

Utility Customer Systems for Landlords

System requirements for utilities to deliver information and tools landlords need



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INTRODUCTION

This document is intended to help utilities assess the attributes and functionality needed for a **Landlord Portal** as part of their customer-facing website.

A Landlord Portal is an online interface — a series of webpages — that provides tools, information, and services needed by utility customers who own and operate multi-tenant buildings, such as offices and apartment buildings.

As the internet became widely used in the 1990s and early 2000s, electric, gas, and water utilities implemented basic online tools their customers needed. Utility websites provided, at the least, basic account information and bill payment services. This had great value for customers.

Building owners have unique information needs and increasingly need utility information for many purposes, including energy management, project assessment, managing utility allowances in affordable housing, and compliance with local benchmarking and reporting requirements.

Building owners need modern, online tools from their utilities. We describe here why utilities should make a Landlord Portal available to give owners the information they need. Without modern information tools, building owners cannot maximize opportunities, and utility staff and owners must devote substantial time and effort to gather and deliver information.

The purpose of this document is to outline the objectives, components, and functionality of an online data portal to organize and deliver utility data for a building with multiple utility account holders, typically tenants.

OUR GOAL IS TO GIVE UTILITIES A STARTING POINT BLUEPRINT FOR DESIGNING SUCH ONLINE TOOLS.

KEY CONCEPTS TO CONSIDER



What information do owners need?

Many office and apartment buildings are not equipped with a single “master meter” for all the usage on or in the property. In such buildings, the owner’s account shows only a portion of the total usage.

A Landlord Portal would give the owner utility usage of the entire building or property, determined by summing-up usage across utility meters or accounts, including separately-metered tenants within the building.

In some cases, landlords may need utility usage of specific tenants in the building, assuming the owner obtains requisite permissions from the tenant.

BUILDING OWNERS NEED BETTER USAGE INFORMATION FOR MANY REASONS:

Usage information allows the owner to better manage their building.

- It provides insights into routine operations and can be used to indicate system flaws.
- Allows for better assessment of capital upgrades.
- Owners of many types of affordable multifamily housing require usage or cost information to comply with utility allowance reporting requirements. Better data can encourage investments in energy-related improvements.

- Many owners of larger properties require usage information in order to comply with local, state, and federal requirements to collect and report building energy usage information.
- Many owners can obtain important benefits by certifying their building under rating systems such as ENERGY STAR®, which can only be done through regular reporting of whole building usage information.

Without a utility landlord portal, basic usage information can be difficult to obtain.

Obtaining basic usage information from paper bills is difficult in buildings where the owner leases space to tenants, such as commercial offices and multifamily properties (e.g., apartments or condominiums or co-ops).

THERE ARE THREE COMMON CONFIGURATIONS FOR MULTI-TENANT BUILDINGS:

- ① A utility service may be entirely held and paid by the owner ("master metered").
- ② Tenants have their own utility accounts for usage in their units, and the owner has an account for usage in common spaces and for building-wide systems, like hot water.
- ③ Tenants are responsible for all utilities, as in commercial real estate with a triple-net lease or multifamily townhome properties.

Consider a hypothetical owner of a multifamily property with 100 units, each with a separate utility meter. One year of monthly usage data is required for basic benchmarking or obtaining an ENERGY STAR score. Compiling the needed information would require 2,400 data points for electricity and gas consumption alone (in addition to any owner's meters).

Making owners compile basic utility information manually does not make sense. Utilities already have the data in electronic form. A Landlord Portal would alleviate substantial work for the owner and the utility.

In a situation where the building owner requires usage for each unit, for example, for purposes of reporting usage for utility allowances in subsidized affordable housing, the owner must first execute and collect consent forms from each account holder and deliver them to the utility — typically a paper-based process — and utility staff must collect, review, and store the forms.

Today, many building owners are forced to request this information manually and receive it by fax, or on paper, then re-key it into a spreadsheet manually. It is burdensome for both the owner and the utility, ripe for errors, and can be a substantial disincentive for the owner to make investments to improve the energy use of the property. This process is made more difficult because tenants move and many utilities require written consent forms for each request, so the process must be repeated annually, requiring significant time and expense for all parties.

Another complicating factor is that the start and end dates of billing periods for twelve months must align or be adjusted in order for the data to be usable. More detailed requests to separate demand, generation, and distribution charges magnify the complexity of data management. The challenges grow if different utility companies serve a single facility, which occurs with electricity, gas, and water/sewer, and, more broadly, for owners with a portfolio across multiple utility territories, where each utility company might require a different consent form or process.

In short, the traditional processes in use at most utilities are burdensome. They make it cumbersome and labor intensive for owners to obtain, and for utilities to provide, basic information for the usage in a multi-tenant property.

These challenges can be substantially alleviated with the basic technology and systems described as a Landlord Portal.

Value of a Landlord Portal to a utility

A utility would benefit in several ways from making a Landlord Portal available to its customers.

- ① Most importantly, it is an important customer service. Many utility customers — owners and operators of multi-tenant buildings — need the information and tools. Many building owners cannot obtain needed utility information without cumbersome, time consuming, and difficult manual processes.
- ② Utilities would benefit from the energy efficiency potential. The better information directly enables building owners to make needed investments in efficiency. These efficiency values accrue to the property owner, the residents or occupants of the property, the utility, and to all the utility's customers.
 - Owners often cannot monetize existing incentives without better information. For example, Fannie Mae and Freddie Mac offer incentives for owners of multifamily buildings to finance energy-related improvements, but only if the owner "benchmarks" the building's energy use.¹
 - Many large and desirable tenants (such as the US General Services Administration) prefer to lease space in ENERGY STAR certified buildings.
 - Owners of affordable housing are required by HUD or other housing agencies² to analyze tenant utility usage or cost information to calculate a utility allowance, a key factor in maintaining affordable housing for low- and moderate-income households.
 - Easier access to better data can encourage owners of some types of affordable housing to invest in energy efficiency improvements in tenant spaces, which can decrease the utility allowance and increase rental revenue in commensurate amounts — thereby giving the owner a greater incentive to invest.
 - When benchmarking scores are available, tenants and residents can search for more efficient properties. This creates a strong market incentive for owners to make the needed investments. This is one of the reasons many cities

implement policies to require building owners to report usage information and benchmarking scores. Owner requests of utilities for aggregated whole building data have increased dramatically because many cities and states require owners to benchmark and report energy data to jurisdictions that adopt such ordinances.³

To meet such demands, utilities benefit greatly from investments in improved data management.

③ Alleviating manual work of utility staff

Discussions with utilities about development of their portals revealed that many emphasized the goal of reducing the time and burden on utility staff to respond to customers' requests for energy data and other similar recurring requests. Accomplishing this requires planning early in the design phase to identify manual work performed by utility customer service staff to fulfill requests of landlords for information about their properties and identifying if such functions can be alleviated or streamlined with automated tools made available to the landlord online.

In an interview, a Consumers Energy representative estimated that, prior to implementation of the portal, a building owner's initial request for account-level usage data in a 100-unit property would normally require about 40 hours of utility staff time, plus more time on each periodic delivery. Now, the portal automates the data retrieval, utility staff time is minimal, and the owner's time to manipulate the data is roughly 15 minutes.

④ It is reasonable to expect utilities will discover other valuable customer service and marketing functions from a Landlord Portal.

For example, one basic function of a Landlord Portal is integrating with external tools commonly used by building owners, such as ENERGY STAR Portfolio Manager. It might be possible for the utility to obtain certain data points from such tools, such as building attributes (e.g., square footage, system types), number of occupants, tenancy type, and more. These factors, combined with utility information, could produce useful metrics, such as energy usage per square foot, to enhance service delivery.



Important challenges for utilities

Implementing a Landlord Portal will likely require a utility to navigate manageable challenges.

Many of the challenges arise because utility systems and business practices evolved without treating building owners as a unique customer class with specific information needs — a reality that has changed.

Associating Property Address

Some utilities that have reported their systems, databases, and tools do not now associate customer account with property address (even though billing systems must have an address). It appears some utility systems are missing consistent address information or it is not in a form that allows accounts to be grouped by property. Solutions must grapple with these challenges as they are discovered.

Instead of necessarily viewing this information as a precursor to any Landlord Portal, it might be possible to view the association of property address to customer account as an outcome of the Landlord Portal. For example, it may be possible for property owners (landlords) to input address and customer accounts or meter numbers in the initial registration process,

information that would be captured within the utility system.

Associating customer accounts, landlord names, and property addresses within the utility system, or fulfilling that function externally, could deliver value to the utility, potentially in the form of marketing, customer intelligence, load forecasting, or other values.

Customer Privacy

Protecting customer privacy is an essential value for utilities, and any proposal relating to customer information is highly sensitive for utilities. We believe from experience that stakeholders will find the questions related to customer privacy manageable and less difficult to resolve than they appear.

The general rule for almost all utilities is that customer permission is required before a utility will share usage or billing information of the account holder with any external party. In this regard, utilities are similar to many other institutions that hold important customer information, such as financial institutions, that offer online customer services.

The Landlord Portal raises solvable questions about two subjects:

① Anonymous aggregated Data

While utilities require customer permission to share a specific customer's information with another party, aggregated data is different if it does not communicate information about a customer. For example, a building owner cannot reasonably discern anything about a specific customer's usage from a utility report showing that 105,000 kWh were used in August and the total is composed of usage from multiple different active tenants' accounts. Accordingly, a utility can define a category of aggregated "whole building" information that cannot reasonably be used to reveal information about a specific customer. Many utilities have successfully done so with a "bright line" rule that limits the availability of whole building information customer to instances where it is composed of at least 3 or 4 active accounts (see section 4 on page 16).

② Customer permission – implementing modern processes

Many building owners will obtain their tenants' permission for the owner to receive the tenant's specific utility usage information. This occurs, for example, among owners of affordable housing. Many owners of affordable housing are required to analyze tenant utility usage or cost information to calculate a utility allowance, a key factor in maintaining affordable housing for low- and moderate-income households. It might also occur in office buildings with fewer tenants than needed to meet the aggregated data threshold noted above.

