

# Data Centers in Michigan

## Environmental Considerations & EGLE's Role

---

Ann Larson, Deputy Director

MI Department of Environment, Great Lakes, and Energy

# Why This Conversation Now

---



AI is driving demand for computing infrastructure



Data center projects are increasing in scale



Michigan is seeing growth across multiple sectors



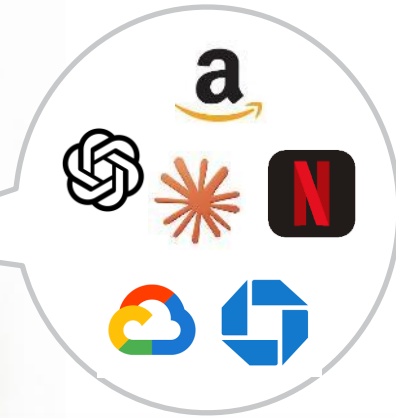
Questions about energy, water, and infrastructure are growing

# What Makes Data Centers Distinct?

- Large, continuous electricity demand
- Cooling-dependent operations
- Multiple systems must work together



# A Modern Data Center Campus



[Related Digital, Oracle Data Center in Saline Township](#)

# Why Scale Matters

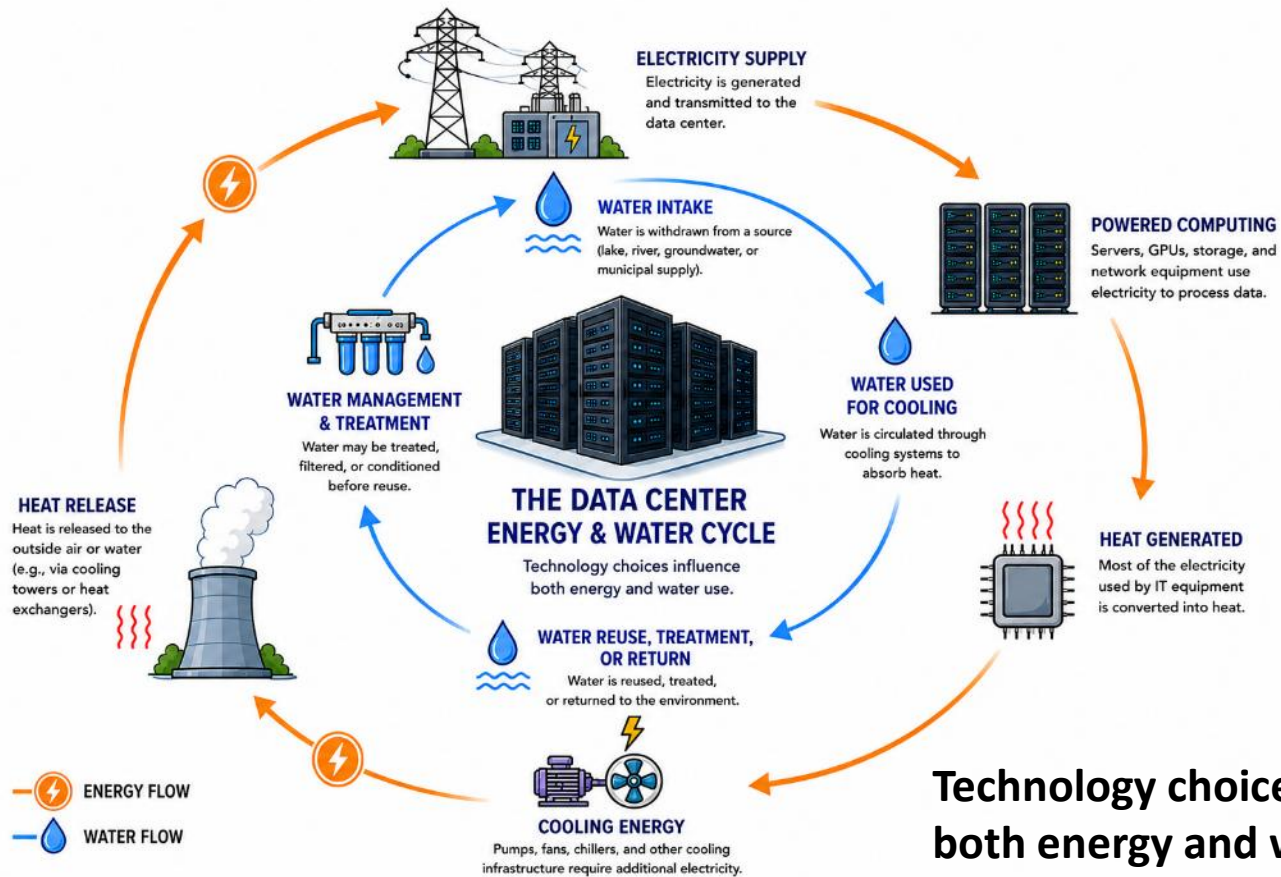
## Data Centers Vary Significantly in Scale



