A Question of Fit

Data Centers and Community Priorities

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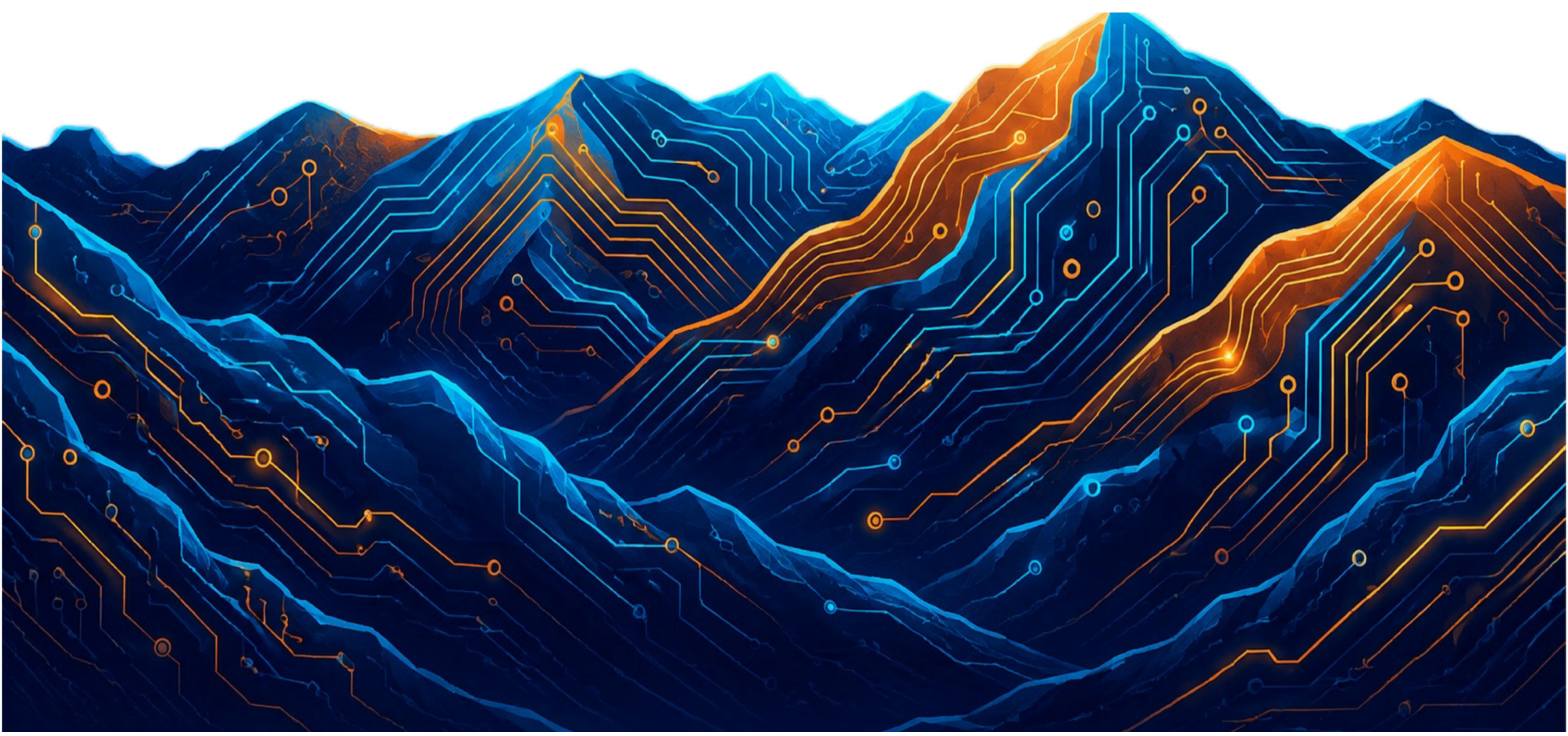

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The ideas in this document were developed primarily from presentations delivered at a June 15, 2026 workshop at Caltech that was hosted by the Linde Center for Science, Society, and Policy, the Resnick Sustainability Institute, and the Caltech Science Exchange.

The presentations, which can be viewed at youtube.com/@LCSSPCALTECH, were:

Navigating the AI Data Center Boom: Trends Across the U.S.
Sarah Friedman - Co-Founder, Better Data Center Project

Data Centers as Development Projects: How California Communities Can Respond, Featuring a Case Study from Monterey Park
Doug Carstens - Managing Partner, Chatten-Brown, Carstens & Minteer, LLP

Reflections on Saturn St. from Monterey Park
Elizabeth Yang - Mayor, City of Monterey Park

Burden or Asset? Navigating the Community Impact of Data Centers
Adam Wierman - Carl F. Braun Professor of Computing and Mathematical Sciences, Caltech

Why Do Voters Dislike Data Centers?
Alex Halsey - LCSSP Graduate Student, Caltech

This report does not summarize the workshop presentations. Rather, it draws on themes raised during the event to examine the considerations that shape local responses to data center proposals and the challenges communities face in evaluating them. The selection and organization of the material, as well as the analysis, conclusions, and any errors, are solely the responsibility of the author and should not be attributed to the workshop speakers.

