

Mayor's Carbon Challenge to Commercial Offices

Instructions for the Carbon Emissions Inventory

What is the Carbon Emissions Inventory?

The Carbon Emissions Inventory is an accounting of your company's building-based carbon emissions for each year of the Mayor's Carbon Challenge. The Mayor's Office created the Carbon Emissions Inventory tool to calculate your company's energy use and associated emissions according to the protocol of the Mayor's Carbon Challenge. The steps for completing the Carbon Emissions Inventory are below.

1. Identify Properties

Properties required for the Inventory include the following:

1. All properties that your company leases from a third party that are:
 - In New York City or the tri-state area (choose one)
 - Greater than 10,000 square feet
 - Occupied at least 50% of the year
 - Properties where your company has direct operational control over the energy systems, including common areas and amenity space, such as gyms.
2. All properties that your company owns and occupies that are:
 - In New York City or the tri-state area (choose one)
 - Occupied at least 50% of the year.
3. Optional: Leased properties that are less than 10,000 square feet.
4. Optional: Retail space of any size.
5. Optional: Data Centers.

*Note: If you do not include data centers in this inventory that fall within the covered area (NYC or the tri-state area), you will be required to create a separate metric and goal for these data centers.

2. Calculate your Normalization Factor

Full-Time Equivalent Employees (FTE): If you elect to normalize your company's emissions per FTE, you must to calculate FTE according to the Mayor's Carbon Challenge methodology for your base year and each additional year thereafter until the submission year.

Please calculate FTE using the following methodology:

1. Choose one day each month (for example, the 1st day) and count the number of employees on that day.
 - Count any person that works at least 80% of a full-time work week as 1 employee.
 - Count any person that works less than 80% of a full-time work week as half of an employee.
2. Take the average number of employees over the 12 months of the calendar year.

Gross Square Feet: If you elect to normalize your company's emissions per square foot, you must to calculate the square footage according to the Mayor's Carbon Challenge methodology for your base year and each additional year thereafter until the submission year. Total gross square footage includes the total number of square feet measured between the exterior surfaces of the enclosing fixed walls of all of your company's owned buildings, including spaces such as vent shafts, stairs, basements, etc., and the square footage of the interior office space in your leased spaces.

For purposes of the Challenge, please calculate square footage using the following methodology:

1. All properties that you own and operate:
 - Count 100% of the total gross square footage.
2. Leased spaces greater than 10,000 square feet, including spaces that are NOT direct metered or sub-metered:
 - Count 100% of the interior office square footage that your company occupies.
3. Optional (but recommended): Leased spaces less than 10,000 square feet:
 - Count 100% of the interior office square footage that your company occupies.

3. Retrieve Energy Use Data

For each of the properties included above, locate your company's energy use data in terms of electricity, natural gas, #2, #4 and #6 heating oil, and steam. Propane or other fuels used for backup generation is optional. These data are available from your company's utility bills or from sub-meter data in leased spaces.

Please compile energy use data from all energy sources and aggregate these sources for all 12 months of the year.

For purposes of the Challenge, energy use data is reported using the following metrics:

1. Electricity: Kilowatt-Hours (kWh)
2. Natural gas: Thermal Units (Therms)
3. Heating oil distillates #2, #4 and #6: US Gallons (US Gal)
4. Steam: Thousand Pounds (mlbs)
5. Propane or other fuels used for backup generation: US Gallons (US Gal) (optional)

4. Aggregate Energy Use Data

There are two options for aggregating energy use data:

1. Aggregate your company's total energy usage by fuel type for all properties combined.
2. Aggregate your company's energy usage broken down by property—see Step 6 for more information on this option.

To aggregate yearly energy use data by fuel type, add together all of your company's energy use in the calendar year in terms of electricity, natural gas, #2, #4 and #6 heating oil, steam, and propane or other fuels for backup (optional). Please include energy use from ALL owned and leased properties and check that energy use for each fuel type is measured in the correct metrics.

