

Workshop | LV Data Centers

October 7, 2026



Lehigh Valley Government Academy

Workshop Agenda

Welcome, Introductions

Regional Update on Data Centers

Legal Defensibility: 5 Considerations for Defensible Regulations

What's Being Done Beyond the Regional Level

Introductions

Please share:

1. Name + municipality / organization

Who is in the room?

2. Where is your community in the process?

No ordinance yet, early drafting, adopted standards, active application, revisiting standards

3. What issue is most important today?

Energy/grid, water/wastewater, noise/vibration, siting/setbacks, public process, legal defensibility, something else

Data Centers in Lehigh Valley: Regional Update

Existing Data Center Developments

Lehigh County

Where: TekPark, 9999 Hamilton Blvd, Breinigsville

End Users:

- Broadcom Semiconductor Manufacturer
 - TierPoint Colocation/Data Hotel, DOD facility; Planning 100-Megawatt Expansion
-



Where: Multiple Smaller Manufacturing Specific, Breinigsville Area, Lower and Upper Macungie Townships Manufacturing and Logistics Centers

End Users:

- Air Products
- Mack Trucks
- Keurig-Dr. Pepper
- Boston Beer, many others

Existing Data Center Developments

Northampton County

Where: Tier Point, 3949 Schelden Circle, Hanover Township
End User: Colocation/Data Hotel

Where: Tier Point, 3864 Courtney Street, Hanover Township
End User: Colocation/Data Hotel