A design challenge for a Landlord Portal is how to make the process of conveying and confirming customer permission less cumbersome and time-consuming for all involved: owners, tenants, and utilities. A traditional manual, paper-based process for dealing with customer permission is extremely cumbersome and labor intensive.

Consumers Energy in Michigan has implemented a system based on a smart process. The burden is on building owners to collect release forms from tenants, but the utility does not require submission of those

forms. The utility portal will provide a building owner with a streamlined means to get usage information (each tenant's electricity or gas usage) but does not provide or reveal any cost or payment information. We discuss this subject in greater detail on page 17.

Level of Detail

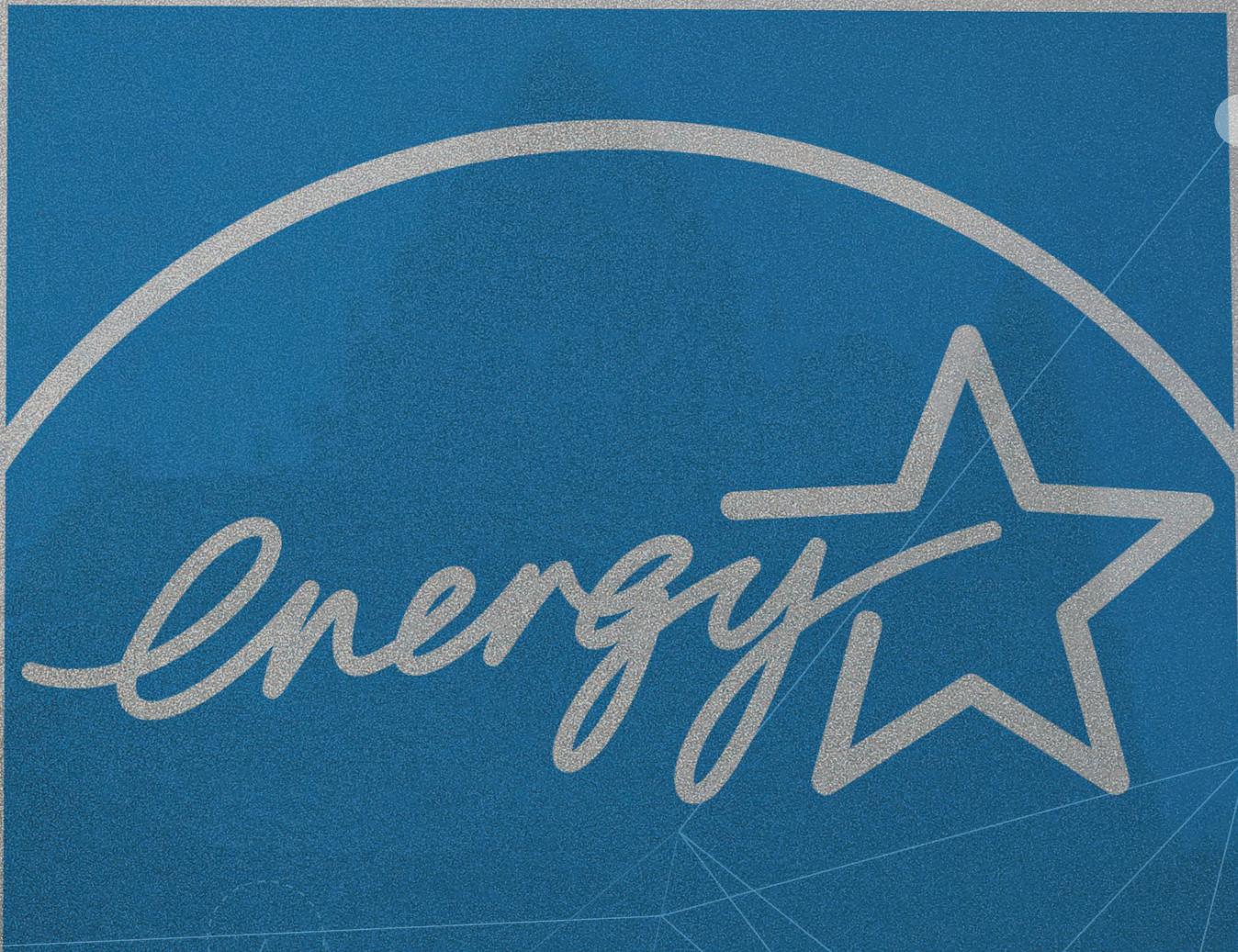
More detailed and granular usage information increases building owners' ability to use it for energy management functions.

An essential function of a Landlord Portal is delivering a "whole-building" data summary for the building. The total does not reveal or identify the individual data points that go into the total.

A monthly whole-building sum gives owners the information needed to obtain an ENERGY STAR score, which could be required by a local benchmarking ordinance needed to obtain a tenant,⁴ or for a multifamily property owner to obtain preferential financing.

However, a monthly aggregated sum is not likely to provide analytic power for energy management. The whole-building aggregated data gives a general indication of usage and a comparison to comparable facilities. It is helpful, and may provide some insight, but the monthly sum is rarely useful in developing actionable strategies to improve performance.

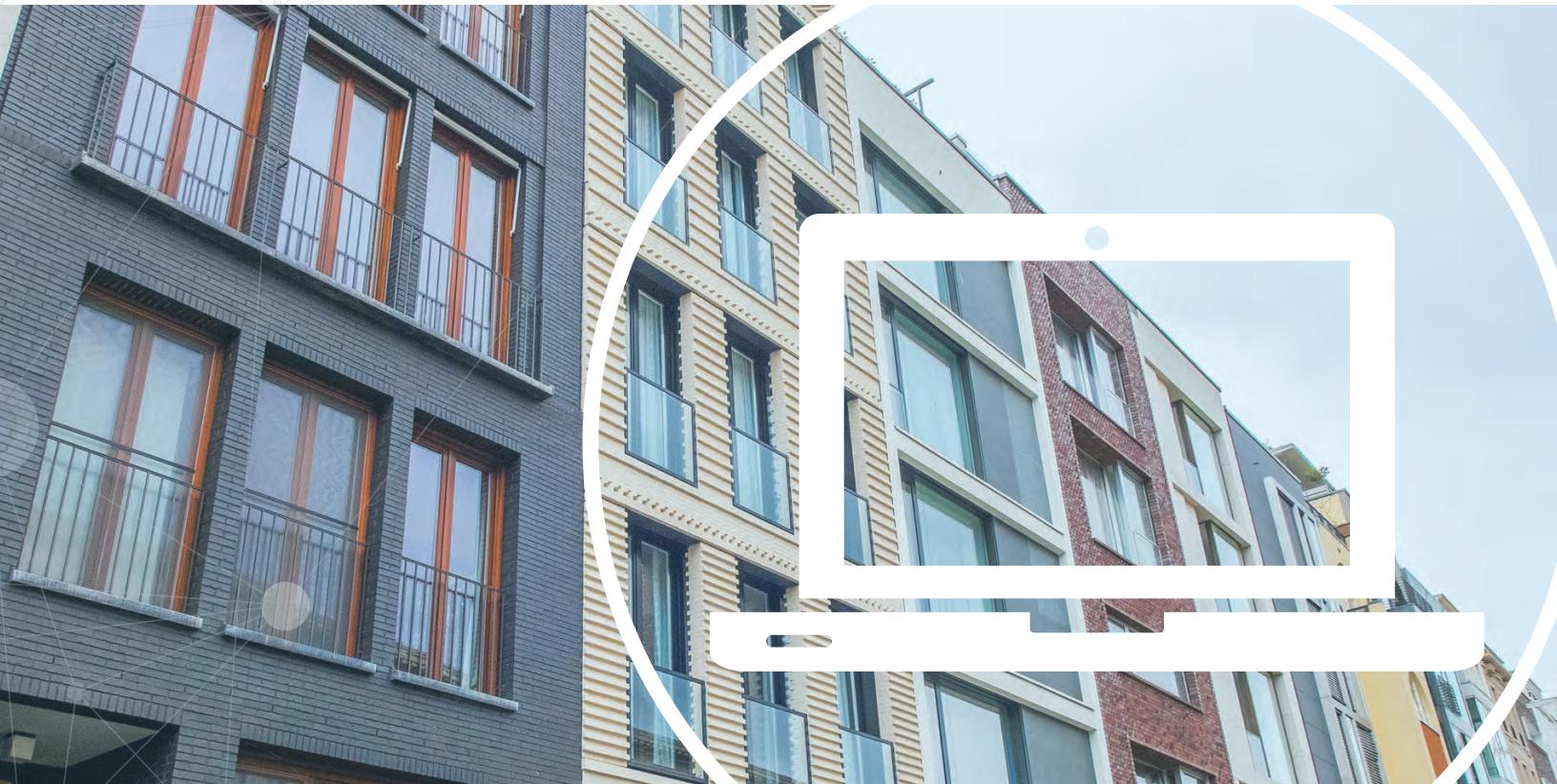
For building energy management purposes, and for preparing for capital upgrades, more detailed data is needed and the more accurate the analysis and better the decision-making. The explanatory power of data is directly related to the reporting interval and its granularity with respect to the metering configuration.



ENERGY STAR

2016 ENERGY STAR CERTIFIED BUILDING

KEY FUNCTIONS OF SELECT LANDLORD PORTALS



This discussion of the components and functionality of online data portals is informed by a survey of several existing portals, conversations with building owners, and utility representatives.