Please aggregate energy use data for your properties in the following ways:

1. Leased spaces that are greater than 10,000 square feet, including properties your company leases to a third party and properties your company leases from a third party, that are direct metered or sub-metered:
 - Count 100% of metered energy use in all interior office space, data centers, and common areas of the leased property where your company has direct operational control.
 - Note that you should NOT count energy use from the building's base building systems.
2. Leased spaces that are greater than 10,000 square feet that are NOT direct metered or sub-metered:
 - Allocate the whole building energy use proportionally by square footage.
 - Note: You can retrieve whole building energy use from ConEd for a small fee, or calculate the whole building energy use from the NYC's benchmarking data for buildings greater than 50,000 square feet. This data is posted online at: www.nyc.gov/LL84.
 - Note: These spaces cannot make up more than 10% of your company's total building square footage. If these spaces make up more than 10% of the square footage, your company is required to install sub-meters to measure the energy use in at least 90% of your total space.
3. Owned spaces:
 - Count all direct metered or sub-metered energy use in the interior office spaces of the building. DO NOT count energy use from the base building systems.
 - Note: If you do not have a meter to measure energy use in the interior office space, your company is required to install them on all owned properties greater than 10,000 square feet by January of 2013. Your company is required to retroactively add the energy use for CY 2013 in these spaces to your base year energy use.
4. Optional (but recommended): Leased spaces less than 10,000 square feet:
 - If they are direct metered or sub-metered: Count 100% of the energy use in the interior office space. DO NOT count energy use from the base building systems.
 - If they are NOT direct metered or sub-metered: Allocate energy use proportionally by square footage.

5. Input Energy Use and FTE/Square Footage into the Inventory

Once you have compiled your aggregate energy usage for each fuel type, there are two options to input your data:

1. Input your company's total energy use by fuel type and FTE/square footage for the submission year under the Inventory tab of this spreadsheet.
2. Input your company's property-level energy use and gross square footage for the submission year under the Properties tab of this spreadsheet—see Step 6 for more information on this option.

The instructions for entering energy use and FTE are below:

1. Enter your company's base year in the upper right hand corner of the Inventory tab. Your company's base year depends on the emissions reduction goal.
 - 30% reduction goal: Your base year is your company's choice of 2010-2012
 - 40% reduction goal: Your base year is your company's choice of 2006-2009
2. Select your company's normalization factor (FTE or Square feet) in the upper right hand corner of the Inventory tab.
3. Select your company's carbon reduction goal (30% or 40%) in the upper right hand corner of the Inventory tab.
4. Enter the submission year in the upper right hand corner of the Inventory tab.
5. Select the appropriate choices for your company's submission under "Additional Information."
6. Enter your company's annual energy use aggregated by fuel type for each year from the base year you selected through the submission year.
7. Enter your company's FTE or square footage for each year from the base year you selected through the submission year.

The Carbon Emissions Inventory tool will automatically calculate:

- Standardized energy usage (MMBtu)
- Associated carbon emissions (metric tons of CO₂e)
- Energy use intensity (MMBtu/FTE or MMBTU/SF)
- Carbon intensity (lbs. of CO₂e/FTE or lbs. of CO₂e/SF)
- Total percent reduction in carbon intensity since the base year
- Total percent reduction in energy use intensity since the base year

The spreadsheet will also automatically populate the data tables and charts located in the Summary and Graphs tabs.

6. Optional: Input Property-Level Energy Use and FTE

For CY 2012, you have the option to input your company's property-level energy use by fuel type and FTE in the Property tab of this spreadsheet.

For purposes of the Challenge, a “property” is defined as a logical geographic grouping of your organization's buildings and leased spaces. Individual properties must be comprehensive (they include all properties within your portfolio) and discrete (they do not overlap with one another). Buildings and leased spaces do not need to be physically connected, but should include all facilities owned and/or operated in a general area.

The instructions for entering energy use and FTE/square feet by property are below:

1. Aggregate your property-level energy use by adding together your company’s total energy use on each property in terms of electricity, natural gas, #2, #4 and #6 heating oil, steam, and propane (optional).
2. Calculate the FTE or square footage located in each property.
3. Input your energy use data by fuel type and FTE or square footage in the Property tab for the base year through the submission year.

The spreadsheet will automatically calculate your company’s total energy use by fuel type, associated carbon emissions, carbon intensity and energy use intensity per FTE or per square foot, and percentage reductions of carbon intensity and energy use intensity since your base year.

Please be sure to enter the total energy use and FTE generated in this section into the Inventory tab, or make sure that the information you have entered in both sections match.

7. Submit the Carbon Emissions Inventory

Please submit your Carbon Emissions Inventory by emailing it to the NYC Mayor’s Office of Long-Term Planning and Sustainability.