BUILDING AMERICA®

Greenhouse Gas Emissions

Our Performance

Locomotives account for nearly all of our GHG emissions.

Union Pacific produced a total of 11,953,871 metric tons of GHG emissions from fossil fuels in 2013. Our 2013 rate of emissions, as measured by gross ton miles, increased by 1 percent.

- Our overall emissions from locomotives were virtually flat compared to 2012, from 11,149,798 metric tons of CO2e in 2012 to 11,153,933 metric tons of CO2e in 2013.
- Union Pacific's emissions from biomass sources were 94,519 metric tons.
- Scope 3 emissions from employee travel totaled 18,210 metric tons. Employee travel includes rental car fuel and commercial air travel.
- We also collaborate with suppliers concerning their greenhouse gas emissions. For the first time, Union Pacific worked with suppliers to identify their Scope 3 emissions on behalf of Union Pacific. For suppliers representing an estimated 21 percent of our Scope 3 spend, emissions totaled 262,355 metric tons in 2013 compared to 290,848 in 2012.

2013: Our Best Ever CDP Climate Change Questionnaire Performance

CDP, formerly Carbon Disclosure Project, is an independent not-for-profit organization that collects and reports data from the world's largest public companies on behalf of 655 investors representing $78 trillion in assets.

We achieved a disclosure score of 98 in the CDP S&P 500 Climate Change Report 2013, which placed the company on the Global 500 and S&P 500 Climate Disclosure Leadership Indices (CDLI). The Index rewards companies for their transparency and disclosure of climate change risks and opportunities, greenhouse gas emissions data and goals.

Union Pacific is the only North American railroad to appear on both the S&P 500 and the Global 500 CDLI, and our carbon disclosure score is an 11-point improvement over last year.

*Union Pacific's 2013 greenhouse gas inventory verified by Conestoga-Rovers & Associates. Union Pacific works with Trinity Consultants to compile our GHG inventory. Conestoga-Rovers & Associates and Trinity Consultants are independent organizations. Excludes biomass sources.

Emissions restated to include Alton & Southern Railway and updated emissions factors.

Our Goal

In 2011, we set a goal to reduce our locomotive fuel consumption rate by 1 percent annually from 2011 through 2015, which would translate to an annual one percent reduction in our GHG emissions rate and a 23 percent reduction between 2000 and 2015.

In goal setting, the company seeks to find the appropriate balance between financial returns, environmental performance and social commitment. Union Pacific's freight mix has changed since we announced the goal, a function of macroeconomic changes and our diverse commodity structure.

Our fuel efficiency declined in 2013, as a result of a change in our freight traffic mix. The primary driver of the mix change is the reduction in coal volume. Coal is our most efficiently transported commodity because it moves in unit trains and generally traverses less mountainous grades than other commodities. At the same time, business has grown in segments with less efficient fuel profiles.

Although we have encountered challenges progressing toward our goal, we believe the annual 1 percent reduction remains a viable objective as we forecast business mix and fuel saving initiatives.

We are dedicated to reducing our fuel consumption rate, and the goal remains a corporate priority.

Greenhouse Gas Reduction Initiatives

Locomotives account for 91 percent of our greenhouse gas emissions, so related operational and technological improvements drive the majority of our greenhouse gas emissions reductions. Vehicles, refrigerated rail cars and electricity drive the greatest amounts of other emissions.

Our total energy use for 2013 was 45.7 million MWh, up slightly from 45.6 million MWh in 2012.

To address non-locomotive related greenhouse gas emissions, in 2013, we:

- Continued efforts to reduce fuel consumption in vehicles by adding telematics in more than 1,400 vehicles, bringing the total to more than 1,700. Telematics involves using a telecommunications device to transmit real-time information to promote safe and fuel-efficient driving habits.
- Continued collaboration with the Environmental Defense Fund Climate Corps [http://www.uprr.com/she/emg/community.shtml#8] , whose work has yielded energy conservation actions. In 2013, related conservation projects eliminated electricity consumption of 3.9 million kilowatt hours, equivalent to the annual GHG emissions of 573 passenger cars.
- Piloted LED lighting at crossings and in-track signals.

Reducing Customers' Emissions

Union Pacific's Environmental Advantage

Trains remain the most fuel-efficient way to transport bulk cargo on land.

- According to the Association of American Railroads , if just 10 percent of the nation's long-haul freight currently moved on highways was diverted to rail, annual fuel savings would approach 1 billion gallons and greenhouse gas emissions would decrease by 11 million tons.
- According to the EPA, trains emit an average of 75 percent less greenhouse gas emissions than trucks.

33.7 Million Metric Tons of GHG Emissions Eliminated in 2013 by Customers who Chose Rail

Union Pacific customers helped eliminate an estimated 33.7 million metric tons of greenhouse gases by choosing rail over truck transportation for their shipping needs. This is equal to the amount of carbon sequestered annually by 27 million acres (roughly the size of Tennessee) of forests in one year.

Through our Carbon Emissions Estimator [http://www.up.com/forms/carbon/index.cfm] , our customers can calculate the carbon reductions they receive when we ship their goods. We also send customers their carbon emissions savings estimate for the previous year's shipments.