



Luminant

Smart People Smart Solutions

2008

Environmental Review

Luminant employs smart people and smart solutions to provide increasingly clean sources of electricity and to remain a leader in environmental stewardship and innovation.



About Luminant Luminant, a subsidiary of Energy Future Holdings Corp., is a competitive power generation business, including mining, wholesale marketing and trading, construction and development operations. Luminant has more than 16,100 megawatts (MW) of existing generation in Texas, including 2,300 MW fueled by nuclear power and 5,800 MW fueled by coal. Luminant is constructing an additional 2,200 MW of coal-fueled generation capacity, which is expected to begin commercial operation in 2009 and 2010. The company is also the largest purchaser of wind-generated electricity in Texas and fifth largest in the United States. EFH is a Dallas-based energy holding company that has a portfolio of competitive and regulated energy subsidiaries, primarily in Texas. For additional information, visit www.luminant.com or www.energyfutureholdings.com.

Smart People Smart Solutions

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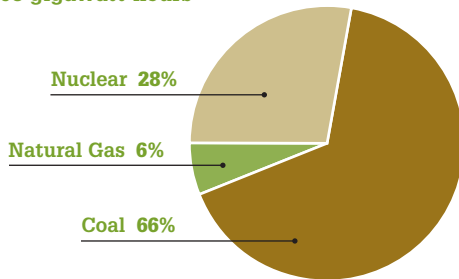
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Luminant's Vision

To be recognized as a leader in the energy industry and an enabler of economic development and social progress by providing safe, reliable, affordable and environmentally sustainable power.

2008 Energy Production¹

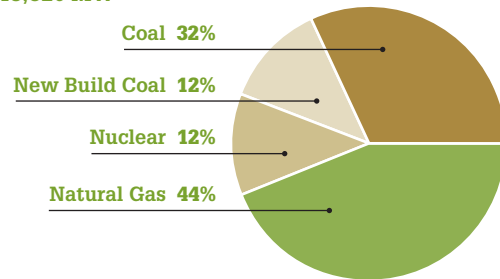
Total: 68,263 gigawatt-hours



¹ Excludes purchased power

Generating Capacity²

Total: 18,320 MW



² As of May 7, 2009, includes mothballed gas plants and 2,181 MW of new coal-fueled generation expected to come online in 2009 and 2010

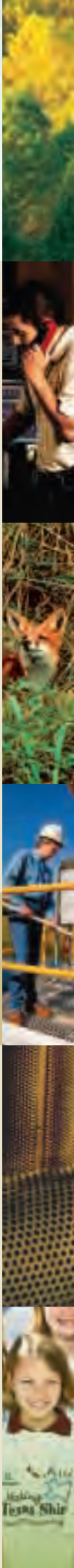
ON THE COVER: The Luminant Scholar Program, designed to promote environmental awareness in the classroom, inspired more than 6,500 fifth-graders across Texas to answer one simple question: 'How can I protect the environment?' Their smart solutions are included throughout this report.

Reporting And Permitting

Every year, Luminant creates thousands of separate environmental reports for a variety of government agencies and for record-keeping purposes. These documents include reports on air emissions, water quality, waste, and usage and discharges as well as reclamation and mining reports.

2008 Regulatory Reporting

Category	2008
State agencies	2,914
Federal agencies	2,155
Reports for permanent records	1,270
Total	6,339
Total pages	23,022
Total pages with Continuous Emissions Monitoring	47,975



The environment is very important. It is important because all the living things live in the environment and if the environment is full of chemicals and trash every thing will die. So, here are some ways to protect the environment. The first thing is pick up trash. If you don't pick up trash it can destroy many habitats of an animal. If an animal's habitat is destroyed it will die. Some animals can help us live. For example a cow gives us milk and meat. If it dies we'll die. So pick up trash and protect animals. Next, don't pollute the water. The water will get polluted and we'll get sick. Also if you help a friend who has a problem, you can make a difference.

Percentage of postmine soils

	Percent of Pre-mine Area	Percent of Postmine Area
Big Brown Mine	4.7	58.6
Monticello Winfield Mine	38.8	65.9

Mean values for premine and postmine soils

	Native Soils	Postmine Soils	Native Soils	Postmine Soils
			12-48"	
			5.4	6.4
ABA	0.5	3.2	-0.3	2.7
Sand	69	35	44	34
Clay	17	27	41	28

The smart schoolchild motivated by the Luminant Scholar Program to answer today's environmental challenges may be energized to find tomorrow's smart solutions, as graduate fellows in the Luminant Environmental Research Program have for almost 40 years.

A MESSAGE FROM LUMINANT'S CEO

'Luminant employs smart people and invests in smart solutions to provide reliable and increasingly clean sources of electricity.'

As the largest generator of electricity in Texas, Luminant employs smart people and invests in smart solutions to provide reliable and increasingly clean sources of electricity. While many strategic solutions contribute to Luminant's exemplary compliance with complex environmental regulations, the real credit belongs to our employees, particularly the frontline workforce at the power plants, mines and support facilities as well as the corporate environmental services team. Their commitment to excellence and continuous improvement is the reason Luminant remains a leader in environmental stewardship.

We also have a legacy of investment in educational partnerships that reach students of all ages, from elementary pupils to graduate students and Luminant employees as well. These programs not only improve the technical and leadership capabilities of our own workforce, but they also help prepare the next generation to create environmentally smart solutions to meet the future power needs of Texas consumers.

I am pleased to present the 18th annual review of our environmental programs and commitments. I hope you find it useful for assessing the sound solutions Luminant employs every day to generate cleaner, more efficient electricity through environmentally sustainable operations.

Sincerely,



David A. Campbell
Chief Executive Officer





For almost 40 years, Luminant has restored mined lands in an award-winning reclamation program that goes beyond state and national standards.

SMART PEOPLE, SMART SOLUTIONS

'Saving the environment can be a challenge but not when you make it a group effort. One person can make a difference, but a group of people can change the world.'

— Reiley Blayke Cohorst, Beckville ISD

Smart people creating smart solutions keep Luminant in the forefront of environmental leadership and innovation. Luminant's commitment to cleaner air, land and water starts with the basics. Year after year, the company maintains an excellent compliance record by meeting or going beyond all applicable federal and state environmental laws and regulations. Here are highlights of Luminant's ongoing environmental achievements.

Investment in New, Cleaner Generation

- The new Sandow 5 and Oak Grove coal-fueled power plants will add almost 2,200 MW of low-cost energy resources to power Texas.
- Equipped with Best Available Control Technology, these plants will be two of the first new lignite plants in the nation to remove mercury with activated carbon sorbent injection technology. Luminant's public-private research collaboration over the past decade contributed to the commercial readiness of this technology.

Industry-Leading Emissions Reductions

- Luminant has committed to the largest voluntary program ever undertaken by a power company to reduce key emissions from its coal-fueled generation fleet.
- This \$1 billion retrofit program will offset 100 percent of nitrogen oxide (NO_x), sulfur dioxide (SO₂) and mercury emissions from the new coal-fueled units.
- Key emissions across the existing coal-fueled fleet will be reduced 20 percent below 2005 coal-fueled levels.
- Luminant is doing more than any other company in the nation to voluntarily cut these key emissions from its coal-fueled power plants and is the only generation company in Texas to do so.