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Introduction

For the past two decades, technological progress has borne much of the blame for the erosion of community bonds. It is therefore ironic that the rapid surge in AI development is now driving people en masse back into public squares and town halls. Across the country, data center proposals are prompting communities to reassert a basic principle of local self-government: the people who live in a place should have a meaningful role in determining what is built there and on what terms.

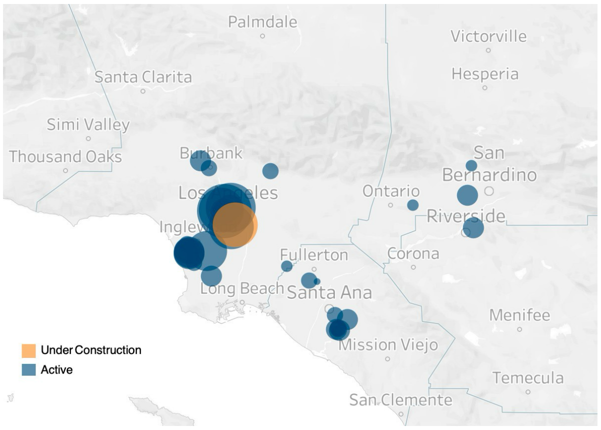
Much of the public discussion of data centers is told in terms of irreconcilable conflict: developers seeking rapid expansion on one side and communities mobilizing against it on the other. But that account gets ahead of itself by overlooking the average person's experience of the digital world. For most people, computing infrastructure has long been perceived as weightless, abstracted away through the metaphor of an amorphous "cloud." The recent buildout of data centers abruptly shatters that illusion, confronting residents with the reality of just how much land, energy, water, and other shared resources lie behind digital services. Seen in this context, much of the public greeted data center proposals not so much with knee-jerk hostility as with genuine questions. Requests for more information are a very predictable response to learning that a large industrial neighbor may soon be moving in down the street.

Developers, however, have been operating under a very different set of pressures. Data centers are immensely complex projects, requiring many forms of specialized expertise to be coordinated on increasingly compressed timelines. With demand for computing capacity climbing and competition intensifying, companies have strong incentives to minimize additional sources of uncertainty. From that perspective, residents' questions introduce another set of contingencies to investigate, interests to balance, and preferences to accommodate – all of which require time and can complicate otherwise well-laid plans. The premium placed on speed and predictability favors processes that leave minimal room for disclosure, deliberation, or outside involvement.

Herein lies the tension: the same strategies that create predictability for developers have the opposite effect for everyone else. Nondisclosure agreements, opaque ownership structures, and expedited approval processes can keep even basic features of a project obscure until major decisions are already made, leaving residents to wonder about the consequences of the information they are not being given. And the more developers have behaved as though public involvement was incompatible with the industry's goals, the more communities have come to take them at their word and approach projects with greater suspicion.

Evidence of community protest in Delaware Water Gap, PA from May 2026. *Credit*: Shutterstock

As the consequences of opacity have come into focus – in the form of widespread protests, increasingly restrictive local policies, and canceled projects – much of the criticism has focused on the tech sector's failure to respect basic norms of self-government. Communities have objected not only to the burdens associated with data centers but to learning about critical decisions after projects were already well underway. Emergent responses reflect that complaint directly: moratoria buy time for communities to decide how they want to handle data centers; transparency requirements ensure that projects cannot advance without public scrutiny; and public engagement protocols create formal opportunities for residents to have their voices heard. Taken together, these efforts treat the central failure as one of *process*, focusing on the inherent unfairness of excluding people from decisions that directly affect them.



Southern California's data centers, scaled by each facility's total capacity. (Aterio 2026)

The emphasis on trust and procedural legitimacy, however, overlooks a separate, practical case for coordination between developers and host communities. Stated plainly: the people who live in a place know it in ways that outsiders do not. Some of what matters can be studied from outside, such as where the grid is constrained or what the aquifer will bear. But the burdens a community has already absorbed, the commitments its institutions have made, and the tradeoffs its residents will actually accept are not facts an outside expert can reconstruct at a distance. That knowledge may not guarantee good decisions or consensus on its own, but excluding it leaves decision-makers with an incomplete understanding of the place in which their project must ultimately function.

