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Aligning Data Centers with Sustainability Goals: Local Government Playbook



Table of Contents

INTRODUCTION	4
DISCLAIMER	5
IMPORTANCE FOR LOCAL GOVERNMENTS	6
CONSIDERATIONS	9
STATE POLICY ENVIRONMENT	9
LOCAL BURDENS	11
RISK OF STRANDED ASSETS	12
TRADEOFFS	12
ACCESS TO INFORMATION	13
ALIGNMENT WITH COMMUNITY PRIORITIES	14
LEVER 1: ZONING ORDINANCES, COMPREHENSIVE PLANS, AND OTHER PLANS	14
PARTNERS	16
Internal departments to engage	17
External partners to engage	17
COMMUNITY EXAMPLES	17
RESOURCES	18
LEVER 2: DEVELOPMENT AGREEMENTS, COMMUNITY BENEFITS AGREEMENTS, AND OTHER PROJECT AGREEMENTS	20
PARTNERS	21
Internal departments to engage	21
External partners to engage	22
COMMUNITY EXAMPLES	22
RESOURCES	23
LEVER 3: IMPACT STUDIES	25

PARTNERS	27
Internal departments to engage	27
External partners to engage	28
COMMUNITY EXAMPLES	29
RESOURCES	30

LEVER 4: EXTERNAL COORDINATION **31**

PARTNERS	34
Internal departments to engage	34
External partners to engage	34
COMMUNITY EXAMPLES	35
RESOURCES	36

DEVELOPMENT REVIEW CHECKLIST **37**

GENERAL	37
WATER	37
ELECTRICITY	37
AIR	38
LAND USE	38
COMMUNITY IMPACT	39

ENDNOTES **40**

Introduction

This playbook provides guidance to local governments on their authorities to mitigate the impacts of large-scale data centers on emissions reduction, water conservation, and other sustainability goals.

Data centers house servers and other computing equipment that store and process data, deploy internet services, and support other large-scale computing needs. While many communities already host small-to-medium-scale data centers, large-scale data centers are increasingly proposed in communities across the US due to growth in cloud computing and artificial intelligence (AI).¹

Several characteristics make large-scale data centers distinct from other data centers and existing industrial and warehouse uses, including their size, electricity needs, noise impacts, tax characteristics, employment makeup, and limited information surrounding their operations.

This playbook defines large-scale data centers as facilities with the following characteristics:

- **Electricity usage: 20 megawatts (MW) +**

A facility with a peak electricity usage of 20 MW or more may require large electric grid upgrades.²

- **Size: 10,000 sq. ft.+**

A facility must be at least 10,000 square feet (sq. ft.) to be classified as a hyperscale data center, a type of large-scale data center, according to the Independent Data Corporation (IDC), a global market intelligence, data, and events provider.³

Data center size & electricity usage trends

Large-scale data centers are characterized by their large physical footprints and high electricity usage.

Some planned data centers have the capacity to use more than 1 gigawatt (GW) of electricity at peak usage and will require over 1,000 acres of land.

1 GW is equivalent to the annual electricity consumption of [1 million households](#), and 1,000 acres is roughly equivalent to [245 average Walmart Super Centers](#).

Unit conversions

1 GW = 1,000 MW

1 acre = 43,560 sq. ft.

As illustrated in the accompanying callout box, large-scale data centers can far exceed these electricity usage and size thresholds.

There are two key types of large-scale data centers: co-location and hyperscale facilities.

Large-scale co-location. Co-location data centers are facilities where multiple customers are “co-located” within one building. One company owns and operates the building and leases computing power to several tenants. Co-location data centers vary in size, but large-scale co-location facilities are increasingly common.

- Electricity use: 20 MW+
- Average size: 11,000 sq. ft.⁴
- Examples: QTS, Equinix

Hyperscale. Hyperscale data centers are facilities dedicated to AI and cloud computing. Facilities are typically developed in phases. Once fully developed, several facilities are clustered into a single campus.

- Electricity use: 100 MW+⁵
- Average size: 30,000 square feet per module⁶
- Examples: Meta, Google, OpenAI, Microsoft

To learn about small-to-medium-scale data centers, see page 36 of the following resource: [2024 United States Data Center Energy Usage Report](#). While cryptocurrency mining facilities are not data centers, they have similar impacts that local governments may seek to mitigate. To learn more about cryptocurrency mining facilities, see the following resource from the American Planning Association: [“How Does Your Zoning Treat Crypto Mining?”](#)

DISCLAIMER

The guidance in this playbook is intended for communities that are new to this topic and is based on the best available information at the time of writing. Best practices, case studies, and other information on data center development are constantly evolving and depend on a community’s state and local policy environment. Local government staff are encouraged to reach out to the Great Plains Institute directly for context-specific technical assistance.

Importance for local governments

Large-scale data centers may pose conflicts to local climate action goals or other community priorities due to their size and electricity use. For example, data centers could consume as high as 580 terawatt-hours (TWh) of US electricity in 2028, which is equivalent to 58 percent of all US industrial electricity use in 2025.⁷ Another report projects electricity demand will increase by 32 percent by 2030, largely driven by data centers, following decades of relatively flat electricity demand.⁸

Many local governments have goals to transition to clean energy resources and improve energy efficiency to meet expected electricity demand growth from building and vehicle electrification. However, these plans do not account for data center development. Data center electricity use may also pose the following conflicts to local goals:

- **Fossil fuel deployment.**

Data center developers and electric utilities seek to energize data centers quickly and reliably, which is expected to drive growth in fossil fuel plants. New energy infrastructure, such as wind facilities and electric transmission lines, can take 10 years to build.⁹ To energize data centers quickly, several electric utilities have delayed gas and coal plant retirements.¹⁰

In addition to delayed retirements, data centers are driving demand for new generation resources that can be built quickly. While both natural gas plants and solar facilities take an average of five years to build,¹¹ data centers require electricity when the sun doesn't shine. As long-duration storage is not widely deployed,¹² developers may consider solar a less viable option than natural gas to support 24/7 data center operations. According to a 2026 analysis by the US Energy Information Administration, high electricity demand driven by data center growth is expected to result in a 7.3 percent increase in natural gas generation across the US between 2025 and 2027.¹³

Lastly, data centers also may rely on backup diesel generators to maintain operations during power outages, which may release additional pollutants and emissions into the air.

