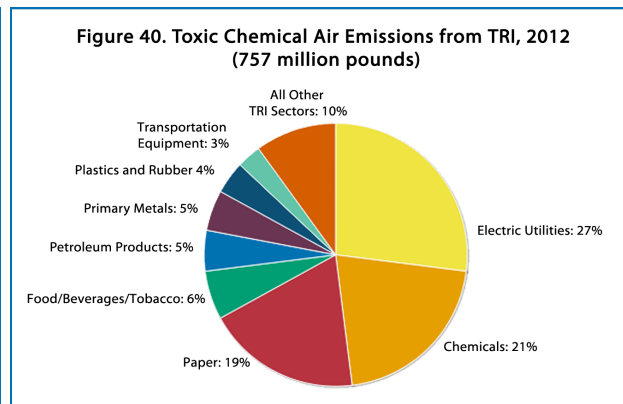
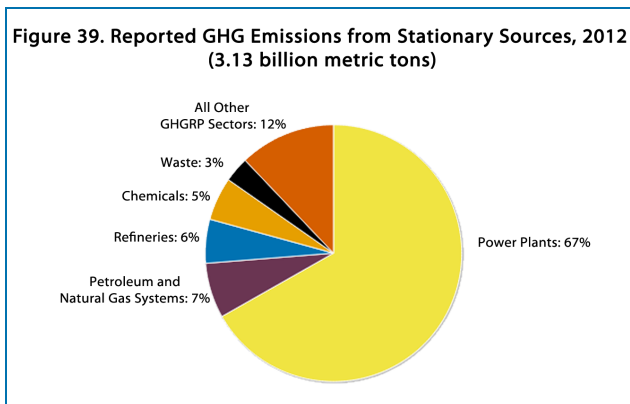


# Comparing TRI and Greenhouse Gas Reporting

Under the authority of the Clean Air Act, EPA's Greenhouse Gas Reporting Program (GHGRP) requires large emitters of greenhouse gases and suppliers of certain products to submit annual greenhouse gas reports to EPA. Emissions of greenhouse gases lead to elevated concentrations of these gases in the atmosphere, leading to a change in Earth's radiative balance that contributes to climate change. These elevated concentrations are reasonably anticipated to endanger both the public health and the public welfare of current and future generations. The purpose of the GHGRP is to collect timely, industry-specific data to help us better understand the source of greenhouse gas emissions and to inform climate policy.

While facilities report a variety of greenhouse gases to EPA, the predominant gas is carbon dioxide (CO<sub>2</sub>), which is released during fossil fuel combustion and various industrial processes. TRI reporting covers different chemicals, some of which are byproducts of energy production, but TRI chemicals are also used in and released from additional processes ranging from metal mining to surface cleaning. Therefore, the top air emitting sectors in TRI are similar, but not identical to, the top emitting sectors covered by the GHGRP. Analyzing toxic chemical releases reported to TRI and greenhouse gas emissions reported to the GHGRP together creates a more complete picture of emissions at the facility and sector levels. Figures 39 and 40 reflect the most recent data from the GHGRP and TRI.



In 2012, over 7,500 facilities in nine industry sectors reported direct emissions of greenhouse gases to the atmosphere, totaling over 3.13 billion metric tons of carbon dioxide equivalent (mt CO<sub>2</sub>e). This represents about half of the 6.7 billion mt CO<sub>2</sub>e that EPA estimated was released in the United States from all human-related sources in 2011. The GHGRP does not require direct emissions reporting from all U.S. sources. For example, the transportation sector is a large source of greenhouse gas emissions in the United States, but is not included in Figure 39. To learn more about human-related greenhouse gas emissions in the U.S., see the latest version of the U.S. Greenhouse Gas Inventory ([www.epa.gov/climatechange/ghgemissions/usinventoryreport.html](http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html)). Sectors with the highest reported greenhouse gas emissions include electric utilities, petroleum and natural gas systems, refineries, and chemical manufacturing, which combined account for almost 2.7 billion mt CO<sub>2</sub>e.

## What is CO<sub>2</sub>e?

Emissions of greenhouse gases are typically expressed in a common metric, so that their impacts can be directly compared, as some gases are more potent than others. The international standard practice is to express GHGs in CO<sub>2</sub>e.

In 2012, more than one-third of the facilities reporting to GHGRP also reported to TRI, as shown in Figure 41. However, this subset of GHGRP reporters accounted for almost three-quarters of GHGRP emissions (see Figure 42), indicating that the facilities reporting the greatest GHG emissions also exceed TRI reporting thresholds.

