

Phenol (carbolic acid)	1.54	1.81	1.54	1.75	1.48	1.80
Propionaldehyde	1.62	1.90	1.63	1.84	1.57	1.89
Styrene	0.68	0.79	0.68	0.77	0.65	0.79
Toluene	3.32	3.64	3.33	3.60	3.28	3.64

It is again noteworthy that the HAPs emission inventory results are not compared to the NAAQS or any other significance criteria. Rather, the information is provided for informational purposes as a means of disclosing the project’s potential effects on HAPs.

6.3. Greenhouse Gases

Greenhouse gases (GHGs) are another category of pollutants for which there are no NAAQS but are of concern because of their climate-changing potential. **Section 3** (*Sources and Types of Air Emissions*) identifies and generally describes these emissions as they pertain to aviation. These include gases such as CO₂, CH₄, and N₂O as by-products of fuel combustion in aircraft, APU, GSE, and motor vehicle engines as well as emissions of HFCs, PFCs, and SF₆ linked with refrigeration and air conditioning.

This section addresses the available guidance and approaches for assessing these emissions in connection with FAA projects/actions. **Appendix C** (*Emissions Inventory for Greenhouse Gases*) provides additional information on these aviation-related GHGs including emission inventory methods, data sources and other supporting materials.

6.3.1. Introduction & Background

There is presently a broad scientific consensus that human activities, primarily in the form of GHGs, are contributing to changes in the earth’s atmosphere. These GHGs, brought about principally by the combustion of fossil fuels, decomposition of waste materials, and deforestation, cause an increase in the earth’s average temperature – a phenomenon which is referred to as the “greenhouse effect” or “global climate change.”

As a result, the scientific community is continuing its efforts to better understand the impact of aviation emissions on the global atmosphere. In particular, the FAA is leading and participating in a number of initiatives intended to clarify the role that aviation plays in GHG emissions and climate. For example, the FAA, with support from the U.S. Global Change Research Program (GCRP)⁵⁸ and its participating federal agencies (i.e., NASA, NOAA, EPA, and DOE)⁵⁹, has developed the Aviation Climate Change Research Initiative (ACCRI)⁶⁰ in an effort to advance scientific understanding of regional and global climate impacts of aircraft emissions, with quantified uncertainties for current and projected aviation scenarios under changing atmospheric

⁵⁸ U.S. Global Change Research Program, <http://www.globalchange.gov/about>.

⁵⁹ National Aeronautics and Space Administration (NASA) at <http://www.nasa.gov/>, National Oceanic and Atmospheric Administration (NOAA) at <http://www.noaa.gov/>, and Department of Energy (DOE) at <http://energy.gov/>.

⁶⁰ FAA, *Aviation Climate Change Research Initiative*, http://www.faa.gov/about/office_org/headquarters_offices/apl/research/science_integrated_modeling/accr/.