- **Water use.**

Large-scale data centers can drive water consumption in two ways: on-site cooling and off-site power generation. Off-site water use results from the use of thermal power generation, such

as nuclear and natural gas facilities, to meet electricity needs and accounts for approximately 75 percent of data centers' water usage in the US.¹⁴ Developers increasingly utilize minimal-to-no water for on-site cooling, but these techniques can increase the facility's electricity usage, increasing the project's overall water footprint.

Local governments can utilize a host of levers to mitigate the impacts of data center development and leverage data center investment to support community programs and projects. Local governments play a significant role in shaping data center development due to their zoning and permitting authorities, established channels for public engagement, and relationships with neighboring jurisdictions, state agencies, and regional entities.

Table 1. Examples of how data center development can be addressed in planning activities

Community	Levers	Topics addressed	Playbook page
Loudoun County, Virginia	Comprehensive plans	Requirements for transitional land uses between data centers and residential zones	P. 18
	Zoning ordinance	Data center opportunity zones	P. 18
Monticello, Minnesota	Comprehensive plans	Limiting data centers to certain zones	P. 18
Prince William County, Virginia	Zoning ordinance	Data center opportunity zones	P. 18
	Development agreements	Noise, buffering, and site design	P. 25
Mesa, Arizona	Development agreements	Water usage	P. 24
Lancaster, Pennsylvania	Community benefits agreements	Clean energy, noise, local hiring, air quality, waste heat, closed-loop cooling	See agreement
Linn County, Iowa	Impact studies	Water and electricity usage	P. 31
	Zoning ordinance	Setbacks, noise limits, traffic impacts, site review, water usage, access to information, data center definitions, impact studies, community benefit agreements	See ordinance
Atlanta, Georgia	Impact studies	Transmission line impact studies	P. 32
Dane County, Wisconsin	External coordination	Creation of an advisory committee of municipality representatives	P. 37
Indianapolis, Indiana	External coordination	Submission of comments on its electric utility's 2025 Integrated Resource Plan	P. 37
DeKalb County, Georgia	Zoning ordinance	The county drafted an amendment to its zoning ordinances that included requirements for separation and buffers, equipment placement and fenestrations, closed-loop cooling systems, and impact studies. The Board of Commissioners voted to deny the proposed amendment in June, 2026.	See draft ordinance
Prineville, Oregon	Comprehensive plans	Expanding growth boundaries	See general plan

Considerations

Before local governments adopt data center ordinances or consider data center proposals, staff and officials should understand their unique authorities to regulate data center development, potential risks and opportunities associated with development, and challenges to assessing project impacts.

Local governments can gain deeper insight into these issues by assessing the following:

- State policy environment
- Local burdens
- Risk of stranded assets
- Tradeoffs
- Access to information
- Alignment with community priorities

STATE POLICY ENVIRONMENT

There are several state legal and regulatory factors that may shape local governments' authorities surrounding data center development. These laws and characteristics include, but are not limited to, the following:

- **Home Rule or Dillon's Rule.**

Some states operate under Home Rule, meaning local governments have a degree of local autonomy. Other states operate under Dillon's Rule, meaning local governments only have the powers expressly granted to them in state code. Some states operate under a combination of the two.¹⁵ In states operating under Dillon's Rule, local governments may have limits on their authorities to use zoning reforms, impact fees, or other levers to shape data center development.

- **Preemptions.**

State law may also include preemptions, or explicit restrictions, on local authorities that impact which levers local governments can use to shape data center developments. For example, local governments may seek to promote energy-efficient data centers through

energy benchmarking requirements. However, some states prohibit local governments from implementing such requirements.¹⁶

To identify relevant preemptions in a specific state, local governments can coordinate with their legal department, other local governments in their state, or technical assistance providers with experience researching preemption issues in their state. Local governments can also explore the Sabin Center for Climate Change Law's report, [Navigating State Law in Local Climate Action](#), which includes climate action preemption reviews of 19 different states.

- **Utility regulatory landscape.**

Local governments can engage utility decision makers to promote state and regional policies that protect consumer electricity and water rates, expand clean energy resources associated with data center development, and encourage data center developers and utilities to invest in water and energy conservation. However, utility decision makers and the opportunities to engage them vary depending on the state regulatory context and the types of utilities serving the community.

As a starting point, local governments can identify the water and electric utilities that serve their community, if their utilities are regulated by the state Public Utilities Commission, and whether local government networks already exist in their state or region that can support meaningful engagement. For additional information on utility engagement, navigate to Lever 4: External Coordination section of this playbook.

- **State permitting processes.**

States may have permitting and environmental impact statement requirements that apply to data centers. Local governments can contact their state environmental permitting authority, usually housed within the Department of Environmental Quality, Department of Protection, or Department of Natural Resources, to identify how state requirements may be integrated into local development review and identify gaps in mitigating environmental impacts.

- **Specific data center policies.**

States increasingly consider or pass laws that promote, regulate, or restrict data center development, which may shape local governments' authorities and opportunities to regulate data centers.¹⁷ Most states have data center-specific tax incentives to promote data center growth,¹⁸ and some states regulate data centers to mitigate environmental impacts or limit their growth. For example, the State of Minnesota passed comprehensive legislation to mitigate data center impacts in 2025.¹⁹

Local governments can contact their state economic development agencies to request information on data center incentives and requirements within the state. Local governments can also track data center laws by exploring the Great Plains Institute's [Great Lakes Data Center Hub](#), which includes an inventory of adopted policies on data centers.

Local governments may consider conducting a thorough review of state code to clarify authorities surrounding data centers. For example, in 2024, Prince William County, Virginia, commissioned a [Statutory Framework Review & Peer Research Summary](#) to understand its unique regulatory landscape.

LOCAL BURDENS

Data centers may be disproportionately located in rural or marginalized communities, and data center impacts may be unevenly distributed across communities.

Given the size and power needs of large-scale data centers, developers often propose data centers in locations with existing electricity infrastructure²⁰ and sufficient land, which may drive data center development in rural communities.²¹ In addition, data centers may have disparate impacts on marginalized communities that already experience environmental burdens. For example, a study of operational and planned data centers in California found nearly one-third of the state's data centers are clustered in the state's worst diesel emission zones.²²

Data center impacts may also be unevenly distributed across communities. For example, electric utilities may invest in new generation facilities and transmission infrastructure upgrades to support data centers. Without proper ratepayer protections and careful planning, energy infrastructure costs could be passed down to electricity ratepayers, which would disproportionately impact energy-burdened households.²³

Local governments can give special attention to historical burdens, local demographics, and development patterns when reviewing proposals. To learn about opportunities to protect overly burdened communities from data center impacts, see Lever 2: Development Agreements, Community Benefits Agreements, and Other Project Agreements and Lever 3: Impact Studies sections of this playbook.

