



This tool calculates the greenhouse gas (GHG) emissions associated with and implements default emission factors, either for individual countries or for regions. Emission factors cover at least CO₂ - the principal GHG emitted by power generation. Other GHGs are also available, these have been integrated into the tool too.



Required activity data

Users need to supply data on the amount of electricity that they have consumed. Sometimes, an organization may be a co-tenant of a building and lack data on electricity alone has consumed. In these cases, the GHG emissions can be estimated using the building's electricity use that the reporting organization has consumed. Or, the total floor area that is occupied by the reporting organization. Where relevant, enter this information into the spreadsheet alongside data on the entire building's electricity use.

Region-specific emission factors

Where possible, users should use the most specific emission factors available for their region.

- The USA. This tool implements region-specific factors from the EPA's eGRID database. <http://www.epa.gov/cleanenergy/energy-resources/egrid/index.html>
- Brazil. Emission factors for different years and months are available at: <http://www.mma.gov.br>
- Australia. Region-specific emission factors are available at: <http://www.environment.gov.au/energy-and-climate/emissions>
- Other countries. Please consult national power authorities, GHG reporting guidelines, or other sources for the most up-to-date emission factors. Users can enter custom emission factors directly into the spreadsheet by clicking on the "Custom" button.

Global warming potentials (GWPs)

GWPs compare the climate impact of different greenhouse gases with the impact of CO₂ emissions in terms of CO₂-equivalents. As scientific understanding advances, GWP values are updated. By default, this tool uses the GWP values from the IPCC's Fifth Assessment Report (AR5). Users can select a different GWP set from the dropdown menu.



Please select a GWP set:

2014 IPCC Fifth Assessment Report

Note: The Fifth Assessment Report GWP values used in this tool exclude land use change and forestry emissions. Use of the latest GWP values is recommended.

Acknowledgements:

The emission factors used in this tool come from several sources:

- International Energy Agency Data Services. 2014. "CO₂ Emissions from Fuel Combustion".
 - The US eGRID database. <http://www.epa.gov/cleanenergy/energy-res>
 - China emission factors come from three sources:
 - * "China(including Hong Kong)-IEA" is a national average emission factor.
 - * "China (mainland)" is a set of provincial emission factors, which come from the *Calculation Tool for GHG Emissions from Fuel Use (2011)* (available in Chinese only). These factors are calculated using data from the China Energy Statistics Yearbooks, the National Energy Use Reporting System.
 - * "Hong Kong, China" is a regional emission factor for Hong Kong, which comes from the IEA.
 - * "Taiwan, China" is a regional emission factor for Taiwan, which comes from the Ministry of Economic Affairs in Taiwan. (available in Chinese only)
- <http://www.moeaboe.gov.tw/promote/greenhouse/PrGHMain.aspx?Page=1>

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While the worksheets are largely self explanatory, for questions or suggestions, please contact the GHG Protocol at: ghgquestions@wri.org





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regions within countries. The default
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GRID database:

climatechange.gov.au/workbook/index.html
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sources/egrid/index.html

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