Local Proposals

Projects in the Pipeline

ALLEN

1.0M SF

warehouse conversion

Approved

SOUTH WHITEHALL

1.5M SF

3-building plan

Under Review

ALLENTOWN + BETHLEHEM

About 1.5M SF over

4 projects

Under Review

UPPER MACUNGIE

2.5 M SF

industrial redevelopment

Denied

UPPER MOUNT BETHEL

4.6M SF

23-building campus

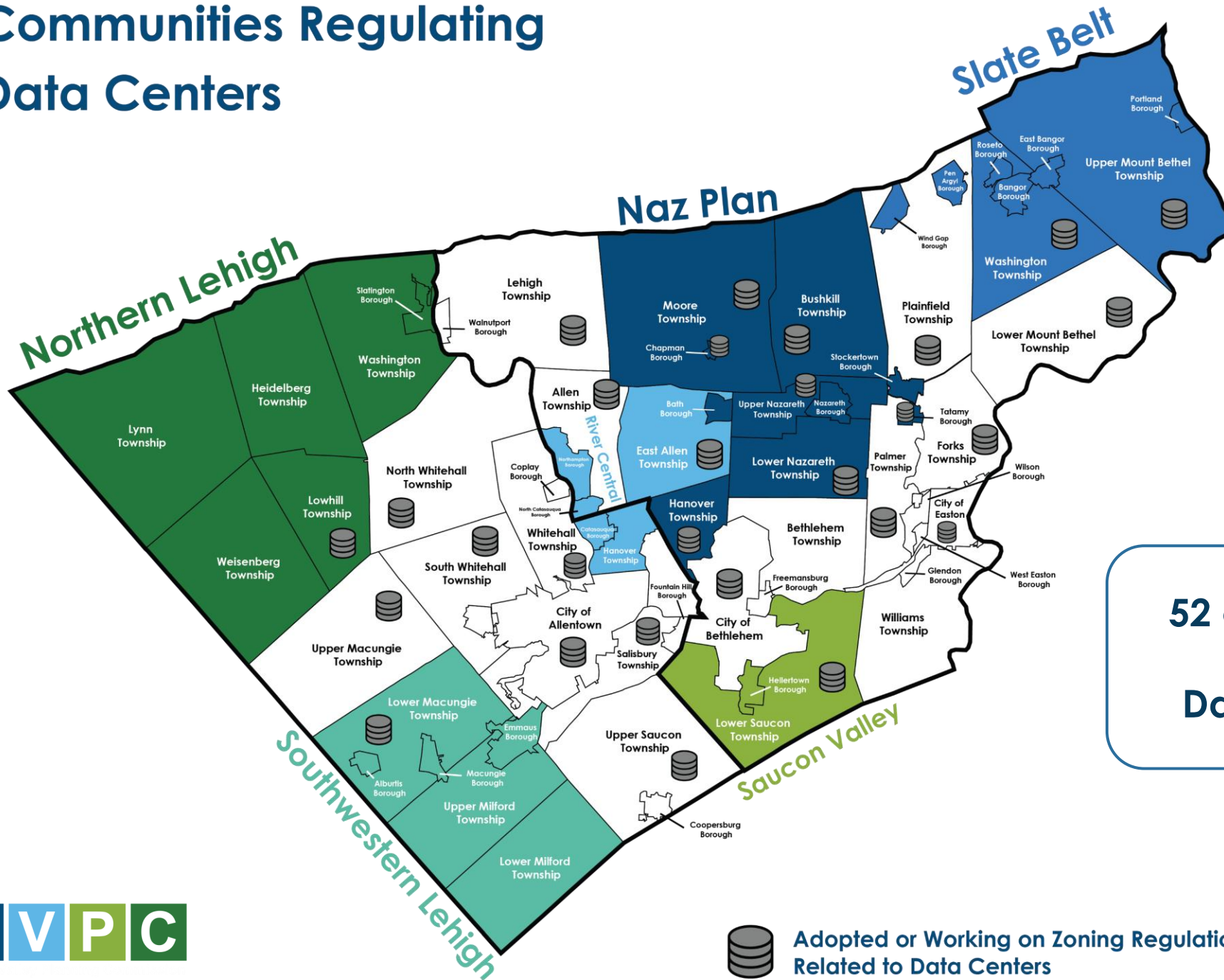
Announced

LOWER MOUNT BETHEL

240 acres

Announced

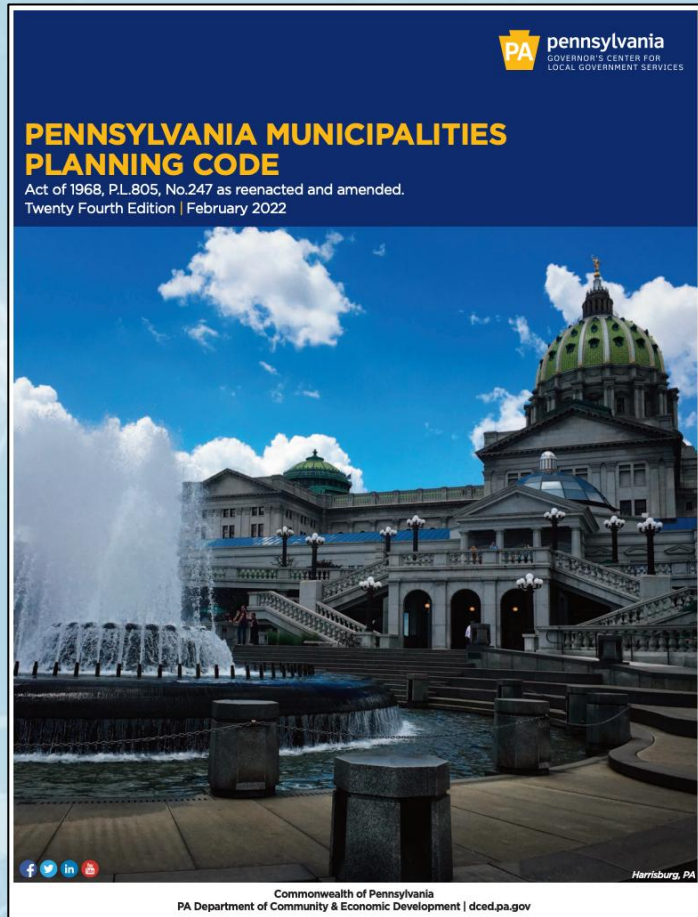
Communities Regulating Data Centers



**52 out of 62 Municipalities
are protected by
Data Center Regulations**



How To Address Data Center Impacts:



**Communities Can Plan For and
Regulate Land Use and
Development**

Through Powers Granted by State

Legally-Defensible Land Use Regulations

Five Considerations When Crafting Ordinances:

1. Are we regulating a land use impact?
2. Does another regulator have primary responsibility?
3. Is the requirement objective and measurable?
4. Is the requirement proportional to the impact?
5. Does the ordinance leave reasonable space for the use?

