



THRESHOLD
STACK

WEBINAR 2 • ACCESSING BUILDING DATA

Reading Your Utility Bills

Electric, gas and water — and getting the numbers into ENERGY STAR Portfolio Manager

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Why spend a whole session on a bill?

Every number downstream in this program starts on a utility bill.

Most bills are never read

Third-party billing services pay them, so the numbers never get looked at. Being that far from your own data is a risk.

The fields aren't obvious

kW and kWh are not the same thing. Peak and off-peak are billed differently. The bill doesn't explain itself.

Bad data can't be fixed later

Estimated or missing months follow you into your EUI, your score, and your capital plan.

The goal today

Leave here able to pick up any electric or gas bill, know exactly which fields matter, and put them in Portfolio Manager correctly the first time.

What we'll walk through

1 The electric bill

What each field is, and which ones Portfolio Manager actually wants from you.

2 The gas and water bills

Therms, CCF and Mcf — the unit traps — and what the water bill shows that the others don't.

3 Meter setup in ESPM

Meter type, units, and the active dates that decide how much data ESPM expects.

4 Entering the data

Bill and ESPM side by side, month by month, with cost included.

5 Three years, not twelve months

Why the minimum isn't enough to see anything useful.

6 Accuracy and estimates

Why we stay away from estimated reads wherever we possibly can.

Where these numbers end up

The bill is step one of a chain that runs through the rest of the program.



Today is steps 1 and 2. Everything after them inherits whatever you enter now — including the mistakes.

Anatomy of an electric bill

The six fields worth finding. Everything else on the page is billing detail.

ELECTRIC — MONTHLY STATEMENT	
Account number	0000-0000-000
Meter number	A1234567
Service period	Mar 3 – Apr 2
Total usage	142,860 kWh
Peak demand	318 kW
On-peak / off-peak	split shown
Rate schedule	GS-2
Amount due	\$18,942.17

- 1

Meter number
Matches this bill to one meter in ESPM. Critical when a property has several.
- 2

Service period
Start and end date. These become the entry dates — not the bill date, not the due date.
- 3

Usage in kWh
The energy you consumed. This is the number ESPM benchmarks on.
- 4

Peak demand in kW
The highest rate of draw in the period. A different quantity, not a total.
- 5

On-peak / off-peak
Tells you when you are using power, which is where a lot of cost hides.
- 6

Total cost
Optional in ESPM. Enter it anyway — see later.

kW and kWh are not the same number

They get confused constantly, and they are billed for different reasons.

kWh

Kilowatt-hour — energy

How much electricity you used over the whole billing period. A total, like gallons of water through a pipe over a month.

WHY IT MATTERS

This is what goes in the usage field in ESPM. It drives your EUI and your ENERGY STAR score.

kW

Kilowatt — demand

The highest rate you drew power at, usually over a 15-minute window. A peak, like the widest the tap was ever opened.

WHY IT MATTERS

Not part of standard ESPM energy entry, but often a large share of your bill — and a target for later measures.

On-peak, off-peak, and why the dollars matter

Two buildings can use the same kWh and pay very different bills.

Same usage, different cost

Building A — load spread through the day **\$0.109 / kWh blended**

Building B — load stacked in peak hours **\$0.147 / kWh blended**

What to do with this

- Record the dollar amount, not just the usage.
- If your bill splits on-peak and off-peak, note the split — it points at when your equipment runs.
- Demand charges and time-of-use rates are often where the fastest savings sit, before you touch any equipment.
- You cannot make that case later without the cost history.

ESPM treats cost as optional. Treat it as required — you will need it for every capital improvement and retrofit case you make later.

Electric bill → Portfolio Manager

Six fields on the page, six places they land.

ON THE BILL

Meter number
Service period start & end
Total kWh
Total amount due
"Estimated read" flag



IN ESPM

Meter name / ID
Start Date and End Date
Usage — units set to kWh
Cost (\$)
Estimated Value checkbox

Anatomy of a gas bill

Shorter than the electric bill, with one trap in it.

