Seattle's Building Emissions Performance Standard (BEPS) Rulemaking

Technical Rulemaking Workgroup – Meeting #4

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Agenda

- **Welcome + introductions of any new attendees** (5 minutes)
  - Consent to record
- **Recap of meeting #3** (5 minutes)
- **Introduction to Benchmarking Data Verification** (20 minutes)
- **Qualified Person Requirements** (10 minutes)
- **Breakout Session: Key Information for Data Verification** (30 minutes)
- **Break** (5 minutes)
- **Breakout Session: Should site visits be required?** (25 minutes)
- **Verifying ownership of building portfolios** (10 minutes)
- **Wrap-Up** (10 minutes)

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Welcome + Recap

Last meeting we discussed…

- Complying using the Alternate GHGIT
  - Eligibility requirements
  - Reporting and calculation timelines
  - Guidelines for recalculating baseline emissions
- Using the multifamily prescriptive path
- Calculating and making alternative compliance payments

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Charter Agreements

- **Mutual respect** - All working group participants and facilitators are respectful of each other. Members will value each other's time, listen when people are speaking, and speak kindly to each other.

- **Open-mindedness** - Members are open to new ideas and perspectives, and do not disregard ideas they disagree with.

- **Equity** - All members are treated fairly, both by the facilitation team and by one another. Efforts are made to eliminate any real or perceived barriers to participation.

- **Be present** - You reserved the time to be here. Avoid outside distractions as much as possible but take care of your personal needs.

- **Accountability for Accuracy** - When sharing data and information make sure it is accurate and be prepared to provide a credible reference.

- **Chatham House Rule** - Participants are free to use the information received in meetings but should not identify the speaker or their affiliation.

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# Introduction to Benchmarking Data Verification

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What is benchmarking data verification?

- **Gold standard** for building performance policies to ensure data submitted is accurate
  - **Required by all cities** with similar policies
- Accurate data is **required for the success of BEPS** because reported energy benchmarking data will be used to **demonstrate compliance** with emissions targets
- Data verification **reduces common errors** and improves data quality

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Key findings from OSE data verification research

Energy Benchmarking Data Verification Pilot

Tune-Up Data Verification Requirement

Interviews with cities with data verification requirements
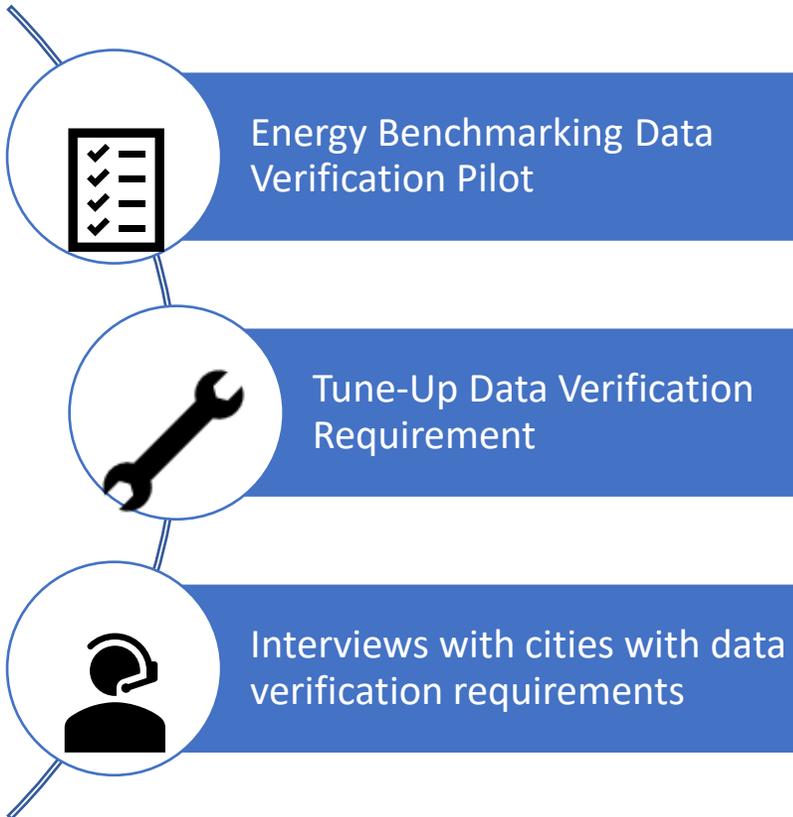
- BEPS data verification requirements **build on existing OSE programs**
  - Since 2019, OSE has piloted data verification for buildings flagged for potential errors during annual Energy Benchmarking reporting
  - Building Tune-Ups also requires benchmarking data verification
- **54% of buildings** that completed benchmarking data verification had to correct errors in energy use (missing meters or fuels), space use types, and/or square footage