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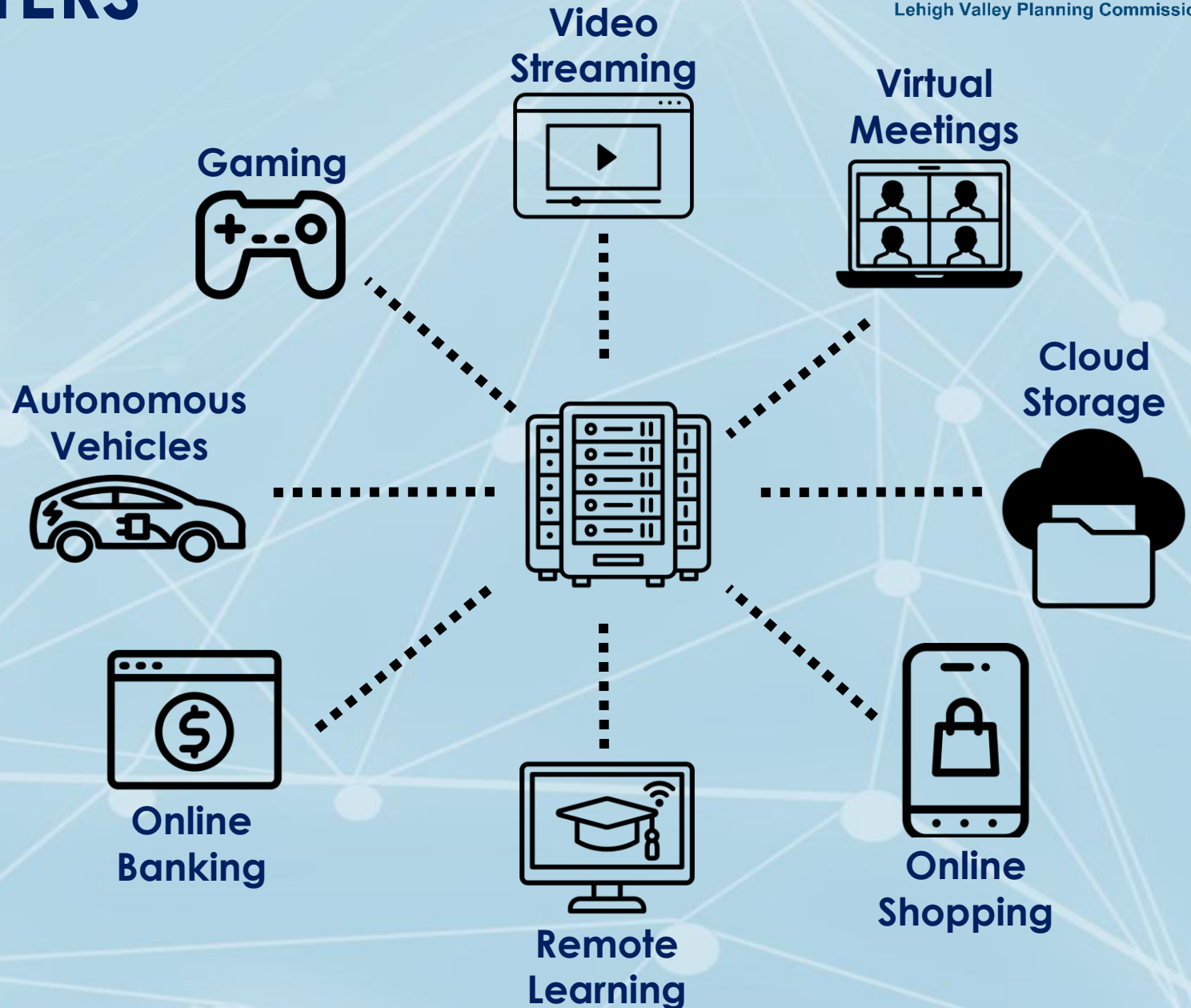
QUESTION 1

Are we regulating a land-use impact?

Define the use, understand the proposal, and tie standards to impacts communities can see, hear, measure or manage.

DEFINING DATA CENTERS

A secure facility that holds Information Technology (IT) Systems Infrastructure, the servers, data storage drives, and network equipment that store and process digital information.



DEFINING DATA CENTERS: City of Bethlehem

Data Center. A facility, which may consist of one or more buildings and/or structures, used primarily for the storage, management, processing, and transmission of digital data, which houses computer or network equipment, systems, servers, appliances and other associated components related to digital data operations.

