The Invisible Elephant: Building Level Data from Utilities

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ABSTRACT

Access to building energy consumption data remains an unsolved problem at scale. Efficiency, decarbonization, strategic energy management, grid interactivity – all of it starts with knowing a building's baseline. Building level data at scale must come from utilities, and the "invisible elephant" in the room is that they don't "just have it" for many buildings.

Utilities are the only source of historical data for all buildings, but their account-based business model means they don't organically hold it for multifamily, mixed use, and multitenant commercial buildings. Regulatory momentum and evolution are increasing demand for access to accurate data: policies like Building Performance Standards (BPS) depend on it; the Inflation Reduction Act mandates states work with utilities to ensure access to necessary data for their programs; and multifamily buildings need baselines to measure savings and maximize rebates. As a result, the elephant is getting bigger, and slightly more visible. Nonetheless, we emphasize that these initiatives and many others will not succeed without widespread, reliable access to accurate, building level data.

While the "need for data" part of the elephant is slightly more visible, what remains largely invisible to many interested parties and stakeholders is the necessary work it takes for utilities to meet this market imperative and the business considerations that shape their decision making. Incorporating data from supporting and working with utilities, we summarize building demographics from data recipients; technical lessons learned; and best practices for stakeholders and policymakers working to enable access to building level energy data. We also summarize current and evolving utility approaches to solving this problem. We define, expose, demystify, and respond to the invisible elephant. And we aspire to help ground future efforts to improve data access in an appreciation of utilities' operating realities.

Introduction

In this paper we:

- Identify and illuminate the invisible elephant central to our thesis – the unique challenges utilities face to enable data access for all commercial and multifamily buildings.
- Survey the landscape of utility data access services that provide whole building data for commercial and multifamily buildings, including external catalysts and decision making.
- Review obstacles to implementation and typical utility decision making.

- Explore the market potential of these data and examine the policy landscape.
- Suggest best practices and guidance for policymakers and utilities who are ready to reckon with the elephant, while making a case for the value of doing just that.

Context

The U.S Environmental Protection Agency (the EPA) attributes 30% of total greenhouse gas emissions to commercial and residential buildings (U.S. EPA 2024b). Accordingly, the U.S. Department of Energy's (DOE) National Blueprint for the Buildings Sector targets a 90% emissions reduction by 2050 by "significantly increasing building energy efficiency, reducing onsite building emissions, transforming the grid edge at buildings, and reducing building life cycle emissions – all while prioritizing equity, affordability, and resilience" (U.S. DOE 2023a).

The past two years have witnessed notable policy progress, including the enactment of the Inflation Reduction Act (IRA) and various state-level movements aimed at addressing data access challenges. The IRA's Section 50121 Home Efficiency Rebates: Data Access Pathways is driving states to submit Data Access Frameworks this summer as a part of program implementation, "including identifying, targeting, and educating customers" and "to ensure safe, efficient, and transparent data-sharing practices" (U.S. DOE 2023b). At the executive level, continued efforts by the White House's building decarbonization initiatives and the National Building Performance Standards Coalition[1] further underscore this growing momentum towards addressing building energy challenges (Hall et al 2022).

As these initiatives have grown, so has awareness and socialization of the need for access to building level data as a market enabler, independent of any broader, building-focused policy. Example socialization and enablement efforts include the Institute for Market Transformation and the Regulatory Assistance Project's Model Data Access Law (Majersik et al. 2023) and a joint letter on energy data access from the DOE, the Department of Housing and Urban Development (HUD), and the EPA (2024).

The Need: Today and Tomorrow

"You can't manage what isn't measured," often attributed to Peter Drucker, is a familiar explanation for needing baseline energy data for buildings. And it is from this basic principle that all current and future needs for building-level data flow. Building-focused policies like benchmarking and BPS are the most overt drivers, but the need also extends to government programs, green financing, and emerging carbon emissions reporting. Building owners and managers need data to manage operating costs, meet lender or investor requirements, track carbon emission for numerous business and reporting reasons, and ultimately maintain and increase real estate asset value, which we discuss further in Commercial Real Estate on page 7.

[1] https://nationalbpscoalition.org/ comprises a group of governments committed to implementing a BPS.

At the same time, meeting societal and utility industry needs for ensuring affordable power, and grid reliability and resilience in conjunction with electrification, will require cost-effective deployment of distributed energy resources (DERs) at scale. And, when recognizing that DERs include energy efficiency, storage, demand response, electric vehicles, combined heat and power, and renewable energy – all resources that can be found in grid-interactive efficient buildings (GEBS) – the potential of commercial and multifamily buildings to meet these societal and utility objectives is enormous (U.S. DOE 2021). Despite this, buildings are currently unseen and undervalued as DERs by utilities and underserved by the market overall. Efforts to change this will be hamstrung by a lack of access to or underutilization of building level energy data. The fundamental first uses of these data will be to determine building baselines and benchmark building energy performance.

