

The importance of energy benchmarking in buildings and how to get it right

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13/02/2018

How does your property perform in energy usage compared to peers or best practices? If you don't know the answer, you are certainly not alone. Most building owners and operators lack basic information about how their properties perform and thus they find it difficult to make decisions about controlling energy use and costs. To obtain this information, energy benchmarking is crucial. And it doesn't have to be much more difficult than comparing the fuel mileage of automobiles.



The motivation behind energy benchmarking should also be clear. The list of things that drive an organization to benchmark energy use could be long. According to studies, the main reasons given by facilities professionals for benchmarking energy use are:

- a) to identify energy-efficiency and health & wellbeing investment opportunities,
- b) to prioritize resource efficient investments, and
- c) to see how a certain building facility compares to a portfolio or peer group.

There are many other motivations, too. These include:

- Earning a green rating (like LEED, BREEAM or WELL®) or gain recognition.
- Informing the business case for efficiency and health & wellbeing investments.
- Tracking current projects expected to save energy and costs etc.
- Assessing a building's performance before acquisition or lease.
- Presenting building performance to a potential buyer, lender or tenant.
- Facilitating assessment of property value and marketing rental properties.

Staying ahead of the curve is another motivation for energy benchmarking. As the cost of energy rises and uncertainty over greenhouse-gas regulation continues, corporate occupiers, notably the CFO or the Board of Directors - will start to raise related questions. Benchmarking is one way to be prepared.

Admittedly, there are **4 main hurdles** that might get in the way.

1. Senior management support.

You can benchmark all you want, but if you don't have the support to make things happen as a result of the data you collect, it is not going to do anyone (or any building) any good. A wide variety of people drive an organization's energy expenses. This includes people in procurement, finance and Facilities operations. Energy benchmarking won't make a difference unless the results are properly translated into business-friendly language that non-technical people can appreciate.

2. Select the right way to benchmark your energy use against.

Comparisons can be broken into two groups: comparing a building to itself from year to year (a "historical benchmark") or comparing to a peer group of buildings (either within the occupied portfolio or externally).

- A historical benchmark is easy to define since the occupier controls the data and knows what was going on in the facility over time that might impact energy use. This type of evaluation does not help understand overall building performance and whether it is above, at, or below average.
- Benchmarking against a portfolio of occupied buildings of a corporate tenant (e.g. retail stores) or a public organization (e.g. schools) can be a means to develop consistency across all of properties. It allows establishing and sharing best practices.
- Benchmarking against a group of similar buildings outside the occupied portfolio is another option, and it might be the most challenging. Public available data is very parochial and it is hard to get global benchmarks. This is something that, hopefully, legislative efforts could build actual performance rather than on modelled assumptions or 'reference' buildings.



3. Knowing what to do with the collected benchmarking data.

Collecting actionable data is the whole point of benchmarking, but it can be difficult to figure out how to take action as a result of the data you gather. Making decisions about what can be done to bring energy usage down is often where the most irrational decisions are made. On its own, benchmarking does not add value. The value it brings comes from using the information it discloses to justify and validate energy efficiency changes.

4. Numbers can be very misleading.

Is 80 kBtu (energy-use intensity) per square meter per year high or low for a commercial institutional building? Where is the building located? What kind of facility is it? What are the hours of operation? How old is the building? How large is it? There are even more questions to ask.

Unfortunately, benchmarking energy use is never clear cut. The occupiers run risks of oversimplifying data, not looking at it closely enough or focusing too closely on the data and making connections that are not there. Therefore, the occupiers should not focus solely on the numbers and whether we are above or below the average.

In hindsight, customers will become more sensitive to the energy performance of buildings they will demand benchmarking data as part of the lease or sale documentation with the understanding that, if the building fails to perform, there will be some recourse. Therefore, energy benchmarking can and will become a value-add when it is time to re-lease or re-sell. And, increasingly, companies will be publishing their energy and greenhouse-gas data in annual reports for everyone to see.



With impending legislation that may force existing buildings to retrofit and become more energy efficient and as a result cut CO2 emissions, benchmarking is going to become even more crucial. Financial institutions will eventually require energy-performance data and view operating costs as part of a building's collateral value.