# Water, Energy & Infrastructure

---

# Energy-Water Nexus

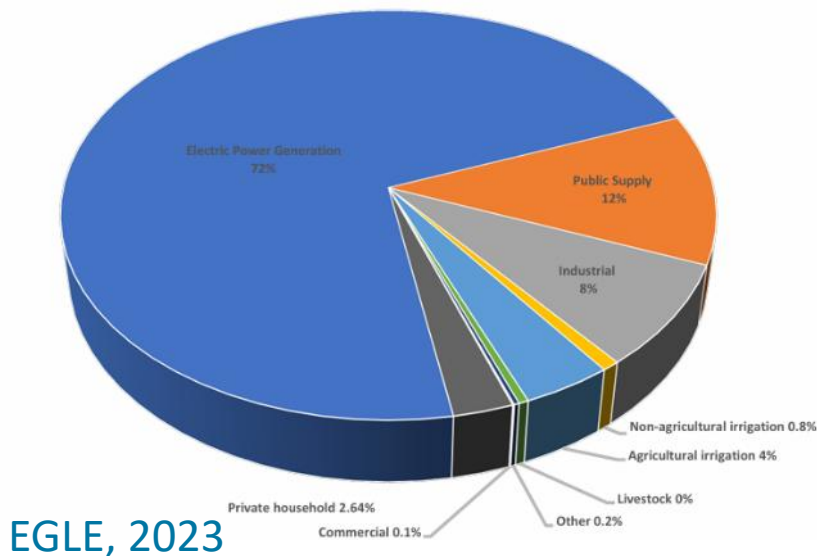


**Technology choices influence both energy and water use.**

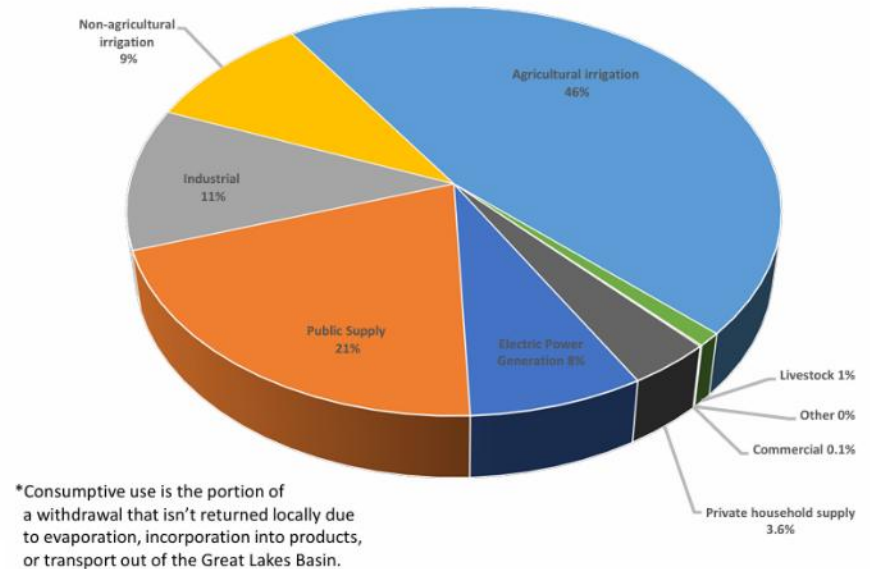
# Water Use in Context

- Michigan already manages many large water users
- Water use varies by sector and technology
- How water is used can matter as much as how much is used
- Local conditions influence impacts and infrastructure needs