The facility may also include air handlers, backup power generators, water cooling and storage facilities, utility substations, security facilities, administrative offices, and other associated utility infrastructure to support sustained operations at the Data Center.

This use does not include computers or telecommunications-related equipment that is secondary and customarily incidental to an otherwise permitted use on the property, such as servers associated with an office building.

DEFINING DATA CENTERS: City of Allentown

660-38.H DATA CENTER USE

(1) Use Category Description. The data center use category includes a building, buildings, or structures which are occupied primarily by computers and/or telecommunications and related equipment where digital information is processed, transferred and/or stored, primarily to and from offsite locations. This use does not include computers or telecommunications related equipment that is secondary and customarily incidental to an otherwise permitted use on the property, such as servers associated with an office building.

This use shall also include cryptocurrency mining, blockchain transaction processing, and server farms. The Data Center Use shall include data center as a principal or accessory use and data center accessory uses (see 660-135).

DEFINING DATA CENTERS: South Whitehall Township

350-48(d)(2) Data Center.

(A) Definition: A centralized facility engaged in the storage, management, processing, and/or transmission of a businesses' digital data, and housing computer and/or network equipment, systems, servers, appliances, and other associated components related to digital data operations.

(i) Additional definitions for this section:

PRINCIPAL STRUCTURE, DATA CENTER ...

ACCESSORY STRUCTURE, DATA CENTER...

ANCILLARY EQUIPMENT, DATA CENTER...

CONTINUOUS NOISE...

INTERMITTENT NOISE...

IMPULSIVE NOISE...

LOW FREQUENCY NOISE...

DEFINING DATA CENTERS: Palmer Township

Data Center

A use, either on-premise or co-location, which is occupied primarily by computers and/or telecommunications and related equipment, including supporting equipment, where information is processed, transferred and/or stored; this shall also include cryptocurrency mining, blockchain transaction processing, and server farms. A data center may include data center equipment.

Data Center Accessory Uses/Structures...

Data Center Campus...

Data Center Equipment...

Data Center Campus Master Plan...

DEFINING DATA CENTERS: Lowhill Township

326H.a. SENSITIVE RECEPTORS.

All residential uses, schools (including commercial schools), preschools, daycare facilities, nursing homes and assisted living facilities, recreational facilities (public or private), places of worship, public parks (including trails), campgrounds, restaurants with outdoor dining, and municipal/government facilities with outdoor recreation facilities.

DEFINING DATA CENTERS: Considerations

What activity triggers the use?

Processing, storage, transfer, cloud computing,
AI or some combination?

What infrastructure is part of the use?

Cooling, generators, BESS, substations, fuel
storage, water and wastewater systems?

There is not one universally “correct” definition – it should fit your regulatory framework.

Managing Land Uses

1. Understand the impacts

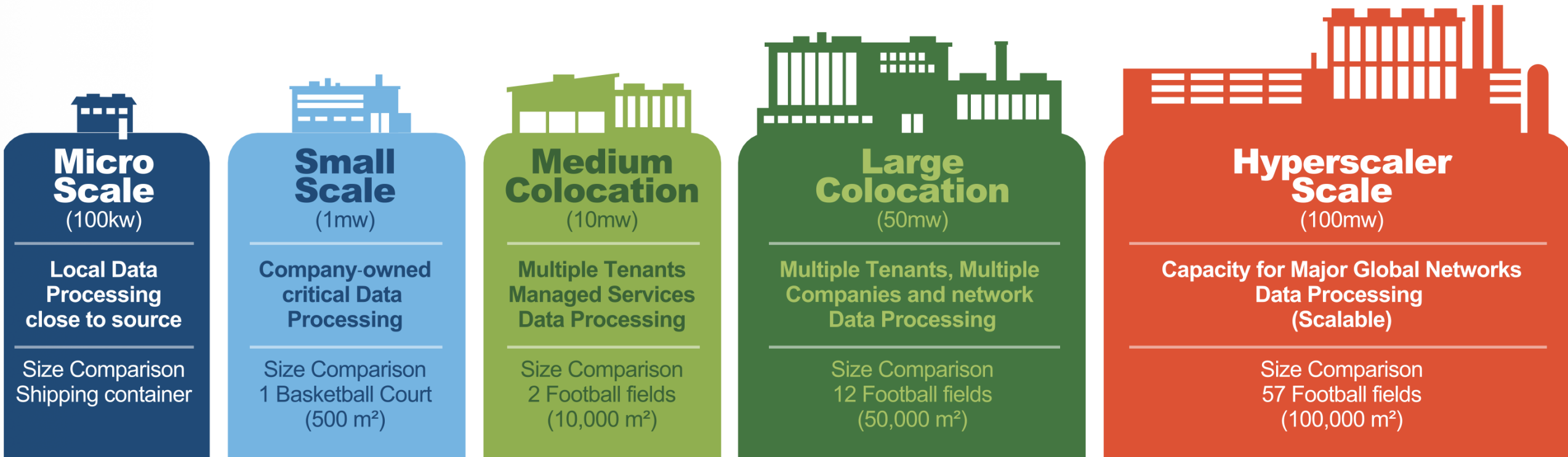
- Who may be impacted?
- What are the impacts?
- When will impacts arise?
- Where will the impacts occur?
- Why are there impacts?

