GRAHAM SUSTAINABILITY INSTITUTE
UNIVERSITY OF MICHIGAN

# What local governments should know about Data Centers

Sarah Mills
Director, Center for EmPowering Communities

March 26, 2026 | Cass County

# My confession

- PhD is in farmland preservation; focus is on energy
- New to data centers
  - Extrapolate from renewables experiences
  - Called on counterparts in other states
  - Long list of reviewers
- Commitment to helping local governments understand pros/cons & their zoning options
- Guide [https://graham.umich.edu/product/michigan-data-centers-guide](https://graham.umich.edu/product/michigan-data-centers-guide)



# My plan for tonight

- Data center basics
- Possible impacts & Michigan policies
- Considerations for local governments

# Why this are we talking about data centers?

- Michigan already has a couple dozen data centers
- **Surge in genAI demand** = significantly larger, more resource-intensive facilities
- **Expanded state sales/use tax incentives** = more interest from developers of large ($250M+) data centers

# What is a data center?

**Physical facilities that house IT infrastructure including:**

- Servers
- Networking equipment
- Power supply and backup generators
- Cooling systems
- Security systems

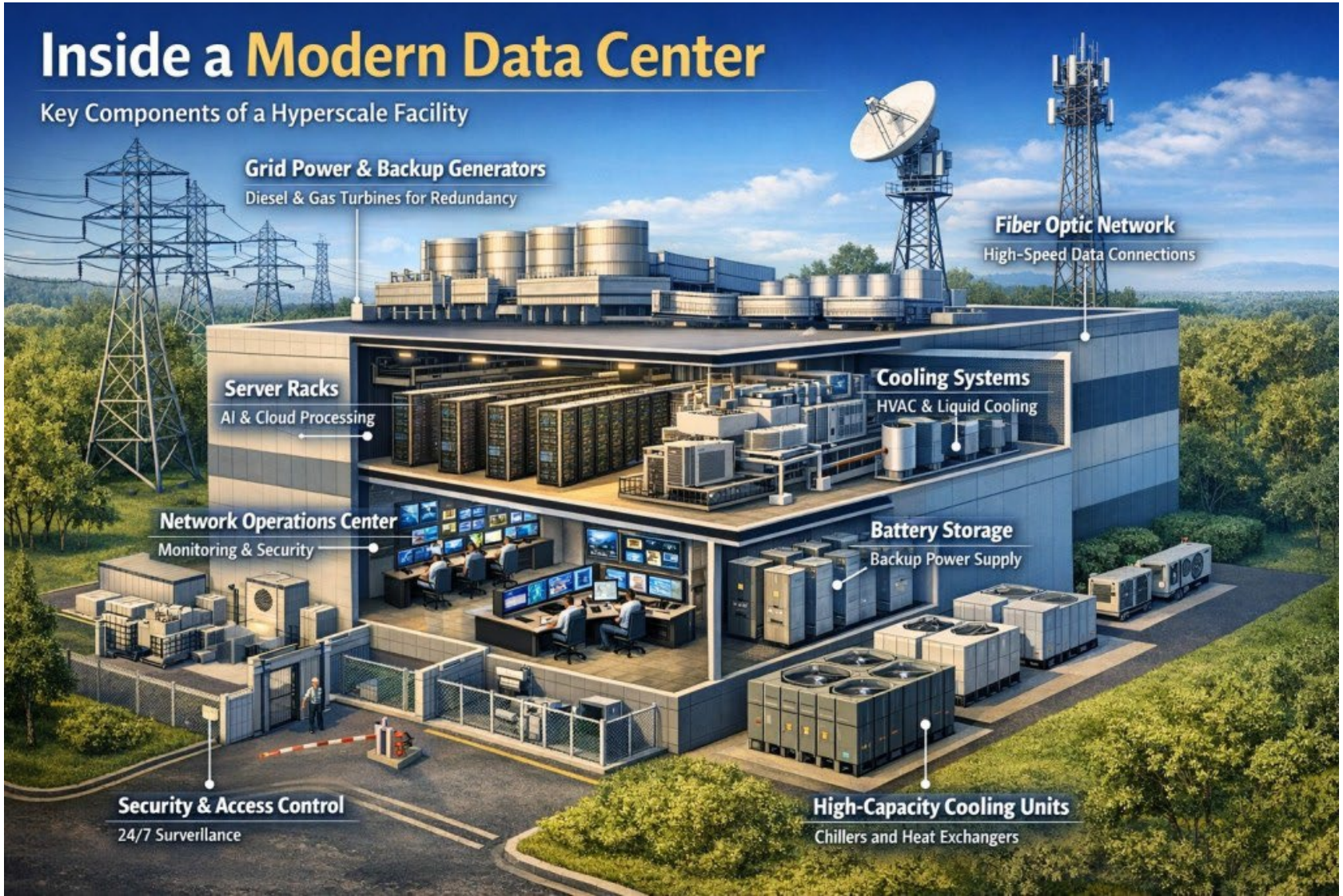



Image source: https://mitechnews.com/esd/michigan-joins-the-ai-data-center-boom-even-as-the-power-grid-strains-to-keep-up/

# Lots of (shapes and) sizes



Southfield, 135k sqft, 7 MW

Photo source: https://www.crainsdetroit.com/technology/how-123nets-southfield-data-center-works



Saline Township, 1.6M sqft, 1,400 MW (planned)

Photo source: https://bridgemi.com/michigan-environment-watch/dte-consumers-advance-plans-for-power-hungry-data-centers-in-michigan/

# What a data center is looking for?

- **Electricity:** sites near transmission lines
- **Backbone fiber:** connection to the internet
- **Contiguous land:** easier for security
- **Water source:** especially if water-cooled

- **Cleared land**
- **Low millage rates**
- **Favorable zoning**

# Overview of State Sales & Use Tax Incentive Requirements

| | Qualified Data Center (2015) | Enterprise Data Center (2025) |
|---|---|---|