Michigan Total Water Use by Category, 2023

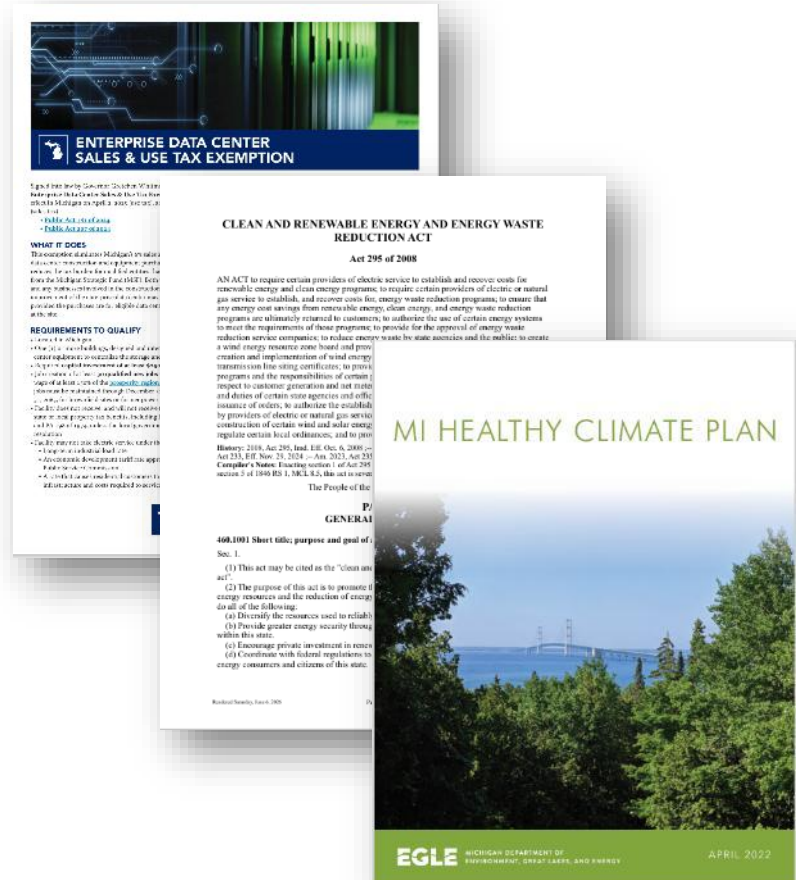


Michigan Consumptive Water Use by Category, 2023



# Energy in Context

- Reliability standards and long-term utility planning
- Clean energy requirements under PA 233 and PA 235
- Michigan Healthy Climate Plan goals
- Resource planning through Integrated Resource Plans (IRPs)
- Data center tax incentive requirements, including:
  - 90% clean energy
  - Green building certification
  - Municipal water service



# Michigan's Data Center Landscape

The map displays 33 data center locations in Michigan, each marked with a blue circle. The size of the circle indicates the number of data centers at that location. The locations and their counts are: Alpena (1), Cheboygan (1), Escanaba (1), Flint (1), Grand Rapids (11), Kalamazoo (3), Lansing (8), Livonia (1), Mount Pleasant (1), Saginaw (1), South Bend (1), St. Joseph (1), Toledo (6), and Warren (33). Other locations marked with smaller circles include Ann Arbor, Dearborn, Farmington Hills, Grosse Pointe Woods, Novi, Troy, Westland, and Ypsilanti.

Michigan Data Centers

**EGLE** | **MECC** | MICHIGAN ENVIRONMENTAL COMPLIANCE CONFERENCE

**EGL** **MECC** | MICHIGAN ENVIRONMENTAL COMPLIANCE CONFERENCE

# EGLÉ's Role & Review

---

# EGLE's Role

---



Protect public health and the environment



Implement Michigan's environmental laws



Review permit applications and technical information



Support public participation and transparency



Monitor compliance and enforce environmental requirements

# Environmental Considerations



## Questions we typically ask:

- Can water resources support the proposed use?
- How will water quality be protected and wastewater managed?
- Can drinking water, wastewater, and stormwater systems support the project?
- Are wetlands, streams, or habitat affected?
- Are there air emissions requiring review?
- What opportunities exist for public input and participation?