Compared to other development projects, data centers make the value of contextualized knowledge unusually clear. Their most consequential demands are not only large but interdependent: choices about cooling affect both water and electricity use, power arrangements shape infrastructure needs and emissions, and measures intended to relieve pressure on one system can increase it elsewhere. The footprint of a facility is therefore not a fixed quantity that a community can say "yes" or "no" to in a vacuum. Its reasonableness can only be evaluated amid the real-world constraints imposed by a particular place.

Selection of Southern California's Largest Data Centers

Est. Date Activated	Est. Power Capacity (MW)	Address		Status (as of Aug 2026)
Pre-2000	26	900 Alameda St	Los Angeles, CA	Active
Pre-2000	27	600 W 7th St	Los Angeles, CA	Active
Pre-2000	24.9	17836 Gillette Ave	Irvine, CA	Active
Pre-2000	28	2301 W 120th St	Hawthorne, CA	Active
2005	15	1400 S Grand Ave	Santa Ana, CA	Active
2012	17	444 N Nash St	El Segundo, CA	Active
2015	22.5	1200 W 7th St	Los Angeles, CA	Active
2024	33	4701 S Santa Fe Ave	Vernon, CA	Active
~~2026~~	~~50~~	~~750 N Nash St~~	~~El Segundo, CA~~	~~Withdrawn~~
2027	49.5	3094 E Vernon Ave	Vernon, CA	Under Construction
~~2027~~	~~52~~	~~1977 Saturn St~~	~~Monterey Park, CA~~	~~Withdrawn~~
2028	330	2301 Clark Rd	Imperial, CA	Under Review
~~2029 to 2032~~	~~60 (x6)~~	~~Coachella Valley~~	~~Thermal, CA~~	~~Withdrawn~~

Source: Aterio U.S. Data Center Inventory (August 4, 2026).

At first glance, the claim that a data center cannot be judged "good" or "bad" in the abstract may itself sound like an unhelpful platitude. But for communities weighing actual proposals, the implications of this idea are quite practical. Whether a facility makes sense depends on how its demands and benefits interact with conditions that already exist in the place being asked to host it. The relevant question is therefore not what a municipality can extract from a data center once one has been proposed, but whether and how the project fits within priorities and constraints defined independently of it. In navigating this discourse, communities should resist beginning with, "What do we want out of a data center?" The better questions run the other way: What are we already trying to achieve? What are we worried about losing? And where, if anywhere, might a data center fit into that picture?

While every locality is different, the underlying priorities recur across very different places: what a community is trying to build, what it is trying to protect, and what it has already given up. So do the points at which data center proposals advance those priorities, conflict with them, or force tradeoffs among them. That recurrence makes it possible to draw broader lessons about what allows communities to protect what matters to them – and about the circumstances in which those interests are overlooked or subordinated. The sections that follow examine seven issues that commonly shape data center decisions and, for each, what it means to evaluate a proposal against the community's priorities rather than the other way around.

Four Community "Wants"

1 Repurposing Idle Land or Infrastructure

A community seeking to bring an abandoned industrial site back into use should begin by asking what redevelopment is meant to accomplish. Whether the objective is to remove blight, restore activity to a neglected part of town, make productive use of existing infrastructure, or replace the jobs and public revenue lost when an earlier industry departed, a data center may advance some of those goals more readily than others.

The basic logic behind putting a data center on an old industrial site is straightforward: a former power plant, factory, or industrial campus may already have transmission access, utility connections, road capacity, or zoning suited to a large facility. But the value of that head start depends on whether the infrastructure is still usable. Transmission lines may lack sufficient capacity, substations may be obsolete, and contaminated land may require expensive remediation. In those cases, the benefits of reusing a long-idle site may be considerably smaller than its industrial history suggests.

Consider the opportunity costs associated with realistic alternatives

In addition to the direct costs associated with rehabilitation, communities need to keep *opportunity cost* in view. For any project, the relevant comparison is not between a data center and permanent vacancy but between the proposed facility and the other uses the site and its associated resources could realistically support. When competing uses are limited, a data center may be particularly attractive. But if the same land, electrical capacity, water supply, or infrastructure could support a development that creates more jobs, produces more economic value, or fits better with broader planning goals, approving a data center may foreclose compelling alternatives. The choice also shapes what can be built nearby: noise, pollution, heavy resource demand, or other operational impacts may constrain uses of adjacent property, especially where a facility is approved without regard for what prospective neighbors can tolerate.

Prioritize long-term fiscal benefits over one-off investments

For communities that do choose to proceed, the fiscal case turns on durability rather than size. A large, announced capital investment does not necessarily translate into lasting local revenue, especially where much of the facility's value lies in equipment that is exempt from taxation or where abatements reduce what the community receives. What matters is the dependable revenue the project will produce over its operating life – including as servers and other equipment are replaced – and how that return compares with the public infrastructure and services it requires. If a site also has genuine surplus transmission capacity and few competing uses, that combination comes close to the ideal case for adaptive reuse: an otherwise stranded asset returned to productive use on terms that leave the local population better off. The point is not that data centers rarely belong on former industrial sites, but that communities should resist the assumption that any deal is necessarily better than continued vacancy.