RISK OF STRANDED ASSETS

Large-scale data center development is associated with the growth of cloud computing and AI. Communities risk data center facility vacancies and overinvestment in associated infrastructure if AI or cloud computing markets shrink or collapse.²⁴ Additionally, if data centers close prematurely, expected community benefits or job growth may fail to materialize. Communities should consider this risk when reviewing development proposals and identify opportunities to mitigate risks of lost revenue²⁵ or community investment through zoning requirements or development and community benefits agreements.

TRADEOFFS

Weighing the economic development, labor, and environmental impacts of data centers requires technical expertise and careful evaluation.

For example, local governments may secure significant economic benefits from a data center facility through taxation. However, states provide communities with different tax authorities, which may affect expected revenue. For example, communities in Virginia have generated significant revenue by taxing data center machinery and equipment, which are replaced regularly.²⁶ However, communities in Ohio²⁷ and Illinois²⁸ are not permitted to tax data center machinery and equipment, which may limit their taxation opportunities.

To understand economic development benefits, communities must weigh expected revenue from data center development against potential infrastructure costs, tax-related lawsuits,²⁹ and revenue loss if the planned development is scaled back or machinery and equipment aren't replaced as planned.³⁰

Additionally, data center environmental impacts depend on a variety of factors, including the cooling method used, associated power generation, the method of disposal for outdated machinery and equipment, the status of the associated watershed, and the climate of the surrounding area. Data center developers may also provide information on energy and water efficiency in technical terms, making it challenging for local governments to assess developers' efforts to mitigate environmental impacts.

Local governments can leverage internal staff expertise and coordinate with external partners to add technical expertise to cost and benefit analyses. For example, sustainability staff can serve as a helpful resource to assess energy and water impacts, as they often have expertise in these areas or are well-connected to resources and regional experts.

As another example, Prince William County commissioned a third party to conduct a fiscal analysis to better understand expected revenue from data centers based on its state context and other factors.³¹ To read more on how local governments can use impact studies to weigh costs and benefits, navigate to Lever 3: Impact Studies section of this playbook

ACCESS TO INFORMATION

Local government staff may face challenges to obtaining and publicly sharing information on a proposed development's ownership, energy and water use, and other characteristics.

Data center developers commonly use non-disclosure agreements (NDAs) to prohibit local officials from sharing information about data center developments.³² Data centers also may use third-party companies to prospect potential sites, obscuring the data center owner from staff and officials. This practice makes it challenging for local governments to assess whether the development is part of a larger campus and review the impacts of existing developments the company already owns.

One of the most challenging barriers local governments face in accessing transparent information about data centers is that developers view information surrounding water use, cooling methods, and efficiency measures as trade secrets. Local governments can address barriers to accessing information by discouraging officials from signing NDAs, discussing industry best practices in developer negotiations, and promoting open access to information through zoning requirements and other means. For example, Linn County, Iowa, includes a requirement on confidentiality and open

records compliance in its data center ordinance.³³ As another example, Microsoft released a [Community-First AI Infrastructure Plan](#), which includes a commitment to no longer use NDAs³⁴ and provide more transparency on water usage.

ALIGNMENT WITH COMMUNITY PRIORITIES

Data centers can have significant impacts on a community's air quality, power grid, water use, and overall character. Given how many aspects of a community these developments can affect and the potential magnitude of their impacts, local governments should carefully evaluate whether and how data center development aligns with their community's priorities. Local governments may choose to implement temporary moratoria on data center development to allow for proper study of data center impacts. Local governments should draft moratoria carefully and ensure compliance with state code.³⁵

Levers for local action

LEVER 1: ZONING ORDINANCES, COMPREHENSIVE PLANS, AND OTHER PLANS

A local government's primary tool to shape data center development is its zoning code. Any zoning changes should be aligned with a community's comprehensive plan and other relevant plans. This section outlines ways a local government can update its comprehensive plan, other plans, and zoning code to shape data center development.

Since data centers are a burgeoning topic in planning, there are only a few real-world examples of how they have been incorporated into comprehensive plans, other types of plans, and zoning ordinances. The recommendations in this section will look to those as precedent while also incorporating best practices from other contexts that are easily translated to data centers.

Prioritize the community

- Ensure any data center activity is well aligned with preexisting planning efforts that incorporated community feedback.
- Engage the community in the decision-making process.

A comprehensive plan is always intended to guide the development of a community over an extended period of time, but just as communities differ from one another, so too will the structure and content of their plans. In the absence of a comprehensive plan, other types of plans may serve a similar role. Zoning can help make the vision set forth in plans real, through regulations and requirements for a variety of land use types. Considering plans and zoning in tandem helps ensure consistency and clarity for staff and developers. The following steps can be taken to update both:

- 1) **Define types of data centers.** Differences in the size of data centers (as described in the introduction) can have significant ramifications on how they should be addressed. For example, small-scale data centers can be sited in nontraditional locations like office buildings,³⁶ which could align with infill development goals and have fewer implications for energy and water use but consume square footage that could otherwise be used to encourage foot traffic in downtowns. In contrast, large-scale data centers may be allocated to certain low-density zones, and water and energy use should be carefully considered. Clearly defining types of data centers in both plans and zoning removes guesswork about what considerations are most important and what standards will be expected.

Note: In many states, the absence of a use in zoning ordinances means that use is prohibited. However, this is not the case in all states. Local staff should confirm if silence means prohibition in their specific context.

- 2) **Explore trends.** Comprehensive (and other) plans can be used to explore trends in the maturation of technologies and market adoption, but most importantly, how relevant those developments are to the community. In the case of data centers, the “trends” section of a plan can be used to determine whether the community will be attractive to data center developers and, if so, what size of development is most likely. The “Sustainability” and “economic

development” sections of the plan can be used to better understand the potential impacts of data centers.

