

Annexes to the Inventory of U.S. GHG Emissions and Sinks

The following eight annexes provide additional information related to the material presented in the main body of this report as directed in the *UNFCCC Guidelines on Reporting and Review* (UNFCCC 2013, 2014). Annex I contains an analysis of the key categories of emissions discussed in this report and a review of the methodology used to identify those key categories. Annex 2 describes the methodologies used to estimate CO₂ emissions from fossil fuel combustion, the carbon content of fossil fuels, and the amount of carbon stored in products from non-energy uses of fossil fuels. Annex 3 discusses the methodologies used for a number of individual source categories in greater detail than was presented in the main body of the report and includes explicit activity data and emission factor tables. Annex 4 presents the IPCC reference approach for estimating CO₂ emissions from fossil fuel combustion. Annex 5 addresses the criteria for the inclusion of an emission source or sink category and discusses some of the sources that are excluded from U.S. estimates. Annex 6 provides a range of additional information that is relevant to the contents of this report. Annex 7 provides data on the uncertainty of the emission estimates included in this report. Finally, Annex 8 provides information on the QA/QC methods and procedures used in the development of the Inventory.

Annexes to the Inventory of U.S. GHG Emissions and Sinks	1
ANNEX 1 Key Category Analysis	2
ANNEX 2 Methodology and Data for Estimating CO ₂ Emissions from Fossil Fuel Combustion	32
2.1. Methodology for Estimating Emissions of CO ₂ from Fossil Fuel Combustion	32
2.2. Methodology for Estimating the Carbon Content of Fossil Fuels	68
2.3. Methodology for Estimating Carbon Emitted from Non-Energy Uses of Fossil Fuels	105
ANNEX 3 Methodological Descriptions for Additional Source or Sink Categories	133
3.1. Methodology for Estimating Emissions of CH ₄ , N ₂ O, and Indirect Greenhouse Gases from Stationary Combustion	133
3.2. Methodology for Estimating Emissions of CH ₄ , N ₂ O, and Indirect Greenhouse Gases from Mobile Combustion and Methodology for and Supplemental Information on Transportation-Related GHG Emissions	141
3.3. Methodology for Estimating Emissions from Commercial Aircraft Jet Fuel Consumption	184
3.4. Methodology for Estimating CH ₄ Emissions from Coal Mining	189
3.5. Methodology for Estimating CH ₄ and CO ₂ Emissions from Petroleum Systems	197
3.6. Methodology for Estimating CH ₄ and CO ₂ Emissions from Natural Gas Systems	202
3.7. Methodology for Estimating CO ₂ , CH ₄ , and N ₂ O Emissions from the Incineration of Waste	209
3.8. Methodology for Estimating Emissions from International Bunker Fuels used by the U.S. Military	216
3.9. Methodology for Estimating HFC and PFC Emissions from Substitution of Ozone Depleting Substances	222
3.10. Methodology for Estimating CH ₄ Emissions from Enteric Fermentation	246
3.11. Methodology for Estimating CH ₄ and N ₂ O Emissions from Manure Management	271
3.12. Methodology for Estimating N ₂ O Emissions, CH ₄ Emissions and Soil Organic C Stock Changes from Agricultural Lands (Cropland and Grassland)	303
3.13. Methodology for Estimating Net Carbon Stock Changes in Forest Land Remaining Forest Land and Land Converted to Forest Land	368
3.14. Methodology for Estimating CH ₄ Emissions from Landfills	403
ANNEX 4 IPCC Reference Approach for Estimating CO ₂ Emissions from Fossil Fuel Combustion	416
ANNEX 5 Assessment of the Sources and Sinks of Greenhouse Gas Emissions Not Included	426
ANNEX 6 Additional Information	435
6.1. Global Warming Potential Values	435
6.2. Ozone Depleting Substance Emissions	446
6.3. Sulfur Dioxide Emissions	448
ANNEX 7 Uncertainty	465
7.1. Overview	465
7.2. Methodology and Results	465
7.3. Reducing Uncertainty	471
7.4. Planned Improvements	472
7.5. Summary Information on Uncertainty Analyses by Source and Sink Category	473
ANNEX 8 QA/QC Procedures	487
8.1. Background	487
8.2. Purpose	487
8.3. Assessment Factors	488
8.4. Responses During the Review Process	490