

Environmental Impact

Genzyme measures overall environmental performance with several key indicators within the categories of compliance, impact and stewardship. This overview summarizes the environmental impact of global manufacturing and laboratory operations. These metrics are compiled by site environmental professionals and data integrity is maintained through a formal data collection process.

In the following sections, each category of environmental impact is addressed, and data is expressed as an absolute number as well as normalized to revenue, which serves to reflect our rapidly expanding operations. The main driver of Genzyme's environmental impact has been the addition of major manufacturing and laboratory sites from 2006 - 2010. While more natural resources are needed year to year to sustain our operations, when normalized to revenue many categories of environmental impact have decreased over time.

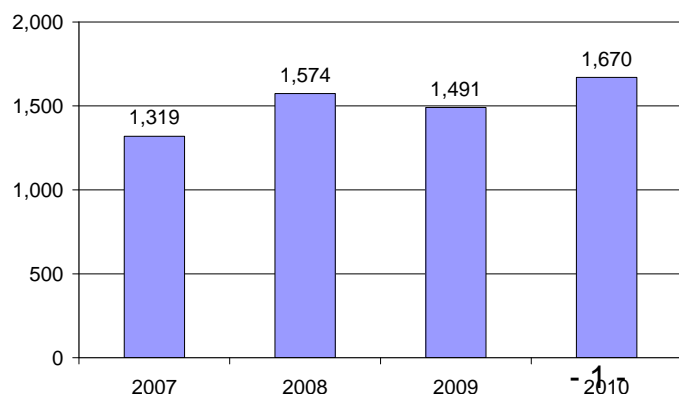
Note that the data below reflects the impact of Genzyme's current operations, and does not include environmental impact or revenue data from several non-core businesses that were divested in 2010.

Energy Use

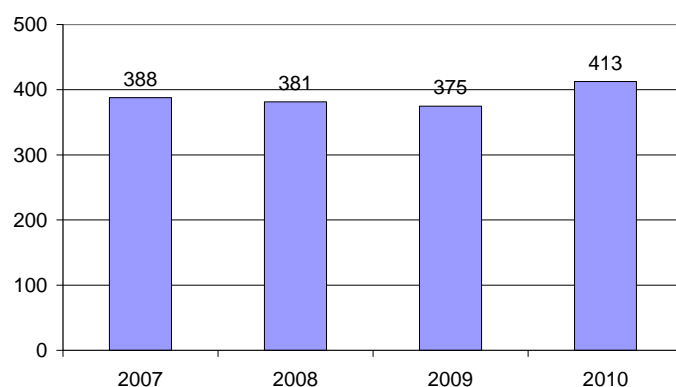
Because of the limited amount of nonrenewable energy sources on Earth, it is important to conserve our current supply so that our natural resources will be available for future generations. Energy conservation is also important because consumption of nonrenewable sources impacts the environment directly from the release of greenhouse gases from the combustion in fossil fuels, as well as indirectly by the recovery, refining, transportation and combustion of fuels to generate electricity. Improving the energy efficiency of operations at Genzyme provides the opportunity for cutting costs, conserving resources, and reducing Genzyme's carbon footprint.

Each Genzyme laboratory and manufacturing facility reports the total amount of natural gas, electricity and steam purchased. The total annual energy use is expressed in a common unit of billion BTU, and normalized emissions are expressed as BTU's per dollar of revenue.

billion BTUs



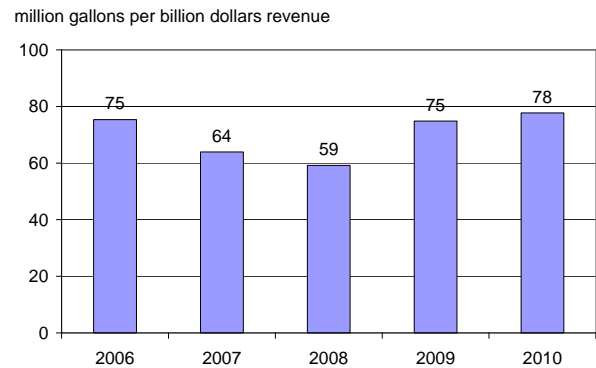
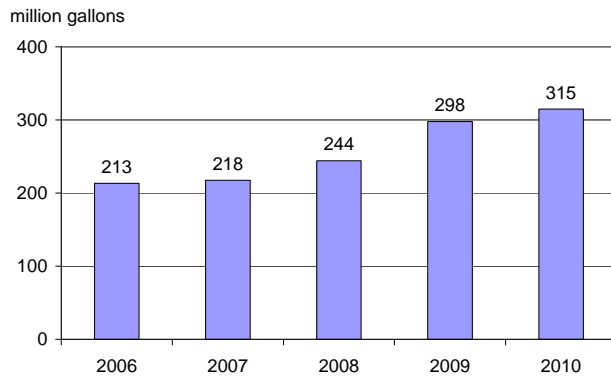
BTUs/dollar revenue



Water Use

Water is a precious natural resource, essential to all life on earth. Genzyme's pharmaceutical and health care product manufacturing requires significant quantities of water in order to effectively and efficiently manufacture highly purified medical products.