- 3) **Ensure alignment with community vision.** Comprehensive plans can establish a long-term vision for how and if data centers should show up in the community, where appropriate locations might exist, and how those decisions impact other areas and goals. Zoning ordinances show immediately permitted uses that can either reflect the vision in a plan or drive updates to that vision in the future.

In Loudoun County, Virginia, the prevailing comprehensive plan lays out a vision that includes “transitional uses” between data centers and other land uses, such as residential.³⁷ Its zoning ordinance currently permits them to be built in Data Center Opportunity Zone Overlay Districts “by right,” which means developments are not reviewed by the Planning Commission or Board of Supervisors. However, amendments are currently underway to remove by-right authorization.³⁸ Requiring discretionary reviews ensures the best possible alignment with existing community plans.

- 4) **Limit, encourage, or guide implementation.** Prince William County, Virginia, has created Data Center Opportunity Zone Overlay District(s) that promote the development of data centers in certain targeted areas,³⁹ while Monticello, Minnesota, has used its ordinance to limit data centers to only Light Industrial Park (LIP) zones, and only if certain conditions are met.⁴⁰

Linn County, Iowa,⁴¹ use their codes to require data center developers to do things like complete water studies and impact studies and sign water use and economic development agreements. They also dive into specific details for siting, including requirements for buffers and aesthetics, and mandates for specific types of cooling systems.

Some communities may also wish to consider whether mechanisms like tax increment financing (TIF)⁴² could be used to funnel data center investment into the surrounding area, to support development goals set forth in the plan.

PARTNERS

Internal departments to engage

Planning department. Planning departments are responsible for maintaining and implementing both comprehensive plans and zoning ordinances. This role requires department staff to stay in touch with the needs and interests of the community.

Sustainability office. Data centers can have significant energy, water, and noise impacts, all of which affect the community’s ability to meet its sustainability goals. The sustainability office or sustainability staff housed elsewhere in the local government may be able to help evaluate potential impacts and make recommendations.

Economic development office. Data centers have the potential to generate tax revenue and utilize innovative financial tools like TIF. It is also possible for data center developers to create jobs, but it is important to assess the balance of short-term and long-term employment opportunities, and whether hiring will be local. Finally, data centers can cost localities through infrastructure needs. An economic development office (EDO) may be able to assess the net impact of these and other factors and make recommendations. The EDO may also lead any negotiation processes with data center developers.

External partners to engage

Utility providers. Data centers consume large amounts of energy and water. Therefore, planning or zoning efforts should take into consideration the availability of these resources, any plans the utility providers have for water network or electric grid capacity, and processes for interconnection.

COMMUNITY EXAMPLES

Monticello, Minnesota. The City of Monticello adopted its most recent [comprehensive plan](#) in November 2020. It amended the plan in 2025 to include data centers, ostensibly prompted by the proposal for a large data center in the neighboring community of Becker. The city limited data centers to its LIP zones, noting that data centers are “singularly unique land use due to size and scope.”⁴³

Community snapshot

- Community type: City
- 2024 population: 15,482
- Median household income: \$79,534
- Urban-rural classification: Suburban

Source: US Census Bureau, “[QuickFacts](#),” accessed April 20, 2026.

Key excerpt (p. 83): “Where data center development creates shortages in land supply, utility services, electric generation service to the broader area, or any other impacts on the City of Monticello or its neighboring communities, and which are not specifically mitigated by the data center developer and its associated partners, the City is under no obligation to accommodate the use within any land use district or location, or through any land use process.”

Community snapshot

- Community type: County
- 2024 population: 497,003
- Median household income: \$131,402
- Urban-rural classification: Suburban

Source: US Census Bureau, “[QuickFacts](#),” accessed April 16, 2026.

Prince William County, Virginia. In 2016, the county created a [Data Center Opportunity Zone Overlay District](#), with the intention of encouraging data centers in areas based on the availability of resources, particularly energy. It has since been amended once and is currently undergoing a comprehensive review. The district will still be used to attract more data centers, but more factors are now being considered, including the incorporation of more stakeholders into the process and the use of “green technologies.”⁴⁴

Key excerpt (p. 8): “Data centers shall be permitted by right in the Data Center Opportunity Zone Overlay District

in the O(L), O(H), O(M), O(F), M-1, M-2, and M/T zoning districts and in designated office or industrial land bays in the PBD and PMD district.”⁴⁵

RESOURCES

[Local Ordinances to Help Bring Data Centers into Alignment with Climate Goals](#) (p. 1–8): This 2025 paper from Georgetown Climate Center recommends creating a data center opportunity zone and including four requirements for developers that correlate to climate goals. However, the report draws on one real-world example in Northern Virginia, underscoring that many of these approaches are still emerging. The paper recommends the following requirements:

1. Reduce the need for new electric generation by incorporating best available energy efficiency into the design of data center servers, cooling units, and building envelope;

2. Cover a minimum percentage of all roof space (e.g. 75 percent) with solar arrays to offset some of the new demand on the electric grid and reduce onsite emissions;
3. Utilize battery storage as a backup energy source for a minimum percentage (e.g. 50 percent) of total onsite back-up energy needs to reduce or eliminate the pollution associated with diesel backup generators; and
4. Monitor and report on energy efficiency and emissions data on a periodic basis (e.g. quarterly).

[*Data Centers in the United States database*](#): This database, created by Cleanview, lists planned and operating data centers in the United States. It also includes electricity consumption estimates for each facility.

LEVER 2: DEVELOPMENT AGREEMENTS, COMMUNITY BENEFITS AGREEMENTS, AND OTHER PROJECT AGREEMENTS

Written agreements, such as development agreements (DAs) and community benefits agreements (CBAs), can serve as a powerful tool to ensure data centers deliver fair benefits to host communities while mitigating potential harm. The mechanism that works best for a particular community depends on its state policy environment. Local governments can contact their municipal league or county association to understand their opportunities.

- **Development agreements:** Formal, legally binding agreements between developers and the local government. DAs provide clarity about any overlapping or seemingly conflicting zoning or permitting requirements. They can also require developers to contribute to infrastructure improvements or make payments into certain government-managed funds, so long as there is a “rational nexus” between the requirements and the impacts of the project.⁴⁶
- **Community benefits agreements:** Formal, legally binding agreements that community stakeholders, such as community organizations, local economic development organizations, or local labor unions, can enter with developers.⁴⁷ In some states, the local government entity itself may even enter CBAs. CBAs establish the specific benefits a project will provide to the communities hosting the project, such as hiring requirements or affordable housing goals.⁴⁸ CBAs, when structured effectively, provide an avenue to align large-scale infrastructure development with local priorities.