WE REVIEWED FIVE UTILITY SYSTEMS:

Commonwealth Edison (ComEd) — Energy Usage Data System (EUDS)

Consumers Energy — Landlord Utility Services portal

Eversource — Energy Reporting and Disclosure Portal

Pepco — Energy Benchmarking Tool

Xcel — Energy Benchmarking Service

The portals reviewed here were created for different reasons, serve multiple end users, and

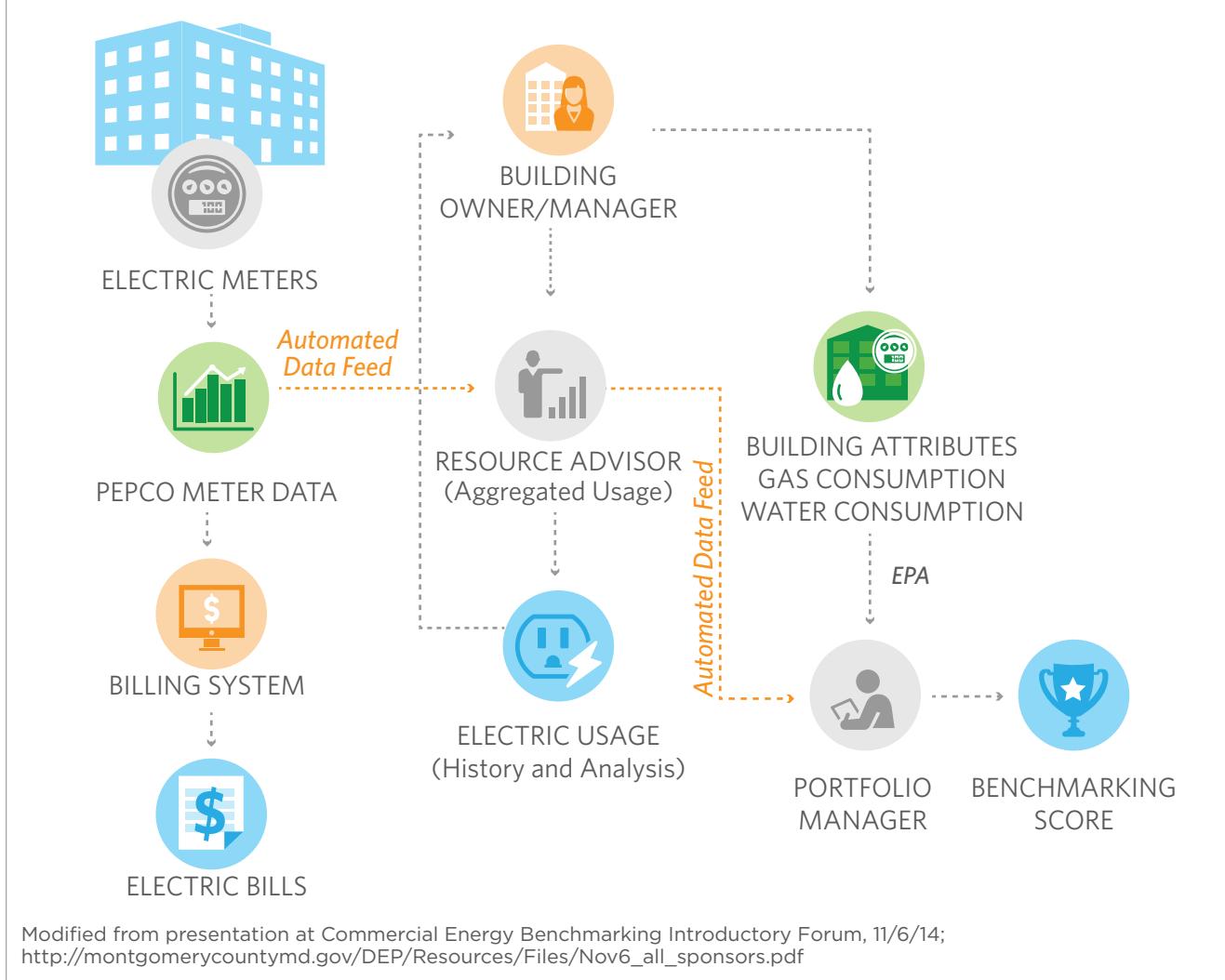
have different capabilities. Below, we describe key functions of these portals and offer suggestions for utilities considering creating an online utility data portal.

1. Defining Key Functions

Benchmarking

Several of the portals reviewed appear to be designed primarily to meet customers' need for whole-building energy data of multi-buildings, enabling the building owner to benchmark the building's energy use. Utilities serving cities or states with benchmarking requirements have customers with urgent need for this information. Benchmarking ordinances typically require whole-building aggregated energy data to be reported to the applicable authority through the EPA's ENERGY STAR Portfolio Manager (ESPM) tool.

FIGURE 1: DATA FLOW FOR PEPCO'S ENERGY BENCHMARKING TOOLS



The US Department of Housing and Urban Development (HUD) has proposed regulations that would require energy benchmarking and reporting through ESPM for all assisted and public housing,⁵ and HUD and the Department of Energy have actively encouraged energy benchmarking in ESPM through their Better Buildings Challenge Program.⁶

A utility portal intended to support benchmarking should be compatible with ESPM. The portals of Eversource, ComEd, and Pepco were created primarily to enable benchmarking of whole building energy data. Building owners in Boston, Chicago, and Washington, DC, are subject to requirements to benchmark.

Property Management

Utilities' Landlord Portals also facilitate recurring property management responsibilities, such as utility service transfers and data requests with regard to multi-tenant spaces. Automating some of these functions can alleviate the substantial time utility staff devote to deliver these services to property owners in a manual manner.

Consumers Energy in Michigan offers a portal that facilitates property owners' needs to transfer utility service to an incoming tenant and back to the owner when the tenant leaves.⁷ The practice helps both owners and the utility by allocating the energy usage to the appropriate customer, and it facilitates basic property management needs. For example, the service:

- Ensures that utility service to the apartment remains active so management staff can perform maintenance upon tenant turnover;
- Ensures that the tenant account is set-up upon move-in so the owner doesn't have to follow-up with the tenant afterwards; and
- Notifies the owner when a tenant has discontinued utility service.

These portals provide access to account-level historic usage data. Access to such information helps the owner better understand tenants' demands on a building's systems, which can inform planning for capital upgrades. Additionally, it helps multifamily property owners satisfy the requirements of various government or regulatory agencies to calculate utility allowances while minimizing the demands on utility company staff time.

The Consumers' Energy portal does not provide a whole-building sum of energy usage data and is not integrated with ESPM. However, because

the owner can obtain all the usage within the building, the owner can easily sum-up the account-level information to obtain a whole-building sum.

Eversource, ComEd, and Pepco provide the whole-building summary but do not provide access to account-level information and do not facilitate these typical property management functions.

Fulfilling Both Benchmarking and Property Management Functions

Xcel, a utility serving Minnesota, Colorado, and several other states, offers a service that provides whole-building aggregated usage information and streamlines access to more granular information: an owner may request individual meter data or some combination of individual meter data and an aggregation of other meters. For example, an owner could request a report of each individual owner-paid account and an aggregation of all

FIGURE 2-3: IMAGES OF THE CONSUMERS ENERGY PORTAL INTERFACE TO TRANSFER UTILITY ACCOUNTS TO THE TENANT AND OWNER

New Tenant Moving In

In compliance with the Fair and Accurate Credit Transaction Act (FACTA) of 2003, residential customers are required to provide validating information (name and driver's license or Michigan ID number or Social Security Number) prior to receiving new energy service or when making a change to their existing account (moving within utility service territory).

Without a Social Security number, we may not be able to validate the tenant's identity and may require the tenant to come into a company office or to fax a **notarized copy of their identification so we can confirm their identity.**

To complete the transfer of service, fill out the form and answer the rate questions to assist us in assigning the most appropriate rate for the customer.

When you have finished, click "Confirm".

FIGURE 3

Owner Moving In

The screenshot shows a web-based utility management tool for landlords. At the top, there's a header with the Consumers Energy logo and navigation links for 'Manage Account', 'Logout', and 'Help'. Below the header, a green banner reads 'Transfer Service' and '1400 KIRTS BLVD - 102'. A red box highlights 'The * fields are required'. On the left, a section titled 'Customer Leaving' contains fields for 'First Name' (CHARLES), 'Last Name' (WEATHERFORD), 'Account Number', 'Street Name', 'Unit Number', 'City', 'State', and 'ZIP Code'. To the right, there's a 'Meter Read' section with instructions: 'Enter a meter read by clicking the dial or entering the numbers below. If your meter has only four dials, ignore the third and fourth digits. If an electric meter read is not provided, we'll estimate it.' Below these are five digital-style meter dials. At the bottom of the page is a large green button labeled 'Confirm'.

When the Owner is moving in, the option will be presented to update the final mailing address for the tenant that is leaving. While this information is not required, Consumers Energy requests that you update it whenever possible to assist us with collecting on the tenant's final bill.

To transfer service, simply select the date the transfer is to be effective and provide a meter read if desired. If you do not provide a meter read, Consumers Energy will prorate the read which may result in less accurate billing.

When you have finished, click "Confirm".

Source: https://www.michigan.gov/documents/mpsc/Landlord_Portal_Work_Instructions_-_LMC_4_497979_7.pptx

tenant-paid accounts. Alternatively, the user may request separate, aggregated reports of commercial and residential accounts in a mixed-use property. To obtain information from another account holder, the owner may be required to obtain a tenant release form to access such data, a process that is partially managed through the tool itself. The Xcel tool, however, does not support the other management functions, such as utility account transfers.

2. User, Building, and Account Set-up

Each portal we reviewed has a method by which the user is defined, enrolled in the service, and confirms the user is authorized to access the applicable account data. Some portals, such as those offered by ComEd and Pepco, use a standard enrollment form, which requests information about the user with which the utilities assess the applicant's authority to access

energy data about the subject building. Xcel follows a similar process, but instead of a form, users register for the service online and provide identifying information to the utility. Consumers Energy staff engage directly with owners and managers by phone and request documentation, such as tax identification numbers and management agent contracts, to confirm the user is authorized to access the property's energy data.