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Patterns found with errors

- **Errors most often occur in new** Portfolio Manager benchmarking accounts

- **National service providers'** reports are more frequently flagged for errors and need verification

- **Owners of multifamily buildings** are generally less engaged with benchmarking and commonly have errors reporting whole building data

- **Changes in ownership are a** challenge for ensuring consistent/ error-free benchmarking

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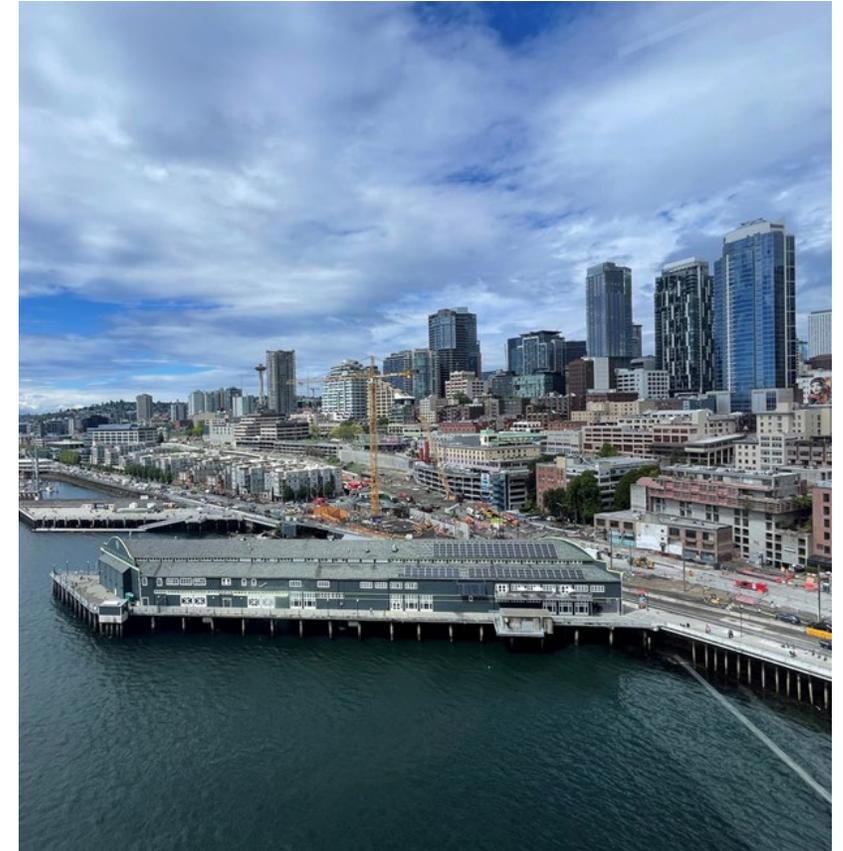
What are the data verification requirements in BEPS?

What the ordinance says...

1. By the compliance deadline...building owners shall have a qualified person, other than the person who prepared and submitted the benchmarking...**verify the accuracy of the covered building's reported ENERGY STAR Portfolio Manager benchmarking data** for the previous calendar year, January 1 - December 31.

2. Benchmarking verification shall apply to **any benchmarking data used to determine a covered building's compliance GHGIs and baseline GHGI**, and for any other reporting obligations calling for verified benchmarking data.

3. If there are errors in previously reported benchmarking data or discrepancies between previously reported data and verified benchmarking data, the **qualified person shall correct benchmarking data** in ENERGY STAR Portfolio Manager.

The **benchmarking data** in ENERGY STAR Portfolio Manager for the **calendar year** preceding the BEPS compliance deadline

+

Any benchmarking data used to determine the building's **baseline GHGIs**

+

Any benchmarking data used to determine **compliance GHGIs**

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What key information needs to be verified?