Prioritize the community

- Engage the community before agreements are finalized to identify the priorities of the community.
- In the case of DAs, ensure that community benefits have a direct nexus to the project.
- In the case of CBAs, consider if the project will impact certain groups more than others, and aim to mitigate any outsized, negative impacts.
- Include clear metrics and public reporting to ensure both transparency and commitments are upheld throughout the project.

- **Other written commitments:** Other types of project agreements (e.g., project labor agreements) or conditional use permits can also be used to guide the development of data centers. The type and focus of these commitments can vary widely, meaning there are fewer structures to lean on, but there may be greater flexibility on which entities can participate and what topics can be addressed. For example, El Paso, Texas, used a water supply agreement in its negotiations with Meta⁴⁹ that included reporting and hiring commitments, and Northern Indiana Public Service Company negotiated an energy agreement to generate the energy for its data centers in the region.⁵⁰

These types of agreements can include provisions requiring investment in local water infrastructure, committing to offset or reduce energy demand impacts, or funding energy bill assistance programs to protect LMI households from rising costs.⁵¹ Additionally, CBAs can support workforce development and local hiring pipelines, ensuring that the economic benefits of data centers are shared more broadly. Workforce development programs can create a pathway for residents, particularly those from historically underrepresented communities, into long-term careers in data center operations. This may include local hiring requirements or commitments to partner with community colleges, labor unions, or workforce training organizations.

Local hiring provisions can be strengthened by requiring developers to prioritize qualified local candidates before seeking candidates outside the community.⁵² Also, CBAs can include job quality standards, such as safe working conditions and benefits that provide pathways for long-term career success, that end soon after the data center is developed.⁵³ These types of provisions are key to maximizing local economic benefits from the data center's construction and operations.

PARTNERS

Internal departments to engage

Planning and zoning department. This body shapes where and how data centers are sited. These departments are also necessarily in touch with the needs and interests of the community, so they can integrate preexisting community-supported visions and the outcomes of community engagement efforts into DAs and provide insights to inform CBAs.

External partners to engage

Public utility commission. Public utilities commissions manage the energy impacts and, in some cases, the permitting approvals for data centers. They address rate design and grid capacity to analyze the energy costs associated with data center development. This kind of analysis may be an important factor in determining whether resident energy rates should be addressed in CBAs.

Community-based organizations and environmental justice groups. Local organizations representing the community members who are most likely to be affected by data center development. Their involvement in the project ensures that the agreements reflect the community's priorities.

Workforce development organizations. Partnering with training programs, community colleges, labor unions, or workforce development programs can help ensure that CBAs include effective job pipelines, specifically for residents.

Watershed districts. Managing organizations provide expertise on water availability and long-term water sustainability. They can assess the impacts of a data center on local water systems.

COMMUNITY EXAMPLES

Mesa, Arizona. Communities in the Phoenix, Arizona, metro area, including the City of Mesa, are working to address the rapid expansion of data centers amid ongoing water scarcity and drought. The Mesa City Council established the Large Customer Sustainable Water Allowance ordinance, requiring large commercial users, like data centers, to operate within a defined water budget.⁵⁴

Additionally, the city is working with developers to prioritize non-potable water sources and efficient cooling technologies to reduce strain on the municipal water supply.⁵⁵ A DA guides this coordination, requiring the developer to meet certain project milestones to unlock water provisions from the city.⁵⁶

Community snapshot

- Community type: City
- 2024 population: 517,151
- Median household income: \$82,752
- Urban-rural classification: Urban

Source: US Census Bureau, "[QuickFacts](#)," accessed April 16, 2026.

This approach shows how local governments can integrate water considerations into permitting requirements and align data center development with sustainability and community goals.

Community snapshot

- Community type: County
- Census population, 2024 estimate: 497,003
- Median household income: \$131,402
- Urban-rural classification: Urban

Source: US Census Bureau, “[QuickFacts](#),” accessed April 16, 2026.

Prince William County, Virginia. Local officials in Prince William County, Virginia, utilize a Data Center Opportunity Zone Overlay District to guide siting and mitigate impacts to communities.⁵⁷ Additionally, local officials are actively negotiating developer commitments tied to rezoning approvals that function similarly to CBAs. These agreements are known as proffers (these are unique to the Commonwealth of Virginia,⁵⁸ but are very similar to DAs), helping ensure community benefits and

mitigate impacts from data center development.

For example, developers have agreed to mitigation measures related to noise, buffering, and site design in response to community concerns.⁵⁹ This model shows how local governments can leverage land use authority to secure tangible benefits and impact mitigation from data center developers.

RESOURCES

“[Why Community Benefits Agreements are Necessary for Data Centers](#)”: This resource by the Brookings Institution outlines how CBAs can be applied specifically to data centers and proposes a model structure—including community funds, infrastructure investments, and accountability measures.

[The People’s Report: A Gap Analysis of Data Center Infrastructure in Prince George’s County, Maryland:](#)

This report, written by the Center for Engagement, Environmental Justice and Health and the National Association for the Advancement of Colored People, analyzes the environmental justice impacts of data center expansion, especially regarding energy demand, water use, and the disproportionate impacts on host communities.

[“From Energy Use to Air Quality, the Many Ways Data Centers Affect US Communities”](#): This World Resources Institute analysis describes how data centers impact communities, specifically energy demand, water use, air pollution, and siting. It also connects data center development to equity and environmental justice, outlining how data centers are often located in communities with higher environmental burdens.

LEVER 3: IMPACT STUDIES

Local governments may have a general understanding of the potential impacts of a proposed data center based on its size, type, cooling method, electricity use, and power source. However, each development is unique and may affect communities differently depending on local environmental conditions, environmental burdens, and other factors.

An impact study can provide a detailed analysis of the expected impacts a proposed development will have on water, air, electricity, noise, and other local conditions.

Local governments can use impact study results to evaluate costs and benefits of a proposed development, determine appropriate impact fees, or recommend proposal modifications to mitigate impacts.

Local governments can require or encourage developers to conduct impact studies through the following two levers:

- **Zoning.**

A local government can require impact studies in its zoning ordinance (see Lever 1: Zoning Ordinances, Comprehensive Plans, and Other Plans).