Whatever terms a community is looking to secure, the case for proactive action before a developer ever shows up is clear. In many jurisdictions, data centers are *permitted by right under existing industrial zoning*, meaning that a project that conforms with existing standards may require little or no discretionary land-use approval. Even if those standards were written long before data centers became a common land use, by the time a developer submits a conforming proposal, the locality may have limited authority to impose additional conditions or reject a project that does not align with its redevelopment goals. Cities and towns with idle industrial sites likely to attract developers should examine their general plans and zoning codes with an eye to preserving local discretion. Conditional-use requirements, overlay zones, data-center-specific standards, and temporary moratoria are among the tools that can create space to distinguish between projects that make productive use of stranded assets and those that merely take advantage of permissive rules.

Recognize how existing zoning may constrain negotiations

Prior industrial use, in other words, is not itself evidence that a data center belongs on a site. Nor does it make new noise, pollution, water demand, or conflict with neighboring uses presumptively unacceptable. The relevant question is whether the project advances what the community is trying to accomplish through redevelopment: whether it makes meaningful use of otherwise stranded assets, creates durable value on terms the community can enforce, and compares favorably with the alternatives the site and its resources could realistically support.

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Four Community "Wants"

2 Modernizing Energy Infrastructure

A data center does not modernize a grid merely by requiring more electricity or new infrastructure to serve it. It arrives first as a large new load, consuming capacity rather than creating it. New substations or transmission lines built solely to connect that load may be necessary project infrastructure, but they do not inevitably leave the public system any better off. The case for treating a data center as a modernization opportunity depends instead on whether the project helps deliver something the community actually needs, such as storage, greater reliability, additional transmission capacity, or better integration of renewables.

The characteristic of data centers that makes them potential grid assets is the unusual flexibility of their demand. Portions of a facility's load can be shifted, delayed, or temporarily reduced – and unlike thousands of households or electric vehicles – a single large customer can be governed by one overarching agreement about how it will behave when the grid is stressed. That flexibility has real value because AI workloads can change sharply over very short periods: a facility that rapidly increases consumption can create one kind of problem, while one that abruptly disconnects to protect its servers during a disturbance can create another.

"Bring your own storage" as an alternative to "Bring your own power"

Fortunately, the technologies needed to manage those fluctuations already exist, so the challenge for communities is to create incentives for developers to use them. One particularly promising approach is to ask developers to "bring your own storage" as a condition of connection or approval. Unlike "bring your own power" – which often means installing dedicated gas or diesel generation so a facility can navigate around the grid's constraints – storage can be a win-win for the developer and the community. A large battery can protect the facility from disruptions and manage its own demand peaks while also absorbing excess generation, reducing demand during periods of grid stress, and helping the system accommodate more variable renewable energy. That same storage can also provide demand response and keep a facility running through momentary grid disturbances that would otherwise require backup generators.

Specify conditions under which stored energy is used in practice

Requiring a developer to bring storage, however, is only useful to the wider grid if the conditions governing that storage are defined as carefully as the requirement to install it. A battery operated solely to protect the data center or minimize its own electricity costs may provide little benefit when the surrounding system needs support. Communities and utilities therefore need to consider when stored energy can be called upon, how much capacity must remain available for grid needs, what happens during emergencies, and whether participation in demand-response or other flexibility programs is mandatory. In other words, the opportunity is not simply to put batteries next to data centers but to make sure those batteries are operated in ways that allow the public system to benefit from them.

Recognize "Speed to Power" as an essential point of leverage

The ostensible obstacle to setting requirements of this kind is that, if a community makes things too complicated during negotiations, a developer may simply look elsewhere. Here, communities should take time to understand the primary factors shaping industry decisions. At present, few considerations matter more than time spent waiting for grid access. In a market where interconnection can take years, finding an efficient way through the queue may be worth more to a developer than any tax abatement. By taking advantage of this bargaining chip, local authorities may be able to secure flexibility commitments that make the wider grid more resilient.

The sequencing of these negotiations matters. The amount of leverage a community has declines sharply once a project has secured its approvals and the utility has committed to serving the new load. At that point, the developer has much less reason to accept additional operating requirements, and the community has fewer decisions left through which to impose them. Utilities and local governments expecting significant data center interest should therefore decide in advance what they want large new customers to contribute and incorporate those expectations into tariffs, interconnection requirements, development agreements, or other enforceable conditions.

Data centers are arriving at a moment when much of the grid already needs more capacity, storage, transmission, and flexibility. Their growth did not singlehandedly create those needs, but it may provide a new source of investment for addressing them. The opportunity is therefore not to rebuild the grid around data centers, but to use the infrastructure their arrival requires to advance improvements the wider system already needs. The relevant question is whether serving the facility leaves the grid more capable than it was before, rather than simply large enough to accommodate one more customer.

