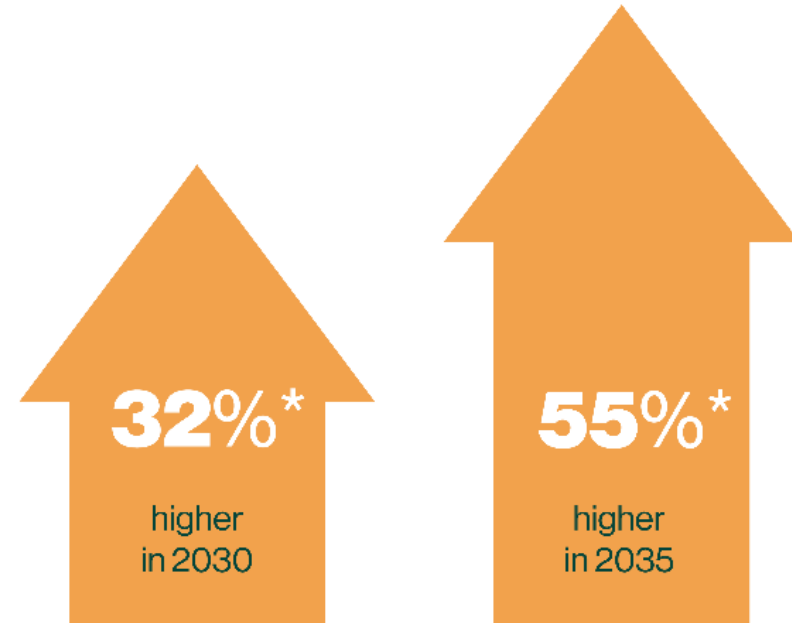
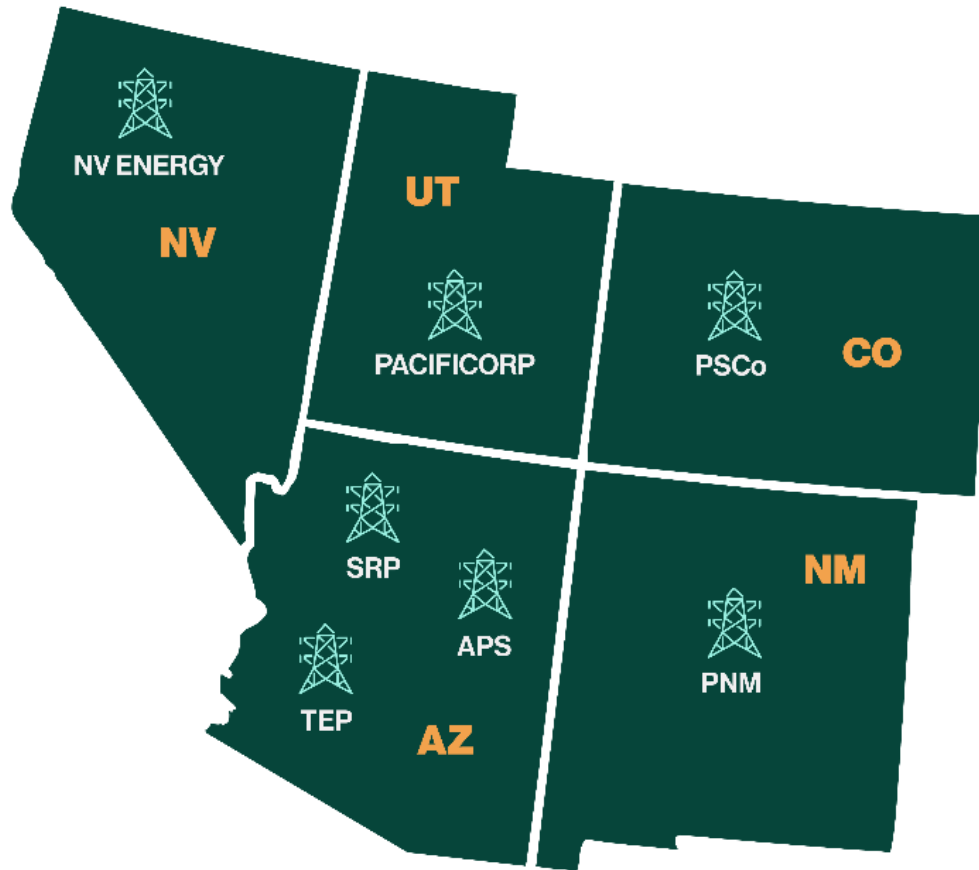
Historic and Projected Future Demands (AZ, CO, NV, NM, and UT)