The Elephant

The value of energy data is not a new conversation. And a wide range of solutions exist from utility-enabled customer access in some cases to purchasing and deploying hardware in others. Numerous vendors also support utility customers in accessing and organizing their utility data, which is a necessity for efficiency, energy management, and decarbonization work. Notable efforts focused on individual customer-level data include advocacy like Mission:Data's[2] and standards such as Green Button[3].

Yet, the elephant in the room remains. Building level data for many multi-customer buildings is a different data set entirely. In these cases, before utilities can deliver building level data, it must be created. The building level (or multiple-building property level) gives a complete sense of the energy used and emissions generated to operate a property and fulfill its functions and services. Why does this appear to be so difficult for utilities to provide this data for commercial and multifamily properties at the building level? This is the conversation we hope to inform and advance. Specifically, a conversation to create awareness, understanding, and appreciation for the unique challenges utilities face to enable access to this data set.

To begin with, utilities organize their systems, data, and programming around customers – residential and commercial customers. Buildings are not a part of typical utility operations. For single family homes and single owner/tenant-occupied commercial buildings, or master metered buildings, this does not create a barrier since data for the customer and the building are synonymous. However, for many multifamily residential, mixed use commercial and residential, and multitenant commercial buildings (i.e., office buildings, warehouses, and multitenant retail malls), multiple utility customers, meter types, and data collection systems may contribute to the data set for a building. See Figure 1.

[2] https://www.missiondata.io/ advocates for customers' access to their own utility data.
[3] https://www.energy.gov/data/green-button is a framework for utility customer data access and sharing.

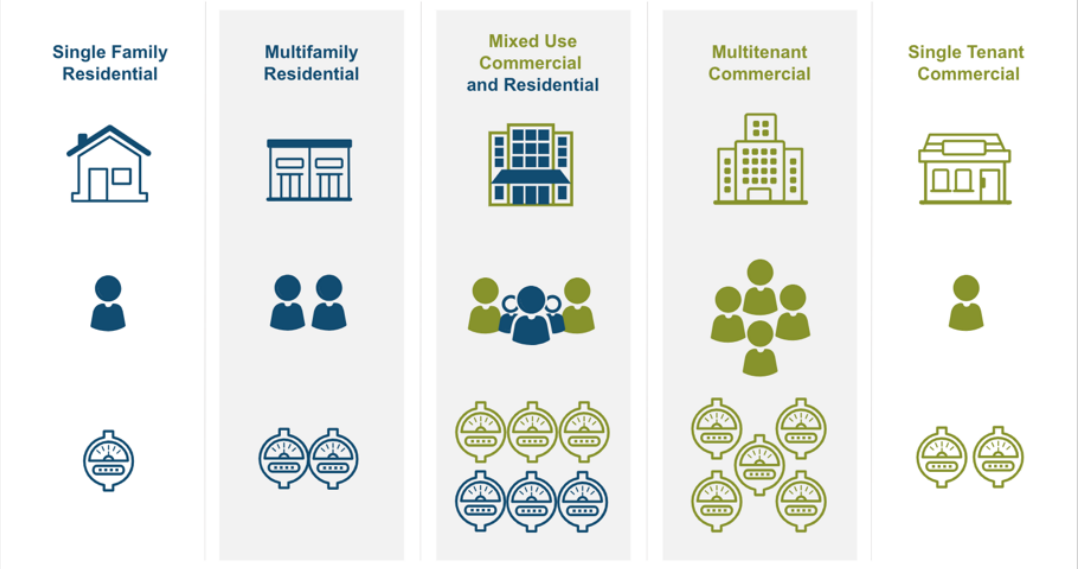

Figure 1. Diagram of building and customer/tenant types mapped to meters. Green represents commercial customers; blue represents residential customers. *Source:* Calico Energy

Figures 3 and 4, later in the paper, illustrate the implications of utility data structures and systems on creating and delivering building level data. While none of these are insurmountable, they all require work and time to address.

Market Analysis

This section analyzes the current landscape of building level data access including utility decision making, implementation barriers, and utilities' use of the data. We also delve into the value of these data for utilities, equity and affordability goals, and commercial real estate.

Data from Utilities

Current State. As of the end of 2023, more than 80 utilities across the United States – investor owned (IOU), municipal, and cooperative utilities – offer solutions for at least some building owners to obtain building level data. Almost 80% of these use the web services application programming interface (API) for transfer of energy consumption data from a utility system to ENERGY STAR® Portfolio Manager®. In 2023, 75,000 property records in Portfolio Manager received at least some of their data from a utility. This number increases when considering utilities that deliver data via spreadsheet rather than API. That said, when taken in the context of millions of buildings in the U.S., only a small percentage of buildings are benefitting from this data, because only a small percentage of utilities provide it.