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Four Community "Wants"

3 Advancing the Clean Energy Transition

For communities hoping to use data center growth to advance clean energy, the stakes are larger than whether an individual facility can claim to be renewable. Rapid load growth can either become a reason to fall back on more fossil generation, or a source of demand and investment that helps accelerate the clean-energy buildout. For an individual project, the key distinction is how closely renewable procurement corresponds to the facility's actual operations in time and place. RECs and power-purchase agreements can support clean generation without ensuring that a facility draws clean electricity where and when it runs, so a project may look fully renewable on paper while relying heavily on fossil generation during hours when clean power is scarce. When the objective is to reduce emissions within the region, the more meaningful test is how closely the facility's demand lines up with when and where clean electricity is actually available.

Use load flexibility to absorb curtailed renewable generation

One of the most intuitive opportunities is to put data centers where renewable energy is already available but going unused. In parts of California, wind and solar power are regularly curtailed because the grid cannot always absorb or move all of the available generation. A flexible data center load placed near that stranded generation can create a productive use for electricity that would otherwise go to waste. Projects can also shift portions of their demand toward hours when cleaner resources are abundant. In each case, the benefit comes from changing how the regional energy system operates – not simply from acquiring enough renewable attributes to match annual consumption.

The same gap between headline clean-energy claims and actual operations appears in backup generation. A facility's clean-energy commitments can be undermined by what it uses when normal grid power is interrupted or unavailable. Data centers typically install substantial diesel backup capacity, but those generators can serve purposes beyond their nominal backup role, including planned outages and brief grid disturbances. Communities seeking emissions reductions can restrict combustion generation to true emergencies and necessary testing, require facilities to ride through brief disturbances, and use storage for shorter interruptions and periods of grid stress.

Direct developer investments toward creating new clean-energy infrastructure

Beyond limiting a facility's reliance on fossil fuels, communities can also ask what new clean-energy capacity its development might help create. Accommodating a large new data center load can require substantial investment in the energy system, and the companies building these facilities often have both the capital and the incentive to move quickly. That creates an opportunity to steer some of that investment toward additional clean generation, large-scale storage, or transmission improvements that allow more renewable electricity to reach customers. Making better use of existing renewable generation is valuable, but adding infrastructure that would not otherwise exist is a different kind of contribution. The relevant question is what additional clean-energy capability the regional system gains because the project is there.

Verify renewable claims against actual facility operations

Ultimately, a clean-energy commitment is only as useful as the community's ability to verify it over the life of the facility. A promise of "100 percent renewable energy" reveals relatively little unless the underlying requirements specify what counts, how performance will be measured, and what happens when clean power is unavailable. Communities can ask for reporting that shows when and where electricity is procured, how often on-site combustion generation operates, whether storage and flexible demand are actually being used to reduce reliance on fossil generation, and whether promised investments in new clean-energy capacity have materialized. Defining those expectations before approval makes it much harder for a broad sustainability commitment to substitute later for measurable performance.

A data center advances a community's clean-energy transition when its presence leaves the regional energy system cleaner and more capable than it would otherwise have been. That requires more than matching a large new source of demand with renewable purchases on paper; the project should change what clean energy the system can produce, absorb, or reliably use. The question is not whether the facility can be described as renewable, but whether its development helps build the energy system the community is trying to create.

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4 Strengthening the Local Economy and Public Finances

A community considering a data center for economic stability should first be precise about what it hopes the project will stabilize. Data centers can inject significant private capital into a city or town, but they do not convert that capital into local economic value the way a factory or office does. Their permanent workforces tend to be small, so their arrival rarely brings the surge of lasting local economic activity a comparable investment might suggest. Nor does much of their value sit in the real estate they occupy; it lies overwhelmingly in equipment, so how much revenue the community actually receives depends on whether its tax system reaches that equipment at all. A data center may therefore be a strong fiscal asset without functioning as broad-based economic development. The question is which of those outcomes the community is actually trying to secure.

Employment is where the standard economic-development logic most clearly breaks down. A data center generates real construction activity, but much of it is temporary, and a large share of the workforce may come from outside the area. Once construction ends, permanent operational staffing can be much smaller than the numbers that helped make the project attractive in the first place. That gap matters because employment projections often help justify public support, incentives, or other concessions long before anyone knows how many lasting local jobs will actually materialize. Where employment is genuinely part of the calculus, communities can reduce that risk by tying concessions to measurable employment commitments rather than projections alone. Otherwise, a community that supports a project on the theory that it is buying jobs may find that it has bought very few – and has no way to recover what it gave up.