Eversource seeks first to automate much of this process and falls back on an enrollment form when that is not possible. After defining the subject building in Eversource's tool, as described below, the user must demonstrate authorization in one of two ways. The owner may do so within the tool by entering the account and meter numbers for an owner-paid account at the subject property, information found on the owner's utility bill, or by downloading and submitting the utility's Property Owner's Verification and Authorization Form.

Definition of the Subject Building(s)

Defining the subject building is a key element for an online utility data portal. In some portals, such as those offered by Consumers Energy, and Pepco, definition of the building occurs concurrently through the user enrollment process and in communication with utility staff processing the request.

The Eversource and ComEd portals use online search functions to enable the user to isolate the subject building. Through Eversource's portal, a user enters address and the tool searches the utility's billing database and returns the relevant account.

ComEd's portal functions similarly, and the system requires an exact match of the address in ComEd's database.

Unique among the portals reviewed, users of Xcel's portal first define the building in ESPM and

then, through ESPM, connect the building with the username registered with the Xcel portal.

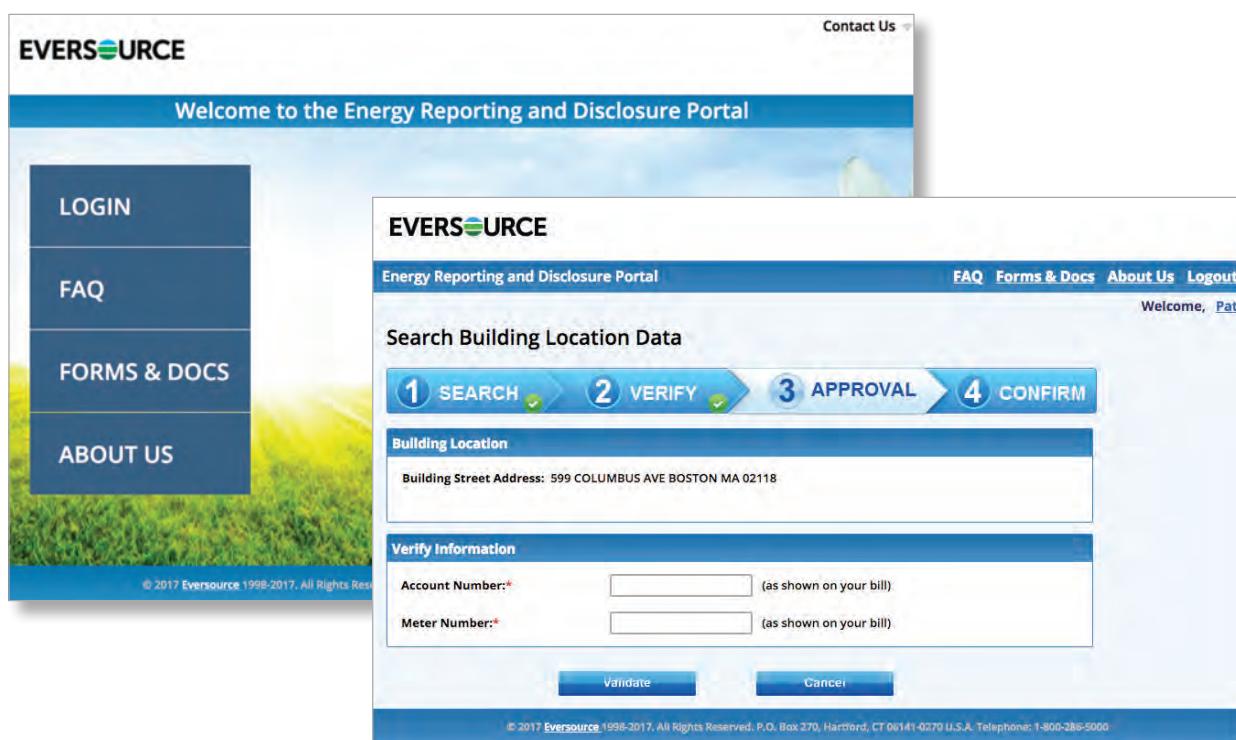
Some properties have multiple addresses, such as those on a corner or buildings on separate parcels which may be considered one property from the owner's perspective, as is common for multifamily properties. ComEd's portal, for example, enables the addition of secondary addresses to the primary address.

Association of Utility Accounts to the Subject Building(s)

The services reviewed use three methods to associate the individual utility accounts with the defined building(s). Consumers Energy and Eversource, rely on unique building identifiers within the utility's database that link individual customer accounts with a physical address.

Pepco's enrollment and data request form⁸

FIGURE 4: IMAGES OF EVERSOURCE'S PORTAL LOG-IN SCREEN AND INTERFACE



Images of Eversource's portal log-in screen and the interface through which the owner validates its identity by providing the account or meter number for an owner-paid utility account at the property. Without an owner-paid account on site, the owner must download and complete a verification form.

Source: <https://www.eversource.com/ccberdoapps/energydisclosurereporting/energydisclosurelogin.aspx>

FIGURE 5: COMED INTERFACE

The screenshot shows a web-based application window titled "Add New Building (Primary Address)". At the top, there are navigation links: "Back", "Dashboard", and "Building Management". Below the title, the form fields for entering building information are displayed:

- Building Name: [Text input field]
- Street Number: [Text input field]
- Street Name: [Text input field]
- Street Direction: [Dropdown menu set to "North"]
- State: [Dropdown menu set to "Illinois"]
- City: [Dropdown menu set to "Albion"]
- Zip: [Text input field]

At the bottom of the form are four buttons: "Save", "Save & Add Secondary Address", "Clear", and "Cancel".

ComEd's interface to identify the subject building. Note that a secondary address may be added by clicking the button at the bottom.

Source: https://www.comed.com/SiteCollectionDocuments/WaysToSave/LearnMore/euds_buildingmanager_guide.pdf

requires submission of each utility customer's account or meter numbers included in whole building summary or for which the user seeks data. Most property owners are unlikely to know each tenant's utility account number without direct engagement with each tenant, but meter numbers are printed on each meter and are therefore relatively accessible.

Xcel relies on a geographic information system (GIS) to connect meters and buildings. When the user activates the request within ESPM, the tool sends a call through Xcel's web services. Xcel uses GIS to link the address provided through ESPM with a building on an online map. The GIS tool then links all meters found within that building's footprint, a process supported and refined manually by Xcel staff. The entire process

requires about one minute per building for the user customer. When difficulties arise, Xcel staff contact the user.

Assesment of Set-up

The methods by which an online utility data portal defines the user, building, and associated utility accounts or meters should be efficient, accurate, and transparent to both the user and the utility.

To define the user, a streamlined process, such as Eversource's, which enables online registration and authorization through submission of information about owner-paid utility accounts, is simple and effective. Only the property owner or an authorized representative would have information about owner-paid meters at the site. Eversource's portal only provides whole-building aggregated data, so the utility has a reasonable

basis to require a less rigorous set-up process. Where more granular data may be requested, a more thorough process, such as Consumers Energy's direct engagement with users, may be appropriate.

Accuracy is paramount when defining the subject building(s) about which energy data will be requested, particularly where a "building," from the owner's perspective, may be comprised of several addresses. Ease of use make online searchable fields attractive, but alternate or secondary means to register or confirm the building address through direct engagement with utility staff are important, especially if there is any concern that the actual building address may not match the one listed in the utility database. Doing so may require a greater investment of time during the initial set-up, but should mitigate questions or concerns in the future.

A subsequent review can help remedy any errors and concerns. A reliance on unique building

identifiers with each utility account or meter number within the utility database does appear to streamline the task, but the user then relies on the validity of the utility's database and the comprehensiveness of the internal query for applicable meters. Eversource and Consumers Energy, which both use such a process, enable the user to review the portal's generated list of associated meters. That step may assuage some concerns, but as one user of Eversource's portal noted, for a building of 300 meters, a comprehensive review is challenging.

In a similar example, Pepco staff cited a customer's request for energy data in building with 680 meters. Pepco did not have confidence in the accuracy of the service addresses defined in their customer database, a reality that caused the utility to develop the alternate method that requires the user to provide a list of all associated account or meter numbers. Such a process also helps through the generation of a clear record of the request and a reference point to inform

FIGURE 5-6: EXAMPLES OF UNIT IDENTIFICATION, TENANT LISTS, AND VERIFICATION IN THE CONSUMERS ENERGY AND EVERSOURCE PORTALS

Energy Use History Option

To view the usage history for a property, check the box next to the address and click "Energy Use History".

You may select multiple properties, only one location, or choose to select all properties for this function.

Address	Unit	Current Tenant	Move In Date	Move Out Date	Status
20740 WOODLAND GLEN DR	101	WOODLAND GLEN APT	08/07/2006		
20740 WOODLAND GLEN DR	102	WILLIAM KIRCH	06/07/2006		
20740 WOODLAND GLEN DR	103	KRYAN MARIA	04/17/2006		
20740 WOODLAND GLEN DR	104	CYNTHIA ASTLE	04/19/2006		
20740 WOODLAND GLEN DR	105	SARAHINA SMITH	08/24/2006		
20740 WOODLAND GLEN DR	202	JONH DOE	10/06/2012		
20740 WOODLAND GLEN DR	203	ANDREA PRATEK	10/13/2006		
20740 WOODLAND GLEN DR	204	AMIE KIRCH	09/14/2006		
20741 WOODLAND GLEN DR		WOODLAND GLEN APT	08/27/2006		

FIGURE 6

The screenshot shows the Eversource Energy Reporting and Disclosure Portal. At the top, there's a logo for EVERSOURCE and a navigation bar with links for 'FAQ', 'Forms & Docs', 'About Us', and 'Logout'. Below that, it says 'Welcome'. The main title is 'Search Building Location Data'. There are four numbered steps: 1. SEARCH, 2. VERIFY, 3. APPROVAL, and 4. CONFIRM. Step 1 is highlighted. Below the steps, there's a section titled 'Current Building Location' with a table. The table has three columns: 'Apt/Suite No.', 'Address', and 'Service Type'. Under 'Service Type', all entries are 'ELEC'. Each row in the table has a blue 'Delete Location' button on the right. The table also includes a 'Building Street Address' field and a 'Total Number of Units Returned: 68' message.