NATURAL GAS — MONTHLY STATEMENT		
Account number	000000000	
Meter number	G889201	1
Service period	Mar 5 – Apr 4	2
Meter reading (CCF)	1,910 CCF	3
Therm factor	1.032	4
Billed usage	1,971 therms	5
Read type	Actual	6
Amount due	\$2,314.66	

- 1**Meter number**
Same rule as electric — one bill, one meter, one ESPM meter.
- 2**Service period**
Gas and electric periods rarely line up. That is fine; enter each on its own dates.
- 3**CCF reading**
Hundred cubic feet. A volume — this is not the same as a therm.
- 4**Therm factor**
The conversion the utility applies. It changes month to month.
- 5**Billed therms**
Energy. Pick one unit in ESPM and stay with it for the life of the meter.
- 6**Actual or estimated**
If it says estimated, flag it in ESPM. Don't quietly pass it off as a real read.

Pick a gas unit and never change it

Mixing units across months is a silent error — nothing warns you.

CCF

Hundred cubic feet. A volume of gas. What the meter physically registers.

Therm

100,000 BTU. A measure of energy. Roughly 1 CCF, but not exactly — the factor moves.

Mcf

Thousand cubic feet. Ten times a CCF. Appears on larger commercial accounts.

What goes wrong

Nine months entered in therms, three entered in CCF. ESPM adds them all up as if they were the same unit.

Your EUI is now wrong by roughly the size of the mix-up, and nothing on the screen tells you.

Gas bill → Portfolio Manager

Same discipline, different units.

ON THE BILL

Meter number
Service period start & end
Billed therms (or CCF)
Amount due
Read type: estimated



IN ESPM

Meter name / ID
Start Date and End Date
Usage — units matched exactly
Cost (\$)
Estimated Value checkbox

And then there's water

One bill, four fields — and the one utility where the savings are usually sitting in plain sight.

WATER & SEWER — MONTHLY STATEMENT	
Account number	00000000-00
Meter number	W-4471
Service period	Mar 1 – Mar 31
Previous → current read	48,210 → 50,350
Consumption	2,140 CCF
Water charge	\$9,630.00
Sewer / wastewater	\$11,020.00
Total due	\$21,187.40

1

Meter number

One bill, one meter, one ESPM meter — same rule as electric and gas.

2

Service period

Read to read. Water runs on its own cycle again; don't force it onto the others.

3

Consumption

CCF here — one CCF is 748 gallons. Some utilities bill in kGal. Pick one unit and keep it.

4

Sewer charge

Usually billed on your water volume, so every gallon you save is charged to you twice.

In ESPM: Municipally Supplied Potable Water, mixed indoor/outdoor for most multifamily. Units set once. Enter the full bill, sewer included.

Reading it: A winter baseline that creeps up month over month is leaks, not occupancy. A summer spike is irrigation or cooling-tower makeup.

Before you enter a single number

A few minutes here saves hours of untangling later.

1

Property is set up

Correct gross floor area, year built, property use type and occupancy. Everything is normalised against these.

2

One portfolio, not many accounts

You do not need a separate account per building. One account holds a portfolio of properties.

3

Names are permanent in practice

Whatever you name the property and its meters is what you and your colleagues will live with. Pick a convention now.

4

Collect the bills first

Pull all 36 months for every meter before you start typing. Entering in bursts is how gaps appear.

5

Know your meters

Master meter or individually metered? House meter separate? List them before creating anything.

6

Decide who enters data

If a billing service holds the bills, get access sorted now rather than at the deadline.

Master meter or individually metered?

This decides what you can actually benchmark — and how much work you are signing up for.

Master metered

One utility meter serves the whole building

- A handful of bills per year, per fuel
- Whole-building data is complete by definition
- The simplest place to start if you are choosing which buildings to benchmark first

Individually metered

Each unit has its own meter and account

- Tenant usage sits with the tenant, not with you
- You may only hold the house/common-area meter
- Whole-building data usually needs an aggregated data request from the utility

If you are trying to narrow a long list of buildings down to a manageable few, start with the master-metered ones. You will get complete data faster and learn the process on an easier case.

Setting up the meter in ESPM

Four choices here shape everything you type afterwards.

ADD METER — ELECTRIC

Meter name

Main Electric – A1234567

1

Type

Electric – Grid Purchase

2

Units

kWh (thousand Watt-hours)

3

Date meter became active

01/01/2023

4

In use?

