|  |
| --- |
| ***Instructions to complete the template for your Energy Assessment****All grey italic text with borders are instructions to help you prepare the required BEST Practice for your building.*1. *Replace all* [blue text in brackets] *in the document with building specific information.*
2. *Where required, complete the necessary tasks, or engage a third-party consultant to complete the tasks so that you are able to fill the relevant sections of the template with building specific information.*
3. *BOMA also permits “in-house” technical staff to complete the assessment.*
4. *Additional Resources[[1]](#footnote-2) can be found here:*
* [*Energy Audit Manual*](https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/oee/pdf/publications/infosource/pub/cipec/energyauditmanualandtool.pdf) *and* [*Toolbox*](https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/oee/files/industrial/technical-info/tools/zip/toolbox-spreadsheets.zip) *(Natural Resources Canada)*
* [*Sample audit forms and templates*](https://xp20.ashrae.org/PCBEA/PCBEA_Supplemental_Files.html) *(ASHRAE)*
1. *Delete all grey italic text when you have filled all relevant sections with building specific information.*
2. *Complete the Checklist below to confirm your Energy Assessment meets the BEST Practice requirements.*
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| ***Checklist****The Energy Assessment report must contain the following elements:* [ ]  *An ASHRAE Level 1 Energy Assessment must have been conducted on the building in the last five (5) years.* [ ]  *Analysis of energy consumption through monthly utility bill review and benchmarking. For benchmarking purposes utility bills must cover a minimum of 12 months of continuous data.* [ ]  *List major energy-consuming equipment.* [ ]  *Prioritized list of proposed low-cost and no cost energy conserving measures (ECMs) to enable greater energy efficiency.* [ ]  *Provision of estimates of financial savings the building owner will realize as a result of investing in ECMs. At a minimum, savings and cost estimates should be based on a generalized understanding of the systems.* |

**ENERGY ASSESSMENT**

[Insert Building Name and / or Address]

[Insert Name of Organization]

[insert Building Description – number of floors, tenants, parking spaces (underground or surface) and other distinguishing features]

[Specify which floor area is being used, e.g. gross floor area, net floor area, gross leasable area, etc.]

[Insert date of Energy Assessment]

# Executive Summary

[Insert Key Findings]

Refer to the attached **Appendix A** for Energy Assessment completed by [Insert Name and Organization of person who completed the Energy Assessment].

*Summarize the key findings or pertinent points from the Energy Assessment, such as the total amount of energy consumed by the building per year and the estimated energy that may be reduced if all energy conservation measures identified were implemented (with estimated implementation / savings costs).*

# Energy-use Analysis

[Briefly outline the 12-month consumption data, the building’s energy use intensity and how your building’s performance compares to other similar buildings.]

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| *Request your third-party consultant or “in-house” technical staff to:** *Review energy bills including cost and consumption history (utility bills must cover a minimum of 12 months of continuous data) and gain insight* *on how the major building operating systems and equipment use energy*
* *Calculate the building’s energy use intensity or EUI (i.e., annual energy use divided by building area) to obtain a building performance index such as GJ/m²/yr or ekWh/ft²/yr [[2]](#footnote-3) for each energy source*
* *Compare your building’s EUI to* [*similar buildings*](https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/energy/pdf/Canadian%20National%20Median%20Tables-EN-Aug2018-7.pdf)*[[3]](#footnote-4)*.
 |

# Energy-using equipment inventory

[Insert inventory of major energy-using equipment and lighting systems in the building.]

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| --- |
| *Prepare an inventory of major energy-using equipment and type of lighting systems in your building, covering the following aspects:** *Boiler plant systems*
* *Building envelope*
* *Compressed air systems*
* *Domestic and process hot water systems*
* *Fan and pump systems*
* *Heating, ventilation, and air-conditioning systems*
* *Lighting systems*
* *Process furnaces, dryers, and kilns*
* *Refrigeration systems*
* *Steam and condensate systems*

*Describe the energy sources that serve these pieces of equipment. Assess if there is opportunity for energy conservation.* |

# Recommended Energy Conservation Measures (ECMs):

Refer to the attached **Appendix B** that shows the Energy Conservation Measures (ECMs) identified and basic estimates of financial savings the building owner may realize because of investing in ECMs.

# Conclusion

[Insert recommended next steps and closing statements. Sign and date document.]

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Insert name and signature of person responsible for conducting the Energy Assessment]

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Insert Date the Energy Assessment was completed]

Appendix A: Energy Assessment

*Attach the most recent Energy Assessment completed by the third-party consultant or “in-house” technical staff of the building. These assessments are valid for five (5) years.*

Appendix B: Energy Conservation Measures and Financial Savings Estimate

*Insert a prioritized list of the retrofit and operation and maintenance energy conservation measures (ECMs) identified. Explore the possibility of installing sub-meters for large energy-using tenants to better grasp the energy used by these groups.*

*Refer to Natural Resources Canada’s* [*Energy Audit Manual*](https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/oee/pdf/publications/infosource/pub/cipec/energyauditmanualandtool.pdf) *and* [*Toolbox*](https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/oee/files/industrial/technical-info/tools/zip/toolbox-spreadsheets.zip) *or ASHRAE’s* [*sample audit forms and templates*](https://xp20.ashrae.org/PCBEA/PCBEA_Supplemental_Files.html) *for further guidance on identifying ECMs and populate the table below.*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Potential Energy Conservation Measure** | **Estimated Implementation Cost ($)** | **Estimated Incentive Amount** (if applicable) **($)** | **Estimated Net Capital Cost ($)** | **Estimated Annual Energy Use Savings** (ekWh/yr) | **Estimated Annual Cost Savings ($)** | **Estimated Payback Period (Years)** | **Notes** |
| *Example: Lighting Retrofit* | *$10,000* | *n/a* | *$10,000* | *100,000* | *$2,650* | *3.8* |  |
| [Add for your building] | [Add] | [Add] | [Add] | [Add] | [Add] | [Add] | [Add] |
| [Add for your building] | [Add] | [Add] | [Add] | [Add] | [Add] | [Add] | [Add] |

1. *The additional resources presented above are suggestions and not intended as an endorsement by BOMA Canada of any method, process or specific product* [↑](#footnote-ref-2)
2. 1 GJ/m2 = 1,000 MJ/m2 = 25.8064 ekWh/ft2. [↑](#footnote-ref-3)
3. According to BOMA Canada’s [2020 National Green Building Report](http://bomacanada.ca/wp-content/uploads/2019/11/2020_BOMA_NGBR_English_191114.pdf), BOMA BEST office buildings averaged 29.9 ekWh/ft²/yr energy use intensity in 2019. [↑](#footnote-ref-4)