

GHG Mitigation Options Database (GMOD) and Analysis Tool

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Industry and electricity production facilities generate over 50 percent of greenhouse gas (GHG) emissions in the United States. There is a growing consensus among scientists that the primary cause of climate change is anthropogenic greenhouse gas (GHG) emissions. Reducing GHG emissions from these sources is a key part of the United States' strategy to reduce the impacts of these global-warming emissions. As a result of the recent focus on GHG emissions, the U.S. Environmental Protection Agency (EPA) and state agencies are proposing and implementing policies and programs to quantify and reduce GHG emissions from key emitting sources in the United States. These policies and programs have generated a need for a reliable source of information regarding the performance, cost, and environmental implications of various GHG mitigation options for use by both industry and regulators.

In response to this need, EPA developed a comprehensive GHG mitigation options database (GMOD) that was compiled based on information from industry, government research agencies, and academia. The GMOD is a comprehensive data repository that can be used to evaluate alternative GHG mitigation options for several high-emitting industry sectors, including electric power plants, cement plants, refineries, landfills and other industrial sources of GHGs. The data is collected from credible sources including peer-reviewed journals, reports, and others government and academia data sources which include performance, applicability, development status, costs and efficiency data. GMOD contains gate-to-gate process level data and it can be used as an input to other tools including Life Cycle Assessment (LCA) and environmental and economic analysis tools. It is designed to address multi-sector GHG emissions from stationary sources and help the user determine the most attractive options from performance and cost perspectives. It can be used to support analyses of various GHG control technology options and their implications on sector-specific output, economics, and environmental parameters. The current version of the GMOD contains the sectors including Power, Cement, and Pulp & Paper. The refinery and landfill sectors are under development and are expected to be available in the GMOD database in 2019.