2. Address impacts with local regulatory tools

IMPACTS OF DATA CENTERS

- Noise
- Building Scale
- Heat and Air Quality
- Emergency Management
- Lighting and Glare
- Visual Impacts
- Traffic Impacts
- Power Demand
- Water + Wastewater
- Decommissioning / Reusability

DATA CENTERS: Does Size Matter?



SIZES OF DATA CENTERS

2

QUESTION 2

Does another regulator have primary responsibility?

Use local tools for local impacts. Coordinate with utilities and other agencies where authority shifts.

Who Regulates What?

REGULATOR

PRIMARY PURVIEW

PA PUC

Public utility service providers (PPL, Met Ed), electric distribution company interconnection/service terms, large-load customer protections.

PJM Interconnection

Regional grid reliability, transmission planning, wholesale market operations, interconnection queues and large-load forecasting.

FERC

Regional transmission organizations (PJM), interstate transmission and wholesale power rates, transmission service rules, cost allocation.

Municipal role: do not overlap another regulator.

Who Regulates What?

REGULATOR	PRIMARY PURVIEW
PA Uniform Construction Code	Building, fire/life-safety, electrical, mechanical, plumbing, accessibility and occupancy code compliance.
PA DEP + Conservation Districts	Earth disturbance / stormwater, wetlands and waterways, air quality, sewage planning, tanks and waste.
PennDOT	Highway Occupancy Permits, work in state right-of-way.
DRBC / Water + Sewer Providers	Water withdrawals, basin approvals where applicable, public water/sewer service, capacity, treatment and discharge coordination.
U.S. Army Corps + EPA	Federal waters/wetlands permits, Clean Water Act / Clean Air Act requirements and federal environmental programs not delegated to PA DEP.

Municipal role: do not overlap another regulator.

3

QUESTION 3

Is the requirement objective and measurable?

Applicants, staff, boards and courts should be able to tell what compliance means before an application is filed.

Studies vs. Performance Standards

STUDIES / INFORMATION

- Tell the municipality what is proposed and how it will operate.
- Support staff, consultant and board review before approval.

Examples: acoustic study, utility demand statement, water / wastewater narrative, emergency response plan, heat-rejection description, equipment layout.

PERFORMANCE STANDARDS

- Set an actual threshold the use must meet.
- Should be clear, measurable and enforceable before and after construction.

Examples: maximum dBA at property line, setback, lighting limit, emergency access requirement.

The background of the slide is a dark blue field filled with a complex network of thin, light blue lines. These lines connect various circular nodes of different sizes. Some nodes are highlighted with a bright white glow, while others are a muted blue. The overall effect is one of a dynamic, interconnected system, possibly representing a network or data flow.

**What has your experience been with
requiring studies, verifying information,
and setting / measuring performance
standards?**

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QUESTION 4

Is the requirement proportional to the impact?

Strong standards are easier to defend when they scale with the documented impact and apply consistently across comparable uses.