> Differentiate between short-term construction jobs and long-term employment gains

> Explore taxation strategies that will bring in more revenue as the developer reinvests in the facility

When recurring public revenue is the priority, a data center can be a strong fit – but only where the tax system reaches the parts of the facility in which its value resides. Because much of that value sits in equipment rather than land or buildings, a jurisdiction that taxes only real property may capture a small fraction of a multibillion-dollar investment. By contrast, a tax structure that reaches equipment or capital reinvestment can turn the regular replacement of servers and chips into a renewing source of revenue. Whether a community has that authority is worth exploring before negotiations begin.

Even where the tax structure is favorable, however, the eventual return still depends on the terms of the deal. Tax abatements have often been treated as a routine cost of attracting data center investment, but communities should not view them as an inevitability. Because developers are ultimately competing for a limited pool of sites with the land, power, fiber, and interconnection prospects they need, communities that possess those assets often have more leverage than the conventional incentive model assumes. The harder part is recognizing and using that leverage, especially where economic need makes the prospect of losing the project feel unusually costly. In places with weakened tax bases and few recent development prospects, the first major proposal can feel too important to risk losing.

> Recognize that a community facing financial pressure can still have significant negotiating leverage

For communities under acute economic strain, it is particularly important to avoid gauging a proposal by its most visible numbers. A one-time payment, scholarship fund, or negotiated community contribution may be valuable, but it should be judged against the revenue the facility could generate over decades of operation and repeated equipment replacement. The same is true of payments in lieu of taxes (or “PILOTs”): a figure that looks substantial on day one may represent only a small share of the value created over the life of the project. If negotiated payments are agreed to, they should be transparent, enforceable, and tied to the scale of the facility and its future reinvestment rather than treated as stand-alone concessions. The objective is not simply to secure the largest visible payment at the outset, but to establish a revenue structure that continues to produce value for as long as the facility does.

If a community cannot find a viable way to secure that kind of durable revenue, the question should shift from how to improve the deal to whether a data center is the right vehicle for the community's fiscal goals at all. A facility commits land, electrical capacity, and other local resources for a long period, and those same resources may support other forms of development with a different mix of tax revenue, employment, and economic activity. That does not mean another project will necessarily be better. It does mean the data center should be compared with the realistic alternatives available to the community rather than treated as valuable simply because it brings private capital. Where the fiscal return is weak and the opportunity cost is substantial, the mismatch itself is a reason to reconsider the project.

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5 Household Affordability

Many of the fiscal benefits associated with a data center are distributed selectively, while utility costs are one of the few project impacts that can reach nearly every household in a community. A facility can therefore improve a jurisdiction's finances without leaving residents financially better off. Public attitudes reflect that concern: survey research finds electricity rates and blackouts to be the local effects voters cite most often, and information about potential property-tax savings does relatively little to increase support until it is paired with information suggesting that electricity rates have not risen.

Two distinct mechanisms can put upward pressure on household electricity costs, and they require different responses. The first is the infrastructure and capacity required to serve a very large new load. New substations, transmission, generation, or other system investments may be needed to accommodate the facility, and some of those costs can ultimately be recovered from customers other than the data center itself. The second is the facility's continuing effect on the power system once it is connected. Adding a large new source of demand can change when additional generation is needed, how constrained parts of the grid become, and the cost of supplying electricity across the system.

Require large customers to bear the costs of infrastructure built to serve them

The first is considerably easier to address in advance because infrastructure costs can be assigned more directly to the customer creating them. The important distinction is between paying for a facility's immediate connection and paying for the full set of investments its demand makes necessary. A developer may fund the substation or line that connects the site while broader capacity additions are recovered elsewhere in the system. Large-load tariffs, developer-funded upgrades, minimum payment commitments, and stranded-cost protections can help keep both infrastructure costs and the risk of unrealized demand with the large customer rather than existing ratepayers. Those protections are most effective when established before the utility has committed to serving the new load.

Recognize limitations of traditional rate analysis and account for load variability

The data center's ongoing effect on electricity costs is harder to manage because it cannot be separated as neatly from the rest of the power system. Once a facility is connected, its impact depends not only on how much electricity it uses, but on when that demand occurs, how quickly it changes, and whether the facility can reduce or shift consumption when the grid is constrained. Those characteristics shape how costly the new load is for the wider system to accommodate. A useful rate analysis therefore cannot treat the facility as a fixed number of megawatts. It has to examine how the project will operate – and whether commitments on storage, demand response, or other forms of flexibility can reduce the conditions most likely to put upward pressure on costs.

Revisit rate assumptions as the evidence evolves

Even then, the evidence does not support a general rule about what data centers will do to electricity rates. Rates reflect generation costs, transmission constraints, utility structure, market design, and many other factors, making it difficult to isolate the effect of a particular facility or transfer results cleanly from one region to another. The rate effects of data centers remain an active area of study and the evidence supports neither the assumption that large new loads will inevitably produce major rate increases nor that they can be added without consequence. Assessing those broader effects requires analysis of the specific utility and market at issue rather than reassurance based on experience somewhere else.