Wind Generation Leadership

- Luminant has long been a leader in the purchase of wind power in Texas. Today's purchases of over 900 MW are enough to power roughly 177,000 average Texas homes.
- Luminant is committed to maintaining its No.1 position as Texas leads the nation in development of this zero-emission, renewable resource.

Innovative Land Reclamation Practices

- Luminant's land reclamation program, consistently recognized as the best in Texas and the U.S., has restored almost 65,000 acres of mined lands, resulted in the planting of nearly 28 million trees and created over 4,800 acres of wetlands.
- Luminant's reforested reclamation areas have been recognized as a certified Tree Farm since 1996.
- Winner of an unequaled four U.S. Department of the Interior Directors Awards and 13 Texas Reclamation Awards, Luminant's reclamation program has been honored nearly 90 times.



Pine seedlings, being placed in a planting machine, will help reforest Luminant's mined lands.

Strengthened Climate Change Actions

- Voluntary efforts have avoided, reduced or sequestered the equivalent of more than 352 million tons of carbon dioxide (CO₂) since 1991 in one of the largest individual company efforts in the U.S.
- More than 25 million tons of CO₂ were avoided, reduced or sequestered in 2008.
- Potential expansion of the Comanche Peak nuclear plant could provide up to 3,400 MW of the lowest emission source of baseload generation available.
- Luminant is evaluating cleaner technologies to manage CO₂ as part of its research and development program.

Community Commitment

Luminant is proud to be an integral part of the communities where its employees live, work and serve.

- The safety of the public and employees is always Luminant's top priority. Luminant constantly strives to improve the safety of its operations.
- Each year, Luminant produces an economic benefit to Texas and its communities of more than \$1.5 billion through payrolls, purchases, contracts, taxes and other expenditures.
- Luminant has invested billions of dollars in new infrastructure and development. Its current investment of \$3.25 billion in construction of new power facilities and hundreds of millions in environmental improvements to its existing coal-fueled units is generating a powerful economic benefit by adding thousands of construction and permanent jobs and billions of dollars in personal income, retail sales and school taxes.
- When there are community needs, Luminant's neighbors know its employees will be there. On top of philanthropic contributions, which totaled over \$1.4 million in 2008, employees volunteer thousands of hours to help others.
- In 2008, Luminant employees' generosity helped raise almost \$500,000 in contributions to United Way.



Luminant employees volunteer countless hours in service to their communities.

Cutting-Edge Research and Development

- For almost a decade, Luminant has joined with federal agencies and academic and research institutions on more than 40 projects to evaluate mercury control technology.

- Based on successful demonstrations of sorbent injection systems at two of the company's generating plants, Luminant is installing this technology on all its coal-fueled units to reduce mercury.
- Over the next five to 10 years, EFH, Luminant's parent company, will evaluate the development and commercialization of cleaner power plant technologies, including integrated gasification combined-cycle (IGCC) and pulverized coal emissions systems to reduce CO₂ emission intensity as well as related technologies such as electric cars and plug-in hybrid electric vehicles that have the potential to reduce overall greenhouse gas emissions.

Commitment to Waste Minimization

- Luminant's program to replace hazardous substances, such as solvents for degreasing, with nonhazardous ones has achieved major environmental benefits. Hazardous waste generation in 2008 was just 0.01 percent of the amount generated in 1991 when tracking began.
- Since 1993, Luminant has recycled almost 34 billion pounds of material, saving energy and resources.

Smarter People Creating Smarter Solutions

- Luminant's educational programs are making students of all ages smarter and promoting a cleaner, more secure energy future.
- Luminant Academy, the company's state-of-the-art training facility, is further improving the current workforce's capabilities and helping assure the next generation of high performers.
- For nearly 40 years, the unique Luminant Environmental Research Program has provided more than \$4.7 million to fund research by 124 graduate students, producing outstanding scientists and environmental professionals and providing Luminant with sound environmental solutions.
- The Luminant Scholar Program awarded nearly \$50,000 in scholarships in the 2008–2009 school year and increased fifth-graders' environmental awareness, helping assure a future of energy progress.



Robert Gentry, Luminant Scholar director, presents a student with a U.S. Savings Bond for her winning essay on environmental stewardship.

Environmental Principles

Energy Future Holdings, through its subsidiary companies, is committed to improving our environment by serving our customers and communities through more efficient—and cleaner—applications of energy. We are also committed to improved environmental protection measures, building on our strict compliance with environmental laws and regulations. In addition, we will support and participate in environmentally sound solutions that also help reliably and affordably meet the growing demand for power.

To this end, Energy Future Holdings is committed to the following energy and environmental principles:

Cleaner Air and Water and Less Waste

We will strive for continuous improvement of the environment by operating more efficiently and exploring new solutions, even as we outperform current clean-air requirements through voluntary emissions reductions. We will continue to carefully manage water quality and consumption and conserve water resources as well as continue to promote waste minimization and recycling.

Energy Efficiency and Conservation

Our goal is to encourage our customers to take advantage of all cost-effective opportunities to improve their energy efficiency. To that end, we will invest in initiatives that achieve long-lasting energy efficiency improvements across all our businesses. We will promote energy efficiency and conservation through new energy management tools and products for our customers, education and conservation programs designed to reduce overall energy use, and operational improvements at our facilities.

Development of New Technologies

We will continue to invest in and support research efforts to develop new and emerging solutions, including, but not limited to, technologies for carbon capture and storage, renewable energy and end-use efficiency improvements to promote cleaner air, water and land.

Compliance Excellence

We are committed to maintaining an excellent compliance record by meeting and surpassing all legal and regulatory requirements as we operate in an environmentally sensitive manner.

Renewable Energy

We will continue to support policies that effectively use renewable resources to help meet growing energy needs and will seek to maintain a leadership position in the growth and development of renewable energy.

Resource Diversity

We will serve as an environmental leader as we work to ensure the reliability and security of a diverse resource portfolio that includes energy efficiency, demand response, renewable energy, natural gas, coal and nuclear power, with the opportunities and challenges that each provides.