Still in use

5

- 1

Name it after the bill
Put the utility's meter number in the name. Then any bill can be matched to a meter in seconds.
- 2

Type
Grid purchase for anything you buy. Separate meters for on-site generation.
- 3

Units are set once
Every entry on this meter is read in these units. Changing later means revisiting the history.
- 4

Active date
This is the one people get wrong. See the next slide.
- 5

In use
Leave active unless the meter was genuinely retired — then give the end date.

The active date decides what ESPM expects from you

Get this wrong and your data looks incomplete when it isn't — or complete when it isn't.

Active date set to January 2023

ESPM expects 36 months of entries and will flag every month you haven't filled.

Active date set to last month

ESPM expects almost nothing, reports your data as complete, and quietly gives you a benchmark built on one bill.

How to set it

- Use the date the meter actually started serving the property — not today's date, and not the date you opened the account in ESPM.
- If the building is older than your records, set it to the start of the oldest bill you can obtain.
- For this program, that means going back three years wherever the utility will give you the history.
- A meter that no longer serves the property gets an end date rather than being deleted.

The completeness indicator in ESPM only tells you whether you filled the window you defined. It cannot tell you the window was too short.

Entering the usage

One row per bill. The bill on the left, the row on the right.

BILL — MARCH	
Service period	Mar 3 – Apr 2
Total usage	142,860 kWh
Amount due	\$18,942.17
Read type	Actual



ESPM — ADD ENERGY USE	
Start Date	03/03/2026
End Date	04/02/2026
Usage (kWh)	142,860
Total Cost (\$)	18942.17
Estimated Value	unchecked

- Dates come from the service period, never the invoice date.
- Periods should touch end-to-start with no gaps and no overlaps across the year.
- Enter cost every month, even though ESPM will let you skip it.

Stay away from estimated numbers

An estimate entered without a flag becomes a fact nobody can question later.

Utility estimated the read

Common when a meter can't be accessed. The bill usually says so — check the read type.

A month is missing

Chase the bill. Do not average the months either side and call it data.

Third party holds the bills

If a billing service pays for you, ask for the underlying statements — not the summary invoice.