Apt/Suite No.	Address	Service Type
		ELEC <button>Delete Location</button>
		ELEC <button>Delete Location</button>
101		ELEC <button>Delete Location</button>
1FL		ELEC <button>Delete Location</button>
201		ELEC <button>Delete Location</button>
202		ELEC <button>Delete Location</button>
203		ELEC <button>Delete Location</button>
204		ELEC <button>Delete Location</button>
205		ELEC <button>Delete Location</button>

Sources: <https://www.eversource.com/ccberdoapps/energydisclosurereporting/energydisclosurelogin.aspx>
https://www.michigan.gov/documents/mpsc/Landlord_Portal_Work_Instructions_-_LMC_4_497979_7.pptx

subsequent questions. One user of Pepco's portal noticed an apparent error in the monthly data reported through the tool. Upon contacting Pepco staff, the user and utility were able to cross-reference the list of meters contributing to the data reported with that submitted with the request and resolve the problem. The user and utility staff can have a common reference point that defines the accounts or meter numbers associated with the request. Such processes may require a greater investment of time initially, but it underscores the validity of the output and creates an important record for future staff.

It is worth repeating that the user set-up process will provide the utility with a validated data set tying meter/account to property address.

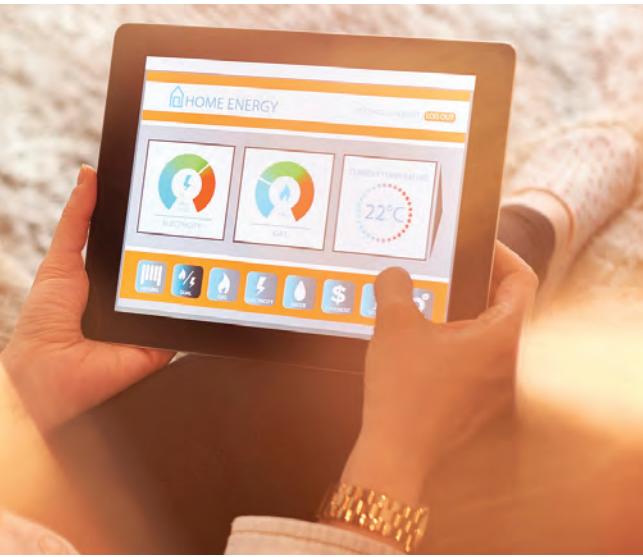
Whatever methods are selected to satisfy these basic functions, a utility should consider whether larger strategic objectives may be advanced through development of the data portal. Both

Pepco and Xcel staff suggest that their methods help advance other goals, such as improvements in database quality by refining the definitions of buildings and associated meters.

3. Whole-Building / Aggregation

A Landlord Portal for benchmarking must deliver whole-building aggregated monthly data on energy use, as illustrated through the ComEd, Eversource, and Pepco systems, or enable the user to easily calculate it as with Consumers Energy.

Many utilities that offer whole-building aggregated data have adopted similar guidelines regarding the thresholds that must be met to deliver the data to the owner. There is a growing consensus that a whole-building total composed of 4 or more active accounts presents very little if any risk that it could be used to identify anything about the specific included customers.⁹



In systems in place at ComEd, Eversource, and Xcel, whole building information for a residential building with at least four utility accounts may be given to the owner of the building without completion of individual customer release forms. For Eversource and Xcel, the threshold is also four accounts provided that no one customer accounts for more than 50 percent of the total building usage. Pepco set the threshold level at five utility customers. Other utilities have 2 accounts.

4. Unit-Level Information and Customer Permission

A Landlord Portal that is intended to help a landlord with energy management or utility allowances for affordable housing should provide more detailed unit-level data. Because most utilities will only share a customer's information with a building owner if the owner has the permission of the customer to obtain the information, addressing the process to deal with customer permission is a threshold matter.

The manual paper-based process to confirm the requesting party has the customer's permission, used by many utilities, is archaic and cumbersome. Utilities should set a goal to automate or at least streamline the permission process.

OPTIONS TO ACCOMPLISH THIS GOAL INCLUDE:

- (a) Allow owners to include a standard utility-approved paragraph in their standard lease agreement.
- (b) Give utility customers an online "check box" certification to approve their landlord to receive certain specified usage data.
- (c) Ability to access and submit forms to the utility through an online system.

Xcel's accommodates varied requests by the user. It can provide whole-building aggregated data or data requests for individual tenant-level data. When providing more granular account information, such as that for individual tenants, Xcel requires users to provide customer release forms. Through the tool, users can access template release forms and submit them to the utility to facilitate processing of the request.

Consumers Energy uses perhaps the most creative and interesting method for permission we have seen. The utility's system enables the building owner to obtain individual tenant-level energy usage information (not billing or cost information). Consumers Energy requires the owner obtain customer permission, and the owner must keep forms on file, but owners are not required to provide the forms to the utility company. The burden is on the owner, and the release forms must be available upon request during an audit.

In addition, utilities should make reauthorization simpler than initial authorization, or use automatic reauthorization with an option to opt out. And, multi-year authorization for each tenant should be used.

INNOVATIVE SOLUTION FOR CUSTOMER PERMISSION FOR UNIT-LEVEL INFORMATION

Stakeholders might find useful lessons for customer permission from the process used by banks and credit reporting agencies.

A credit reporting agency may share a consumer's financial information or credit report with a requesting party if the customer has provided permission to the requesting party. Unlike most utilities operating under state law, credit bureaus are subject to the federal Fair Credit Reporting Act that provides parameters for this transaction.¹⁰

The process enables banks and merchants to request, and credit bureaus to fulfill, millions of requests every day without manually verifying consumer permission in each case.

Here's how it works. Consider a retail merchant seeking to qualify a customer for credit. The merchant must first be pre-approved and register with a credit bureau (e.g., Experian, Equifax, TransUnion). The merchant commits by contract to document the customer's permission before requesting a consumer's report and is subject to substantial penalties for any unauthorized requests for credit information. The merchant pays the credit bureau a fee to be registered and may post a bond to assure compliance, and the credit bureau has quality assurance processes.

The credit bureau then does not manually examine customer permission associated with each merchant request for a consumer's credit report, but will verify a sample for quality assurance and compliance checks.

Following that model, a utility might consider a process to certify owners of a large number of properties in their service territory. In the registration process the utility would verify the landlord's standard lease agreement contains appropriate customer permission, and the landlord would agree to certain processes and penalties. The utility then would not be required to manually verify each permission form. The utility might notify included customers periodically that their landlord obtains a copy of their monthly utility usage.

Because of the sensitivity of customer privacy, this process would require careful customer messaging. And, any such pilot or process would likely require close cooperation with any utility regulator.

5. Data Delivery Methods

Utility data portals should make energy data available to the customer in multiple forms, including direct download and integration to commonly used tools, such as ENERGY STAR Portfolio Manager using standard formatting, such as Green Button, Excel, or a csv file.

Portals of Eversource, ComEd, and Consumers Energy, for example make the data available through the tool for customer printing or download. Once a request is processed through Eversource's portal, the data is emailed directly to the user. For ComEd and Consumers Energy users, the data may be downloaded through the tool.

Some portals only allow the data to be delivered to designated tools which then may allow customer

download. Pepco's service relies on a partnership with Resource Advisor, a tool created by Schneider Electric. Xcel's service relies on ESPM. Upon request by the user, both Pepco and Xcel push the data to these third-party tools through which a user may download the energy data. ComEd's tool also allows integration to ESPM.

Scheduling recurring data requests is an important function. Some of the tools reviewed, such as the services of ComEd, Pepco, and Xcel may be configured to automatically update the data export to the third party tools, ESPM and Resource Advisor. In contrast, the Eversource and Consumers Energy user must initiate each energy data request.

6. Data Delivered: Scale, Granularity, Fields, and Formats

Data Scale and Granularity

The purpose of the utility tool will drive what scale or granularity of data to provide. Whole-building aggregated data may satisfy basic benchmarking requirements, but data at that scale, particularly for buildings with many utility meters, is of limited value for owners or utility programs¹¹ that are seeking actionable measures to improve efficiency. Wherever the data output aggregates multiple meters, it should note the number of contributing meters to ensure all meters are accounted for and the data supplied accurately reflect the utility consumption of the related spaces.

Utilities planning to implement a Landlord Portal should consider owners' needs for data with greater resolution or granularity. Xcel, for example, offers information that satisfies multiple use cases. It can deliver unit-specific information if the owner satisfies requirements for tenant release forms.

Data Fields & Formats

Each of the portals reviewed here provide monthly energy consumption information. Some outputs, such as that provided by Eversource, provide a start date and an end date for each month along with the total usage. Others, such as the output available from Pepco or that from ComEd's EUDS, simply define a month and year and the assigned consumption. Consumers Energy's portal provides a start date, end date, and address and unit number along side the monthly energy consumption data. With regard to the time interval of the output, while a growing number of tools and capabilities make use of utility data at more frequent intervals, monthly data will likely be sufficient to support most owners' needs for analysis, planning, and reporting.

The table below (Figure 7) provides a list of basic data fields that could be delivered through a Landlord Portal. This is not intended to be comprehensive and additional fields could be valuable to owners.

FIGURE 7

MOST IMPORTANT DATA POINTS A UTILITY PORTAL SHOULD PROVIDE TO LANDLORDS:			
CONSUMPTION kWh / CCF, therms, or BTUs (gas) / CCF (water)	DEMAND DEMAND CHARGES Typically applies only to electricity	CONVERSION FACTOR For natural gas, conversion factor to Btus or Therms if use given in cubic feet	TOTAL CHARGES
DELIVERY CHARGE	FIXED/SERVICE CHARGE	SUPPLY/FUEL CHARGE	TAXES
RATE CLASS (if applicable)	READ DATE	BILLING START-END DATES	ESTIMATED OR ACTUAL*

* If total usage is aggregated of multiple included meters, indicate if any of the included meters are estimated and percentage of total usage that is estimated.