## Water Use



# Energy/Climate Impacts



*\*Projected collective annual energy demands of the utilities relative to expected 2025 levels.*

# Consumer Risks

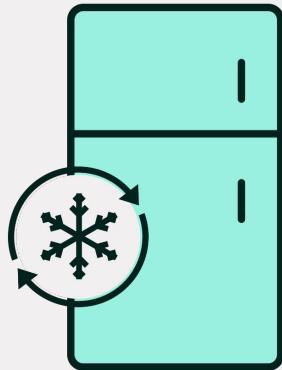
- Utilities build additional generation and transmission capacity, and data center loads do not materialize at the scale expected
- Data centers impose power quality requirements (costs) or impact other customers' power quality
- Costs incurred to serve data centers are not accurately assigned

A graphic featuring a black background with white text. The text is centered and reads: 'Big Tech's A.I. Data Centers Are Driving Up Electricity Bills for Everyone'. Below this is a smaller line of text: 'Electricity rates for individuals and small businesses could rise sharply as Amazon, Google, Microsoft and other technology companies build data centers and expand into the energy business.' The graphic is set against a background image of a utility substation with power lines and transformers under a blue sky with clouds.

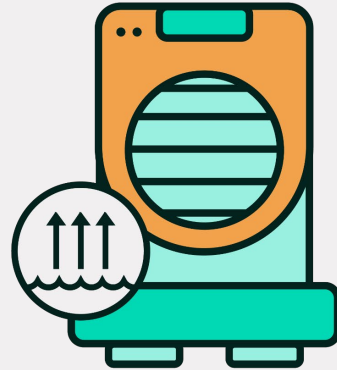
## Big Tech's A.I. Data Centers Are Driving Up Electricity Bills for Everyone

Electricity rates for individuals and small businesses could rise sharply as Amazon, Google, Microsoft and other technology companies build data centers and expand into the energy business.

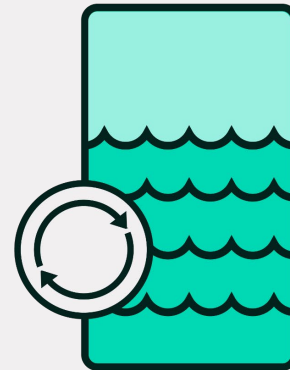
# Water vs. Energy Tradeoffs



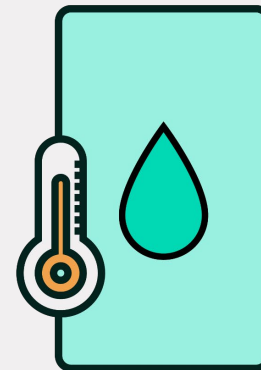
**Refrigeration cooling systems** use an air handler, circulate either cool air or water in the data center, and remove hot air.



**Adiabatic- or direct- evaporative-cooling systems** use water to cool air that is circulated in the data center.



**Free-cooling systems** take advantage of outdoor ambient air or water temperatures to cool the air that is circulated in a data center.



**Liquid-cooling systems** directly absorb heat from computer components, rather than cooling the air around the computers.



# Comparing Data Centers



## Facebook/Meta – Los Lunas

- Energy demands met with solar; current proceeding to add more solar & storage
- Has a separate tariff agreement with PNM and a voluntary renewable rate
- Tariffs and contracts are scrutinized at PRC

## Project Jupiter – Doña Ana County

- Expected energy demand of 700 – 900 MW, gas turbines
- Estimated GHG emissions ~3 – 4 million tons/year
- Gas plants must emit no GHG emissions in 2045, per HB 93
- “Microgrid” but may sell energy to El Paso Electric if a contract is approved; sales are exempted from RPS until 2035

# Policy Recommendations

## Energy/Climate

- Clean energy financing mechanisms
- Connecting data centers with clean projects (resource planning)
- Demand response/energy efficiency requirements



## Consumer Protections

- Contract provisions
- Ratemaking and economic development rate reform



## Water

- Transparent water use reporting
- Water use efficiency requirements
- Large water user policies





# Thank You!

The logo for Western Resources Advocates (wra) is a teal circle containing the lowercase letters 'wra' in a bold, black, sans-serif font.

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