Data Center Power Needs vs Other Industries

1 Million Square Foot Building Equivalent

**Data Center
(General Cloud Use)**
80 MW



**Data Center
(AI)**
150 MW+

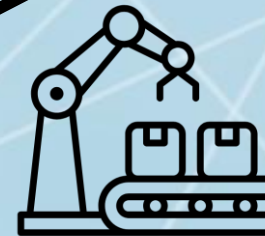
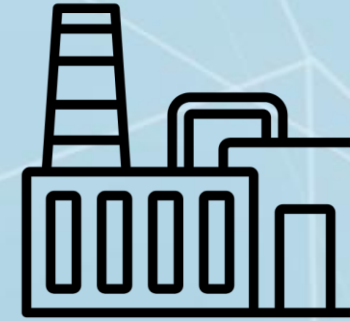


150+
Megawatts

**Data Center
(Data Storage)**
35 MW



**Heavy Manufacturing
(Chemical, Steel, Microchips)**
100 MW



**Advanced Manufacturing
(Including Automated)**
40 MW

**Warehouse
(Logistics)**
3 MW



1 Megawatt

Comparative Energy Demands

Bethlehem Steel



1-3 Gigawatts
of Continuous Industrial Activity

Hyperscale Data Center



Would require
12+ million square feet
to reach 3 Gigawatt scale

Comparative Water Demands

Golf Course

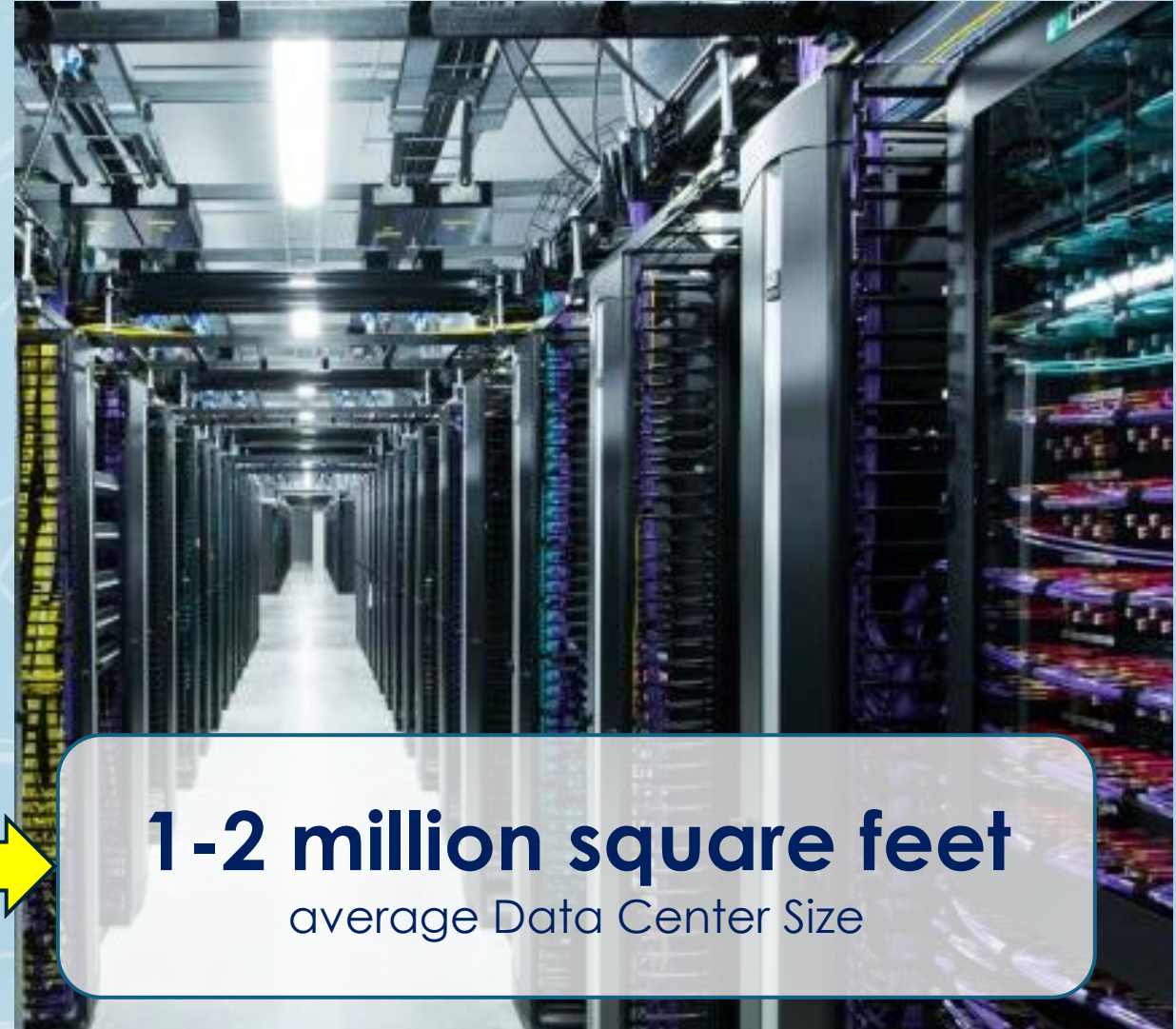


450,000 gpd

90-200 million gallons annually



Data Center (evaporative cooling)