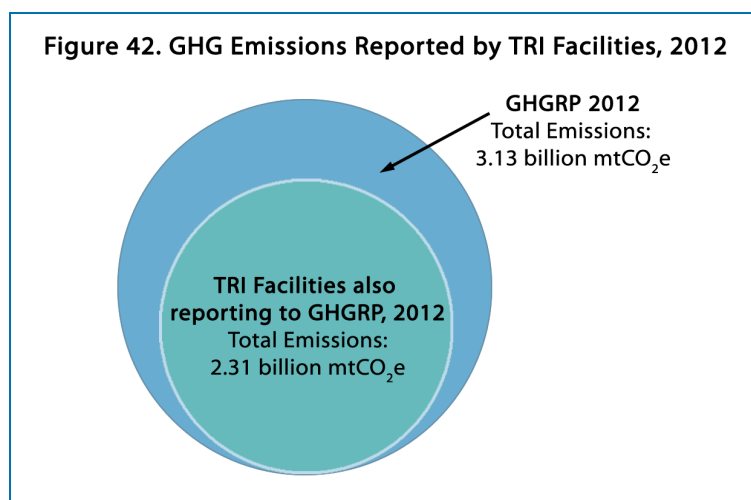
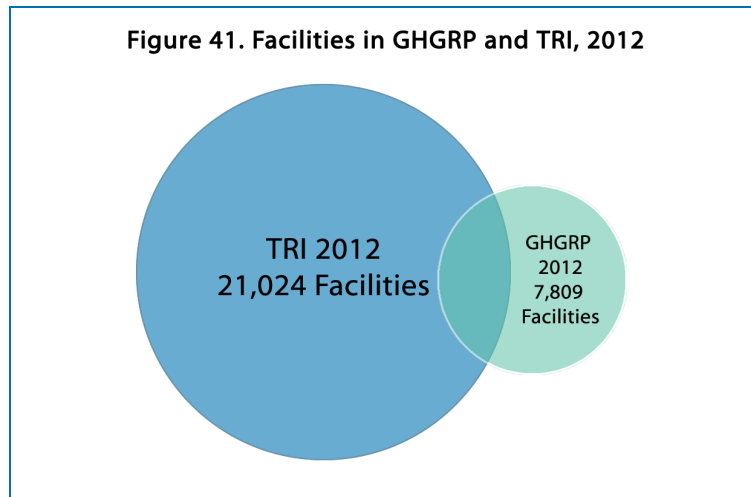
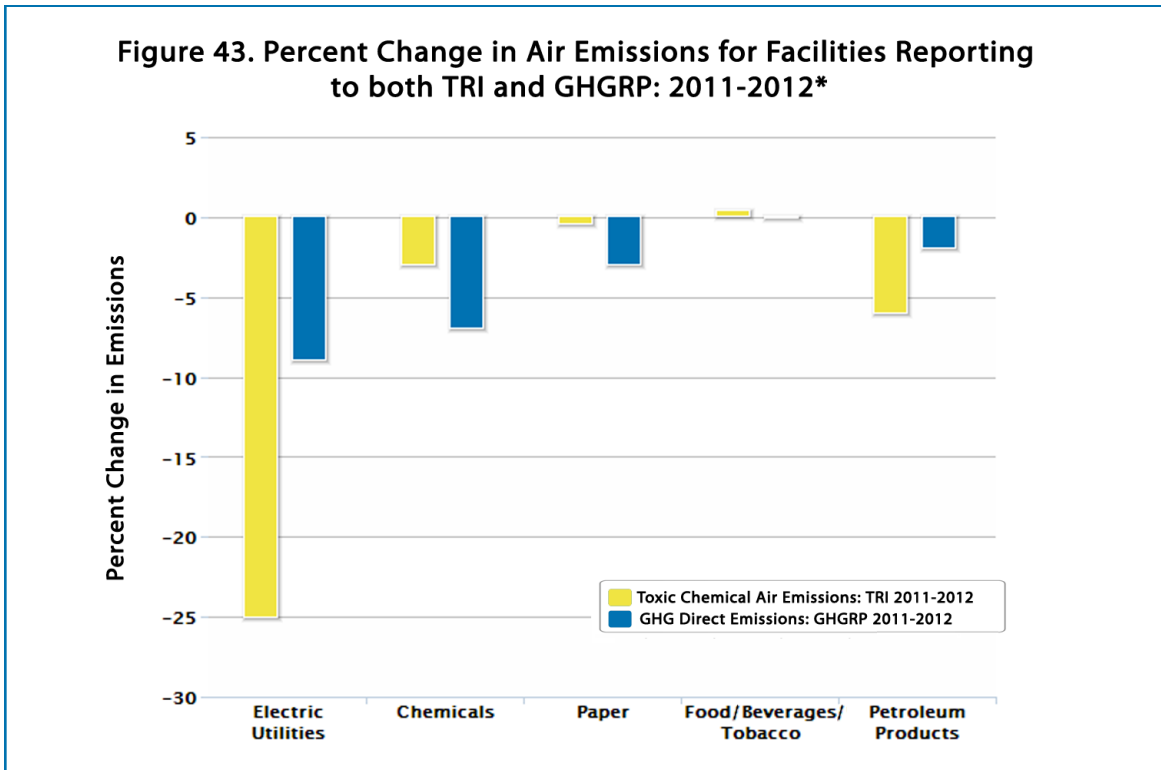


Figure 43 shows the percent change in total air emissions from 2011 to 2012 for the subset of facilities reporting to both TRI and GHGRP. Even though this graph is limited to a single set of facilities, the percent change in emissions for each industry varies between the two programs. The variation in reductions is driven by differences in the types of pollutants reported to TRI and GHGRP and by the impacts of certain source reduction and pollution control activities. Some actions taken by facilities reduce emissions of both greenhouse gases and toxic chemicals that are byproducts of fuel combustion. Other actions, like the installation of new treatment technology, may reduce emissions of a specific TRI chemical but not affect greenhouse gas emissions. Electric utilities, whose TRI and GHGRP emissions are often generated through the same process, reported significant reductions in air emissions for both programs. The reduction in TRI air emissions was driven by decreases in hydrochloric acid, sulfuric acid, and hydrogen fluoride, which combined account for most (94%) of the air emissions reported by electric utilities in 2012.



\*Excludes one facility that reported under different TRI industry sector categories in 2011 and 2012.

To learn more about the GHG Reporting Program, visit the program's website at [www.epa.gov/ghgreporting/](http://www.epa.gov/ghgreporting/).