



**Luminant**

2009

ENVIRONMENTAL

REVIEW

## 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 18,300 megawatts of generation in Texas, including 2,300 MW fueled by nuclear power and 8,000 MW fueled by coal. The company is also the largest purchaser of wind-generated electricity in Texas and the fifth-largest purchaser in the U.S. Visit [www.Luminant.com](http://www.Luminant.com) for more information.

## Luminant Facilities

NAME	UNITS	CAPACITY (MW)	COUNTY
<b>NUCLEAR</b>			
Comanche Peak	2	2,300	Somervell
<b>COAL</b>			
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	1,600	Robertson
Sandow Mine – Three Oaks	2	1,137	Milam
<b>NATURAL GAS<sup>1</sup></b>			
Collin	1	153	Collin
DeCordova	5	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	390	Mitchell
Permian Basin	7	980	Ward
Stryker Creek	2	685	Cherokee
Tradinghouse	1	818	McLennan
Trinidad	1	244	Henderson
Valley	3	1,115	Fannin

<sup>1</sup> Includes units that are leased, mothballed, operated under reliability-must-run contracts with ERCOT and operated for unaffiliated parties.

## Luminant Locations

★ Headquarters

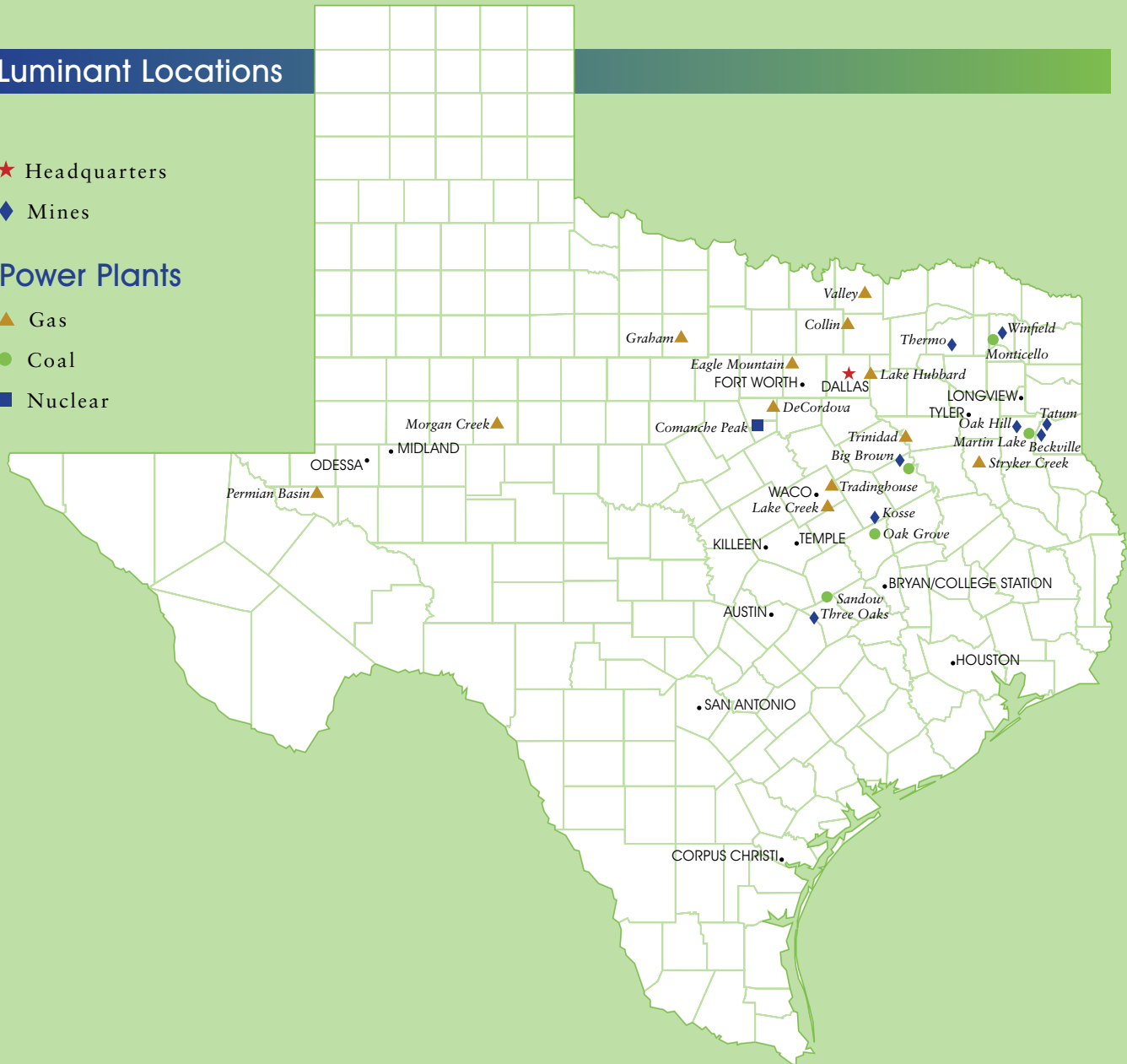
◆ Mines

## Power Plants

▲ Gas

● Coal

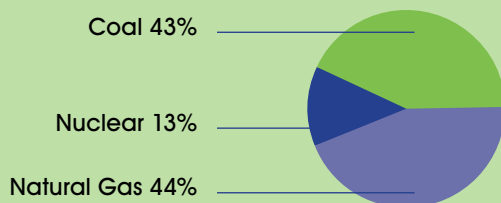
■ Nuclear



## Low-Cost Baseload Units Generate Most of Luminant's Energy

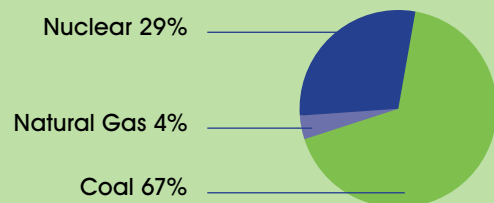
### Generating Capacity<sup>1</sup>

Total: 18,319 MW



### 2009 Energy Production<sup>2</sup>

Total: 68,235 GWH



<sup>1</sup> Includes mothballed gas plants.

<sup>2</sup> Does not include purchased power.

# Clean-Air Progress

- Texas generates far more electricity than any other state. At the same time, Texas ranks among the cleanest states for emissions rates of key pollutants by electric generators thanks to increasingly efficient, clean generation.
- Luminant is proud to be a leader in the progress Texas is making to create an even cleaner energy future.
- With a wind-energy portfolio of more than 900 megawatts—enough to serve 400,000 Texans—Luminant is the No. 1 purchaser of this Texas resource, with a commitment to increase purchases to 1,500 MW.
- Luminant has added almost 2,200 MW of new coal-fueled units with Best Available Control Technology. Oak Grove 1 and 2 and Sandow 5 are the nation's first new lignite coal units with activated carbon sorbent injection technology to control mercury emissions. Oak Grove's key emissions rates are the lowest of any Texas lignite plant and at least 75 percent lower than the national average for coal plants.
- A state and national leader in mercury control, Luminant is voluntarily equipping all its coal units with sorbent systems. Additionally, voluntary technology retrofits and other improvements are expected to reduce key emissions rates below national averages.