| **Key definitional feature** | 75%+ of revenue from unaffiliated colocated businesses | Must have a minimum of $250M equipment investment |
| **Job Requirements** | 400-1,000 aggregate statewide | 30 per facility at 150% median prosperity wage |
| **Clean Energy** | No requirements | 90% of usage |
| **Green Building Standards** | No requirements | One or more certified standards within 3 years |
| **Water Source** | No requirements | Municipal |
| **Property Tax** | No requirements | Cannot receive sunset, state, or local property tax benefits without local approval |
| **Certification Requirements/Details** | Claim at point of sale | Must receive Michigan Strategic Fund certification before making purchases. No new certifications after December 31, 2029. |
| **Revocation** | No requirements | If certification is revoked, repayment is required |

# POSSIBLE IMPACTS & MICHIGAN REGULATIONS

# How much electricity does a data center use?

- **It depends!**
  - 3kW - > 2,000 MW
  - Not necessarily correlated with square footage

- **For context:** Michigan's total capacity in 2024 was 32,000 MW

# Who regulates data center electricity use, their electricity pices?

- **There's no "usage police"**

- **MPSC** = regulator of utilities
  - ➢ Prove annually capacity to serve customers
  - ➢ Regulate rates to customer classes

# What impact might data centers have on other customers' electricity rates?

- **We don't know; conflicting nationwide evidence**
  - Rate increases reported in many places with data centers
  - States with increased load saw rate decreases

- **In Michigan,**
  - "cost-of-service" ratemaking
  - Recent MPSC cases suggest data centers pay for expansion

- **My wishlist**
  - Know what rates will be with/without data centers
    - Know how supply chain/workforce constraints will impact those rates

# How much water does a data center use?

- **It depends!**
  - Evaporative cooling: Lots (5M gal/day)
  - Closed-loop/air cooling: Minimal  (just office/site needs)

- **For context:**
  - Great Lakes Water Authority demand = 1 billion gal/day
  - Michigan power plants =  5.4 billion gal/day

# The Conundrum:  Energy-Water Trade-Off

- Evaporative cooling = more (direct) water, less electricity
- Closed-loop/air cooling = less water, more electricity