Each Genzyme laboratory and manufacturing facility reports the total amount of water purchased. The total annual water use is expressed in a common unit of million gallons, and normalized emissions are expressed as million gallons per billion dollars of revenue.



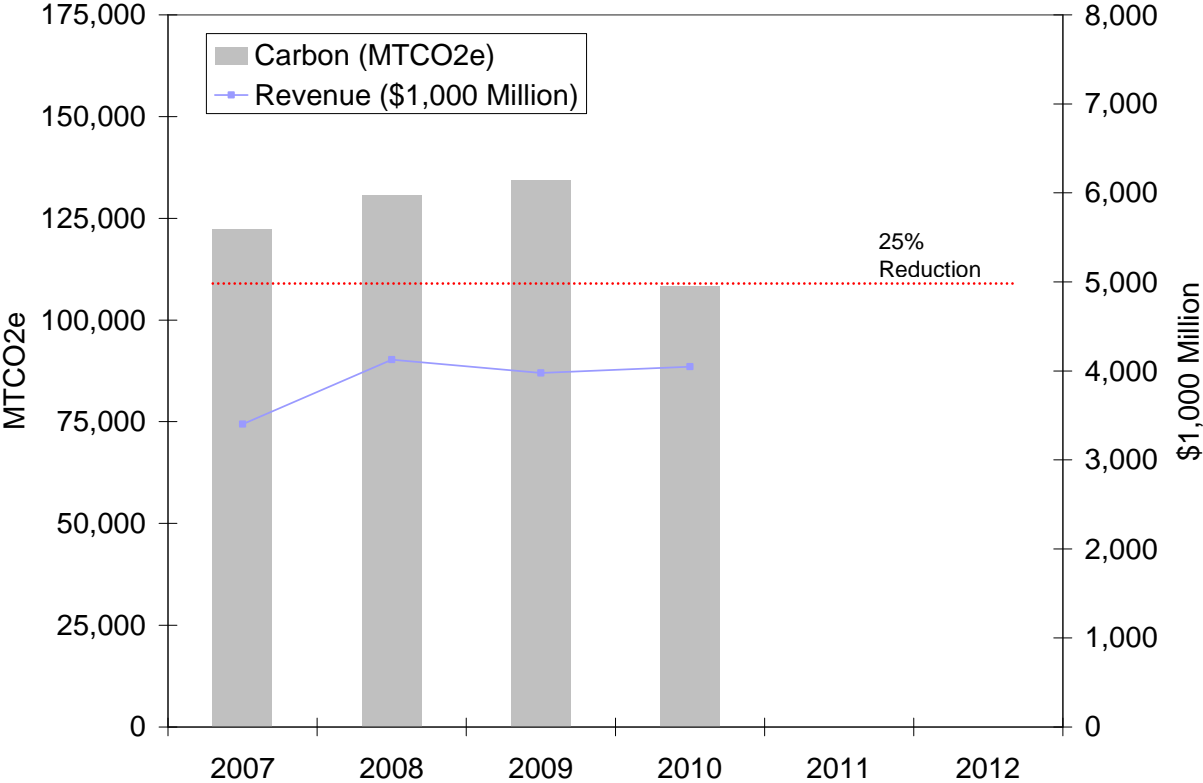
Air Emissions

Air pollution and related global climate change are major concerns for the health of the planet. Two significant contributors to air pollution are greenhouse gasses, which contribute to global warming, and volatile organic compounds (VOC), which contribute to the formation of smog.

Greenhouse Gas. In 2007, Genzyme set an ambitious goal to reduce greenhouse gas emissions across the company by 25 percent per dollar of revenue by the end of 2012. When Genzyme received the official reports for our emissions through the end of 2010, it was confirmed that we had reached this goal two years ahead of schedule.

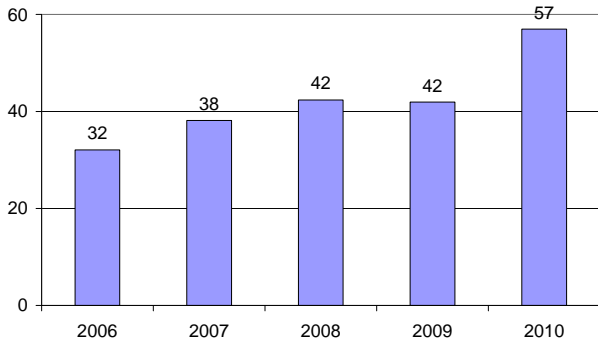
When the greenhouse gas reduction target was set in 2007, Genzyme was a rapidly growing company that needed to increase energy usage to support this growth, through activities such as opening new sites. This made it nearly impossible to reduce our emissions in absolute terms, so the target was normalized to revenue. When our revenue and company ceased to grow at such a rapid rate, we had to reduce our total greenhouse gas emissions even further in order to meet the target.