1-2 million square feet

average Data Center Size

Comparative Noise Levels

55-85 dBA

average Data Center noise level (outside)

55 dBA

85 dBA



5

QUESTION 5

Does the ordinance leave reasonable space for the use?

Test the full ordinance against the zoning map so cumulative standards do not become a de facto prohibition.

Testing the Ordinance Criteria

Example Ordinance Criteria

Natural Features

- 150' from Streams
- 500' from 100-year Flood Zone
- 500' from Wetlands

Districts

- 400' from Residential Districts
- 400' from Residential Buildings

Parcels

- 30' from any Parcel Boundaries
- 75' from Local Rights of Way
- 150' from Arterial Rights of Way
- 150' from Transmission Lines

Other Considerations

- Exclude Farmland Preservation Easements
- Corridor./ Arterial Access



Mapping Potential Use Locations

Micro-Scale (Potential Parcels 4-8 Acres)

Hyper-Scale (Potential Parcels 75+ Acres)



What has your experience been with balancing legally defensible regulations and procedures with public concern?

What Is Being Done Beyond the Regional Level?

Governor's Responsible Infrastructure Development (GRID) now shapes state permit sequencing and DEP consent orders.

State Initiatives: Executive Order 2026-05



GRID PATH

- DEP may review qualifying permit applications on a rolling basis.
- Developer GRID commitments may be incorporated as permit conditions.

NON-GRID PATH

- DEP does not issue permits on a rolling basis; all applications must be received and reviewed.

In Both Scenarios: Permits Issued Only After Local Approval

GRID Path Requirements

If a data center applicant signs the DEP Consent Order + Agreement

Applies to larger projects: peak demand over 25 MW + legally binding DEP COA to meet GRID requirements

ENERGY + RATEPAYERS

Secure incremental capacity + energy sufficient for facility demand.

Capacity must be deliverable in the PJM area serving the site.

Pay 100% of project-caused generation, transmission, distribution + related infrastructure costs.

CLEAN FIRM ENERGY

Procure increasing share of energy from dispatchable clean firm resources.

Targets ramp over time starting at 10% and increasing toward 32% by 2035.

Annual documentation to DEP after each operational year.

ENVIRONMENT + REPORTING

Annual energy and water reporting: MWh, peak demand, natural gas, total water and peak-day water.

Water conservation / recycling / closed-loop cooling where feasible.

Air, tank, generator and environmental permit compliance remain enforceable.

COMMUNITY + WORKFORCE

Transparent public engagement: local-government notice, outreach plans and public meetings.

No state nondisclosure agreements for data center projects.

Local workforce, training and community benefit commitments.

Energy Initiatives

PA PUC / Utility Providers

PUC adopted a large-load customer tariff.

PUC is directing utility agreements to address interconnection studies and upgrades, deposits/collateral.

PUC is developing clearer procedures for handling grid emergencies.

PJM / FERC

PJM is developing a Large Load Registry to improve forecasting.

PJM outlines streamlined service paths for new large loads that bring new generation with them.

FERC identifies that PJM needs additional capacity, but who pays for new generation is still being worked out.

STATE LEGISLATION

Act 21 requires data centers to report annual energy and water consumption to DEP.

HB 1834 to strengthen cost responsibility and clean energy is now in Senate.

FEDERAL LEGISLATION

Ratepayer Protection Act did not advance in Senate.

Which Way Is the Industry Going?

Smaller + Closer

Edge facilities will increasingly show up as smaller, more localized uses.

Power-Led Siting

More projects are pairing with dedicated power, nuclear, renewables, storage or on-site generation.

Cooling + Efficiency

Technological evolutions seek to increase efficiency, reduce utility consumption and reduce costs for facility operators.

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Questions?