- **Which is more environmentally friendly?**
  - Depends on geographic scale
  - Indirect water impacts: if powered by coal, nuclear, some natural gas

# Who regulates data center water use?

- **EGLE, specifically Geologic Resources Management Devision**
  - Pumps >= 100k gal/day (70 gpm)
  - Extra if:
    - sensitive areas
    - > 2M gal/day
- **Applies to all producers** (ag, utilities, industry)
- **If public utility, Safe Drinking Water Act**

  "maintain capacity and reliability for existing customers"

# What impact might a data center have on air quality?

- **Associated with electricity production**
- **When pulling power from grid:**
  - Emissions from polluting power plants typically elsewhere
- **When back-up generators running:**
  - Emissions on-site
  - Regulated by EGLE Air Quality Division
- **Cleanest options**
  - Power with clean energy sources
  - Flexible operation for data center, virtual power plants (VPPs), dynamic scheduling

# How might this impact future land use?

- **Use of farmland**
  - Death by a thousand cuts, and
  - Miniscule direct impact
  - Larger impact from energy
- **Impacts on sensitive natural features**
  - Steep slopes
  - Wetlands
- **Will these become brownfields?**
  - Protections in place for decommissioning

# How might this impact quality of life?

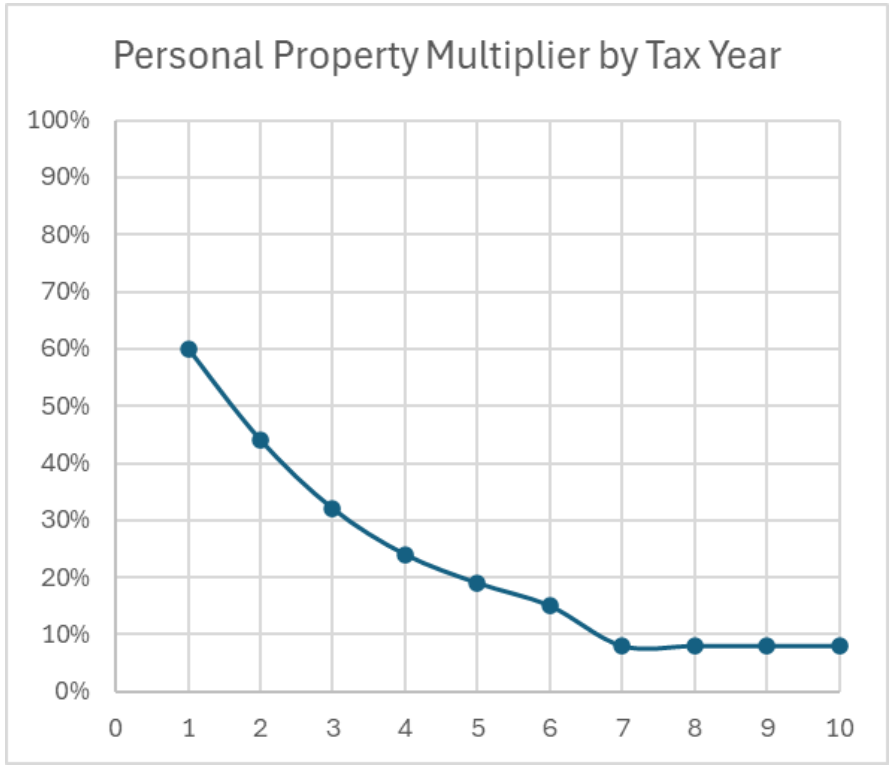
- **Construction**
  - Traffic, noise, vibration, soil erosion
- **Greenfield impacts**
  - Visual change (screening?)
  - Nighttime character
- **Sound**
- **Applicable regulations?** Local zoning

# What are the economic impacts of a data center?

- **Jobs**
  - Lots (thousands?) of construction jobs
  - Estimates of direct permanent jobs range widely (dozens to hundreds)
  - Many indirect/induced jobs
    - Indirect:  supply chain, customers of data center
    - Induced:  consumer + local govt spending as a result of data center