The practical distinction is therefore between costs communities can prevent from being shifted and effects they can only evaluate more carefully. Identifiable costs of serving the facility can be kept with the large customer, while broader effects on electricity prices require analysis of how the facility will interact with the local power system and should be revisited as the evidence develops. The fiscal case for a project is incomplete until both are considered alongside the benefits the community expects to receive.

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Three Community "Worries"

6 Strain on Shared Local Infrastructure

The possibility that data centers could strain shared local resources was one of the first things to draw public attention to their physical footprint. It remains one of the biggest worries for many communities. The central issue is not simply how much a facility consumes, but whether local systems can absorb that demand when capacity is tight and what remains available for other users once they do. Resource strain is therefore a problem of local constraints rather than headline totals: the same facility can be a poor fit in one place and readily accommodated in another depending on where the bottleneck lies.

> Evaluate cooling system choices against both water and grid constraints

For water, that diagnosis begins with the capacity and timing of the local supply. A community with little water to spare should look closely at the facility's cooling system and how much its demand can be reduced when supply is constrained. Lower-water cooling can help, but some approaches use substantially more electricity during hot weather, shifting strain from the water system to the grid. The objective is therefore not to minimize water use in isolation, but to choose a cooling design that fits the particular combination of water and power capacity available locally. Where no design fits, the site may simply be wrong for the project.

> Interrogate peak demand, not just annual averages

A different problem arises where water is adequate over the year but scarce during the hottest and driest months, when cooling demand rises just as supplies tighten. There, annual consumption can obscure the more important question of peak draw. Communities should ask how much the facility will use during those periods, whether on-site water storage can reduce withdrawals, whether cooling can shift away from water-intensive modes, and whether drought conditions trigger enforceable reductions. A facility with higher annual consumption but a much lower peak may place less strain on the local system than one with a lower yearly total and a sharper peak.

Scarcity can also be a question of which water is available, rather than how much exists in the system overall. If potable supply is constrained, recycled water, treated wastewater, or another non-potable source may allow a facility to operate without competing directly with households and other priority uses. If serving the project requires new treatment or conveyance, communities should consider who benefits from that investment: will the added capacity become available more broadly, or be reserved for the data center?

> Consider sufficiency of remaining resource capacity for future growth

Sufficient capacity today does not necessarily mean that committing it to a data center is costless. A community may want to preserve water for housing, industry, agriculture, or other future growth. In those places, the relevant question is how much headroom remains after the facility is served – and whether later phases of the project can proceed without adding new supply. Phased allocations or expansion conditioned on new capacity can prevent a single project from claiming most of the system's remaining room at the outset.

Electricity poses a different kind of constraint because the grid must balance supply and demand continuously, not simply provide enough capacity in aggregate. A data center can fit within the grid's nominal capacity and still make the system harder to manage if its load changes rapidly or drops off during a disturbance. A community concerned about grid stability should therefore look past the headline megawatt figure to how quickly the facility's demand can change, whether it will ride through a disturbance rather than disconnect, what share of its load can be curtailed in an emergency, and whether on-site storage can buffer those swings. Those operating conditions determine whether the facility simply consumes capacity or also makes the grid less resilient when conditions deteriorate.

Local resource strain is therefore not one problem with one technical fix. A community with no spare water faces a different problem from one with severe summer peaks, and a grid short on operating flexibility faces a different problem from one simply short of capacity. The useful starting point is to identify which constraint actually binds, and only then to ask whether the facility can be designed and operated around it.

FURTHER READING

Han, Y. et al. Small Bottle, Big Pipe: Quantifying and Addressing the Impact of Data Centers on Public Water Systems. March 18, 2026.

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The World Bank Group. Water Reuse Case Study: Quincy, Washington. U.S. Environmental Protection Agency. July 6, 2026.

Three Community "Worries"

7 Public Health & Environmental Effects

When communities worry about a data center's environmental impact, they are usually asking not only about pollution but about what the facility will be like to live near. Noise, emissions, odor, and other operational effects can make an industrial use that looks acceptable on a zoning map feel very different next to homes, schools, or other sensitive uses. Backup generation makes the point clearly: diesel and gas generators may run not only during outages but for testing, maintenance, and other nonemergency purposes, and a large campus can hold enough units for their combined effects to reach well beyond the property line. "Backup" therefore says little by itself about what the surrounding community will actually experience.