- **Development or community benefits agreements.**

A local government can encourage impact studies as part of a development or community benefits agreement (see Lever 2: Development Agreements, Community Benefits Agreements, and Other Project Agreements).

To ensure impact studies are meaningful, local governments can require developers to commission third-party firms to conduct studies and regularly monitor impacts if developments are approved.

Impact studies may focus on environmental impacts, as well as noise,⁶⁰ fiscal, and traffic impacts.

Environmental impact studies may focus on several topic areas, including the following:

Prioritize the community

- Consider how a data center may disproportionately impact the surrounding area due to local demographics and existing pollutants.
- Engage community-based organizations and local residents early to define impact study parameters.
- Continue to monitor impacts once development is built.

- **Air quality.**

Data centers often use backup diesel generators to maintain operations during power outages or may even use on-site gas plants as their regular power source.⁶¹ These facilities may release pollutants, such as ozone, particulate matter, nitrogen oxide, and carbon monoxide,⁶² which are linked to lung and heart disease, asthma, and other health issues.⁶³ Pollutants may have disparate impacts on communities that already experience high exposures to air pollution or are particularly vulnerable to health hazards. While most local governments are not authorized to regulate air pollution, they can assess data center air quality impacts and consider these impacts in their development review.

- **Electricity infrastructure.**

Large-scale data centers use large amounts of electricity. Several large-scale data centers have peak electricity capacities equivalent to or exceeding the capacity of an average nuclear power plant.⁶⁴ These facilities may require the construction of new generation resources, distribution substations, and/or electric transmission lines—high-voltage power lines that carry electricity between where it is generated and used. New energy infrastructure may impact consumer electricity rates, pose conflicts to existing land uses, or conflict with local clean energy goals. While most local governments are not authorized to regulate data center interconnections to the wider electric grid, they can assess data center energy impacts and consider these impacts in their development review.

- **Water use.**

Large-scale data centers drive water consumption in two key ways: on-site cooling and off-site power generation. On-site water use depends on several factors, including the type of cooling method used, the size of the facility, and the climate of the surrounding area. Off-site water use results from thermal power generation, such as nuclear and natural gas facilities, to meet electricity needs and accounts for approximately 75 percent of data centers' water use in the US.⁶⁵

Developments may limit on-site water use by using air cooling or recycled water for cooling, but these techniques can increase the facility's electricity use, increasing the project's overall water footprint. In addition to the overall facility's water footprint, data centers may have disparate water impacts on a community due to conditions of the associated watershed. One-fifth of data centers' on-site water consumption comes from moderately to highly stressed watersheds, and nearly half of servers are partially or fully powered by power plants in water-stressed regions.⁶⁶

- **Heat island effect.**

Data centers can produce waste heat as a result of their substantial electricity use.⁶⁷ The level at which data centers impact surrounding temperatures is still being studied, but preliminary research has found an average increase of 3.6 degrees Fahrenheit around these developments.⁶⁸ The US Environmental Protection Agency has reported that heat islands can cause increased energy consumption for air-conditioning, elevated emissions, compromised human health and comfort, and impaired water quality.⁶⁹

PARTNERS

Internal departments to engage

Planning and zoning department. Planning staff may develop impact study parameters, share impact study examples with city or county officials, incorporate impact study requirements in the zoning code, and issue requests for proposals to conduct studies.

Sustainability department. Sustainability staff can offer specialized expertise on water use and quality, energy infrastructure, environmental justice, and other relevant topics to inform impact study parameters.

City or county officials. City or county officials should understand how impact studies can be used as a lever to align data centers with local goals.

Utility provider. In communities with municipal water or electric utilities, utility staff should be included to determine what data is available and needed to perform impact studies on energy and

water use, access data when impact studies are performed, and monitor impacts if a development is approved.

Public health department. Communities with public health departments can coordinate with staff to determine what data is available and relevant to perform impact studies on air quality, access data when impact studies are performed, and monitor impacts if a development is approved.

External partners to engage

Relevant state agencies. Local governments may coordinate with state agencies that already perform environmental impact studies or have other experience evaluating environmental impacts. Relevant agencies may include the Department of Environmental Quality, the Department of Natural Resources, and other departments focused on environmental reviews.

Utility providers. In communities with investor-owned utilities or rural electric cooperatives, utility staff should be included to determine what data is available and needed to perform impact studies on energy and water use, access data when impact studies are performed, and monitor impacts if a development is approved.

Universities. Local governments may consult with universities to identify research or extension programs that might support impact studies.

Trusted community partners. Local governments and data center developers can collaborate with trusted community partners focused on environmental justice, water conservation and quality, and other local environmental issues to establish impact study parameters. Trusted community partners have unique expertise and experience on these issues and can strengthen community confidence in study results.

COMMUNITY EXAMPLES

Linn County, Iowa. As part of negotiations with Google on a proposed data center development, Google agreed to fund a \$500,000 water balance study to assess potential development impacts to long-term water availability in the county. The study would be conducted by a third party and would not commit the county to approving the development.⁷⁰

Linn County also updated its zoning code to include the following requirements regarding large-scale data center proposals:⁷¹

- **Water study:** Applicants must submit a water study prepared by a qualified professional, detailing proposed water sources, anticipated water demand, cooling technology assumptions, efficiency measures, and other relevant information to demonstrate sufficient water resources.
- **Water use agreement:** Applicants must enter into water use agreements with the county to conduct regular water use monitoring and reporting following the construction of the facility.

Following the passing of Linn County's zoning ordinance, Google withdrew its proposal and pursued annexing the site into the City of Palo, Iowa. As the water balance study was tied to the Google proposal, the study is not currently moving forward.⁷² For information on land annexations and potential solutions, see Lever 4: External Coordination.

Community snapshot

- Community type: County
- 2024 population: 231,762
- Median household income: \$77,649
- Urban-rural classification: Suburban, rural

Source: US Census Bureau, "[QuickFacts](#)," accessed June 25, 2026.

Community snapshot

- Community type: City
- 2024 population: 520,070
- Median household income: \$85,652
- Urban-rural classification: Urban

Source: US Census Bureau, “[QuickFacts](#),” accessed June 25, 2026.

Atlanta, Georgia. As part of the City of Atlanta’s zoning ordinance, the city requires data center applications to include transmission line impact assessments. Through these assessments, developers must identify potential electric transmission upgrades needed to support the proposed data center. The assessment also must include potential tree removals and other environmental impacts to public land resulting from transmission upgrades.