Climate Change

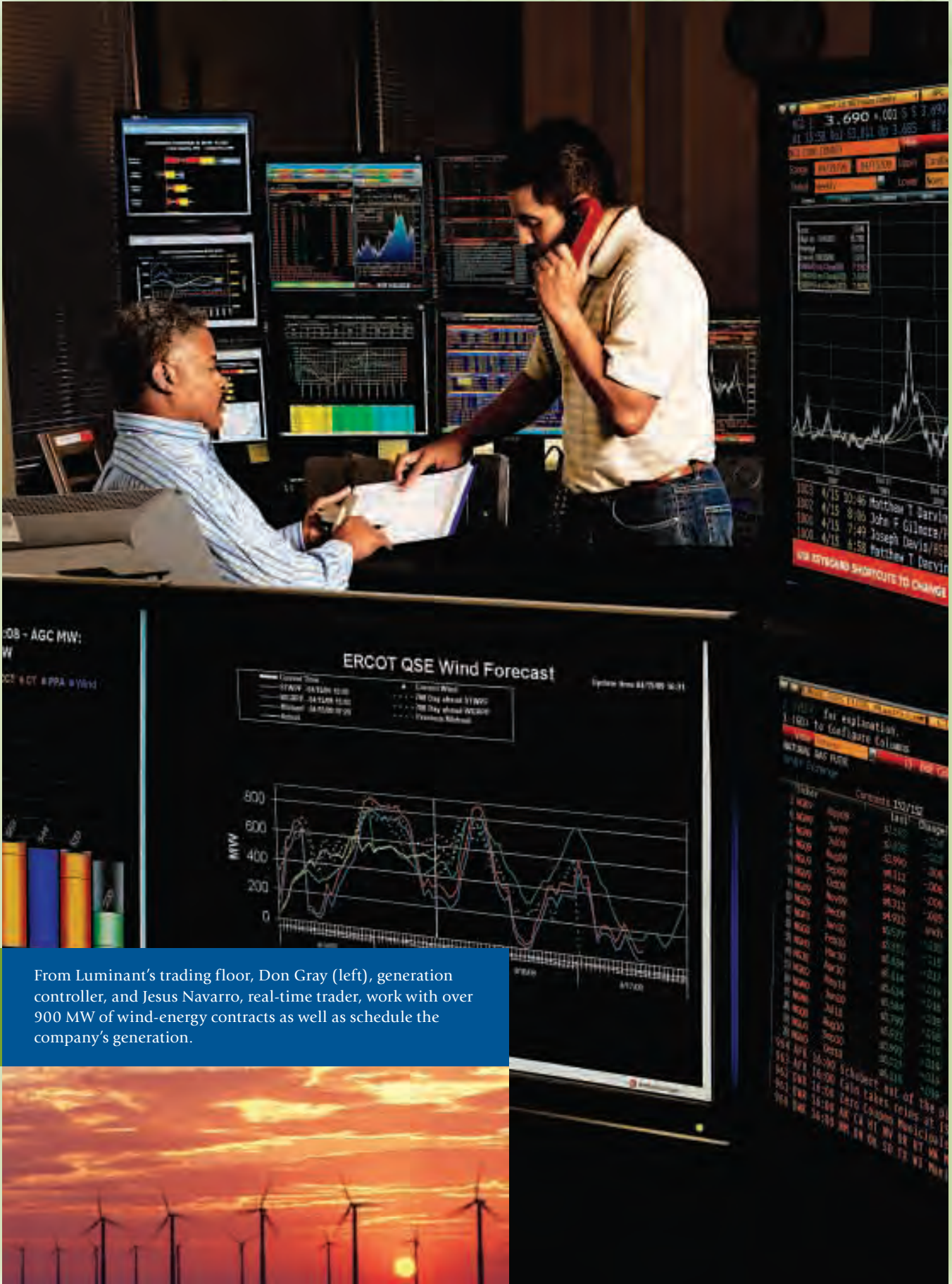
To address climate change, we will continue to advocate mandatory national limits designed to slow, stop and reverse the growth of greenhouse gas emissions. A cap on emissions should include technology-based public policies and comprehensive, market-based mechanisms intended to minimize the cost of reducing greenhouse gas emissions. We will work within our industry and across others to address this global challenge.

Minimization of Facility Impacts and Continuous Improvement

We will continue to integrate environmental considerations into our business planning and decision making to reduce the environmental effects of our facility operations. Our objective is continuous improvement in implementation of effective technologies, improving the efficiency of our operations and promoting waste minimization and recycling.

Corporate Governance and Stakeholder Dialogue

We are committed to furthering strong corporate governance standards, to include continuing to report publicly on our environmental progress and accomplishments. In addition, EFH and its businesses will seek to better understand the issues of concern to our key stakeholders, including customers, legislators, regulators and the communities we serve, through an open and candid dialogue with all audiences.



From Luminant's trading floor, Don Gray (left), generation controller, and Jesus Navarro, real-time trader, work with over 900 MW of wind-energy contracts as well as schedule the company's generation.

AIR

'We should develop habits to save electricity. If kids start practicing good habits of saving our resources now, then our future environment will be safe.'

— **Madison Aleigh LeBeau, Greenville ISD**

Texas generates more electricity than any other state in the nation. Each year, it produces almost 80 percent more power than the No. 2 state. In fact, its annual generation of electricity equates to that of the entire United Kingdom. At the same time, Texas ranks among the cleanest states in the nation for emissions rates of key pollutants by electric generators.¹ In addition, Texas now leads the nation in the production of wind energy, which produces no emissions. Luminant is proud to be part of the progress Texas is making to create an even cleaner energy future. The company brings a strong track record of reducing emissions and developing creative solutions to operate in an increasingly environmentally sensitive manner.

Renewable Energy Leadership

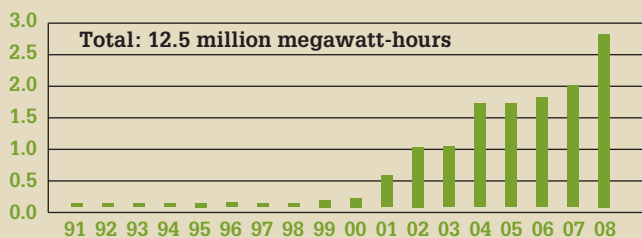
Texas is the unrivaled leader in the U.S. in wind generation. Its installed capacity of over 8,000 MW far exceeds that of any other state. For more than three decades, Luminant has devoted time and money to renewable energy research and development.

Today, Luminant remains the state's No. 1 purchaser of wind power and the fifth-largest purchaser in the nation. Company purchases total more than 900 MW under long-term purchased power agreements, enough to power roughly 177,000 average Texas homes. Those long-term power purchase arrangements are the financial foundation that enables the wind plants to be built.

Luminant's commitment is to increase its wind-energy purchases to 1,500 MW. The company's renewable energy portfolio also includes purchase of energy from a 4-MW facility fueled by landfill gas. In addition, as part of a joint agreement, Luminant and Shell WindEnergy are evaluating the development of a massive 3,000-MW wind farm in the Texas Panhandle. Other investments in renewable energy include testing algae production for development of synthetic oil and evaluating energy recovery from flowing streams.

Renewable Energy Purchases

In Millions Of Megawatt-Hours



The Oak Grove and Sandow 5 coal-fueled generating units will provide clean, dependable power for Texas consumers.

Cleaner, Dependable Power

Luminant is constructing three new generating units, fueled by Texas lignite coal, to satisfy the state's need for additional electric generating capacity. Sandow 5 in Milam County and the two Oak Grove units in Robertson County will provide approximately 2,200 MW of low-cost baseload energy resources. Sandow 5 is expected to begin commercial operation in mid-2009. Oak Grove Unit 1 is targeted for startup in late 2009, with Unit 2 following in mid-2010. The \$3.25 billion construction program for the three units includes up to \$500 million in state-of-the-art emissions controls.