Evaluate new pollution in context of cumulative burdens

Where those effects occur matters, because the same equipment imposes different burdens in different settings. A generator fleet near homes or schools carries a different significance than the same equipment at an isolated industrial site, and its emissions add to what residents already breathe. Existing pollution makes additional exposure more consequential, so prior industrial use should not be taken as evidence that a site can absorb more. A community evaluating a proposal should therefore look past distance alone to baseline air quality, other pollution sources, prevailing conditions, and the cumulative burden already present nearby.

The significance of a facility's location also depends on the technology it uses. Diesel, gas, batteries, and other forms of backup or ride-through capacity do not create the same local effects, so a headline figure for backup megawatts reveals little about what the facility will be like as a neighbor. On-site storage can cover some of the functions for which generators are otherwise used, particularly short interruptions and grid disturbances, without the same local combustion emissions or generator noise. Where combustion equipment remains necessary, its type and scale become part of the compatibility question, not merely an engineering detail.

Interrogate nonemergency use of "backup" generators

The local effects of that equipment also depend on how it is operated. A nominally emergency generator can create very different local conditions depending on how often it may run, how much testing is allowed, whether nonemergency use is restricted, and whether those limits are monitored and enforced. The same principle applies to other sources of disturbance. Generator operation may create the most conspicuous episodes of noise, while cooling and electrical equipment can produce a persistent background condition of their own. Whether that noise is acceptable depends on proximity to sensitive uses, existing ambient sound, and when the equipment operates, particularly at night and at full buildout.

Consider how diffuse externalities may constrain adjacent land uses

Whether a data center is compatible with its surroundings ultimately has to be judged case by case. A parcel may be designated for industrial use and still be poorly suited to a facility whose emissions, noise, or operating pattern conflict with what surrounds it. Location, technology, and operating conditions all shape what nearby residents will actually experience, and a zoning designation alone cannot resolve those questions. Where projects are permitted by right or through a largely ministerial process, communities may have little opportunity to make that judgment or require changes once an application is filed.

Deciding in advance which projects require discretionary review preserves the ability to determine whether a facility is actually compatible with the place being asked to host it.

FURTHER READING

Better Data Center Project. Diesel Generators at Data Centers: Status, Impact, and Protective Practices. March 2026.

Han, Y. et al. The Unpaid Toll: Quantifying and Minimizing the Public Health Impact of AI. December 2024.

National Academies of Sciences, Engineering, and Medicine. Implications of Artificial Intelligence–Related Data Center Electricity Use and Emissions: Proceedings of a Workshop. Chapter 7: Data Center Infrastructure. 2025.

Conclusion

The wants and worries described in this report are not unique to data centers. Communities have long asked industrial development to create jobs and public revenue without overburdening infrastructure, raising household costs, degrading environmental quality, or foreclosing better uses of scarce land and resources. What is different about data centers is how often the familiar indicators used to evaluate those outcomes provide an incomplete picture. A multibillion-dollar investment may support relatively few permanent jobs; annual resource consumption may obscure the moments when local systems are most strained; an industrial zoning designation may say little about what a facility will be like to live near; and a large fiscal or infrastructure commitment may look very different once its long-term value and costs are examined.

Data centers therefore call less for a new set of community priorities than for greater precision about what familiar priorities actually require. Evaluating fit means looking beneath the most visible measures to the conditions that determine their significance: when and from what source resources are consumed, how demand behaves, where the value of an investment sits, what remains available for other users, and who ultimately bears the project's costs and receives its benefits. The same headline measure can be meaningful in one context and largely beside the point in another. What matters is whether the project delivers the outcome the community is actually seeking, rather than something that merely resembles it on paper.

That kind of evaluation has implications for process. If the questions that matter cannot be answered from the project category or a handful of top-line figures, communities need access to more detailed information while there is still time to act on it. Local knowledge also needs to enter the process before siting, design, infrastructure commitments, and operating conditions have hardened. Transparency and participation matter for reasons of procedural fairness, but they also serve a practical function: they make it possible to test broad claims about a project against the particular physical, economic, and social conditions of the place being asked to host it.

For communities that have not yet received a proposal, much of that capacity can be established in advance. Existing zoning can determine whether discretionary review will occur; disclosure requirements shape what information will be available and when; utility tariffs and interconnection rules influence which costs and operating expectations can be assigned to a large new customer. Once a specific investment is on the table, the pressure to move quickly can make those underlying rules much harder to revisit. Preparing early does not mean deciding in advance whether a future data center should be approved. It means preserving the conditions under which a meaningful decision can still be made.

No framework can eliminate the need for judgment, nor should it. The central lesson of the data center buildout is not that communities need a new definition of good development, but that they need to be more exacting about what their existing goals mean in practice. A project can resemble economic development, infrastructure modernization, clean-energy progress, or productive industrial reuse without delivering those things in the form a community values. The task is to distinguish between apparent alignment and actual fit – and to ensure that the information is available, the meaningful choices remain open, and the community retains enough authority to act on what it learns.