The requirement is intended to mitigate strains on the electric grid and land impacts associated with new electric transmission infrastructure.⁷³

RESOURCES

[Air Quality, Health, and Economic Impacts of the Proposed MZX Tech Facility study](#): This air quality impact study was commissioned by the Southern Environmental Law Center to study potential air quality and public health impacts associated with a proposed xAI data center in DeSoto County, Mississippi. The study estimates the proposed facility’s on-site methane gas turbines would produce high concentrations of particulate matter in communities that are disproportionately Black, highly socially vulnerable, and have elevated baseline asthma prevalence.

[City of Brainerd Zoning Ordinance](#) (p. 2): The City of Brainerd requires data center developers to commission a third-party engineer to conduct a noise study prior to project approval. The city also requires additional noise studies once the development is operational.

[What Michigan Local Governments Should Know About Data Centers guidebook](#) (p. 6–17): This guidebook by the University of Michigan Center for Empowering Communities details additional data center impacts, including land and wastewater impacts, that communities may consider addressing through development-specific or generalized impact studies.

LEVER 4: EXTERNAL COORDINATION

Local governments have limited control or authority to regulate certain aspects of data center development, such as impacts on electricity costs and the wider electric grid. Additionally, local governments may face challenges in regulating data centers, as developers may seek to avoid local rules by annexing a site into a neighboring jurisdiction or choosing a different site altogether.

However, local governments can engage and coordinate with external partners to strengthen cooperation amongst neighboring communities and advocate for policies and programs at the utility, state, and regional levels that support local goals.

Local governments are trusted voices in utility regulator and state legislative proceedings, have valuable insights into local data center impacts, and are key players in shaping data center growth, making them well-positioned to lead external coordination efforts. Local governments may engage three key external partners to align data center development with local goals: utilities, state and regional decision makers, and neighboring communities.

Utilities

Electric and water utilities are responsible for providing water and electricity supplies for data centers and planning to meet future water and electricity needs within their service territories. Local governments can proactively meet with utilities to express their concerns and priorities surrounding data center development and ask questions about utility plans to mitigate data center impacts on water and electricity systems.

Local governments can engage electric utilities to do the following:

- Coordinate with data center developers to invest in clean energy resources to meet data center electricity demand.

Prioritize the community

- Promote rules that protect electricity affordability and reliability.
- Provide targeted support to energy-burdened communities.
- Coordinate with neighboring jurisdictions to understand needs and interests of surrounding communities.

- Partner with data center operators to administer home energy upgrades, such as rooftop solar and energy efficiency measures, to offset data center electricity demand.
- Integrate expected data center growth into resource plans, energy demand forecasts, and distribution and transmission grid plans.
- Create new rate classes for data centers to ensure data center costs are not passed onto other electricity customers.

Google has announced several partnerships with electric utilities to invest in clean energy resources to support its planned data center developments. For example, Xcel Energy and Google announced a partnership to invest in 1,400 MW of wind, 200 MW of solar, and 300 MW of long-duration energy storage, as well as an Xcel Energy program focused on deploying energy storage across its distribution grid.⁷⁴

Local governments can engage water utilities to do the following:

- Coordinate with data center developers to invest in water system upgrades, impact studies, and regular monitoring.
- Identify capacity limits of the local watershed.
- Integrate expected data center growth into water supply and treatment plans, water demand forecasts, and distribution and transmission planning.
- Evaluate and strengthen water monitoring capabilities.

As one example of how a water utility can proactively plan for data center development, a Colorado water utility, Aurora Water, developed a [Large Water Users Guide](#), which established water use and consumption thresholds for data centers and other large water users. In 2025, the City of Aurora codified the standards in its city code.⁷⁵

State and regional decision makers

State legislatures and utility regulators, as well as multi-state regional entities, establish rules that impact the speed of data center development and associated energy infrastructure, as well as how infrastructure costs are allocated to electricity users. Local governments can individually or collectively engage state and regional entities on these issues by participating in workgroups, monitoring proposed rules, and submitting public comments.

For example, most electric utilities must comply with rules set by their regional transmission organization—a nonprofit, independent entity responsible for operating and planning the transmission grid and maintaining reliable and affordable electricity across the region. These entities can establish rules that impact the speed at which data centers and associated energy generation connect to the wider transmission grid.

The [MISO Cities and Communities Coalition](#), a group of local governments across the Midwest and Southern US, monitors its regional transmission organization’s activities on this issue to identify potential opportunities to submit public comments.

Neighboring communities

In some instances, data center developers consider multiple sites for a project or even propose to annex a site into a neighboring jurisdiction to avoid local opposition or regulations within a particular community. Due to this challenge, communities seeking to secure economic or community benefits from data centers may hesitate to impose overly burdensome or restrictive requirements on data centers. Local governments can address this concern by coordinating with neighboring jurisdictions.

Local governments can form intergovernmental partnerships to establish shared principles for data center development and bring in trusted parties to share context-specific information on data center impacts. County governments, councils of government, and other regional planning entities may be best suited to facilitate these partnerships and bring diverse communities to the table.

PARTNERS

Internal departments to engage

City or county officials. City or county officials can add weight to engagement efforts by writing letters to utilities or utility regulators and participating in intergovernmental cooperative efforts. Local governments also may require approval from city or county officials to join local government networks or engage decision makers.

Intergovernmental affairs. Intergovernmental affairs staff can track relevant policy proposals at the state legislature and advocate on the local government's behalf.

Sustainability department. Sustainability staff can provide technical expertise on water and energy issues to support external coordination.

Economic Development. Economic development staff can provide technical expertise to assess economic development impacts in discussions with neighboring communities.

External partners to engage

Utility providers. Local governments can coordinate with utilities to develop innovative programs and share perspectives on data center development and energy investment decisions. Utilities can also add valuable expertise to intergovernmental coordination efforts.

Community-based organizations. Local governments can engage subject matter experts with expertise in environmental, labor, agricultural, and other relevant areas to support intergovernmental research.

Municipal leagues or county associations. Municipal leagues or county associations can provide education on data center impacts to local governments, track state legislation relevant to local governments, and advocate on behalf of communities at the state legislature.