The EPA's interactive map offers a view of the current landscape of utility data access, including details about what each utility offers (U.S. EPA 2024a). In many cases, utilities make

these services available to owners of multifamily and/or mixed-use properties. However, some utilities exclude buildings that house residential customers from their benchmarking data solutions and focus on buildings comprised of only commercial customers, which then constrains the buildings they support to about 30% of potential data consumers, as shown in Figure 4.

Utility Decision Making. Utility decisions around whether and how to provide access to whole-building data involve many variables, including relevant policies in the service territory; voluntary initiatives such as 2030 Districts[4]; and a desire to replace current processes. In most cases, state and local policy requirements have driven utility action. Proactive assessments of the business case for utilities have yet to manifest, with limited examples as caveats. Those include Detroit Edison (DTE) piloting its Energy Data Hub with the 2030 districts (Ignaczak 2023); California's investor-owned utilities' implementation of the first-generation Portfolio Manager web services; and Commonwealth Edison (ComEd)'s energy usage data system (EUDS) (T. Narel, ENERGY STAR program, U.S. EPA, personal recollection).

With those exceptions noted, local or state policy has first created a need for utilities to develop data access services to handle requests, or state level directives have required utilities to provide the data to building owners/operators. As a result, utilities approach these efforts with an understandable compliance perspective when designing and implementing data access services. Published case studies offer examples of this narrative from multiple utility solutions live in the market today, including Consolidated Edison, Seattle City Light, and Pacificorp. Notably, the value of building level data for utilities themselves does not yet factor into this evaluation.

Once a utility elects to provide access, deciding how to execute follows. In some cases, this is iterative as request volume, new policies, and a utility's own experience contribute to a feedback loop. Utilities generally valuate the framework of options shown in Figure 2.

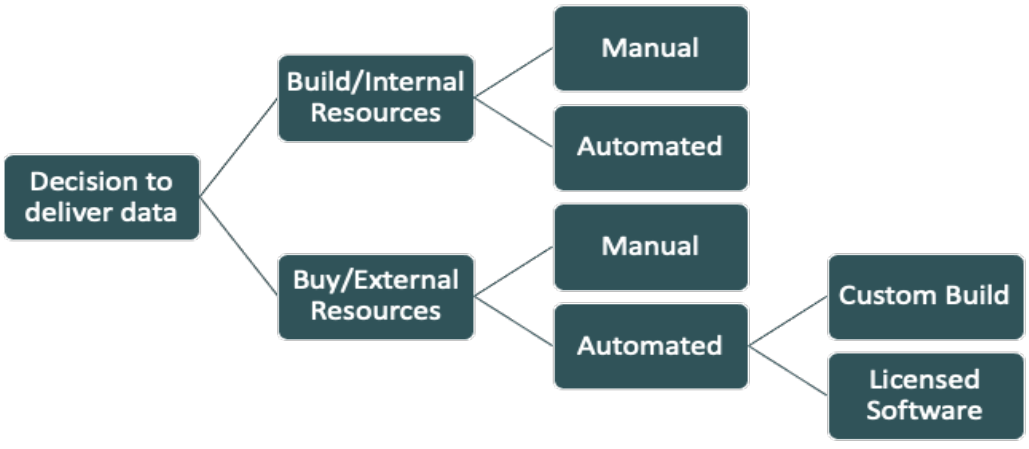

Figure 2. Decision making flow for utilities providing building data access. *Source:* Calico Energy

[4] https://2030districts.org/ is a network of districts committed to addressing climate change in cities.

Utilities generally evaluate whether they want to build or support a solution internally or externally, then in either case whether they will automate. If a utility decides to automate, some build their own custom solutions while others may purchase either a custom built or licensed software application. They approach the task and decision in Figure 2 as something they have been made to do, not something they have chosen to do, and certainly not as an opportunity.

Implementation Barriers. One of the most significant but frequently overlooked factors in this evaluation is illustrated in Figure 1. Bringing together data from residential and commercial customer types into a single, aggregated data set per building often requires mapping and combining data across numerous utility customer account types and sources. Figure 3 shows a typical distribution meters per building. The volume of meters in a building can make manually mapping them accurately to a building very challenging. Providing ongoing access to data also requires continued maintenance of this mapping.