The arrangement of the data fields in the output can be fairly simple: a simple array of all available fields across the columns and alongside the meter read dates and the associated building-, meter-, or unit-, identifying information defined in each row.

Should a utility create a web service, such as an application programming interface (API), to enhance delivery of the data, it should consider using the Green Button standard.¹² Wherever the utility's service seeks to support benchmarking, compatibility with ESPM, and perhaps a direct data feed to the tool via web services, makes sense.

Output formats vary. Several utilities reviewed provide the data in .csv format; others provide the information in Excel or PDF formats. Of importance for those portals supporting benchmarking in ESPM is that the output satisfies that tool's requirements.¹³ Where a portal is designed to deliver a file, it should be a flat, delimiter-separated value file, such as a comma-separated value (CSV) or a tab-separated value (TSV) file.¹⁴ Such files are more compatible with database and statistical tools for further analysis and can easily be opened in Excel as well.

A Landlord Portal would provide important advantages to a utility and its customers.

SUMMARY OF LESSONS LEARNED



FOR UTILITIES:

- Improve utility databases by associating meters with the subject buildings and building features; and
- Enable greater energy efficiency;
- Greatly decrease the staff time required to respond to customer requests for data and other services;
- Improve utility databases by refining their understanding of meters associating meters with the subject building(s); and
- Improve the development, targeting, and delivery of other services, such as energy efficiency programs.

FOR OWNERS:

- Streamline access to data previously unavailable or accessible only through more arduous and costly means;
- Enable compliance with the requirements of various government agencies; and
- Enhance analysis to inform capital planning and building upgrades.

Existing Landlord Portals are informative and conversational. Utility staff and customers find several key components regarding design and functionality.

Before making design choices, a utility should first consider how a Landlord Portal could advance the strategic needs of both the utility

and its customers — beyond the simple provision of energy data. **Consider a survey of customers or a workshop with and other key stakeholders to understand priority needs.** Xcel did such a survey, which led to the creation of a flexible tool with the key capability to provide the user with access to energy data at varying degrees of granularity, from the building-level to the meter-level, while refining the utilities' understanding of its customer base.

When detailing the process to define the user, building(s), and applicable accounts, utilities should strive for methods that emphasize efficiency, accuracy, and transparency for both the utility and user.

One caution is noted: processes that automate or otherwise limit utility-user interaction through an online interface can risk errors. For example, if the user's only means to define the building or associated accounts is through an online search function, the process may be less capable of addressing unique situations, such as buildings with multiple street addresses, and the user may be less inclined or capable of verifying that the list of associated meters is comprehensive and

accurate. Utilities should consider some means for the customer to easily communicate with the utility staff or incorporate a process that demands a clear definition of the building and subject meters and which may be verified by both the utility and the user. Pepco's process excels in this regard through the required submission of a list of applicable meters.

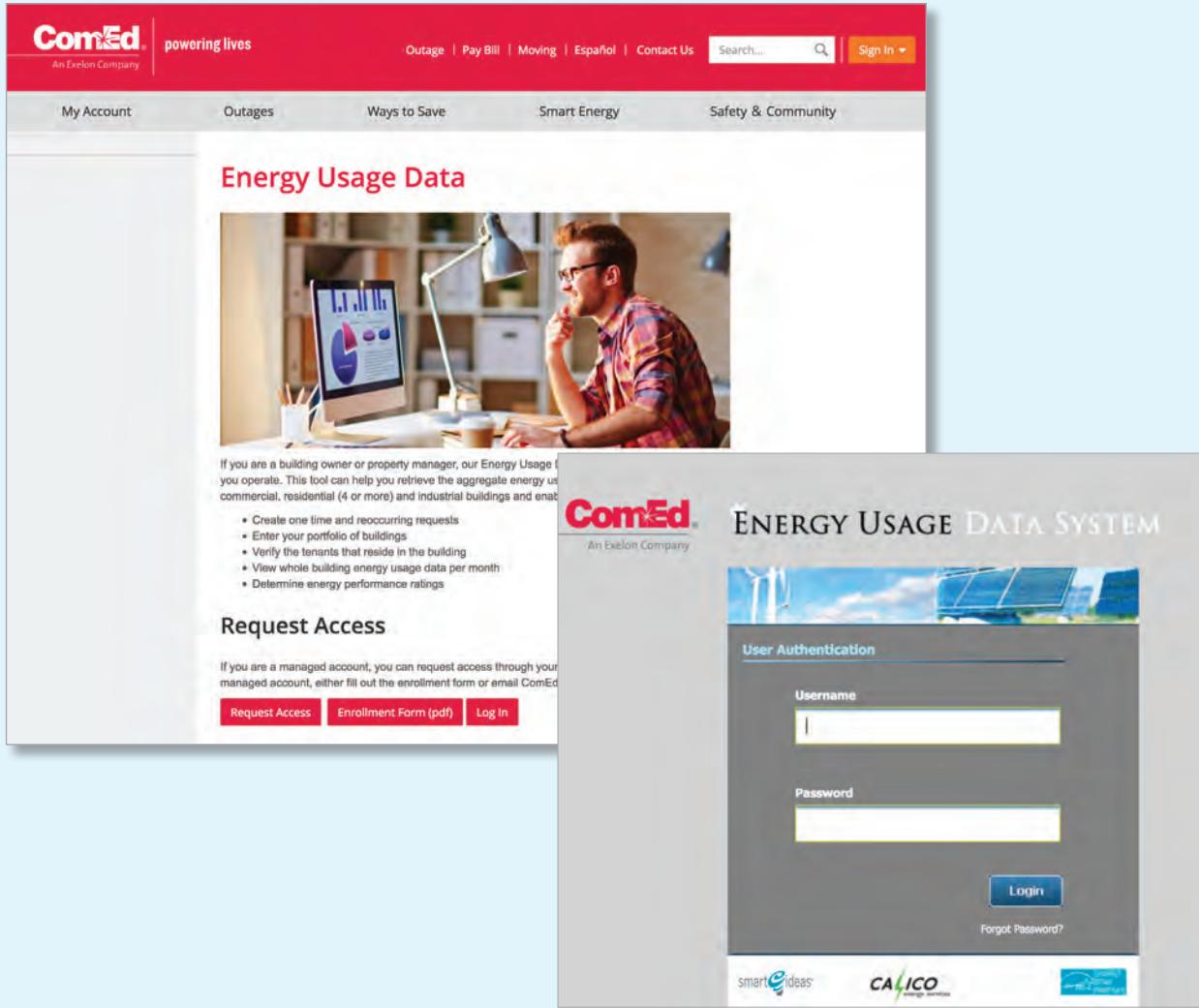
Data made available through the tool should be easy to access, and, with the growth of benchmarking, utilities should ensure that the output is compatible with ESPM either through development of a web service or delivery in a format that can be easily uploaded into that tool. ComEd, Pepco, and Xcel accomplished this end result, in slightly different ways.

In terms of the data output, scale and flexibility matter. A tool such as Xcel's, which enables output at varying scales, from the building- to the meter-level, is a promising model. Where the data output aggregates multiple meters, it is helpful to provide the number of meters contributing to the total, and the utility should consider providing the data fields listed in Figure 7.

The output should be delivered in a manner that gives the customer flexibility to use the data in a range of tools (e.g. delimiter-separated file format or through a web service, such as an API).

UTILITY LANDLORD PORTAL SUMMARIES

ComEd



The screenshot displays the ComEd Energy Usage Data System (EUDS) portal. The main navigation bar includes links for My Account, Outages, Ways to Save, Smart Energy, and Safety & Community. A red banner at the top left reads "Energy Usage Data". Below the banner, there is a photograph of a man sitting at a desk, looking thoughtfully at a computer screen showing energy usage data. A list of features follows, including:

- Create one time and reoccurring requests
- Enter your portfolio of buildings
- Verify the tenants that reside in the building
- View whole building energy usage data per month
- Determine energy performance ratings

A "Request Access" button is located below this list. To the right, a separate window shows the "User Authentication" screen for the EUDS system. It features fields for "Username" and "Password", a "Login" button, and links for "Forgot Password?" and "smart ideas". Logos for CALICO and the Chicago Climate Exchange are also visible.

Portal name: Energy Usage Data System (EUDS)

Website(s): <https://www.comed.com/WaysToSave/LearnMore/Pages/EnergyUsageData.aspx>
<https://www.energyusagedata.com/login.aspx>

Design intent:

The portal is designed to provide whole-building aggregate energy use data. Notably, ComEd launched its portal in 2008, nearly 5 years before Chicago adopted its building energy disclosure ordinance. At the time, the utility noted an

increasing number of customers requesting data to benchmark energy usage in ENERGY STAR Portfolio Manager (ESPM), which demanded considerable staff resources. Before creating the portal, the utility satisfied these requests for a limited number of buildings through a manual process that required 10-14 days per request. With increasing demands on staff time and limited internal resources, ComEd contracted with Calico Energy Services to streamline the process through a software tool, which was operational in roughly six months.

In 2007, the utility provided whole-building data to roughly 70 buildings. Today, 1,700 property managers use the tool to access energy data for 7,200 buildings.

Data delivery methods:

Building usage data can be exported from the tool into Excel. Additionally, the user may establish a connection between the EUDS and ESPM, through which the data is shared directly.

The EUDS interface enables the user to make either one-time or scheduled, recurring data requests.

User set-up:

A user enrolls in the EUDS by contacting the firm's ComEd Account Manager or, if the property owner does not have a ComEd Account

Manager, completing an enrollment form. Through enrollment, the user is provided an EUDS username and password.

Building set-up:

The building(s) are defined through the enrollment process, alongside the user set-up, and within the EUDS portal. Within the portal, the user must enter a building address that is an exact match of the address as entered in ComEd's database.