✓ **All fuels serving the building**

✓ **Number of meters** per fuel source (including meter names/numbers)

✓ **Whole building gross floor area** (GFA), excluding parking

✓ **Building space uses/types** (and associated SF)

✓ **Changes to building data** – need explanation

City Goals

- Create an official record of info for BEPS

- Provide detail for city to:
  - review compliance
  - confirm fuel use
  - Confirm GFA and space uses for GHGI/ GHGIT calculations

- Ensure equity / fair standards across reports

How will the verified data be used?

Example: Fuel sources and meters will be used in multiple reports

	Annual **Energy Benchmarking** **Report**	**Every 5 Years** **BEPS Data Verification** **Report**	**Every 5 Years** **BEPS GHG** **Report**
Fuel Source + Meters	Complete annual reporting of full building energy use per each fuel source serving the building via Portfolio Manager.	Verify accuracy of the energy use reported (fuels and meters) in Portfolio Manager used for the BEPS GHG report calculations.	Calculate baseline (if needed) and compliance GHGI using verified energy use reported in Portfolio Manager.

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Questions?

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BEPS Qualified Person Requirements

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Qualified Person Responsibilities per BEPS

A Qualified Person is responsible for all BEPS reporting:

1. Verifies benchmarking data accuracy and makes corrections
2. Submits greenhouse gas emissions (GHG) report for BEPS compliance
3. If using, completes Decarbonization Compliance Plan

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Qualified Person Credentials per BEPS

"Qualified person" means a person having training, expertise, and at least **three years professional experience** in building energy use analysis and any of the following **certifications or licenses**:

Credential	Organization
Professional Architect	Licensed in the State of Washington
Professional Engineer (PE)	Licensed in the State of Washington
Building Energy Assessment Professional (BEAP)	American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
Certified Energy Auditor (CEA)	Association of Energy Engineers (AEE)
Building Operator Certification (BOC) Level II	Building Potential (formerly Northwest Energy Efficiency Council)
Certified Commissioning Professional (CCP)	ANSI/ISO/IEC 17024:2012 accredited organization
Certified Energy Manager (CEM)	Association of Energy Engineers (AEE)
Energy Management Professional (EMP)	Energy Management Association
Sustainable Building Science Technology Bachelor of Applied Science (BAS) degree	South Seattle College or other equivalent Bachelor's degree program focused on commercial building energy management and conservation

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How will OSE verify the credentials of a Qualified Person?

For draft rule: **Adapt existing process for verifying credentials of Tune-Up Specialists**

Qualified Persons must register with the City of Seattle to demonstrate they meet the requirements:

1. Upload proof of current certification
2. Document years of experience

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Clarifications about Qualified Persons

- As with Building Tune-Ups, building owners with **in-house staff** that can demonstrate they have the years of professional experience and have one of the certifications or licenses, **may serve as a qualified person.** Or, the owner may use an external service provider.

- The same person or provider who prepares and submits the energy benchmarking report **cannot** submit the data verification report

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Questions?

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Breakout Session #1

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Key information for data verification

Fuel sources and meters
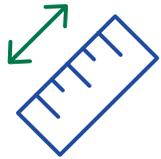
Whole building gross floor area (GFA)

Space use types and floor area of each

Explain changes to building data

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Fuel sources and utility meter verification

Current data verification requirements (from pilot):

1. **Identify all fuels serving the** building, including energy used in in <u>all</u> common and tenant spaces for heating, cooling, hot water, cooking and other activities

2. **Obtain comprehensive list of all utility meters** serving the building
   a) Via a building walkthrough to inventory all utility meters; referencing utility bills; or contacting tenants for meter numbers, addresses served, and utility providers

3. **Confirm meter list** aligns with current energy meters and aggregate meter list(s) from utilities

MENTIMETER

What additional information may need to be collected to verify fuels used and meters in the building?

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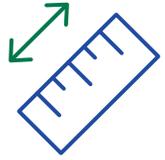
Whole building GFA verification

For discussion today:
What are acceptable sources or methods for reporting valid whole building GFA?

Goal: Accurate GFA is critical for correctly calculating GHGI, GHGITs, ACP, and penalties.