# What are the economic impacts of a data center?

- **Property taxes**
  - Huge investment ($100M -> $10B)
  - STC: data centers = commercial use
  - Commercial personal property
  - Section F = swift depreciation
  - Servers may be regularly replaced
  - Communities have *option* to offer incentives



# What about other monetary benefits?

- Often, capacity for big benefits, especially for large projects
  - Saline Township (1.4GW):  $2M community investment fund; $4M farmland preservation; $8M fire department

- However, limited enforceability unless
  - tied to public subsidy (like property tax abatement)
  - part of court settlement

# ZONING CONSIDERATIONS

# Relevant zoning laws (from MZEA)

- **Can't ban a lawful land use for which there is a demonstrated need**
  - Silence = not allowed (so action required!)
- **Can include reasonable regulations**
  - Solid if there are verifiable impacts trying to mitigate and/or consistency with other land uses
- **Zoning should be based on a plan**

# What's a township to do?

1. Evaluate industrial zone
2. Consider quality-of-life impacts
3. Get commitments in writing…
4. …including Property Tax Guarantee
5. Better planning!



# 1) Evaluate Industrial Zone

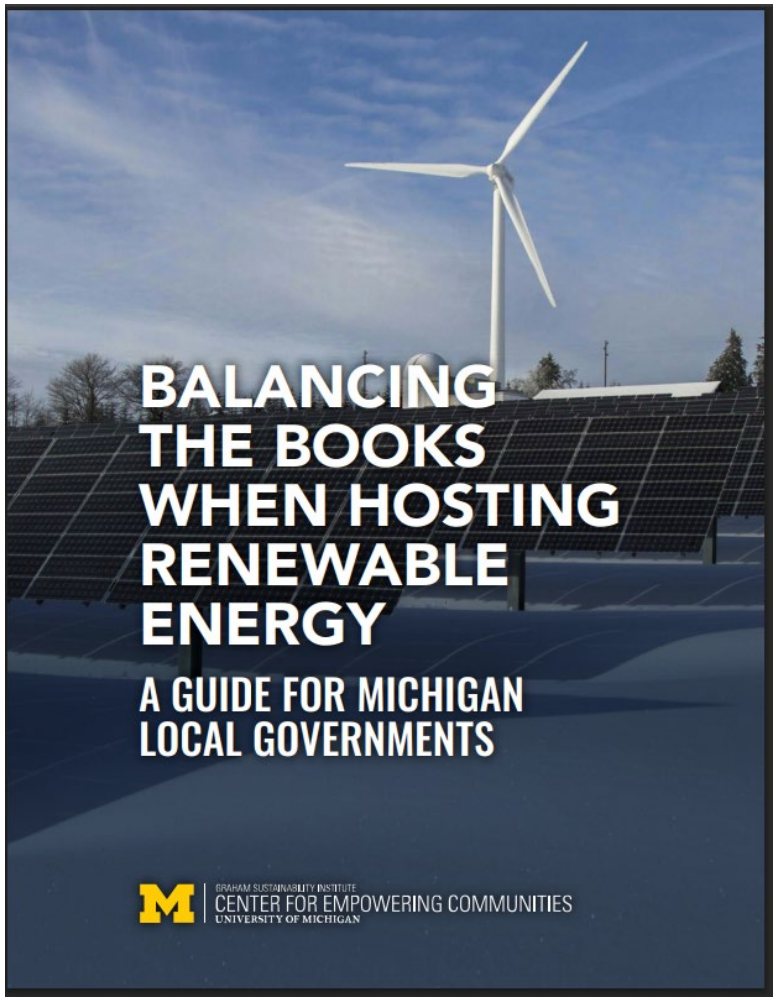
- **Do you have one?**
  - You should!
- **Is it appropriate to expand it?**
  - What's in your Master Plan?
  - Where is there water, electric infrastructure?
  - What are the current surrounding land uses?
- **What is the process for land uses?**
  - By-right? Special land use?