Sandow 5's circulating fluidized-bed boiler (CFB) will employ advanced environmental technology, including the following:

- Selective non-catalytic reduction (SNCR) equipment will further reduce NO_x emissions. SNCR technology uses an ammonia-forming chemical to break down NO_x into nitrogen and water.
- Limestone injected into the CFB will combine with and remove sulfur. The polishing scrubber will remove even more.

¹ Source: Association of Electric Companies of Texas, Inc., *Electricity 101: Emissions and the Environment*, February 2009, www.aect.net

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Leadership In Mercury Control

Sandow 5 and Oak Grove will be the first new lignite plants in the nation to remove mercury with activated carbon sorbent injection technology. Activated carbon, a sorbent, is injected into the flue-gas ductwork ahead of the fabric filter and absorbs much of the mercury. Injecting a sorbent into the flue gas is one of the most effective ways to control mercury emissions from coal-fueled boilers. Luminant contributed to the commercial readiness of this technology via numerous private and public research collaborations and through full-scale demonstrations of two selected technologies at the company's Big Brown and Monticello plants. The company has also joined with ADA-ES in developing an activated carbon production facility to ensure an adequate supply.

In 2008, the Electric Power Research Institute (EPRI) recognized Luminant for its research into technology for power plant mercury controls and for putting the research into practice.

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Yielding Results With SCRs

SCRs are a key component of Luminant's plan to further reduce NO_x emissions across its coal-fueled fleet. Luminant funded a project at the University of Texas at Arlington's Department of Industrial & Manufacturing Systems Engineering to research and design operational and management tools to maximize the performance of SCR technology for large-scale use.

SCRs are similar to the catalytic converter on a car. The combustion gas is injected with an ammonia-forming chemical that then passes along a catalyst. The catalyst converts the NO_x to nitrogen and water, which are harmlessly emitted.

- A large, high-efficiency fabric-filter baghouse will capture particulate matter.
- Activated carbon sorbent injection systems will reduce mercury.

Oak Grove's emissions rates will be lower than any existing lignite plant in the state and at least 75 percent lower than the national average for coal plants. The plant's environmental technology includes the following:

- A national-first for lignite plants, selective catalytic reduction (SCR) technology will reduce NO_x emissions, after an initial reduction by low-NO_x burners and over-fired air.
- A wet flue-gas desulfurization unit, or scrubber, will remove SO₂ by injecting limestone slurry into the combustion gases to combine with and remove the sulfur.
- A large, high-efficiency fabric-filter baghouse will capture particulate matter.
- Activated carbon sorbent injection technology will reduce mercury.

Voluntary Improvements

Luminant is also focused on a \$1 billion voluntary retrofit program to reduce NO_x, SO₂ and mercury emissions across its existing coal-fueled generation fleet. This program is the largest voluntary emissions-reduction plan ever undertaken by a power company in the U.S. It will completely offset these key emissions from the new units by making improvements on each existing coal-fueled unit. The result will be a larger coal-fueled generation fleet with key emissions that are 20 percent less than Luminant's 2005 existing coal-fueled levels. The voluntary program includes the following technology retrofits and other improvements:

- A combination of SNCR and SCR systems to reduce NO_x emissions
- Additional use of lower-sulfur coal and coal-cleaning technology to reduce sulfur
- Activated carbon injection technology on all units to reduce mercury, plus coal-cleaning technology for further reduction

NO_x Reductions

Luminant has significantly reduced its NO_x emissions over the past decade, helping Texas achieve the lowest rate of all the coal-combusting states. Air quality remains a challenge in the nine-county Dallas-Fort Worth region, and Luminant is helping address the situation in a variety of ways. Technological improvements and operational changes at area power plants have cut Luminant's emissions in the area by 88 percent since 1997. This reduction is greater than that of any other area industry or company and was made in advance of the schedule required by the state. Luminant also promotes a cleaner environment by offering its North Texas employees financial incentives to carpool or use mass transit. This local problem will not be fixed,



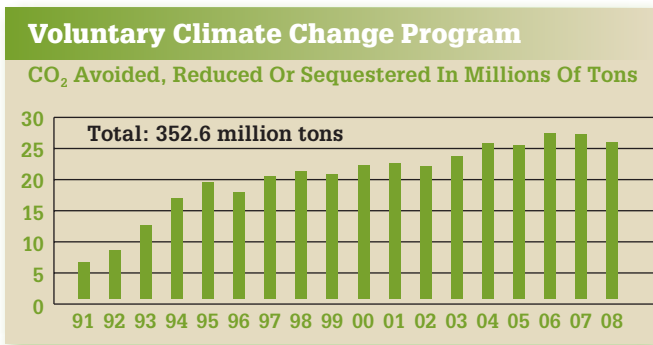
A diversity of wildlife abounds across Luminant's restored mined lands.

however, until reductions are required from the primary sources of NO_x, especially cars and trucks, which account for about 73 percent of the local contribution. Luminant has also significantly reduced its NO_x emissions outside Dallas-Fort Worth. Since 1997, West Texas emissions have been reduced 66 percent and East Texas emissions have been lowered 51 percent.

Climate Stewardship

For almost two decades, Luminant's voluntary climate change program has led the nation in one of the largest individual company efforts. The equivalent of over 352 million tons of CO₂ has been avoided, eliminated or sequestered since 1991. The program's components, which are listed in the two accompanying tables, avoid or eliminate CO₂ emissions or

offset or capture emissions that would otherwise take place. In 2008, the Luminant fleet of power plants emitted about 58 million tons of CO₂, and the program avoided and offset an additional 25 million tons.



2008 CO ₂ Emissions Avoided Or Eliminated	
Program	Tons of CO ₂
Landfill methane project	550,273
Lignite/Western coal blending	276,869
Renewable energy projects	1,679,842
Efficiency improvement	2,727,922
Operation of nuclear units	18,843,903
Total	24,078,809

2008 CO ₂ Emissions Offsets	
Program	Tons of CO ₂
Coal byproduct sales/use	1,066,101
Increased reforestation	44,929
Texas Reforestation Foundation	12,134
Transportation projects	28,120
Paper and aluminum recycling	711
Total	1,151,995



Crimson clover, a forage crop for cattle and other livestock, flourishes on reclaimed pastureland.

Strengthened Climate Change Policies

With ownership that is committed to furthering environmental solutions, Luminant is developing an even stronger, more comprehensive approach to climate change. Exploring new and emerging technologies that can help generate cleaner, more efficient energy is of particular importance. The company is also continuing to lead in research and demonstration projects aimed at reducing emissions of greenhouse gases.