- GFA from the initial benchmarking verification is the BEPS official record for future compliance (unless a change is later verified)
- Benchmarking verification report will require a description of the data source for GFA
- Recognize need to minimize reporting burden while ensuring accurate data

King County Assessor Data Notes

- The King County Assessor's records have some data accuracy issues
- Per BEPS: If a verified benchmarking report has not been submitted to the City, the fine shall be based on the covered building's gross square feet listed in the King County Assessor's property detail record

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Space use types and floor area verification

For discussion today:
What are potential methods for verifying space use types and floor area?

Goal: Space use types and floor area must be accurate so buildings are using the correct building activity types when calculating GHGIT

Reminder – Proposal from meeting #1:

- All GFA must be included in GHGIT calculation

- All secondary space uses greater than 5,000 SF must be included

- These property uses must be included regardless of space use size:
  - Data center
  - Laboratory
  - Restaurant

- Space uses less than 1,000 square feet should be combined with largest space type (excluding data centers, labs, and restaurants)

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Reminder from Meeting #1: GHGIT will be prorated by building activity types

Pro-rate GHGIT by Building Activity Types:

Activity Types	Space GFA (SF)	Percent of GFA (SF)	Bldg Activity GHGIT	Pro-rated GHGIT
Office	60,000	80%	.81	.64
Retail	10,000	13%	1.03	.13
Gym (Recreation)	5,000	7%	3.22	.23
Total GFA	**75,000**		**GHGIT**	**1.00**

Example 75,000 SF "Office" Building

- 65,000 SF Office space
- 10,000 SF Retail space
- 5,000 SF Gym space

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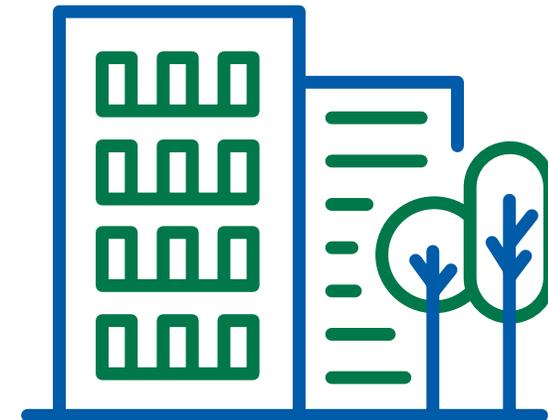
Explaining changes to building data

Changes that will likely require additional review by OSE and follow up with verifier:

- A building is no longer reporting gas usage

- Outlier energy use – extremely high or low

- Significant change in year-over-year energy use

- Gross floor area increases or decreases by >10%

- Change to primary space use type

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Breakout Session #1

Group A: Verifying whole building GFA

- What are acceptable sources / methods for reporting valid whole building GFA?
  - Sepideh
  - Gemma
  - Faith

Group B: Verifying space use types and floor area *for accurate GHGITs*

- What are acceptable methods for verifying space use types and floor area?
  - Kirstin
  - Nicole
  - Anna

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Facilitators shareout

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BREAK

Breakout Session #2

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Should site visits by a Qualified Person be required for benchmarking verification?

Pros

- In **alignment with industry standards –** ENERGY STAR Certification requires on site-visits by a licensed provider

- **Increases understanding** of buildings footprint, space uses, occupants, etc.

- **Mitigates** the occurrence of **inaccurate data verification reports** submitted by national service providers who have a **prevalence to exclude fuel sources and meters** due to lack of knowledge of building operations

- Supports local green **workforce development**

Cons

- May add cost to verification

- May reduce the pool of qualified persons by requiring local presence

Note: Not aware of other BPS cities requiring site visits

For discussion today: Are there other pros or cons that OSE should take into consideration?

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Breakout Session #2

Split into two groups:

- What are additional pros and cons of requiring site visits for data verification?

- Are there other alternatives to requiring all buildings to conduct a site visit? Which of these would be most effective?

Group A: Group B:
Sepideh   Kirstin
Gemma   Nicole
Faith   Anna

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Facilitators shareout

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If time: Update on ownership verification for private & nonprofit building portfolios (Mtg 2)

1. How should building owners demonstrate ownership of private & nonprofit portfolios?

Per BEPS (SMC 22.925.020) "**building owner**" means **an individual or entity possessing a fee interest in a covered building**.