COMMUNITY EXAMPLES

Dane County, Wisconsin. In 2025, Dane County passed a [resolution](#) to create an advisory committee on data centers to establish a shared understanding of data center impacts amongst the county, towns, cities, and villages within the County, and members of the public. The advisory committee was established as data centers emerged as a complex land use issue, underscored by community concerns and challenges surrounding a developer's proposal to annex land from one incorporated town into another for a large-scale co-location facility.

The committee includes representatives from an array of Dane County municipalities and is exploring a wide range of topics, including land use compatibility issues, community and environmental impacts, economic benefits, and intergovernmental cooperation. Committee meetings occur monthly and are open to the public. The committee aims to develop summary findings and recommendations to serve as a factual and informative resource for local communities regarding the development of large-scale data centers.

The county facilitates this committee at minimal cost, paying committee members per diems and mileage to attend monthly meetings.⁷⁶

Indianapolis, Indiana. The City of Indianapolis submitted comments on its electric utility's *2025 Integrated Resource Plan*. The city's comments recommend the utility expand its green tariff renewable options for large energy users, such as data centers. The expansion would provide data center developers with additional opportunities and incentives to procure renewable energy generation for their operations.⁷⁷

Community snapshot

- Community type: County
- 2024 population: 588,347
- Median household income: \$89,975
- Urban-rural classification: Rural, urban, suburban

Source: US Census Bureau, "[QuickFacts](#)," accessed June 25, 2026.

Community snapshot

- Community type: City
- 2020 census population: 891,484
- Median household income: \$66,219
- Urban-rural classification: Urban

Source: US Census Bureau, "[QuickFacts](#)," accessed June 25, 2026.

RESOURCES

[*Database of Emerging Large-Load Tariffs \(DELTA\)*](#): This tracking tool by the Smart Electric Power Alliance monitors proposed and approved rules surrounding electricity rates for large-load customers across all 50 states.

[*Data Center Regulation Tracker*](#): This tracking tool by Steptoe monitors proposed and approved Public Utilities Commission proceedings and state legislation surrounding data centers across all 50 states.

[*Homegrown Energy: How Household Upgrades Can Meet 100 percent of Data Center Demand Growth report*](#): This report by Rewiring America details opportunities for hyperscale data center operators to fund home energy upgrades, such as heat pumps and rooftop solar and storage installations. Local governments can use this report to inform engagement with electric utilities and utility regulators on innovative programs to minimize data center impacts to the electric grid.

[*Wisconsin Local Government Greening the Grid Playbook*](#) (p. 2–4, 29–40): This resource, hosted by the Wisconsin Local Government Climate Coalition, details how local, state, and regional decision makers impact the electric grid in the State of Wisconsin. While the resource is specific to Wisconsin, several sections may be useful to any local government seeking to understand how it can engage utilities and grid decision makers to meet its goals.

Development review checklist

Local government staff and officials can use this sample list of questions to assess the costs and benefits of data center proposals.

GENERAL

- ☐ Does the project require a state or federal environmental impact statement?
- ☐ Has the developer secured all necessary state and federal permits and approvals for the facility?

WATER

- ☐ What is the projected on-site water usage of the facility?
- ☐ What is the projected off-site water usage associated with the facility?
- ☐ What is the water usage impact (WUI) of the proposed facility? (See “[How to measure water usage sustainability in Data Centers.](#)”)
- ☐ Are there any water conservation measures planned?
- ☐ Is the developer willing to fund an impact study to assess impacts on the local watershed?
- ☐ Is the cooling system designed to utilize the community’s surrounding climate in order to minimize water and energy usage? (See “[The Arctic Advantage: How cold climates boost data center efficiency and sustainability.](#)”)
- ☐ What is the water source for the development?
- ☐ Will any private on-site wells be built as part of this project?
- ☐ How will the developer promote early engagement and continuous coordination with the local water utility to mitigate impacts?
- ☐ What chemicals will the facility use for cooling methods? Will these chemicals be released back into the water system?

ELECTRICITY

- ☐ What is the projected electricity demand of the facility?

- ☐ What is the energy efficiency, or power usage effectiveness (PUE), of the proposed facility? (See “[What is PUE \(Power Usage Effectiveness\)? Maximizing Data Center Energy Efficiency.](#)”)
- ☐ How is the proposed facility designed to promote energy efficiency?
- ☐ Has the developer considered LEED (Leadership in Energy and Environmental Design) certification? (See “[Applying LEED to data center projects.](#)”)
- ☐ How will the developer utilize community investments and other means to offset the expected increase in electricity demand from the facility?
- ☐ Can the developer utilize other facilities in its network to shift computations during times of grid stress or to match peaks in local renewable energy outputs? (See “[Google data centers shift their computations to cleaner times and locations.](#)”)
- ☐ What are the anticipated sources of electricity powering the facility?
- ☐ Does the proposed facility integrate on-site clean energy and battery storage?
- ☐ What investments in clean energy has the developer made to support the facility?
- ☐ How will the development impact electricity rates?
- ☐ If all phases of the data center are approved, will new electricity infrastructure be needed? Will the developer pay for all electricity infrastructure costs?

AIR

- ☐ Will the facility, or associated on-site infrastructure, release harmful pollutants into the air, including ozone or particulate matter?
- ☐ What measures will be taken to minimize or mitigate air quality impacts?
- ☐ Is the developer willing to fund an impact study to assess impacts on local air quality?

LAND USE

- ☐ How many acres does the project require?
- ☐ Is the project expected to include multiple phases of development? What is the expected full size of the campus?

- ☐ What potential impacts will the facility have on surrounding land uses or the community's growth boundary?

COMMUNITY IMPACT

- ☐ Will there be persistent noise from cooling systems or generators after construction?
- ☐ What type of construction timeline is expected for the facility? Will the construction occur at night, and if so, how will lighting impacts be minimized?
- ☐ How is the project expected to impact traffic in the surrounding area?
- ☐ How close is the project to homes, schools, or parks?
- ☐ What tax revenue is expected as a result of the development?
- ☐ What community benefits are expected as a result of the development?
- ☐ How many permanent jobs will the facility create?
- ☐ What percentage of job hirings are expected to be local?
- ☐ Are workforce training programs planned?
- ☐ Is the developer willing to coordinate with local unions to increase apprenticeships and alleviate barriers to apprenticeships in underserved communities to support the project?
- ☐ What type of fire detection and suppression system will the facility use? Has the developer coordinated with the fire department to ensure crews can access the site in the event of a fire?

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