Luminant's approach to addressing climate change is guided by the principles of EFH Corp. Through its own evaluation and working in tandem with other companies, EFH has supported the development of an integrated package of recommendations for the federal government to address the global climate change issue through federal legislation, including greenhouse gas emissions-reduction targets for total U.S. greenhouse gas emissions and rigorous cost-containment measures to ensure that program costs are not prohibitive. In addition, EFH participates in a voluntary electric utility industry sector climate change initiative in partnership with the Department of Energy. Finally, EFH has created a Sustainable Energy Advisory Board that advises EFH on technology development opportunities that reduce the effects of EFH's operations on the environment while balancing the need to address the energy requirements of Texas. This board comprises

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Carbon Management

Luminant is funding and evaluating a number of technologies to capture and remove CO₂ from the flue gas of its coal-fueled units:

- The Luminant Carbon Management Program at the University of Texas is focused on developing and improving amine-based carbon-capture technologies. The project also includes research into CO₂ transportation and geologic storage.
- An EPRI demonstration project at the WE Energies Pleasant Prairie power plant in Wisconsin is using chilled ammonia.
- Skyonic Corporation is developing the SkyMine™ process. This sodium-based scrubbing technology captures carbon in the form of sodium bicarbonate—common baking soda—and also captures SO₂ and NO_x. Luminant's Big Brown coal-fueled generation plant serves as a host site for a prototype system used to evaluate the process chemistry and develop process enhancements.
- Luminant is one of six power company co-sponsors of a DOE partnership project to test solid-sorbent technology that would require less energy than other methods. Its Martin Lake generation plant is one of the three host sites for testing. The primary objectives are to assess the viability and accelerate the development of solid-sorbent-based CO₂ capture.
- Two studies conducted in 2006 and 2007 evaluated retrofit of oxy-firing to existing plant designs. Luminant is also one of 10 power company co-sponsors of a new DOE project awarded to Alstom to develop the application of the oxy-firing process.
- Luminant has funded and studied the development of IGCC technology through participation in EPRI's CoalFleet project. Luminant is also evaluating proposals for IGCC technologies capable of gasifying both Powder River Basin coal and Texas lignite.



Waterfowl of all kinds, including black-bellied whistling ducks, flock to the extensive wetlands Luminant creates.

individuals who represent the following interests, among others: the environment, customers, economic development in Texas and technology/reliability standards.

Potential Nuclear Energy Expansion

Luminant is creating an option to potentially expand its Comanche Peak Nuclear Power Plant near Glen Rose. The company submitted a combined license application to the Nuclear Regulatory Commission in September 2008 requesting approval to construct and operate two new 1,700-MW nuclear-fueled generating units at the Comanche Peak plant. The application is an initial but significant step toward expanding the use of safe, dependable, clean nuclear power to help address growing Texas electricity demand. The expansion would produce enough electricity to power over 1.5 million average Texas homes. Nuclear power is the lowest emission source of baseload generation.

Luminant submitted an environmental report as part of the license application, and the NRC is in the process of preparing the project's environmental impact statement. The study will examine the effects of plant construction and operation on the community; water; animal, plant and aquatic species;

local transportation; and cultural and historical resources. The NRC's review of the application to build and operate the plant is expected to be complete in December 2011, with the license issued roughly one year later.



The potential expansion of Luminant's Comanche Peak plant, shown by the rendering (upper left), would generate additional safe, clean nuclear power.



Checking the progress of land reclaimed after mining, John Denman, environmental supervisor, is responsible for all activities related to environmental compliance at Luminant's Monticello Mine.



LAND

'We've always learned in science that plants take in carbon dioxide and put out oxygen, so if all the trees, plants and rivers are gone, it would be kind of hard to survive.'

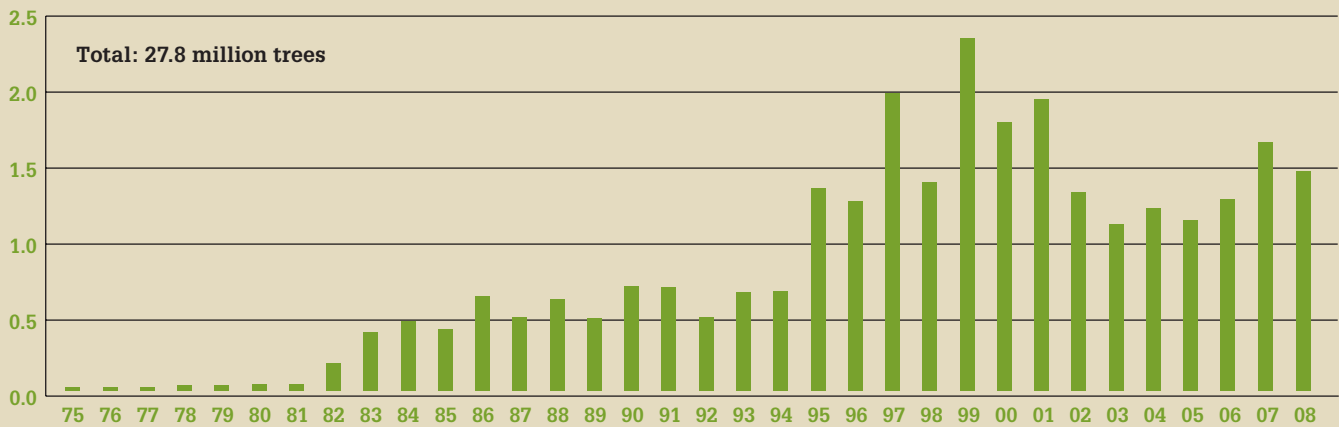
— Savannah Claire Wood, Tatum ISD

Luminant began mining lignite coal in 1971 to supply fuel to its first lignite coal generating facility near Fairfield, Texas. Since then, the company has opened additional surface mines across East and Central Texas to deliver lignite to nearby power plants that generate electricity for a large part of the state's population. All Luminant mines are mine-mouth operations, supplying an existing generation fleet of more than 5,800 MW. Luminant's coal-mining operations are the largest in Texas and the 10th largest in the nation. Currently, the company produces an average of 20 million tons a year of Texas lignite. That amount will increase by an estimated 13 million tons when Luminant's three new coal-fueled generation units begin operation.



Environmental specialists Jamie Pitchford (left) and Maggie Bonds give away tree seedlings in support of Arbor Day.

Trees Planted In Millions



Mining And Reclamation In Acres

		Big Brown	Martin Lake	Monticello	Three Oaks	Total
Mined	2008	178	876	280	125	1,459
	To date	13,807	26,145	17,530	125	57,607
Reclaimed	2008	20	1,259	216	110	1,605
	To date	14,892	29,445	20,222	110	64,669
Released (Reclamation complete)	2008	13	0	0	0	13
	To date ¹	6,805	11,996	9,842	0	28,658

¹Bond release total includes 15 acres at Bremond released in 1998.



Environmental Research Program studies have greatly benefited Luminant's land-management practices, including increasing the productivity of livestock forage on postmine soils compared to native soils.

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'Extraordinary' Reforestation

In 2008, Luminant received two major awards for the success of its reforestation program, which is based on sound reclamation and forestry techniques. The Directors Award, the highest honor from the U.S. Department of the Interior's Office of Surface Mining, recognized Luminant for its "extraordinary" reforestation practices. Luminant has won this award four times, more times than any other company. The Railroad Commission of Texas also recognized Luminant for the 13th time with the Texas

Reclamation Award. This honor is the state's highest recognition for quality in reclaimed mined land.