- However, private sector buildings are often registered as LLCs as part of the public record.

- For example, 123 Orca St. LLC and 456 Salmon Way LLC may both be owned by Puget Sound Properties.

Brainstorm: If buildings are not listed under the same Tax Payer Name by the King County Department of Assessments, what does ownership need to supply to the City to prove they own the building and are responsible for compliance?

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Options for verifying ownership of building portfolios

1. All buildings in the proposed portfolio have the same Owner as listed in the records of the King County Department of Assessments.

2. Owners provide deed showing LLC is part of parent company or the title transfer of the LLC to the parent company.

NOTE: OSE will require parent company to confirm that they have informed all LLCs of their inclusion in the Building Portfolio report for BEPS.

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Questions or feedback?

Actions

- End of meeting [check-in](#)
  - From last meeting: More examples, generally going well though!
- We will circulate a 'what we heard' summary. Please let us know if anything wasn't captured correctly
- Schedule Updates:
  - Canceling meeting on Oct 30th → next meeting will be Nov 20th
  - In person meeting – planning for Wednesday, December 18th at the Smart Buildings Center in Seattle
  - CRE ad hoc session

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Conclusion

- Topics for next session on November 20th:
  - End Use Deductions

- Questions or comments? Email cleanbuildings@seattle.gov

THANK YOU!

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Summary Slides of Breakout Group Discussion

See summary notes for further detail

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Breakout 1A: Verifying Whole Building GFA

What are the key considerations (for building owners, for OSE, etc) when choosing a method for reporting whole building GFA?

- Conditioned spaces (for example if parking garage is open it should not be considered in the GFA)
  - Older buildings have a lot of storage in garage spaces - conditioned or lightly conditioned. If they are being conditioned - lot lose sight of them. Give them special attention) (note parking not included)
- King county records are not accurate. If you base fines on King County records, they will likely be low.
- Some external sources may include covered exterior spaces and not accurate.
- When % changes are small

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Breakout 1A: Verifying Whole Building GFA

What documentation can accurately demonstrate whole building GFA?

- ESPM (using energy star definition, but using the BOMA standards for calculations) include vertical penetration and exclude parking or non enclosed spaces

- BOMA standard measurements is expensive. GFA can change from one measurement to the other because the way they are considered change.

- Mini audit (5 or 6 different calculation)
  - State database
  - SDCI (seattle department of constructions and inspections)
  - King County
  - Own record system
  - Entry in energy star portfolio manager
  - You need someone with a degree of judgement to see this is accurate - Saw differences up to 10%

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Breakout 1B: Verifying Space Use Types and Floor Area

What are the key considerations (for building owners, for OSE, etc) when choosing a method for verifying space use types and floor area?

- Consistent with CBPS - CBPS has published building activity types (ESPM calls them property types). Definitions are based on portfolio manager. Often verbatim or slight changes to avoid confusion. Library has 100+ types, expanded beyond ESPMs definitions. For consistency, look at table 7-4.

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Breakout 1B: Verifying Space Use Types and Floor Area

What documentation can accurately demonstrate space use types and floor area for each type? (Share in the chat, add directly, or unmute)

- In-house CAD folks - BOMA CAD takeoff documentation
- Drawings from surveyors
- Site visits
- Google information
- Photos
- More recent buildings (2000 onwards) - permit data, code compliance, energy modeling space maps, architectural drawings
- CO-STAR
- For older buildings, without access to drawings, having firm guidance for how to do takeoff/what's allowable can provide clarity. Ex. Does a qualified person have to do it? Can they do it themselves with a tape measure?
- Fire evacuation floor plans can be a good starting point for older buildings as well

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Breakout 2A: Site Visits by Qualified Persons

Should site visits by a Qualified Person be required for benchmarking verification?

Pros

- If the building doesn't have good documentation this will be very helpful (required to accurately assess GFA)
- Can help explain gray areas like lightly conditioned spaces etc.

Cons

- No doubt it will be more expensive
- Access to buildings. And cannot let people on campus. Pushed to do in house. Maybe entities doing portfolio-level compliance
- Expensive and redundant in many cases - if the building has solid documentation - there should be no need to require. If they don't need documentation, maybe.

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Breakout 2A: Site Visits by Qualified Persons

What are some alternatives to requiring every building to have a site visit by a qualified person in each compliance cycle?

