

MassDEP Greenhouse Gas Reporting
310 CMR 7.71
Applicability Screening Tool for Facilities
Instructions and Background

MassDEP's greenhouse gas reporting regulation (310 CMR 7.71) requires certain facilities to annually report greenhouse gas emissions to an electronic registry. Additional information about the reporting program, including the text of the regulation, is available at <http://www.mass.gov/dep/air/climate/reporting.htm>. The regulation requires reporting by facilities that exceed a threshold of 5,000 short tons of greenhouse gases (in carbon dioxide equivalents), and by facilities that report air emissions pursuant to 310 CMR 7.00: *Appendix C* (The MA Air Operating Permit Program) and emit any amount of greenhouse gases.

MassDEP's Greenhouse Gas Reporting Applicability Screening Tool is a spreadsheet that facilities may use to help determine whether they are likely required to report greenhouse gas emissions in accordance with 310 CMR 7.71. In particular, the tool may be used to develop a rough estimate of the emissions from a facility to determine whether the 5,000 short ton reporting threshold (described below) is likely to be exceeded. Note that the Applicability Screening Tool is not intended to be used to make a final determination of applicability. For example, if emissions are estimated (using the Tool) to be more than 4,000 short tons, then it may be advisable to refine your emissions inventory to result in the most accurate estimate of GHG emissions. Also note that the Applicability Screening Tool may not be used to report emissions.

The following information may be useful in understanding and using the Applicability Screening Tool:

- For emissions that occur in 2009, only emissions of CO₂ that result from the combustion of fuels are counted toward the 5,000 short ton threshold.
- For emissions that occur in 2010 and all future years, the 5,000 short ton threshold includes emissions of six key greenhouse gases: CO₂, CH₄, N₂O, SF₆, HFCs, PFCs, adjusted for the differing global warming potentials of the gases (i.e., expressed in carbon dioxide equivalents).
- The tool includes global warming potentials for all six gases, and emission factors for commonly used fuels. Note that combustion of all fuels must be included, even if the Applicability Screening Tool does not include an emission factor for a particular fuel.
- The 5,000 short ton threshold includes emissions from all stationary emission sources and processes (i.e. factory stacks, fugitive emissions, manufacturing processes and vents) at a facility.
- The 5,000 short ton threshold does not include emissions from motor vehicles. (Note, however, that some facilities are required to report these emissions.)
- Because of the differing global warming potentials of the various gases, small amounts of the non-CO₂ gases (i.e., less than one ton in some cases) may trigger the requirement to report.
- One short ton is equal to 2,000 pounds, or 0.9072 metric tons.

Examples for Specific Gases and Fuels

The following examples illustrate the contribution that specific fuels and gases are likely to make toward the 5,000 short ton threshold. Note that the following information will not be adequate to determine applicability for facilities that use more than one fuel or emit more than one gas; the Applicability Screening Tool spreadsheet is intended for use in such cases.

A facility emits approximately 5,000 tons of greenhouse gases (in carbon dioxide equivalents) if it:

- Combusts approximately 83,000,000 cubic feet of natural gas
- Combusts approximately 450,000 gallons of No. 2 (distillate) fuel oil
- Combusts approximately 380,000 gallons of No. 5 or 6 (residual) fuel oil
- Combusts approximately 2,200 short tons of coal
- Combusts approximately 3,140 short tons wood (assuming 12% moisture)
- Emits approximately 238 short tons of methane (CH₄)
- Emits approximately 16 short tons of nitrous oxide (N₂O)
- Emits approximately 0.21 short tons of sulfur hexafluoride (SF₆)
- Emits approximately 0.43 – 416 short tons of hydrofluorocarbons (HFCs)
- Emits approximately 0.5 short tons of perfluorocarbons (PFCs)

Instruction for Using the Applicability Screening Tool Spreadsheet

1. Add up the amount of fuel used for each fuel type used by your facility.
2. Click on the “Fuel Usage” tab of the spreadsheet. Enter the amount of each fuel type used in short tons, gallons, or standard cubic feet into the “Enter Fuel Quantity Here” cells of the spreadsheet. (You may also enter fuel quantities in MMBtu.)
3. The right hand column will give you the total CO₂ emitted in short tons for each fuel type (The spreadsheet multiplies the number you entered into the “Enter Fuel Quantity Here” cell by the appropriate emission factor.).
4. The bottom right hand cell will give you the Total CO₂ Emissions from Fuel Usage in short tons (The spreadsheet sums the CO₂ emitted for each fuel type.).
5. Click on the “GHGs” tab of the spreadsheet.
6. Enter the “Total CO₂ Emissions from Fuel Usage in short tons” from step 4, plus any CO₂ emissions not included in the “Fuel Usage” tab, into the “Enter Quantity of GHGs Emitted Here” cell for CO₂ in the spreadsheet
7. Add up the amount of greenhouse gases emitted by specific greenhouse gas type. Be sure this number is in short tons.
8. Enter that number into the “Enter Quantity of GHGs Emitted Here” cell for each GHG type emitted into the spreadsheet.
9. The right hand column will give you the total GHGs emitted in CO₂e short tons for each GHG type (the spreadsheet multiplies the number you entered into the “Enter Quantity of GHGs Emitted Here” cell by the appropriate Global Warming Potential).
10. The bottom right hand cell will give you the Total GHG Emissions in carbon dioxide equivalent short tons (The spreadsheet sums the GHGs emitted for each GHG type.).