Linking accounts to the building(s):

Once the building(s) is identified and the user makes a request via the portal, the tool populates a tenant list by cross-referencing ComEd's customer database. The user must confirm or deny each tenant account listed as associated with the subject building before continuing with the data request.

Output – aggregation, scale, fields and formats:

The tool provides whole-building aggregated monthly energy consumption data which may be downloaded directly from the online interface into an Excel format or may be exported directly to ENERGY STAR Portfolio Manager. For residential properties, the building must have at least 4 accounts. The data fields provided include month and total monthly usage.

Consumers Energy

The screenshot shows the Consumers Energy Landlord Utility Services portal. At the top left is the Consumers Energy logo with the tagline "Count on Us". Below the logo is a green header bar with the title "Landlord Utility Services". The main content area is divided into two sections: a left sidebar and a right login form.

Left Sidebar Content:

- Getting Started:** Welcome to Consumers Energy's Landlord Utility Services, where you can manage utility services at multiple rental properties in one place! A Landlord Utility Services account allows you to view your properties, transfer service, and download energy use data.
- To enroll, please [email us](#) or call our Landlord and Small Business Support Team at 1-855-477-9027 (available 7:00 am to 6:00 pm Monday through Friday, and 8:00 am to 5:00 pm on Saturday).** Please reserve this number for your use only. Your tenants may call 1-800-477-5050.
- Energy Efficiency Programs for Property Managers:** If you own or manage multifamily properties, Consumers Energy can help lower your energy costs, provide you with free products and services, and add value to your property. We can even help you earn rebates when you make energy efficiency upgrades around your property. In addition, if 66% or more of your tenants are at or below 200% of the federal poverty guidelines, you may be eligible for 50% more in rebates for select efficiency retrofits. To learn about our free Multifamily direct install program and the cash rebates available for energy efficient retrofit measures please visit www.consumersmultifamilysavings.com or call (877) 813-9617.
- Third Party Notification – One Less Thing to Worry About:** Our free Third Party Notification service provides you with an extra measure of protection before an account's energy service is shut off. Using this service, you will receive a copy of shutoff notices issued to an account/tenant. [Send in this form to receive these notifications.](#)
- 7/14/2016- Status Field Updates, Current Error:** When making a transfer either by Tenant-to-Landlord, Landlord-to-Tenant, or Tenant-to-Tenant the status field is not populating in a timely manner. When the transfer first occurs it will appear as No Service for the first few minutes. If you received a confirmation number after submitting transfer that completes the transaction. Check the status field after a few minutes, at times it can take 20 minutes for the request to process.

Right Login Form:

User ID: _____
Password: _____

[Forgot Password?](#)

At the bottom of the page are links: Help | Contact Us | Privacy | Security | Terms of Use | © 2017 Consumers Energy

Portal name: Landlord Utility Services

Website(s): <https://www.consumersenergy.com/landlord/out/login.aspx>

Design intent:

The portal was designed to provide a variety of services to property managers of multi-tenant spaces. It enables the user to transfer utility accounts into an incoming tenant's name and to return them to the owner's name after the tenant moves out. Such as services enables continuous utility service at the site and more efficient processing of such requests, which used to be managed with paperwork submissions and faxes. The tool also provides a report of individual tenant consumption information, which managers of affordable housing properties often use to calculate utility allowances, required by many affordable housing programs.

Data delivery methods:

Building usage data is downloaded directly from the portal. Each data request must be made separately.

User set-up:

A user registers by contacting utility staff and submitting documentation that demonstrate ownership and/or appropriate authorization (e.g. property management contracts) to access energy data about the subject property.

Building set-up:

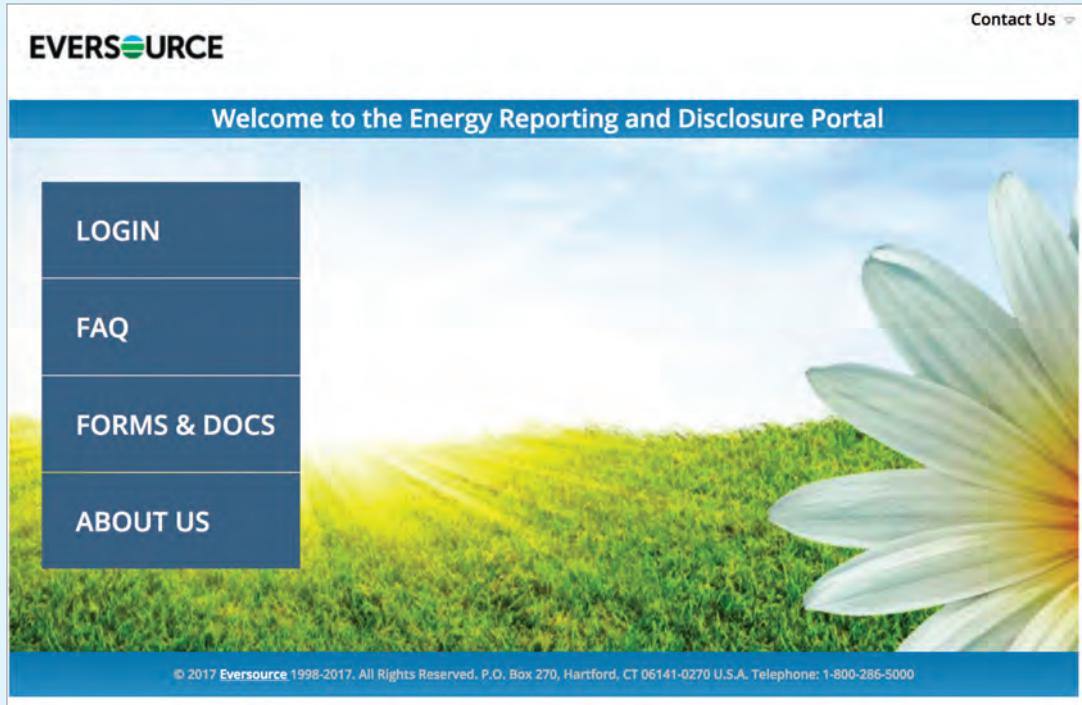
The building(s) are defined through the enrollment process and engagement directly with utility staff.

Linking accounts to the building(s):

Once the building(s) is identified, the utility company uses a preexisting unique identifier for each building within its databases to identify all associated utility accounts. The tool then shows the user all associated accounts.

Output - aggregation, scale, fields and formats:

The tool provides tenant-level energy consumption data through a download directly from the portal. The information is provided in .csv or PDF format with the following fields: property name; address; unit; start date, end date; electric usage; and gas usage.



Portal name: Energy Reporting and Disclosure Portal

Website(s): <https://www.eversource.com/ccberdoapps/energydisclosurereporting/energydisclosurelogin.aspx>

Design intent:

The portal is designed to provide whole-building aggregate energy use data (both electricity and gas, where available). It was created, in part, to help properties comply with the building energy disclosure portals adopted by Boston and Cambridge and to support customers' desires to apply for ENERGY STAR certification.

Data delivery methods:

Building usage data is provided to the user via email from Eversource. Each data request must be made separately.

User set-up:

A user registers online through the portal. Owner authentication is achieved through the either 1) the user's submission of account and meter information related to an owner-paid utility account at the subject building or 2) the submission of an owner verification and authorization form.

Building set-up:

The user searches for the subject building through the online interface by first entering a zip code, then an address number, and ultimately the street name. The tool interfaces with the utility's billing database and returns the relevant address.

Linking accounts to the building(s):

Upon selecting the address, the tool shows a list of all associated meters, which are linked through a unique identifier to the subject building in the utility's database. The user must then verify the accuracy of this list, or correct it, by deleting units included in error or adding those missing.

Output – aggregation, scale, fields and formats:

Where a building has four or more utility accounts and no one account has more than 50 percent of the total building usage, the tool provides whole-building monthly aggregated energy consumption data. The information is provided in .csv format with the following fields: start date, end date; and usage.

ENERGY BENCHMARKING

We support the newly implemented Benchmarking initiatives in the Pepco territory by providing aggregate energy use data to authorized Requestors.

We now have a new online energy management tool available - Resource Advisor. This tool can be used to collect whole-building historic electric use data for energy benchmarking. With Resource Advisor, you can also access aggregate building data on a monthly basis and automatically transfer it into Portfolio Manager. Click here to read our [Resource Advisor Overview](#). Click here to read our [Portfolio Manager Process](#).

To protect individual customer data privacy, a building must have five (5) or more individually metered electric accounts; however, we reserve the right to deny requests for consumption data if we determine that individual customer privacy would not be protected. Requests for aggregated consumption data on buildings with four (4) or less individually metered accounts will require the consent of each customer. Please use the [Electricity Use Data Request Form](#) after reading and agreeing to the Resource Advisor Terms of Use below.

To process the request, the Requestor must provide complete information identifying each electric meter (Meter Number) servicing the building. A Meter Number for each electric service point is acceptable if individual customer account numbers are not available.

We will provide whole-building historic and monthly consumption data via Resource Advisor by month and year, for the service points and/or account numbers submitted. Please note that Pepco can only provide electricity use data. To obtain a Portfolio Manager score, additional data is required, such as natural gas usage and other building information. For information about complete benchmarking data requirements, please visit our [Portfolio Manager page](#). We will respond to Resource Advisor subscription requests within thirty (30) calendar days. Response time may vary depending on the volume of data requests and available resources. To answer any questions you may have, please read our [Resource Advisor Fact Sheet](#).

Completed Electric Use Data Request Forms can be sent the following ways:

Email:
kast-south@pepco.com

Portal name: Energy Benchmarking Service

Website(s): <https://www.pepco.com/pages/myhome/energymanagement/energybenchmarking.aspx>

Design intent:

The portal is designed to provide whole-building aggregate energy use data and was originally developed to help properties comply with local building energy disclosure ordinances. Before launch of the tool in 2014, utility staff satisfied customers' requests for such data manually. Pepco staff estimate that doing so for 200 buildings in one year demanded \$100,000 of staff time, so pivoting to a software solution was of critical importance.