- Site visit when documentation is not accurate or missing

- Require for first verification or if there is a major change.

- OSE provides a site visit (for free, if the building doesn't have good documentation)

- Good documentation

- flip side on site visits, should building owners have on hand documentation used for GFA? Will they have to submit those docs?

- For CRE, more dynamic. We can leverage efficiencies and taking advantage of opportunities when performing commissioning activities. Using shared resourcing, not consistent, but there can be opportunities during construction or retrocommissioning

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Breakout 2A: Site Visits by Qualified Persons

Comments on OSE Ideas

- Site visits must be conducted during the first year of data verification only

- Site visits are required for buildings pursuing most alternative compliance paths or all-electric exemption

- Buildings could be randomly selected for required site visits (this can cause added unbudgeted cost for smaller sites that were not planned for. Any surprises on smaller buildings come from other pockets like operation.)

- Qualified Providers must be able to conduct site visits on request

- Buildings that are new to benchmarking must have a site visit

- Should rules differ for Portfolio level compliance?

- Consider small percentage of buildings to look at that is reasonable.

- If there are red flags from the recent building tuneup they, can be selected for site visits and not all - Leveraging existing knowledge - does not include MF or commercial buildings under 50K)

- Use EM to push utility data into PM. There were instances of accounts not being aware of - taking photos when site visits help find unaccounted meters.

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Breakout 2B: Site Visits by Qualified Persons

Should site visits by a Qualified Person be required for benchmarking verification?

Pros

Cons
- Companies not based in Seattle would have to outsource (more expensive)
- Not highest/best use of QPs time - high accuracy can be attained without being on site. Somebody on site can do the data collection accurately - don't need QP to travel there. Photos, videos, virtual audits can get the same outcome
- There are more effective ways to support green WFD - auditing for evaluation, for example

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Breakout 2B: Site Visits by Qualified Persons

What are some alternatives to requiring every building to have a site visit by a qualified person in each compliance cycle?

- Somebody on site can do the data collection accurately - don't need QP to travel there. Photos, videos, virtual audits can get the same outcome

- The tool being created could trigger self QA - ex. Highlights where information does not align

- NOT HELPFUL - Going directly to utilities. Utilities may use estimations, bill differently from consumption.

- Instead of every building - spot check. Auditing. City can determine what portion of buildings get spot-checked based on expected accuracy. Penalties could be introduced if data accuracy is an issue.

- A fine can already be levied for inaccurate reporting - hasn't yet, as City uses a teaching approach

- What would the QP do on the visits to confirm energy consumption/data? Different folks can have different approaches - varying costs, time, etc.

- Training/education will be provided with pilot. Would need to be standardized.

- If goal is to improve quality/accuracy, site visits might not be the best tool. Other tools: sharing lessons learned, education, training, hotline/office hours. Focus resources on folks trying to do it right. If folks are trying to misrepresent their data on purpose, they will likely find a way to do it anyways.

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Breakout 2B: Site Visits by Qualified Persons

Comments on OSE Ideas

- Site visits must be conducted during the first year of data verification only
- Site visits are required for buildings pursuing most alternative compliance paths or all-electric exemption
- Buildings could be randomly selected for required site visits
  - Support for this one - a way to improve accuracy and keep people accountable without additional costs across the board
  - Agreement on this one - deployment as education and outreach opportunity. Could be done as a research project as well - we'll come take a look, and evaluate to see if accuracy is improved. Not an adversarial compliance path
  - If you ask we will send someone out
- Qualified Providers must be able to conduct site visits on request
- Buildings that are new to benchmarking must have a site visit
- Question - What is the QP looking at? Meters, in house documents, utility records, etc.
  - What meters are in the building (meter lists, matched to utility data, and correcting misalignment if needed).
  - Verifying everything - but would focus on things which might look inaccurate. Discretion of QP to some extent.
- If something looks odd - Phone call, then might need a site visit - useful to have the option
- PSE issue of meters not being reported accurately during unit turnover
  - QP could address part of this with site visit, meter verification
- For condominiums - ex. gas bill is for everything in the building while electric is unit by unit in example building, would outlier warrant a site visit? Want to compare with buildings with similar billing methods. What's the criteria?

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