Reforestation... Restoring the Woodland Resources, Luminant's 2008 entry in both award programs, provided an in-depth review of Luminant's reforestation program and the long-term environmental and economic benefits the effort has yielded since it began in 1975. Five Luminant mine sites—Big Brown, Martin Lake, Monticello, Oak Hill and Thermo—were honored.

Even before federal and state laws were written, Luminant demonstrated a commitment to responsible land reclamation and management. After mining, the primary goal of Luminant's reclamation program is to return mined lands to productive postmine uses and achieve full release of all regulatory reclamation obligations. Luminant has reclaimed almost 65,000 acres and secured successful release of bond liability on over 28,600 acres.

Luminant's reclamation practices have restored the mined lands for use as forests, pastures, wildlife habitat and cropland. Water resources have also been dramatically increased to restore and promote wildlife as well as enhance pastureland uses. Almost 28 million trees have been planted across the restored lands. The Texas Forest Service and the Texas Forestry Association have recognized Luminant's reforested reclamation areas as a certified Tree Farm since 1996. About 60 percent of the acres reclaimed each year are being reforested and managed for continuous tree production, with planned benefits to wildlife habitat, watershed protection and outdoor recreation.

Reclamation Excellence

For almost four decades, Luminant's reclamation program has gone beyond state and national standards. Its excellence has been recognized with nearly 90 awards, including the industry's highest honors. This success proves it is possible to mine and reclaim the land in an environmentally sound manner and add value to it in the process.

In 2008, Luminant mined over 1,450 acres and reclaimed about 1,600 acres. Almost 1.5 million trees were planted as part



Benefiting from a habitat management plan, the endangered interior least tern successfully raises its young at the company's Big Brown Mine.

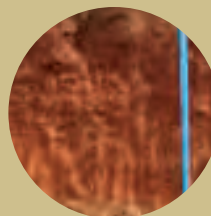
Smart People Smart Solutions

Postmine Soil Productivity

Attention to the development of quality postmine soils is the cornerstone of a successful mine reclamation program. Thanks to reclamation practices that developed from one of the first graduate studies in the unique Luminant Environmental Research Program, over 80 percent—almost 53,000 acres—of the company's restored land has not only met state postmine soil standards but has consistently demonstrated superior productivity compared to native soils. This landmark research, supported by numerous subsequent studies, continues to improve agricultural productivity.

When Luminant first began mining lignite in the early 1970s, the accepted method of ensuring successful reclamation was to segregate the topsoil and subsoil and replace them exactly as they were removed. This was costly and time-consuming with sometimes limited certainty of environmental benefit—especially in Texas soils. Then research by Patrick Angel, a graduate student in Luminant's independent research program, revealed that a mixture of selected soil and sediment materials could often provide a better growth medium than native soils. The process resulted in dramatically improved soil characteristics and overall greater productivity.

Prime farmland has also increased significantly in Luminant's postmine soils. Prime farmland soils are those that have the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops. The Natural Resources Conservation Service has identified three Luminant soils as prime farmland—Bigbrown, Grayrock and Grayvar. For more information on the Environmental Research Program, see the Environmental Education section of this report.



The premine soil (left) is poor quality claypan that limits plant root and water penetration, while the postmine soil has extensive plant root development and is loose and more friable.



As part of fisheries research using Luminant reclamation lakes, a biologist clips the fin of a largemouth bass for a DNA sample to study the species' growth habits.

of a reforestation program that is widely regarded as a model for success and continually improved through research, field trials and application of progressive techniques in the reclamation process. Luminant also participates in a federal program to create and enhance wetlands. These efforts help mitigate the impact of mining on wetlands and other waters. Luminant has created or enhanced more than 4,800 acres of wetlands, ponds and stream channels.

Fisheries Update

Luminant and the Texas Parks and Wildlife Department are jointly advancing fisheries research. The arrangement, which involves several lakes constructed by Luminant's mine reclamation program, is adding a valuable and necessary component to the state's selective breeding initiative for largemouth bass. The research project will attempt to determine if fast growth rate and larger maximum size are heritable traits in the fish and if these traits can be amplified through a selective breeding program. The lakes provide a controlled study environment.

The project was initiated in the fall of 2005 with the first stocking of forage species and advanced-growth largemouth bass fingerlings from the selective breeding program at the Texas Freshwater Fisheries Center in Athens. Annual stockings and population surveys have been conducted since then. Results have been favorable as fisheries biologists continue to sample and monitor the growth of the various genetic lines. The fourth year of sampling occurred in May 2009.

Cultural Resources Commitment

For more than 25 years, Luminant has contributed to the knowledge of Texas history through the sponsorship of archeological investigations across the East Texas counties where the company operates. More than 1,200 archeological sites have been recorded, and tens of thousands of artifacts have been recovered. In keeping with its commitment to protect the state's cultural resources, Luminant makes every effort to carefully recover, record, preserve and respect the rich Texas history that is part of its lands.

Investigations of two Caddo Indian occupations have particularly added a wealth of information about these early prehistoric inhabitants. One especially rich archeological find is the Ear Spool site, a small Caddo Indian occupation located within Luminant's Monticello Mine in Titus County. Sixteen years after the site was first identified, archeological work was completed in May 2009 with the filing of the final report with the Texas Historical Commission.

The Ear Spool site, named for a recovered earlobe ornament, was discovered in 1993 when prehistoric ceramics and the manufacturing debris from stone tools were found in shovel tests. Test excavations demonstrated that the site was occupied during two periods between A.D. 1400 and the early 17th century. Complex sites like Ear Spool often require a team of specialists to interpret the large volume of data recovered. This site's team included ceramic and lithic analysts, soil specialists, forensic archeologists, botanists, artists and technical editors.

Members of the Caddo Nation of Oklahoma, who were invited to the site prior to the initiation of data recovery investigations, visited and performed a cleansing ceremony. A Native American Graves Protection and Repatriation Act representative also visited the site and offered advice on how to handle, ship and store the burial remains or grave goods found with the burials. All persons digging and analyzing the materials followed this advice.

The Ear Spool site is very significant to the history of Texas. It has generated information about a particular time in the history of the Caddo Nation and helped to address longstanding questions about how these inhabitants made a living and organized their communities. This information has not only benefited the archeological community and the Caddo Nation but also schoolchildren across Texas. A brief discussion of the Ear Spool site is included in a fourth-grade history textbook used widely across the state.



Ceramic vessels recovered at the Ear Spool cemetery were used for burial offerings.

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Lands Alive With History

Archeological investigations consist of historic records research, field surveys to locate archeological sites and excavations to determine the potential of a site for contributing important scientific and historical information. By examining where artifacts—anything made or used by humans—are found in a site, an archeologist can form ideas about how people used to live. Their stories can be told in even the smallest fragments of stone and clay and other artifacts that provide a window to the past. A Luminant-sponsored investigation at a possible Cherokee trading post in Rusk County occupied during the Mexican-Republican period of the mid-19th century resulted in more than 30,000 artifacts, each one cleaned and examined by an analyst.