# Michigan's Water Protection Framework



## WATER WITHDRAWALS

- Large quantity withdrawals evaluated for potential impacts
- Adverse Resource Impact (ARI) standard
- Monitoring and reporting requirements



## WATER RESOURCES

- Protection of streams, lakes, wetlands, and groundwater
- Water quality standards and discharge controls
- Resource-specific environmental review



## PUBLIC WATER & WASTEWATER SYSTEMS

- Drinking water system capacity review
- Wastewater treatment capacity review
- Protection of public health and system reliability



## GREAT LAKES PROTECTIONS

- Great Lakes Compact requirements
- Diversion restrictions
- Basin-wide water management framework

# Water Quality & Infrastructure Capacity



## WATER QUALITY PROTECTION

- Wastewater discharges regulated to protect receiving waters
- Water quality standards must be maintained
- Direct discharges subject to permitting requirements



## PUBLIC WATER & WASTEWATER SYSTEMS

- Drinking water and wastewater capacity evaluations
- Treatment, distribution, and collection system considerations
- Protection of public health and system reliability



## INFRASTRUCTURE CAPACITY

- Capacity varies by community
- Site-specific system reviews
- Upgrades may be required

# Air Quality & Backup Generation

---



## BACKUP POWER SYSTEMS

- Air permits may be required depending on equipment and emissions
- Emergency operation and routine testing subject to regulatory requirements
- Permit conditions establish operating and emission limits



## AIR QUALITY REVIEW

- Evaluation of criteria pollutants and air toxics
- Compliance with state and federal air quality requirements
- Protection of public health and local air quality



## MONITORING & COMPLIANCE

- Recordkeeping, reporting, and compliance obligations
- Inspection and enforcement authorities

# Beyond Environmental Review

---

# Looking Ahead

---



Long-Term Water Stewardship



Energy Demand & Reliability



Climate Goals & Emissions



Community Priorities & Quality of Life



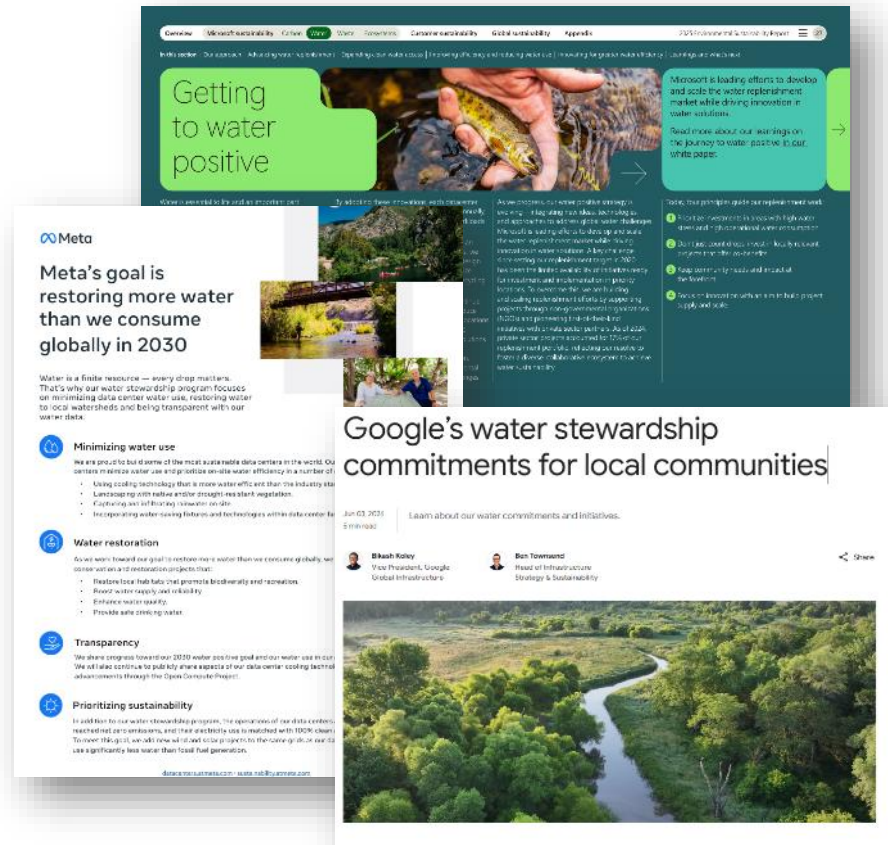
Great Lakes Stewardship



Innovation & Technology

# Water Stewardship & Reuse

- Water Efficiency
- Water Reuse & Recycling
- Alternative Water Sources
- Cooling Innovation
- Transparency & Stewardship