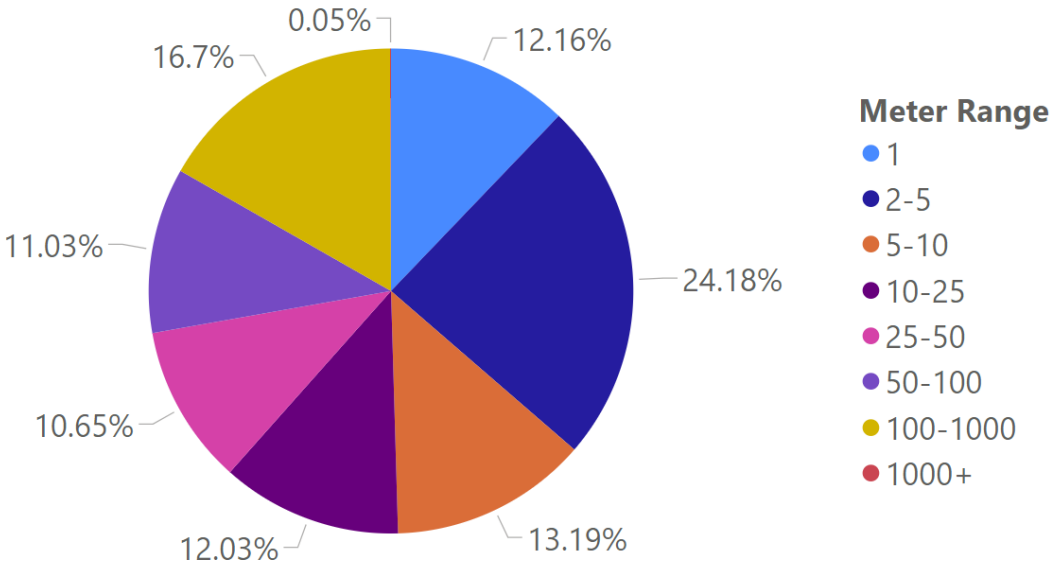

Figure 3. Distribution of buildings by ranges of meter count per building. *Source:* Calico Energy

Ownership of a utility's solution varies, and we have seen responsible teams in information technology (IT), reporting, customer solutions, energy efficiency, and account management. In some cases, this is ambiguous or leads to taking a commercial customer-only approach, thereby limiting data access to buildings containing only commercial customers. Figure 4 shows the distribution of building types accessing data from a well-established utility solution in a greater urban area that is open to all. Over half are mixed use, containing both residential and commercial customers. This illustrates the risk of omitting residential data.

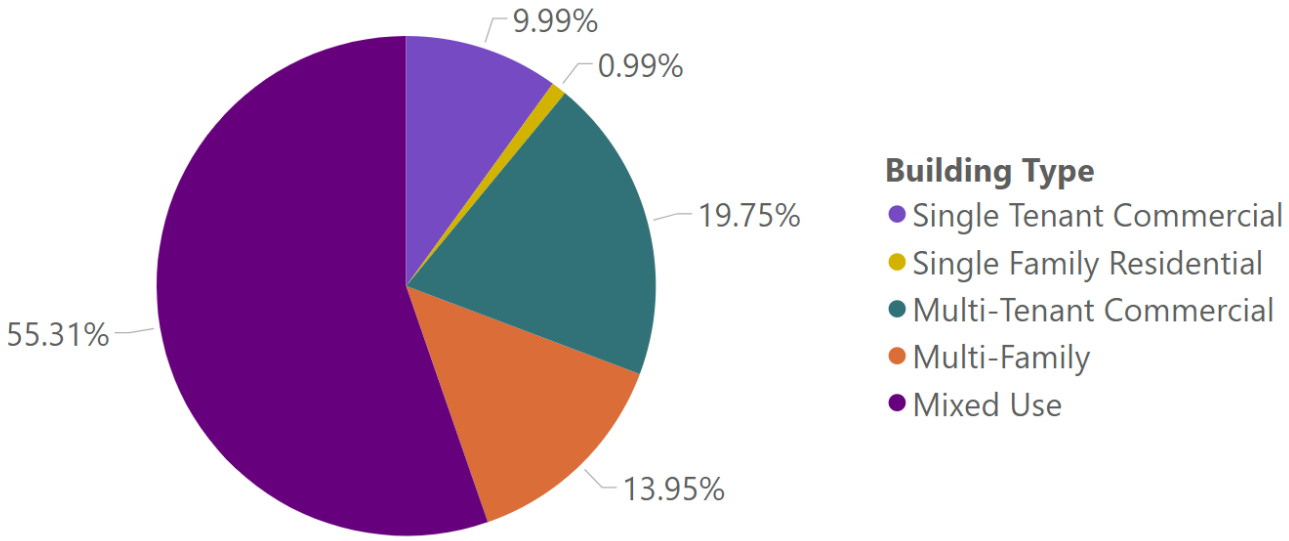

Figure 4. Building types of a utility solution that offers data to all building types. *Source:* Calico Energy

Decision making factors, solution design, and program ownership are also tied to program funding and budget. State level requirements for utilities may offer explicit guidance around cost recovery for investor-owned utilities (see "State and Local"), thereby mitigating some cost barriers for resulting utility solutions. Additional financial considerations that can impact the decision flow in Figure 2 include planned accounting approaches for capitalizing costs and upfront versus ongoing expenses.

The Opportunity.