Archeologists can also look at a site's stratigraphy—the layering of soils—in order to learn about the sequence in which artifacts were laid down and how old they might be. Most important, the archeologist must carefully record and map these finds so that as much information as possible can be preserved.

After recording this information, the archeologist submits the completed site record form to the Texas Archeological Research Laboratory (TARL). At TARL, each site is assigned a unique identification number, using a system created by the Smithsonian Institution and used throughout the United States. The site information, including artifacts, is kept in perpetuity, ensuring that no matter what happens to the site, the information it yielded is available to researchers. Want to know more? Contact the Texas Historical Commission.



The Cherokee site revealed household items of all types, including ceramic shards, pieces of glass, fragments of bone and eggshell and clothing items.



Environmental technician Gordon Dalby oversees recycling and reuse at Luminant's Comanche Peak Nuclear Power Plant, saving energy and resources.

WASTE REDUCTION AND RECYCLING

'I myself think that I could do a better job of recycling, and I think you can too.'

— Abbie Lee Nelson, Franklin ISD

Luminant's programs to reduce chemical use, replace hazardous substances with nonhazardous substances and minimize and reuse materials continue to achieve major environmental benefits. The reuse of materials decreases energy costs, minimizes CO₂ emissions and saves landfill space. Luminant tracks and reports the annual generation and disposal of hazardous waste from its facilities and operations as part of its pollution-prevention practices. Understanding how and where hazardous waste streams are produced helps the company develop programs to eliminate or reduce these quantities as does buying as many materials as possible that can be recycled. These efforts have significantly reduced the amount of hazardous waste generated. In 2008, Luminant generated just 0.01 percent of the amount generated in 1991, when tracking began.

Recycling Results

Luminant's recycling efforts go far beyond office paper. In 2008, almost 3.1 billion pounds of used materials of all kinds were recycled. Over three billion pounds of coal combustion byproducts from Luminant power plants made up the largest quantity of materials recycled. These byproducts, which include fly ash, bottom ash and flue-gas desulfurization,

always represent the largest amount of any specific item the company recycles. They are used by the roofing, concrete and carpet industries as well as in oil-field projects and for road paving. Since 1993, when tracking began, Luminant's commitment to recycling has diverted almost 34 billion pounds of material from disposal.



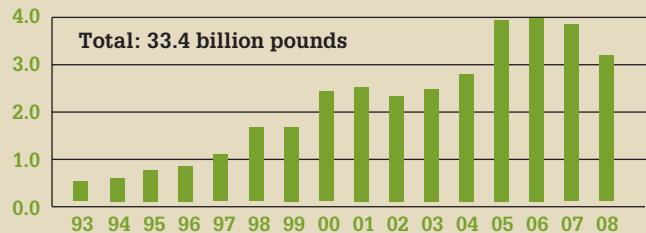
Luminant and other employees brought more than 4,500 pounds of unwanted cell phones, TVs, computers and other equipment to EFH's first electronics recycling day for environmentally responsible e-waste disposal.

2008 Recycling In Pounds

Material	Quantity
Antifreeze	300,244
Batteries, lead-acid	24,220
Coal combustion byproducts	3,076,658,000
Drained electrical equipment	21,723
Fuel oil	32,800
Lubricating oil	2,446,931
Mercury	336
Non-PCB capacitors	320
Oil filters	152,958
Refrigerant	53
Paper and aluminum	23,540
Petroleum-contaminated water	41,610
Scrap drums, metal	20,541
Tires	786,525
Transformer oil	186,148
Universal waste, lighting waste	13,849
Metal scrap	18,110,534
Total	3,098,820,332

Coal Combustion Byproduct Sales History

In Billions Of Pounds



Recycling Totals

In Billions Of Pounds¹



¹2008 and 2007 Luminant-only recycling totals. Previous years reflect corporate-wide recycling totals.



As part of Luminant's program to ensure exemplary water quality and regulatory compliance, Edwina Manthei (left) and Jon King, environmental technicians at the new Oak Grove Power Plant, sample water used to cool the plant's condenser.

WATER

'Of course we use water, but we need to conserve. My family keeps telling my sister to use less water.'
 — Arturo Librado, Hillsboro ISD

To ensure outstanding water quality and compliance with state and federal regulations, Luminant captures, monitors, treats when necessary and reuses or releases water at its generating facilities, mines and other operations. Luminant's exemplary record comes from maintaining good housekeeping practices and an intense scrutiny of all chemicals used at power plants that could affect the quality of any discharged waters.

Water Resources

Luminant is the largest private owner of reservoirs in Texas. It owns and operates 14 reservoirs and also has facilities on five others. The company-owned reservoirs provide thousands of acres of aquatic habitat for wildlife. In addition, several of the largest reservoirs are open to the public to enjoy for fishing, boating and other recreational activities. Public access to these reservoirs is through state and county parks on property provided by Luminant.

Smart People Smart Solutions

'Exceptional Compliance'

Employees who operate Luminant's drinking water systems and the corporate environmental team who support them were honored in 2008 for scrupulously maintaining systems that protect the health of Luminant employees and the public. Luminant received a Public Drinking Water Recognition Program award from the Texas Commission on Environmental Quality for "exceptional compliance" with the Total Coliform Rule requirements. The award heralded Luminant for outstanding performance over the preceding five years. Systems at the Big Brown, Martin Lake, DeCordova and Comanche Peak power plants as well as two small systems associated with the Comanche Peak nuclear plant received accolades.

Hudson Old/East Texas Journal



Luminant's Lake Monticello, which provides cooling water for the Monticello Power Plant, is a popular destination for fishing enthusiasts.





The Luminant Scholar Program encourages public school students to promote environmental awareness with the goal that they will continue to be good stewards of the Earth's resources.

ENVIRONMENTAL EDUCATION

'I know that what I'm saying might be going in one ear and out the other, but please take my advice. Because if we don't protect our environment today, tomorrow might be too late.'

— Zachary Mitchel Glen Graham, Henderson ISD

Environmental educational outreach has been an essential part of Luminant's philosophy since its first lignite coal generating plant began operation in the early 1970s. Furthering the awareness of students and their teachers about energy and the environment creates tremendous value for all involved. Luminant's commitment to education provides essential scientific environmental research for its own programs and across the industry, enhances teaching methods and skills, and helps students understand the connection between energy and the Earth. In addition, Luminant's educational partnerships train future scientists and develop prospective employees and industry professionals.



Luminant's summer workshops are estimated to have reached over 700,000 students by giving their teachers hands-on experience about the relationship between energy production, mining and environmental stewardship.

Sound Science

The centerpiece of Luminant's educational and research partnerships is the Luminant Environmental Research Program, with its research center and lodging facility at the Big Brown lignite coal mine and generating plant. Luminant began this research program in 1971 to study the little-known effects on the environment of mining lignite and using it to generate electricity. Company officials envisioned a long-term, ongoing, research-based program independent from company direction that would provide a scientific approach to the challenges of developing an environmental strategy for mining and reclamation.

Smart People Smart Solutions

Contribution To Science

Graduate students who are awarded Environmental Research Program fellowships conduct independent studies on soils, groundwater, wildlife, vegetation and other topics critical for successful mine reclamation and the minimization of environmental impacts. Their results have helped shape the basis for Luminant's land, air and water activities.