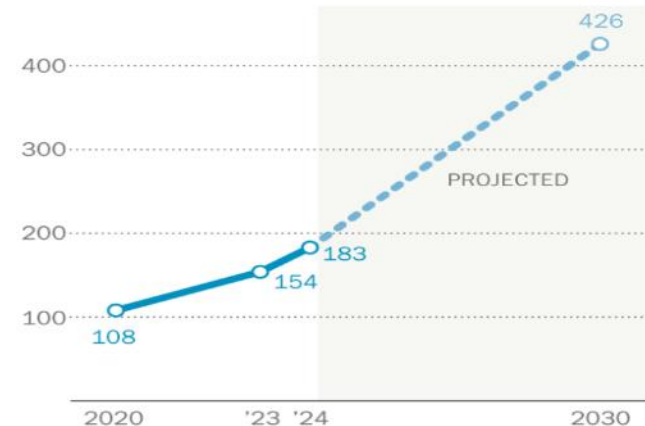


# Energy, Climate & Future Demand

- Growing Electricity Demand
- Reliability
- Affordability
- Climate Goals
- Equitable Economic Growth
- Energy Innovation

## Electricity consumption at U.S. data centers is expected to more than double by 2030

*Total electricity consumption by U.S. data centers (terawatt-hours)*



Note: 2030 projection is based on IEA's "base case" scenario, which assumes current industry forecasts and regulatory conditions persist.  
Source: International Energy Agency, "Energy and AI," April 2025.