- For almost two decades, Luminant's voluntary climate change program has been among the nation's largest individual company efforts, avoiding, reducing or sequestering more than 397 million tons of carbon dioxide.
- Potential expansion of Luminant's Comanche Peak nuclear plant could provide up to 3,400 MW of the lowest emission source of baseload generation available.
- Luminant is also exploring new and emerging solutions to produce even cleaner, more efficient power for the future.

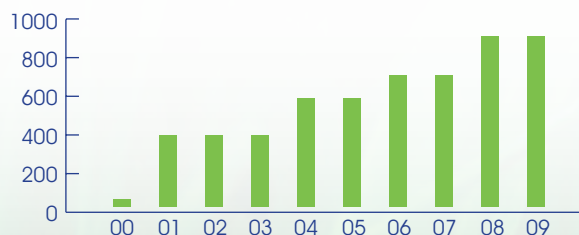
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Whistling ducks fly over hayfields at Luminant's restored mined lands (Big Brown).

## Purchased Wind Capacity in Megawatts

Current total capacity: 913 Megawatts



# Land Stewardship

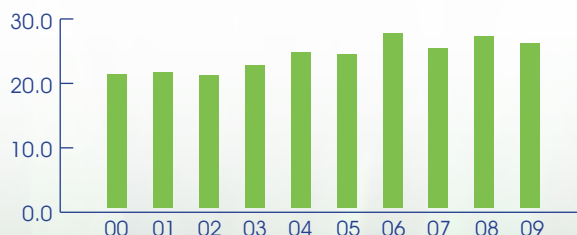
- Luminant began mining lignite coal almost 40 years ago to fuel its first coal power plant near Fairfield, Texas. Since then, the company has opened additional surface mines across East and Central Texas to deliver lignite to its nearby facilities, which generate electricity for much of the state's population.
- The company's coal-mining operations are the largest in Texas and 13th largest in the nation. With three new coal-fueled generation units online, annual lignite production is expected to increase from 20 million tons to about 33 million tons.
- From the beginning, Luminant has set the reclamation standard, restoring the land for use as forests, pastures, wildlife habitat and cropland.
- Before mining its first ton of lignite—and before the law required it—Luminant developed a plan to reclaim the land. Its goal is to quickly return mined lands to productivity and achieve full release of all regulatory reclamation obligations.
- Luminant has reclaimed more than 66,000 acres—including almost 1,500 acres in 2009—with bond liability release secured on over 29,000 acres.
- Nearly 29 million trees have been planted, 1.1 million in 2009. About 60 percent of the acres Luminant reclaims are reforested.
- Water resources have dramatically increased, with more than 5,100 acres of wetlands, ponds and stream channels created or enhanced.
- A number of endangered, threatened and protected species, including the interior least tern, bald eagle, timber rattlesnake and alligator snapping turtle, and an abundance of other wildlife benefit from Luminant's restored mined lands and reservoirs. In addition to the work of Luminant's environmental professionals, its unique Environmental Research Program provides valuable studies related to wildlife recovery, enhancement and management.
- Luminant has received nearly 90 awards for reclamation excellence, including the 2009 and four other Director's Awards, the U.S. Office of Surface Mining's highest honor.