For Utilities. The immediate potential opportunity is using building level views and building-level energy performance information from Portfolio Manager to identify buildings for targeting program outreach and delivery. Looking to the future, value increases as building level data can be used to evaluate and manage commercial buildings as DERs, and further to incorporate an expanded view of commercial buildings into utility integrated resource planning. We do not see these future benefits impacting utility decision making today, but we believe the industry will recognize them in time. Increasingly, empirical evidence and tools available to utilities include information related to the business case for investing in and leveraging building level data.

Early and promising information is becoming available from work funded by DOE to advance GEBs and position buildings as grid edge resources. The Grid-Interactive Efficient Buildings Initiative, sponsored by the DOE, aims to transform buildings into clean and flexible energy resources to benefit both utilities and the grid. For utilities, GEBs can enhance grid reliability and resilience, defer capital expenditures, and help balance renewable generation supply (U.S. DOE 2021). As part of the initiative, the DOE awarded $61 million for 10

demonstration projects under the Connected Communities[5] program, showcasing how energy-efficient and grid-interactive technologies can enhance homes and workplaces. As pilot programs like these prove tangible and mainstream value, we predict that utilities will require building level views of all property types for their own strategic uses. The DOE's National Blueprint for the Buildings Sector furthers this articulation with a primary goal of "transforming the interactions between buildings and the electricity grid" (U.S. DOE 2023a).

Equity and Affordability. Cross-cutting all the goals in their Blueprint, DOE articulates that decarbonization of the buildings sector must be centered in the goals of "equity, affordability, and resilience to ensure that the low-carbon buildings transition benefits disadvantaged communities, reduces energy costs, and increases the ability of communities to withstand stresses" (U.S. DOE 2023a). As we decarbonize and electrify buildings in targeted communities, building level views are necessary to determine and deploy appropriate, varied strategies. This work requires marrying efficiency, decarbonization, demand flexibility, generation and more, and these efforts must not be limited to only properties where an owner or operator is willing and able to invest upfront in capturing baseline data to begin analysis. Reliable access to accurate building level data is critical to industry efforts to improve and decarbonize affordable multifamily housing. Without data access, building owners and communities face barriers in benefitting from opportunities to upgrade their buildings and reduce energy burdens.

We need to be able to baseline multifamily properties quickly and inexpensively, not just for benchmarking but to ensure participation in the programs and initiatives discussed in Policy Analysis on page 9. The DOE's publication on Distributed Equity Analysis (DEA) proposes a framework for answering questions about the equity implications of utility DER investments alongside benefit-cost analysis (BCA) (U.S. DOE 2024), and The EPA's *Multitenant buildings and Federal Incentives* (2023c) expands on this issue, positing that lack of access to building data to document performance may become an equity issue if it curtails access to incentives.

Commercial Real Estate. For commercial real estate owners, operators and investors, building level data from utilities is valuable for many operational, financial, and strategic reasons. While explicit policies can be relevant, other factors drive a need for this data. As Chris Laughman, the Senior Director of Energy and Sustainability Services with Greystar[6] stated, "the absence of a law doesn't mean I don't have compliance to begin with. I may have mortgage requirements from the lender. I may have investor requirements. There are emission reporting requirements. If somebody's asking us to measure our carbon impact, I can't do it without the data. I need the data to do the calculation and, unfortunately, while that law may not be in place, those other

[5] https://www.energy.gov/eere/solar/connected-communities-funding-program supports projects that expand DOE'

[6] https://www.greystar.com/about-greystar/about is the world's largest manager of multifamily real estate with over 74 billion dollars in assets.

requirements for those other entities are out there. It's much more than just compliance" (U.S. EPA 2023b).

In the absence of building level data from utilities, Greystar and others must invest in capturing it themselves at a much higher cost per building, ultimately slowing those initiatives. Laughman goes on to state, "Whenever I have whole-building data, I can rank, I can compare, I can benchmark, and I can see where we should expend capital. Where should we be focusing our efforts with 2800 properties?" (U.S. EPA 2023b). With a focus on optimizing capital allocation across a portfolio, access to building data from utilities enables the identification of high-impact opportunities and the enhancement of asset value for owners like Greystar. Laughman concluded, "Scale is a real issue and being able to deploy capital, being able to deploy resources to where the opportunity is the greatest, is extremely important. (U.S. EPA 2023b).

Policy Analysis

This section covers the major federal legislation passed in the last few years that established building upgrade incentives resting on documented improvement in building level performance and federal programs like preferential mortgages, ENERGY STAR recognition, and federal building performance standards. It also covers how state and local governments have gotten in on the act, including state policies that often drive utility provision of building level data, forward-looking model legislation, state initiatives aimed at centralizing data access, and new emissions reporting and disclosure requirements. These all compound a growing and aligned focus on building performance and data.