The program has also contributed to sound science on a national scale. The research fellows publish their theses and dissertations through their respective institutions and also in scholarly journals. Additionally, the program's graduates have shared their expertise throughout the world by holding career positions at universities in 13 states, the U.S. Fish & Wildlife Service, various state water and air agencies, the Railroad Commission of Texas, the Bureau of Land Management, the U.S. Department of the Interior, the U.S. Environmental Protection Agency, the U.S. Forest Service, the U.S. Geological Service and in the power, mining, chemical, oil, timber, environmental consulting and engineering industries. This research is available to the public, and numerous scholarly articles have been published using research from this program.

For the full story on this partnership, go to www.luminant.com/pdf/SoundScienceofReclamation.pdf.



Graduate fellows use company facilities for research related to Luminant's operations.



Luminant's land reclamation, which closely follows mining, includes extensive wetlands creation and reforestation.

Today, 38 years later, the Environmental Research Program remains unlike any other—funded by the company but designed for university graduate students to conduct research independently. To ensure continued objectivity in both researching and reporting findings, an autonomous steering committee of leading scientists, educators and advisors guides the program. This group, acting separately from Luminant, approves research topics, awards fellowships and supports students and professors in publishing the results.

By the end of 2008, Luminant had provided over \$4.7 million in funding for the completion of 124 independent, published student theses and dissertations. This student-provided research has not only influenced Luminant's environmental policies and practices but has also provided a technical resource for regulatory agencies and helped establish industry-wide best practices.

Future Scholars

"How can I protect the environment?" With this one simple question, the Luminant Scholar Program, which premiered in the fall of 2008, furthered environmental awareness in the classroom. Some 6,500 fifth-graders in 34 Texas school districts wrote one-page essays during the 2008–2009 school year answering the question. In return, Luminant awarded nearly \$50,000 in scholarships and grants.

To help students with their essays and to educate them about the natural resources they use each day, Luminant also provided supporting classroom materials, including educational science and math experiments. Each district winner was awarded a \$1,000 United States Savings Bond, and three schools representing the top essays received a \$5,000 Luminant grant. By promoting environmental awareness at an early age, Luminant's goal is that these students will continue to be good stewards of the Earth's natural resources.

Smart People Smart Solutions

Smarter Than Ever

Founded in 2006, Luminant Academy is a testament to Luminant's commitment to making its current employees and future workforce even better equipped to provide the smart solutions that set the industry standard in environmental and operational excellence. This training program, which has been nationally recognized for outstanding work in corporate learning and talent development, provides technical, lean manufacturing and leadership training for Luminant's power generation, mining and construction teams. The academy, located on the Tyler Junior College West Campus in Tyler, Texas, with a state-of-the-art training facility, logged more than 130,000 training hours in 2008.



Months before Sandow 5, one of Luminant's new coal-fueled generating plants, is scheduled to begin operation, Elbert Page (left) and Scott Sequist, plant operators, train at Luminant Academy on a simulator that exactly mirrors the new control room.

Luminant's 2008 Awards

Over the past 30 years, Luminant has been recognized with almost 150 awards, including nearly 90 for mining and reclamation excellence. Below are the major honors received in 2008:

Directors Award

U.S. Department of the Interior, Office of Surface Mining
For sound science and dedication to stewardship in reforestation
(4th time honored)

Texas Reclamation Award

Railroad Commission of Texas
For reforestation practices (13th time honored)

Technology Transfer Award

Electric Power Research Institute
For mercury controls and demonstration

Shingo Prize for Operational Excellence

Jon M. Huntsman School of Business at Utah State University
Silver Medallion, Martin Lake Power Plant and Mine; Bronze
Medallion, Comanche Peak Nuclear Power Plant
For world-class improvement tools, systems and principles

Plant of the Year

Powder River Basin Coal Users Group
Big Brown Power Plant
For best practices and best available technologies

Manufacturing Excellence Award in the Southeast Region

Association for Manufacturing Excellence
Martin Lake Power Plant and Mine
For operational excellence

Public Drinking Water Recognition Program—Exceptional Compliance

Texas Commission on Environmental Quality
Systems at Big Brown, Martin Lake, DeCordova and Comanche
Peak power plants
For exceptional compliance over five years

Awards for Excellence and Innovation

Corporate University Xchange
Luminant Academy
For outstanding work in corporate learning and
talent development

Because We Care Award

United Way of Hood County
Comanche Peak Nuclear Power Plant
For unswerving dedication and partnership

MarCom Creative Platinum Award

Association of Marketing & Communication Professionals
Luminant Environmental Review
For outstanding communication achievement

America's Top Corporations for Women Business Enterprises

Women's Business Enterprise National Council
EFH and its businesses
For commitment to supplier diversity (10th straight year honored)

Pacesetter of the Year for Large Companies

United Way of Metropolitan Dallas
EFH and its businesses
For record-breaking achievements (2nd straight year honored)

Hudson Old/East Texas Journal



Much of Luminant's reforested lands include development of wildlife habitat with high-quality food sources and cover.

Luminant Facilities (As of May 7, 2009)

NAME	UNITS	CAPACITY (MW)	COUNTY
NUCLEAR			
Comanche Peak	2	2,300	Somervell
COAL			
Big Brown Mine – Big Brown	2	1,150	Freestone
Martin Lake Mines – Beckville, Oak Hill, Tatum	3	2,250	Rusk
Monticello Mines – Thermo, Winfield	3	1,880	Titus
Oak Grove Mine – Kosse	2 ¹	1,600	Robertson
Sandow Mine – Three Oaks	2 ²	1,138	Milam
NATURAL GAS³			
Collin	1	153	Collin
DeCordova	1, 4 CTs	1,078	Hood
Eagle Mountain	3	665	Tarrant
Graham	2	630	Young
Lake Creek	2	323	McLennan
Lake Hubbard	2	921	Dallas
Morgan Creek	6 CTs	390	Mitchell
Permian Basin	2, 5 CTs	980	Ward
Stryker Creek	2	685	Cherokee
Tradinghouse	1	818	McLennan
Trinidad	1	244	Henderson
Valley	3	1,115	Fannin

¹Under construction. Unit 1 scheduled for startup in 2009, Unit 2 in 2010.

²Includes one unit under construction with expected startup in 2009.

³Includes leased and owned simple-cycle combustion turbines (CTs), combined-cycle combustion turbines (CCCTs), diesel generators and mothballed units.

Luminant Locations

★ Headquarters

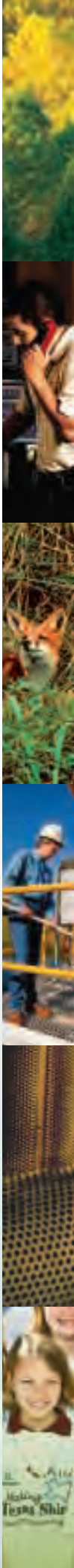
◆ Mines

POWER PLANTS

▲ Gas

● Coal

■ Nuclear



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