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## Voluntary Climate Change Program in Millions of Tons

Total since 1991: 397.2 Million Tons of CO<sub>2</sub> Avoided, Reduced or Sequestered



## Mining and Reclamation in Acres

		TOTAL
MINED	2009	1,580
	To Date	59,187
RECLAIMED	2009	1,485
	To Date	66,154
RELEASED	2009	521
	To Date	29,179

# Waste Reduction and Water

## Waste

- Luminant's programs to reduce chemical use, replace hazardous substances with nonhazardous ones and minimize and reuse materials continue to achieve major environmental benefits.
- Hazardous waste generation in 2009 was just 12 percent of the amount produced in 1991 when tracking began.
- Since 1993, Luminant has recycled more than 36 billion pounds of materials, including more than 2.2 billion pounds in 2009. Materials range from paper, aluminum and antifreeze to lead-free batteries, oils, tires and coal combustion byproducts.
- Combustion byproducts from Luminant coal plants make up the largest quantity of recycled materials. Since 1986, nearly 40 billion pounds of byproducts, including almost 2.2 billion pounds in 2009, have found new life in the roofing, concrete and carpet industries as well as in oil-field and road-paving projects.

## Water

- Clean water is essential every day for the operation of Luminant's power plants.
- Luminant captures, monitors, treats when necessary and reuses or releases water at its generating facilities, mines and other operations to ensure good water quality and regulatory compliance.
- As the largest private owner of Texas reservoirs, Luminant owns and operates 14 lakes and also has facilities on five others. Luminant is active in planning for future water conservation and use of water resources and maintains representation on regional water-planning groups.
- The company's reservoirs provide thousands of acres of aquatic habitat for wildlife, and some of the largest are open to the public for fishing, boating and other recreational activities.

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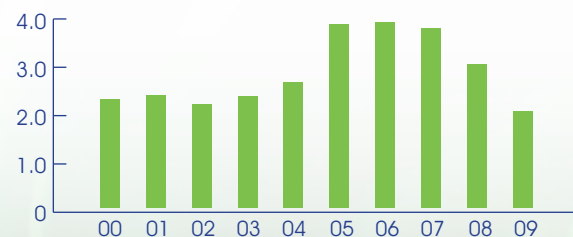


Wetlands are integral to Luminant's reclamation program (Martin Lake, Monticello).



## Coal Combustion Byproduct Sales in Billions of Pounds

Total since 1986: 39.8 Billion Pounds



# Community Commitment

- The safety of the public and employees is always Luminant's top priority.
- Luminant's operations produce a significant economic benefit to Texas through payrolls, purchases, contracts, taxes and other expenditures. Among Texas' largest property taxpayers, Luminant pays more than \$100 million annually. By a wide margin, it is the largest taxpayer in the communities where it operates plants.
- Luminant invests billions of dollars in infrastructure. Its latest investment in new power facilities and environmental improvements has added thousands of construction and permanent jobs and billions of dollars in personal income, retail sales and school taxes.
- For its 4,200 employees, Luminant's success creates new jobs and career opportunities, provides good wages and health care for them and their families, and supports and funds retirement and savings programs.
- Luminant also takes pride in powering its communities through philanthropy, leadership and volunteerism. In 2009, charitable contributions totaled over \$1.8 million, including employees' support of United Way and TXU Energy Aid<sup>SM</sup>.
- Educational outreach is helping assure a future of energy progress:
  - The unique Luminant Environmental Research Program has produced outstanding scientists and environmental professionals and provided Luminant with sound environmental solutions since 1971.
  - Luminant Academy is improving the current workforce's capabilities and helping assure the next generation of high performers.
  - The Luminant Scholar Program increases young students' environmental awareness and provides about \$50,000 in annual scholarships and grants.
  - Luminant's teacher-education summer partnerships with universities and the Texas Mining and Reclamation Association help teachers understand the link between energy needs and the environment.

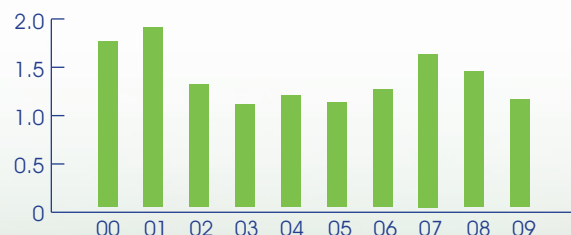
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Luminant's reclaimed lands create prime wildlife habitat (Monticello, Big Brown).

## Trees Planted in Millions

Total since 1975: 28.9 Million Trees



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