# 2) Consider adding quality-of-life regulations to all industrial uses

- **Sound**
  - At the boundary of the industrial zone
- **Screening**
  - At the boundary of the industrial zone
  - Especially if residential adjacent
- **Light Pollution**
  - Dark sky-friendly ordinances
  - Minimum necessary

# 2) Consider adding quality-of-life regulations to all industrial uses

- **Decommissioning**
  - Plan
  - Financial instrument
  - Agreement (see ->)




https://graham.umich.edu/media/files/btb-guide.pdf

# 3) Get commitments in writing

- **Limits on use of on-site generators outside of emergencies**
- **Scheduling of genset tests**

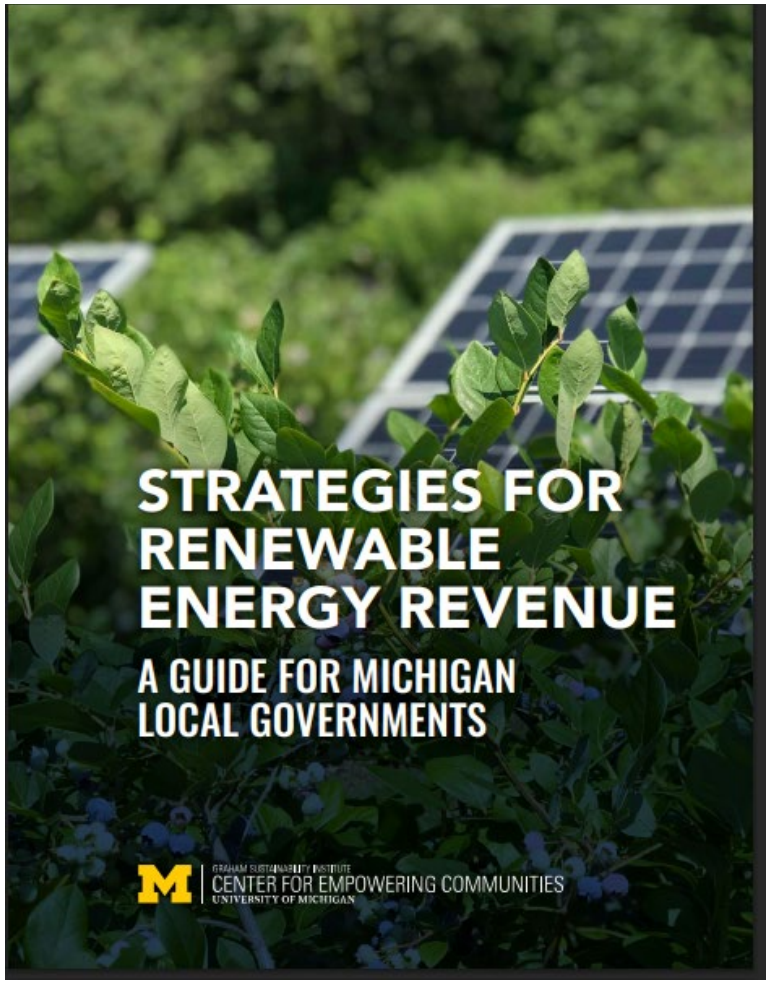
- **Construction traffic routes**

- **Transparency on water or energy usage**
  - Perhaps as part of decommissioning "annual show"

# 4) Request a Property Tax Guarantee

- Avoid heartache, dark stores
- Commitment to pay—at minimum—what they are discussing
- Recognition they will pay more if tax tables change in local government favor

https://graham.umich.edu/project/renewable-energy-revenue




GRAHAM SUSTAINABILITY INSTITUTE
UNIVERSITY OF MICHIGAN

# 5) Plan for it!

- **Which land uses need heat as an input?**
  - Greenhouses, district heating, some industry
- **Where might there be infrastructure to reuse?**
  - Near transmission or substation

# Closing Thoughts

- **<u>Every</u> land use has positives and negatives at the local level**
  - Communities care about different things
  - Use zoning to point development to places where negatives less impactful

- **Which existing land uses are on the decline, and how might you think strategically to create the future you want to see?**
  - When is new development the problem, and when might it be the solution?

# Questions?

- **More questions?**
  - Happy to help find answers

**Sarah Mills**
Director, Center for EmPowering Communities
University of Michigan
sbmills@umich.edu
(734) 763-0726