



Environmental Innovation at Cargill

As a food and agricultural company, Cargill's purpose is to nourish people. Human food and animal feeds depend on clean water, soil, air and light. As the world's population continues to grow, so too do the demands on the environment. A sustainable future requires investing in environmental innovation today.

At Cargill, we are aware that our global reach creates high expectations for leadership in resource stewardship. We look to innovation as a way to preserve and protect the environment, whether by using energy and resources more wisely (which also helps reduce energy costs), pioneering profitable business and product lines that make use of renewable raw materials or helping customers shrink their environmental footprints.

Using energy and resources more wisely

- Four Cargill Corn Milling North America locations – Blair, Nebraska; Cedar Rapids, Iowa; Eddyville, Iowa; and Wahpeton, North Dakota, earned the U.S. Environmental Protection Agency's (EPA's) prestigious ENERGY STAR, the national symbol for protecting the environment through energy efficiency. This places Cargill Corn Milling facilities in Blair, Cedar Rapids, Eddyville and Wahpeton, within the top 25 percent of wet corn milling plants in the nation, with regard to energy performance.
- At our beef and pork plants, Cargill reclaims methane from its wastewater lagoons and turns it into biogas to fuel its plant boilers. Biogas now displaces 20-25 percent of natural gas demand at all eight of Cargill's U.S. meat processing plants.
- Over the past five years, we've developed – not merely invested in – projects that will generate an estimated 800,000 greenhouse gas (GHG) emissions emission credits by 2012. For instance, we build and operate anaerobic digesters, including one on a pig farm in South Africa and two on large dairy farms in the United States. These sites generate carbon credits from reduced methane emissions in the atmosphere.
- We are active traders of credits in the European Union Emissions Trading System, and other regulated and voluntary markets globally. We've invested in approximately 80 Clean Development Mechanism (CDM) projects in developing economies to produce Certified Emission Reductions credits that reduce the cost of compliance with the Kyoto Protocol.
- Our animal nutrition business in Honduras has replaced diesel-run boilers with a boiler fueled by sawdust from the local lumber industry. Switching from diesel to sawdust has reduced carbon emissions by about 6,000 metric tons per year.
- Our complex in Uberlândia, Brazil, is using wood chips from fast-growing eucalyptus trees as biomass to power the site's bioboiler. The process will generate 70 percent of the power and 100 percent of the steam at this location, resulting in a savings of 60,000 metric tons of fuel oil per year and reduced GHG emissions.
- Cargill also is implementing behavior-based energy savings programs throughout the company, a system which engages employees in recognizing and eliminating energy inefficiencies.
- Horizon Milling developed 2010 EcoFlour™ sustainability solutions, a new customizable ingredient program that utilizes precision agriculture to use fertilizer more efficiently to reduce energy inputs and improve yields.
- Our poultry facility in London, Ontario, Canada, reduced freshwater consumption by 28 percent in 24 months, in part because all of the water used for chilling at the facility is recycled twice for cooling and rinsing.
- In developing our Truvia™ sweetener business, Cargill has embraced the opportunity to create a responsible, sustainable supply chain for a crop new to global commercial scale production. We are growing our stevia supply from its infancy with strong environmental, economic and social standards.



Pioneering commercial use of renewable raw materials

- Our beef processing facility in High River, Alberta, Canada, collects and uses biogas from the wastewater treatment system to reduce both GHG emissions and natural gas use. Throughout 2009 and 2010, Cargill has sold nearly 500,000 metric tons of emissions offsets originating from this project.
- At Cargill's starch plant in Thailand, an anaerobic digester captures methane from the waste products of tapioca processing. Not only does the digester generate onsite energy, it is reducing GHG emissions, creating organic fertilizer for local farms.
- We have developed an array of bio-based oils, lubricants, plastics and other products suitable for industrial applications, including BiOH® polyols, a soy-based ingredient used in making flexible foam for upholstered furniture and bedding, carpet backing, and automotive cushioning.
- Cargill developed HemiForce® enhanced fiber additives, a new product line to increase fiber strength in paper and deliver improved paper machine performance. The new, patented manufacturing process uses renewable seed-based fiber products using a totally chlorine-free process.

Partnerships with customers, academic institutions and communities

- Citing the ability to balance long-term sustainability goals with the need to perform competitively, McDonald's USA selected Cargill for its 2010 U.S. Sustainability Award to recognize Cargill's work in improving animal welfare practices, making the egg supply chain more sustainable and for our efforts in setting long-range environmental goals.
- In trying to save energy at our own plants, we have developed several proprietary libraries of knowledge and formed a business, Cargill Process Optimizers (CPO), to help our customers capture similar value in their own operations. Customers save an average of up to 15 percent on energy use and see up to a 25 percent reduction in water use after working with CPO, as well as capacity increases of up to 10 percent.
- We are a sponsor of the Massachusetts Institute of Technology (MIT)'s Global Change Joint Program on the Science and Policy of Climate Change and support the work of Stanford University's Institute on Food Security and the Environment to assess the impact of climate change scenarios on our food systems.

Setting goals

We first set company-wide environmental goals nearly a decade ago, in 2001. New goals are established every five years to continue to drive excellence. Our latest goals extending through May 2015 include:

- Improve energy efficiency by 5 percent from our fiscal 2010 baseline
- Improve GHG intensity by 5 percent from our fiscal 2010 baseline
- Increase renewable energy use to 12.5 percent of our energy portfolio
- Improve freshwater efficiency by 5 percent from our fiscal 2010 baseline

We achieved our 2010 goals on renewable energy and freshwater use. In the past four years, we improved our GHG intensity by 1.5 percent from our baseline, which was short of our 8 percent goal. Yet we gained numerous skills and processes along the way that will help us continue to make progress in reducing our carbon footprint. We also improved our operations' energy efficiency by more than 10 percent from our fiscal 2001 baseline and by more than 20 percent per U.S. \$1,000 of sales.

Cargill made a voluntary but legally binding commitment to reduce absolute GHG emissions from its primary U.S. locations by joining the Chicago Climate Exchange® (CCX). Cargill exceeded the CCX's required 5-percent GHG reduction target for calendar year 2009 (the latest reporting year for which the data has been verified). Cargill reduced its GHG emissions at its U.S. facilities by 12 percent and achieved a 7.8 percent reduction during calendar year 2008.

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