Federal

Two major pieces of federal legislation—the Inflation Reduction Act (IRA), enacted in 2022, and Bipartisan Infrastructure Law (BIL), enacted in 2021—include billions of dollars for improving the energy performance of buildings. Prominent examples of these programs are the DOE's Home Efficiency Rebates program, the IRA-expanded 179D Commercial Buildings Energy Efficiency Tax Deduction, and HUD's Green and Resilient Retrofit Program. Importantly, each of these programs offers incentives based on whole-building performance.

For example, DOE under the Home Efficiency Rebates program published a resource that affirms "whole-building data aggregation" as a data access pathway "to enable programs to serve these multifamily buildings without the need for individual tenant-level authorization" (U.S. DOE 2024a). States disbursing these DOE rebates have a handful of pathway templates to choose from and must provide rebates for multifamily buildings. While rules for the 179D Tax Deduction are forthcoming, the law signaled that this deduction will be available for documented improvement in whole-building performance in all types of commercial buildings. The HUD program will provide incentives to HUD-assisted multifamily properties to improve whole-building performance and support energy and water benchmarking. The IRA and BIL place an

explicit focus on low-income and disadvantaged communities (LIDAC), where building upgrades could benefit multifamily building occupants through lower energy burdens and lift wider communities where improvements to buildings are needed most.

IRA and BIL programs join a foundation of federal programs focused on whole-building performance, including green loan incentives available from Fannie Mae, Freddie Mac, and the Federal Housing Administration, and requirements on federal agencies. These programs similarly provide incentives based on whole-building performance, but in this case in the form of preferential mortgage terms for qualifying multifamily properties. Meanwhile, the ENERGY STAR program at the EPA offers recognition based on whole-building performance, as documented through the Portfolio Manager tool. ENERGY STAR certification is available to a wide variety of commercial buildings as a mark to distinguish top performance compared to peers, including many building types that may lack whole-building data such as multifamily housing, offices, warehouses, and others.

Federal agencies are required to benchmark their energy use through the Portfolio Manager tool and take additional actions to improve energy performance, following the Energy Independence and Security Act of 2007. Adding to that requirement, in 2022 the Federal Building Performance Standard was published, directing agencies to achieve zero scope 1 GHG emissions from on-site fossil fuel use in 30% of their applicable facilities, as measured in gross square footage, by 2030 (Council on Environmental Quality 2022). Even where agencies have access to whole-building energy data, they can benefit from utility solutions that automate the flow of data. Together, these requirements on federal buildings underscore a growing federal focus on whole-building data and performance.

State and Local

Since the late 2000's, state and local governments across the U.S. have enacted laws that require commercial and multifamily buildings to report and act on building level data. Over fifty jurisdictions in the U.S. require annual tracking, reporting, and public disclosure of whole-building energy use through the Portfolio Manager tool (IMT 2023). Often as a follow-on, more than a dozen state or local governments have passed a Building Performance Standard (BPS) law in recent years whereby owners must hit standards for energy use or emissions to avoid compliance penalties. See Figure 5.