Emissions Category	2007 Global Emissions (MTCO ₂ e)	2008 Global Emissions (MTCO ₂ e)	2009 Global Emissions (MTCO ₂ e)	2010 Global Emissions (MTCO ₂ e)
Scope 1 (direct)				
Stationary Equipment				
Combustion of Fossil Fuels	34,406	37,861	39,928	44,850
Refrigeration Fugitive	3,859	4,699	4,840	5,283
Wastewater Treatment	2	2	2	4
Scope 1 (direct)				
Mobile Sources				
Owned or Leased Vehicles	7,299	9,266	10,931	12,009
TOTAL SCOPE 1	45,566	51,828	55,702	62,147
Scope 2 (indirect)				
Purchased Electricity	66,132	72,371	73,703	72,924
Purchased Steam	11,435	9,216	12,308	13,801
TOTAL SCOPE 2	77,567	81,587	86,010	86,725
Green Power Purchases	871	2,870	7,351	40,472
Revenue (\$Billion)	3.4026	4.1274	3.9773	4.0487
TOTAL SCOPE 1 & 2	35,932	31,629	33,782	26,774
% Reduction	-	-12.0%	-6.0%	-25.5%

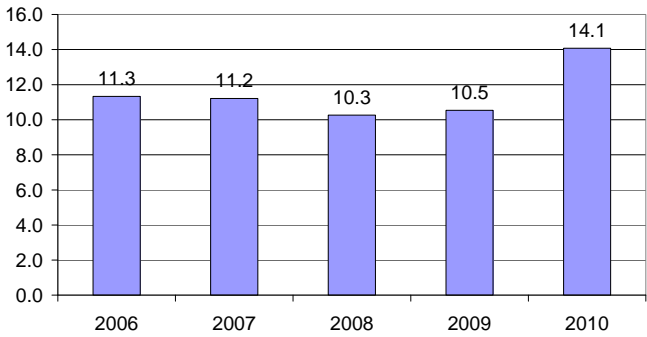


Volatile organic compounds. Each Genzyme laboratory and manufacturing facility reports the total VOC emissions from process equipment. Total process VOC emissions are expressed in thousand pounds, and normalized emissions are expressed as pounds of VOC per billion dollars of revenue.

thousand pounds of volatile organic compounds (VOCs)



thousand pounds of volatile organic compounds (VOCs) per billion dollars revenue

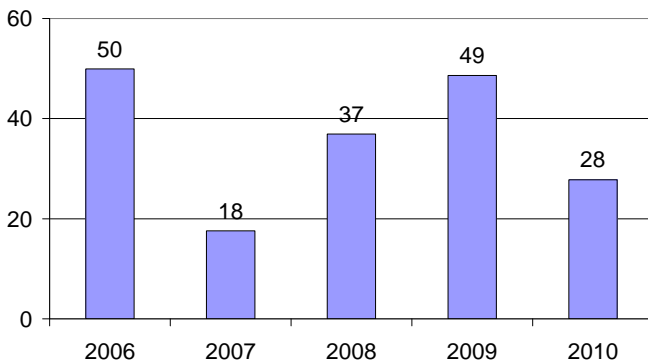


Chemical Waste

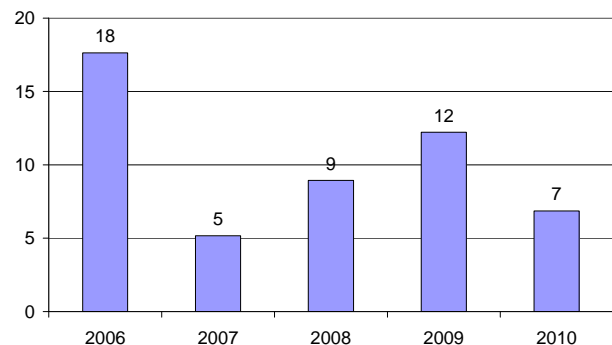
Chemical waste is generated as a byproduct of manufacturing, quality control testing or research and development activity. The management of chemical waste is highly regulated and costly. Genzyme is committed to improving the efficiency of our operations in order to reduce the cost and minimize the environmental impact of chemical waste.

Each Genzyme laboratory and manufacturing facility reports the quantity of both regulated and non-regulated chemical waste that is shipped offsite for appropriate treatment, recycling or disposal. Total chemical waste is expressed in million pounds, and normalized emissions are expressed as million pounds per billion dollars of revenue.

million pounds



million pounds per billion dollars revenue



Solid Waste

Solid waste is one of the most visible forms of environmental pollution. Genzyme defines a broad range of solid waste and includes materials that range from municipal garbage to industrial wastes such as biological or other regulated waste. Biohazardous waste and decayed radioactive waste are included in this definition, however construction and demolition waste, which is non-routine and project specific, is not included.

Each Genzyme laboratory and manufacturing facility reports the total quantity of solid waste in million pounds, and normalized emissions are expressed as million pounds per billion dollars of revenue. Also reported is the quantity of solid waste that is recycled, which is expressed as an overall recycle rate and is shown in the graph with total solid waste figures.