PEW RESEARCH CENTER

# What Communities Are Asking



# Great Lakes Stewardship



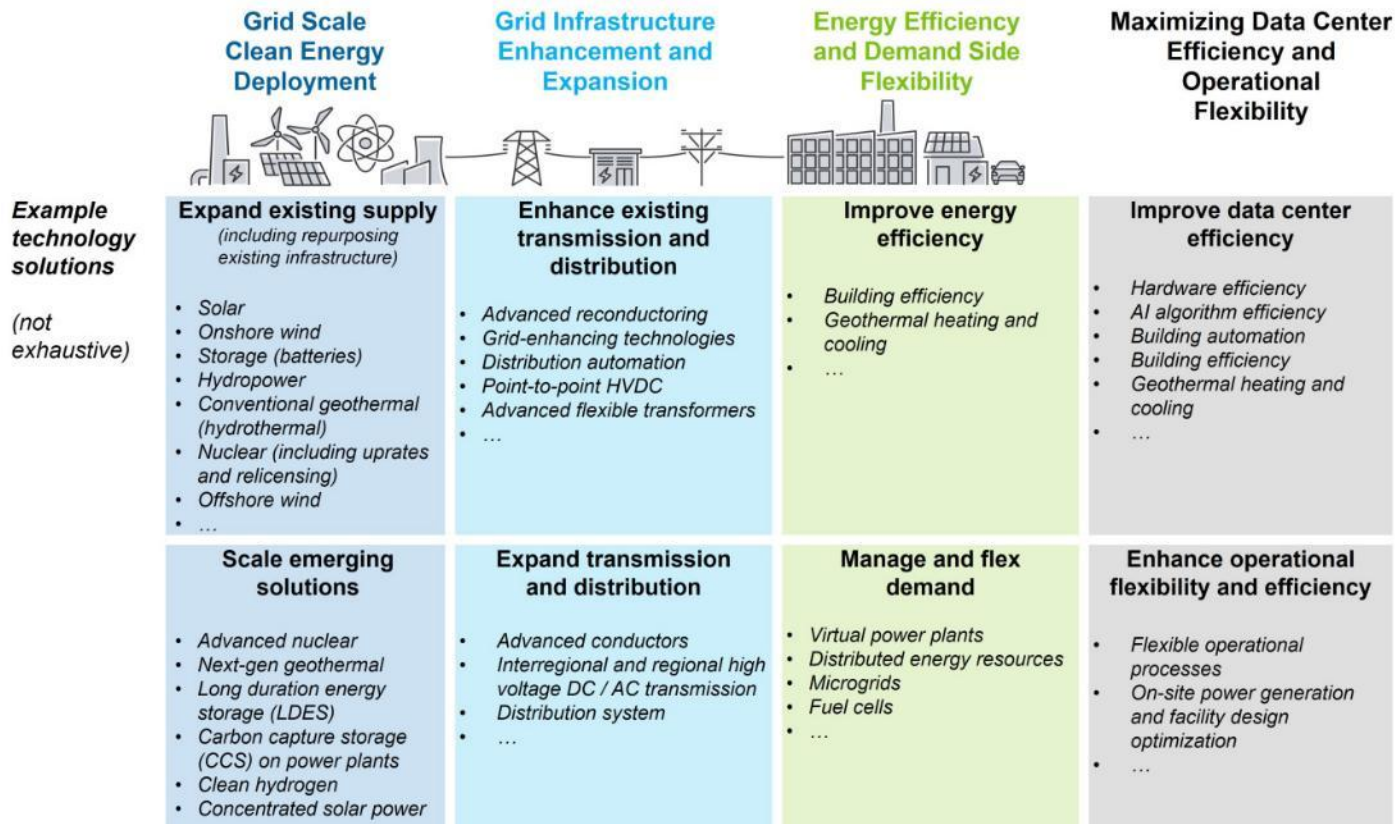
95% of U.S.  
surface fresh  
water

More than 40  
million people  
rely on the basin

20% of the world's surface fresh water



# Innovation & Emerging Solutions



[DOE, Clean Energy Resources to Meet Data Center Electricity Demand \(2025\)](#)

# Michigan's Industrial Transition

- Advanced Manufacturing
- Battery Production
- Transportation Electrification
- Data Centers
- Industrial Decarbonization



*Current Michigan efforts focused on industrial decarbonization and reducing emissions from industrial sectors.*

# Michigan's Climate Goals

## MI HEALTHY CLIMATE PLAN

### Primary Goals:

- Reduce GHG emissions 52% by 2030
- Achieve carbon neutrality by 2050
- Address environmental injustices related to climate



LEARN MORE!

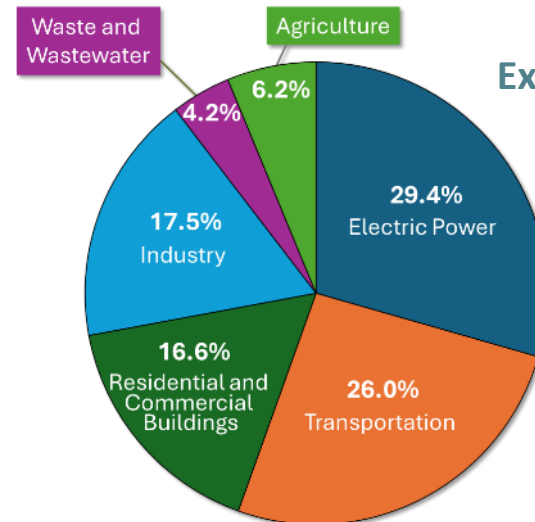
**EGLE** MICHIGAN DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY

APRIL 2022

## Michigan's 2021 Greenhouse Gas Inventory

181.18 Million Metric Tons of  
Carbon Dioxide Equivalent  
(MMTCO<sub>2</sub>e)

from all Michigan sectors for 2021



Explore the GHG  
Inventory  
Dashboard!



# Michigan's Strengths & Opportunities

---



## WATER & GREAT LAKES LEADERSHIP

- Strong water protection framework
- Water efficiency and reuse
- Science, data, and transparency
- Great Lakes stewardship



## ENERGY & GRID INNOVATION

- Energy storage
- Grid modernization
- Flexible energy systems
- Reliability and affordability



## RESOURCE EFFICIENCY & REUSE

- Water recycling
- Waste heat recovery
- Geothermal opportunities
- Brownfield redevelopment



## RESEARCH & WORKFORCE

- Universities and research institutions
- Skilled trades and workforce development
- Innovation and emerging technologies
- Public-private partnerships

# Key Takeaways

---



**Michigan has a strong environmental review framework.**

Environmental protections for water, air, natural resources, and public health are already in place.



**Many questions extend beyond environmental review.**

Energy, infrastructure, affordability, community priorities, and long-term stewardship are increasingly part of the discussion.



**Growth and stewardship must be considered together.**

Future decisions will require balancing economic growth, resource protection, and community needs.



**Innovation is creating new opportunities.**

Advances in water, energy, and infrastructure systems are helping address challenges while supporting future growth.

# Questions?

---