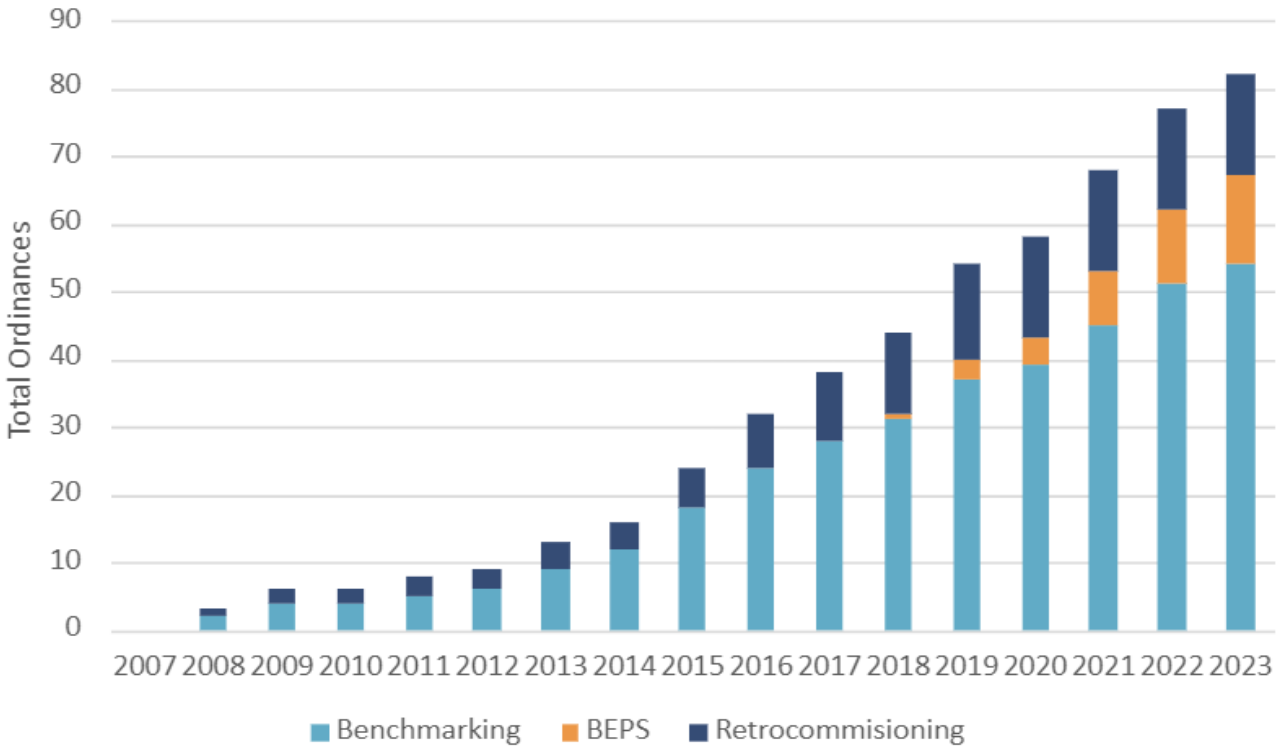

Figure 5. Count of policies in the U.S. by year (IMT 2023). Light blue is benchmarking, orange is building performance standards (BPS), and dark blue is retuning/ retrocommissioning.

Accurate and complete whole-building data is critical to these BPS laws, as standards are set and enforced based on this data to ensure a fair and reasonable measure of performance from one building to the next. As discussed in "Utility Decision Making," policy has been a key driver for utilities to provide whole-building energy data.

Several states as part of benchmarking or BPS legislation have put affirmative requirements on utilities to make whole-building energy data available to building owners, an authority generally not held at the local level. These states include Washington, Oregon, California, Colorado, Minnesota, Maryland, and New Jersey. Since states, through their public service or utility commissions, have oversight over most utilities, they are uniquely positioned to enact such requirements and do so in a way that can overcome utility barriers like cost recovery. They can create guideposts such as aggregation thresholds and define criteria related to data quality and ease of access, while also providing support to utilities to help them understand and meet the requirements. For example, Minnesota created a $750,000 grant for solution development for non-IOU utilities that need to provide the data and Colorado enabled non-IOUs that need to provide the data to apply for grant funding from the Colorado Clean Energy Fund, the state's green bank, to meet the requirements. Additionally, Colorado and New Jersey held cohort calls with utilities to provide guidance and support related to solution development.

In the absence of a state's issuance of a requirement, state engagement with utilities or regulatory clarification of cost recovery mechanisms could drive progress. Emerging state and local initiatives that intersect with the need for this data include model state legislation, statewide data hubs, greenhouse gas (GHG) disclosure requirements, and the aforementioned DOE mandated data access frameworks. In 2023, the Institute for Market Transformation and Regulatory Assistance Project published a model law for states containing a framework for utility provision of whole-building data with no corresponding requirement on building owners (Majersik et al 2023). This concept is based on the many uses building owners and managers have for the data, as discussed here and in "Commercial Real Estate."

Second, some states have explored a centralized data hub or repository, such as New York's Integrated Energy Data Resource (IEDR). With this approach, states play a direct and active role in collecting and disseminating energy and emissions data for various uses and needs. This can offer more standardization when compared to a utility-led model, but it may carry heavy costs and complexity if a single hub or repository is intended to satisfy several data uses and needs. The last emerging topic is requiring GHG emissions disclosure. In 2023, California enacted a requirement for all companies operating in the state that have annual revenues of $1 billion or more to make climate-related disclosures starting in 2026. Reporting of emissions from building energy use into Scope 1, Scope 2, and Scope 3 under this and future, similar requirements could drive a need for whole-building data across the U.S., as reporting is not limited to energy used or emissions generated in California (CA 253 2023).

Best Practices and Conclusion

This section summarizes best practices based on market and policy considerations and the solution examples articulated in this paper, while attempting to avoid replication of other conversations or published resources. In all cases, a thorough understanding of "The Elephant" underpins our recommendations.

Policy and Implementation

Policy. First and foremost, it is critical that *policy makers and stakeholders understand "the elephant" in the room*: utilities do not have building-level data readily available for provision for many properties. A general industry sentiment around utility resistance to data sharing often impedes these initiatives because it is assumed that utilities have this data, and that lack of access is strictly a willingness issue. Understanding the reality and implications of Figure 1 will help expedite stakeholder engagement around this effort for any governing or regulatory body.

As the broader federal, state and local policy landscape has evolved, so has the status of explicit data access language in policies with broader goals such as building benchmarking or building performance standards. Incorporating utility data access language in these initiatives, including aggregation threshold and customer privacy protections, has become best practice.