To implement a tool, Pepco turned to Resource Advisor, a product of Schneider Electric. The utility reports it valued several key functionalities of Resource Advisor, including:

- The tool's ability to retain building-level historic data while updating it monthly;
- The means through which a user can easily access and review energy data at a portfolio-scale to facilitate comparisons across several buildings;
- Existing web services to push data to ESPM.

Data delivery methods:

Upon request by the property owner, Pepco sends building usage data to Resource Advisor. From Resource Advisor, the user may download

the consumption information in an Excel format or push the consumption data to ENERGY STAR Portfolio Manager. Once a building is registered for the service, Pepco automatically pushes future monthly consumption data into Resource Advisor as it becomes available.

User set-up:

To use the service, the owner must send a request form to Pepco, which includes the requestor's name, the property's tax identification number, and the account or meter numbers in the building. Pepco staff review the information and ask Resource Advisor to create a username for the requestor.

Building set-up:

The user defines the building's service address and property tax identification number on the request form.

Linking accounts to the building(s):

The data request form requires entry of either the meter or utility account numbers associated with that building. Pepco staff use these numbers to identify and link all associated usage for the subject building. Notably, Pepco established this method as it recognized that the addresses associated with many utility accounts and meters were often haphazardly entered in its database. Using the account number or meter number, the

utility believes, is a more accurate way to capture all associated energy data for the subject building.

When satisfying a user's request, Pepco staff will review the address defined for each meter to confirm that it appears associated with the subject building's address. If Pepco is unable to find the specified meter or account, staff contact the requestor. There is, however, no means to include meters or accounts that are not listed on the requestor's form, so the user's submitted list must be thorough.

Output – aggregation, scale, fields and formats:

Availability of whole-building aggregated data requires the building to have at least 5 separate utility accounts. Furthermore, Pepco reserves the right to deny requests if it believes individual customer privacy may be compromised through provision of the data. Requests for buildings with fewer than 5 utility accounts require consent of each individual account holder.

The tool provides whole-building monthly aggregated energy consumption data via download from Resource Advisor. The output defines total electric consumption within each month. Resource Advisor also provides additional analytic capabilities, including variance and other types of reports.

The screenshot shows the Xcel Energy website's service area selection page. At the top, there are navigation links for Colorado, Customer Support, Billing & Payment, Start, Stop, Transfer, Programs & Rebates, Outage & Emergencies, and a search icon. Below these, a red banner displays the message "Please Select a Service Area". Underneath the banner, there are eight state maps arranged in two rows of four. The top row includes Colorado, Michigan, Minnesota, and New Mexico. The bottom row includes North Dakota, South Dakota, Texas, and Wisconsin. Each map has its name labeled below it. To the left of the maps, there is a "Energy Saving Tip" section with a lightbulb icon and text about checking for leaks. To the right, there is a "National Safety Month" section with a speech bubble icon and text about making safety a priority.

Company	Energy Portfolio	Environment	Community	Working With Us	Customer Support
About Us	Electricity	Responsible Operations	In Your Community	Builders	Contact Us
Careers	Natural Gas	System Improvements	Focus Area Grants	Renewable Developers	Customer Support FAQ
Investor Relations	Renewable Energy	Bird Cam	Education	Trade Partners	Vegetation Management
Rates & Regulations	Transmission	Innovation	Public Safety	Municipalities	New Customer
			Economic Development	Suppliers	Landlords

Portal name:
Energy Benchmarking Service

Website(s):
https://www.xcelenergy.com/Programs_and_Rebates/Business_Programs_and_Rebates/New_Construction_and_Whole_Building/Energy_Benchmarking

Design intent:
The portal was designed to advance building energy management by facilitating access to energy data at multiple scales: from the individual meter-level to whole-building aggregated energy data, and any combination between those points. As such, the portal helps properties comply with

local building energy disclosure ordinances and enable more detailed energy analysis.

Xcel moved to create the tool as more customers sought to benchmark their properties and the cities of Minneapolis, Denver, and Boulder were all considering adoption of an energy disclosure ordinance. Prior to the portal, Xcel satisfied customers' requests manually.

Extensive stakeholder engagement was key to Xcel's development of a portal that offers information more granular than whole-building aggregated data. Working with a group of over 100 customers, Xcel noted that many customers, often the more sophisticated property managers of class A commercial office space and large

multipamily portfolios, sought more streamlined means to access meter-level data.

Data delivery methods:

Energy data is delivered through the ENERGY STAR Portfolio Manager tool, and therefore requires the user to set-up the building in that tool as well. Upon request by the user through ESPM, Xcel pushes the data to ESPM through its web services and will continue to do so in subsequent months. The user may download the energy usage from ESPM.

User set-up:

One must register for the service through Xcel's online interface by providing some identifying information about the user and his/her applicable company. Additionally, the user must register within ESPM and create the property within that tool. After the user links the Xcel and ESPM portals, Xcel will confirm that the user is either the building owner or has the permission to access the information requested. Xcel commonly does so by verifying the requestor is the same entity listed on the building's common area utility accounts or by reviewing property or tax records, though a review of such legal documents is rarely required.

Building set-up:

The building characteristics are defined within the user's ESPM account.

Linking accounts to the building(s):

Within ESPM, the user specifies the data requested. For example, the user may request individual meter data, aggregated whole-building

data, or at some scale between those points, such as separate aggregations of all commercial and residential accounts.

When the user activates the request within ESPM, the tool sends a call to Xcel's web services. Xcel use a geographic information system (GIS) to link the address provided through ESPM with a building on a map. The GIS tool then links all meters found within that building's footprint, a process supported and refined manually by Xcel staff. The entire process requires about one minute per building. When difficulties arise, Xcel staff contact the user.

Through the arranging of meter configurations and linking of the Xcel web services with ESPM, staff use Xcel's portal to notify the user where individual customer consent forms may be required. After secured, the user may submit completed forms to Xcel through the portal.

Output – aggregation, scale, fields and formats:

Xcel satisfies requests for whole-building aggregated data when the subject building has at least 4 utility accounts and where no single meter accounts for more than 50 percent of the building's total energy demand.

Data are only available through ESPM, which reports monthly consumption values.



Endnotes:

- 1 For more information, see Fannie Mae: <https://www.fanniemae.com/multifamily/green-initiative#>. And see, Freddie Mac Green Advantage, located at <http://www.freddiemac.com/multifamily/product/green-advantage.html>.
- 2 For more information about HUD properties: <https://portal.hud.gov/hudportal/documents/huddoc?id=15-04hsgn.pdf>
For more information about utility allowances for LIHTC properties, see IRS regulations 26 CFR § 1.42-10.
- 3 For more information about such benchmarking requirements and the jurisdictions that have adopted them, see: <http://www.imt.org/policy/building-energy-performance-policy>.
- 4 Many tenants, such as the U.S. General Services Administration, will require the owner to benchmark the building, and in some cases to maintain Energy Star certification.
- 5 See 60-Day Notice of Proposed Information Collection: Energy Benchmarking, Fed. Reg. Vol. 81, No. 192, October 4, 2016.
- 6 See Dept. of Energy Better Buildings Program materials located on the DOE website, <https://betterbuildingssolutioncenter.energy.gov/>
- 7 Ameren, a utility in the St. Louis area, offers a similar portal: <https://www.ameren.com/property-management/about-property-management>
- 8 A copy of the form and may be accessed here: <https://www.pepco.com/pages/myhome/energymanagement/energy-benchmarking.aspx>
- 9 See Utilities Providing Energy Data for Benchmarking in ENERGY STAR Portfolio Manager, US EPA Fact Sheet, August, 2016. And, How Utilities Can Give Building Owners the Information Needed for Energy Efficiency while Protecting Customer Privacy, Electricity Journal, Volume 28, Issue 9, November 2015.
- 10 Fair Credit Reporting Act, 15 U.S.C. 1681-1681y. See also "Notice to Users of Consumer Reports: Obligations of Users under the FCRA," on the Experian website, located at <https://connect.experian.com/legal/fcra-obligations.html>.
- 11 It is worth noting that firms implementing utility energy efficiency programs routinely have access to such data, an acknowledgement that it is critical to inform efficiency decisions.
- 12 For more information, see: <https://sandbox.greenbuttonalliance.org:8443/>
- 13 For more information about getting data into ESPM, see <https://www.energystar.gov/buildings/tools-and-resources/how-get-data-portfolio-manager>
- 14 Where the file may include commas (e.g. where the account holder name is Building Owner, LLC), a format other than a CSV is preferred as the comma will hamper its use.

This document is authored by Pat Coleman and Marty Davey of NEI, and Philip Henderson of NRDC for the Energy Efficiency For All project. Thanks to Tanja Bos for graphic production

ABOUT ENERGY EFFICIENCY FOR ALL

Energy Efficiency for All is a project dedicated to linking the energy and housing sectors together in order to tap the benefits of energy efficiency for millions of low-income families in America. We work with electric and gas utilities and their regulators to pursue innovative energy efficiency program designs. We advise housing finance agencies on best practices in building owner engagement and financing. We collaborate with owners, managers, businesses and advocates in order to achieve energy savings in multifamily properties. Our project is a partnership of the Energy Foundation, Elevate Energy, National Housing Trust and Natural Resources Defense Council. This project was made possible with funding support from The JPB Foundation..

ABOUT NEW ECOLOGY

New Ecology is a mission-driven not-for-profit organization that works to bring the benefits of sustainable development to the community level, with a concerted emphasis on underserved populations. We make the built environment more efficient, healthy, durable, and resilient. New Ecology is a pioneer in the development of utility data benchmarking software, remote building monitoring systems, and data analytics through which we improve building energy performance. Through its work, New Ecology has gained years of experience working with utility companies across the country to access energy consumption data for building owners and tenants.

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