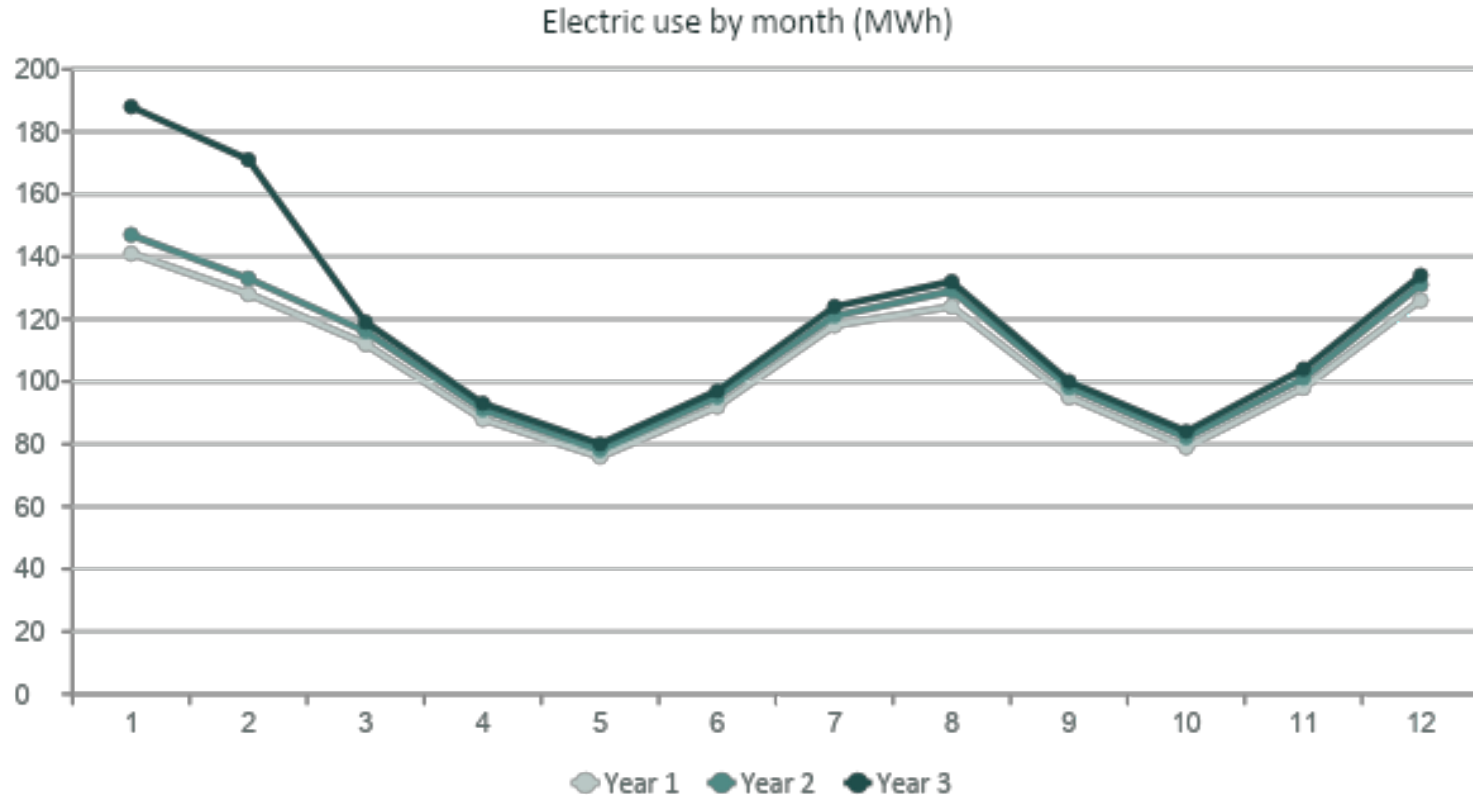
If you have to use one

Tick the Estimated Value box in ESPM. It costs nothing and it keeps you honest.

Three years from now, when you are justifying a boiler replacement or a retrofit loan, you need to know which months are real. Estimates that were never flagged are the ones that undermine the case.

Twelve months is the minimum. Three years is the point.

ENERGY STAR needs 12 months to give you a score. You need 36 to see anything.



What one year cannot tell you

- Whether a cold January was weather or a failure.
- Whether a spike repeats in the same month every year — which is a pattern, not an accident.
- Whether last year's improvement held.
- Whether your baseline is typical or an outlier you happened to start on.

Collect three years now, while you are already asking the utility. Going back for it later is a second round of tickets.

Once it's in, start asking questions

This is where benchmarking stops being paperwork.

1

A one-off spike

A single unusual month. Often weather, sometimes a leak, a failed control, or a piece of equipment stuck on.

2

The same month every year

A repeating pattern is operational, not accidental. Something in the building does this on schedule.

3

A step that never comes back down

Usage rose and stayed risen. Something changed and nobody noticed — new load, failed setback, override left in place.

4

A flat line

Real buildings are not flat. Suspect estimated reads or a stuck meter.

5

Cost rising faster than usage

Rates, demand charges, or your load moving into peak hours. Worth knowing before you buy equipment.

6

Gas in July, cooling in January

Off-season usage in either fuel usually means a control or a setpoint, and it is usually cheap to fix.

The mistakes we see most

None of these are difficult. All of them are expensive to undo.



Invoice date used instead of the service period

Months overlap or leave gaps, and ESPM reports the year as incomplete.



Units switched partway through a meter's history

Totals are silently wrong. Nothing flags it.



Active date set to the day the meter was created in ESPM

Missing months never get reported as missing.



Cost left blank because it's optional

No cost history means no financial case for any project later.



Estimated reads entered as actual

The data looks solid until someone needs to rely on it.



One meter created for several physical meters

Bills can no longer be matched back, and errors are untraceable.

What to do this week

Small, concrete, and enough to keep you moving before the next session.

1

Pull one electric and one gas bill

Any month. Find the six fields we just walked through and highlight them.

2

List every meter serving the property

Meter number, fuel, and whether it is master or individually metered.

3

Check your active dates in ESPM

If any meter is set to the date you created it, fix it now.

4

Request three years of history

Ask the utility while you are already in the queue, not after.

5

Fill in cost for the months you already entered

It is the field most often skipped and the one you will want most.

Questions

Bring your own bill. If you have one in front of you, we can read it together.

Staying on for the roundtable

Happy to go more granular on meter setup, aggregated data requests, or anything on your own bills.