This is a notable and important advancement in the efficacy of those initiatives and should remain true going forward, but a best practice for the next wave of policy evolution, is *in some cases, to decouple building data access from other building focused energy policy initiatives.* Doing so aligns a broader group of stakeholders, including commercial real estate, and allows for many drivers to be incorporated into the reasoning, socialization and potential budgetary drivers for utility data delivery.

Whether data access is addressed alone or within a broader building-focused initiative, whenever possible *take state level action to increase impact and accelerate solution deployment.* For stand-alone data access, drivers can be policy and/or market impacts, which increases momentum. If data is available at the state level, then local ordinances, voluntary contests, real estate and other initiatives can count on data access. The model data access law cited in "State and Local" includes additional discussion.

To connect this data to concurrent statewide initiatives, ensure it is incorporated into utility programs when useful, and give utilities clarity about cost recovery, *utility regulators should be a part of these efforts*. Even as state level legislation may exist on the issue and state energy offices design and implement programs that require this data, best practice is to engage utility regulators as a collaborator or contributor to this work. In some states, current or upcoming orders around performance, affordability, equity, and more may complement or even catalyze regulatory engagement on this issue (HUD 2024). New Jersey's statewide efforts illustrate the efficacy of regulator involvement.

Finally, *build awareness of the benefit of this data to multiple programs and initiatives*. The availability of this data will enable the fullest accounting of the benefits that commercial buildings offer for achieving the multiple, often intersecting goals of the work described in "Policy Analysis." Further, outside of building-focused programs the Federal government's Justice40 Initiative[7] directs governments to measure and report how funds are utilized to support disadvantaged communities, ensuring transparency in achieving environmental justice goals. And, as the role of GEBs in supporting a reliable and resilient grid is more firmly established, building level data can be expected to play a role in utility resource planning processes.

Implementation. Guidance and technical support for utility data delivery best practices is available from the EPA to advance the Portfolio Manager use case, as noted in "Resources." Key inputs for solutions often sit at the intersection of policy and solution design: aggregation thresholds and privacy standards; which buildings can get data; turnaround time and format(s) for delivery; integration with Portfolio Manager; and funding. Additional best practices include:

- Understand who is who:
    - Understand that those seeking building data from utilities may not be bill-paying customers from within the building. Often requestors aren't customers at all.

[7] https://www.energy.gov/justice/justice40-initiative is an executive order issued in January 2021.

    - Do not equate commercial buildings with only commercial utility customers. Residential utility customer data is necessary for complete building level data for many buildings.
- Don’t reinvent the wheel:
    - Look at existing precedents and guidance, including dialogue with utilities that have established solutions. This does not need to be a unique, custom approach.
- Value accurate data:
    - Plan for maintenance. Mapping buildings to meters is not a one-time exercise.
    - Include a mechanism for data recipients to confirm the meters included in the aggregated data. Accuracy and the assurance of accuracy are increasingly critical.
    - Provide an “itemized receipt” that identifies the meters that were aggregated to create building-level data in a manner that preserves customer privacy.
- Look to the future:
    - Consider the value and uses of building level data for current and future utility programs and goals. This data can be used for targeting and lead generation.
    - Plan for recurring requests. Whether automated or manual, solutions should contemplate that if data is requested for a building once, the request will recur.
    - Be willing to revisit solutions or processes as volumes increase and internal or external requirements change. Many utilities have found they needed to iterate.
    - Expect volumes to increase, expect increased attention on this data set, and plan for additional policy impacts in the future. Take a universal, common approach to a solution across your service territory with that in mind.

Conclusion

As we contemplate accelerating the deployment of every tool we have to effectively decarbonize, we must pinpoint and mitigate all barriers to scale. We must also take a market transformation approach that effectively spans multiple, historically separate and largely disconnected sectors or areas of work: utilities, commercial real estate, and policy. This elephant may seem “simple,” but addressing it millions of times, as we need to, is far from easy. For years, access to building level data from utilities has begun to slowly enable the markets where it exists. However, the dynamics around this issue have shifted in the last 18-24 months as those markets have begun to accelerate. Today, data access is no longer a nice to have. Instead, a lack of access to building level data is a market barrier everywhere that it does not exist.

Resources for Action

- *Multitenant buildings and Federal Incentives*: Explains the importance of whole-building data for building owners and solutions available to utilities (U.S. EPA 2023c).

- *Guidance for Utilities on Providing Whole-Building Energy Data to Enable Benchmarking in ENERGY STAR Portfolio Manager®*: Summarizes best practices for utilities providing customers with data (U.S. EPA 2023a).
- *Model Law for Statewide Utility Data Access:* Would require utilities to make whole-building data available to building owners on request while protecting privacy of building occupants and addressing costs to utilities (Majersik et al. 2023).
- *IRA Section 50121 Home Efficiency Rebates: Data Access Pathways Background and Plan Templates*: Sample Utility Data Access Plan for states, including consent, data protection, notifications, liability considerations, and stakeholder roles (U.S. DOE 2023b)

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