

# The Las Brisas Energy Center

Does the Benefit  
Outweigh the Risk

# A Disturbing Starting Point:

- An unusually high number of children present to Emergency Rooms in Corpus Christi with acute asthma symptoms. We don't know why.
- A study published in July 2006 found that Corpus Christi has the highest rate of birth defects in Texas, with an 84% overall higher rate of birth defects than the rest of the state of Texas.  
**Texas Birth Defects Epidemiology and Surveillance Branch of the Texas Department of State Health Services.**
- Seven schools in the Coastal Bend area rank in the top 10% in the US for exposures to toxins and carcinogens based on EPA studies.  
<http://content.usatoday.com/news/nation/environment/smokestack/search/TX>
- Ozone levels in our community are being monitored because we are episodically near "non-attainment" of permitted limits. Non-attainment results in lost federal funds and more costly vehicle inspections.



Corpus  
Christi Bay

Proposed  
Site  
for  
LAS BRISAS

# Las Brisas Energy Center, LLC

- Application was submitted to the Texas Commission on Environmental Quality (TCEQ) on May 19, 2008
- State Air Quality Permit Number 85013 and Prevention of Significant Deterioration (PSD) Air Quality Permit Number PSDTX1138, would authorize construction of a **Circulating Fluidized-Bed Petroleum Coke powered** Steam Electric Generation Facility located on Joe Fulton Corridor, Corpus Christi.
- The facility will emit: nitrogen oxides, sulfur dioxide, carbon monoxide, organic compounds, particulate matter including particulate matter less than 10 microns in diameter, sulfuric acid, ammonia, mercury, hydrogen chloride, hydrogen fluoride, lead and sodium hydroxide.

# **Las Brisas Will use Best Available Technology to Reduce Emissions**

- **The planned facility will use multiple means of scrubbing and filtering to reduce emissions.**
- **Projected emissions do not exceed what current regulations allow.**

# Las Brisas Will use “Best Available” Technology to Reduce Emissions

But not the best available technology

- “Best Available” is an energy industry term, not a descriptive term.
- Strangely, it does not actually refer to the best available technology to reduce emissions.

# After they “minimize” pollution coming from Las Brisas – What do we get?

- The Largest source of pollution in Nueces County
- The Las Brisas power plant would *double* industrial criteria emissions in Nueces County over 2006 levels from 26,349 tons to 53,968 tons.

Recently Permitted Plants												
Plant	City, County	Permit #	Status	Mega-watts	CO <sub>2</sub> ** Tons/yr	SO <sub>2</sub>		NO <sub>x</sub> (forms Ozone)		Particulate Matter		Mercury
						Tons/yr	lb/MMBtu	Tons/yr	lb/MMBtu	Tons/yr	lb/MMBtu	lb/yr
<b>TXU's Oak Grove 1 &amp; 2 (2 units)</b>												
Bremond, Robertson		76474	Permit granted – on Appeal	1,720	16.6 mil	15,079	0.192	7,500	0.08	3,170	0.04	2,180
<b>CPS Spruce</b>												
San Antonio, Bexar		70492	Permit granted - under construction	750	7.4 mil	2,102	0.06	1,752	0.05	771	0.022	140
<b>Sandy Creek Energy</b>												
Riesel, McLennan		70861	Permit granted – on Appeal	800	7.5 mil	3,585	0.1	3,226	0.05	1,490	0.04	150
<b>Formosa Plastics (2 Units)</b>												
Point Comfort, Calhoun		76044	Permit granted	300	3.0 mil	1,091 to 6,518	0.083 to 0.496	920	0.07	446	0.034	78
<b>TXU's Sandow 5 at Alcoa</b>												
Rockdale, Milam		48437	Permit granted	581	5.4 mil	5,186	0.2	2,593	0.1	1,037	0.04	192
<b>Calhoun Co. Nav. Dist.</b>												
Point Comfort, Calhoun		45586	Permit granted and emissions settlement reached	303	2.6 mil (offset)	2,071	0.179	813	0.07	597	0.051	14
<b>Totals for Recently Permitted Plants</b>				<b>4,454</b>	<b>42.5 mil</b>	<b>34,541</b>		<b>16,804</b>		<b>7,511</b>		<b>2,754</b>
<b>Plants Still Being Pursued</b>												
<b>White Stallion</b>												
Bay City, Matagorda		N/A	Application Filed	1,200	~10 mil (est.)	4,955	N/A	4,047	0.07	1,792	N/A	100
<b>NRG's Limestone 3</b>												
Jewett, Limestone		79188	Pending 112g Hearing	745	7.4 mil	2,102	0.06	1,752	0.07	1,226	0.04	140
<b>Tenaska</b>												
Sweetwater, Nolan		84167	Technical Review	900	0.75 mil	2,183	0.06	1,819	0.05	1,092	0.038	400
<b>Las Brisas</b>												
Corpus Christi, Nueces		85013	Technical Review	1,200	10.4 mil (est.)	10,480 (8096)	0.1942	3,776	0.07	2,808 (1664)	N/A	320
<b>Coletto Creek</b>												
Goliad, Goliad		83778	Technical Review	650	6.0 mil	1,753	N/A	1,461	0.06	935	N/A	140

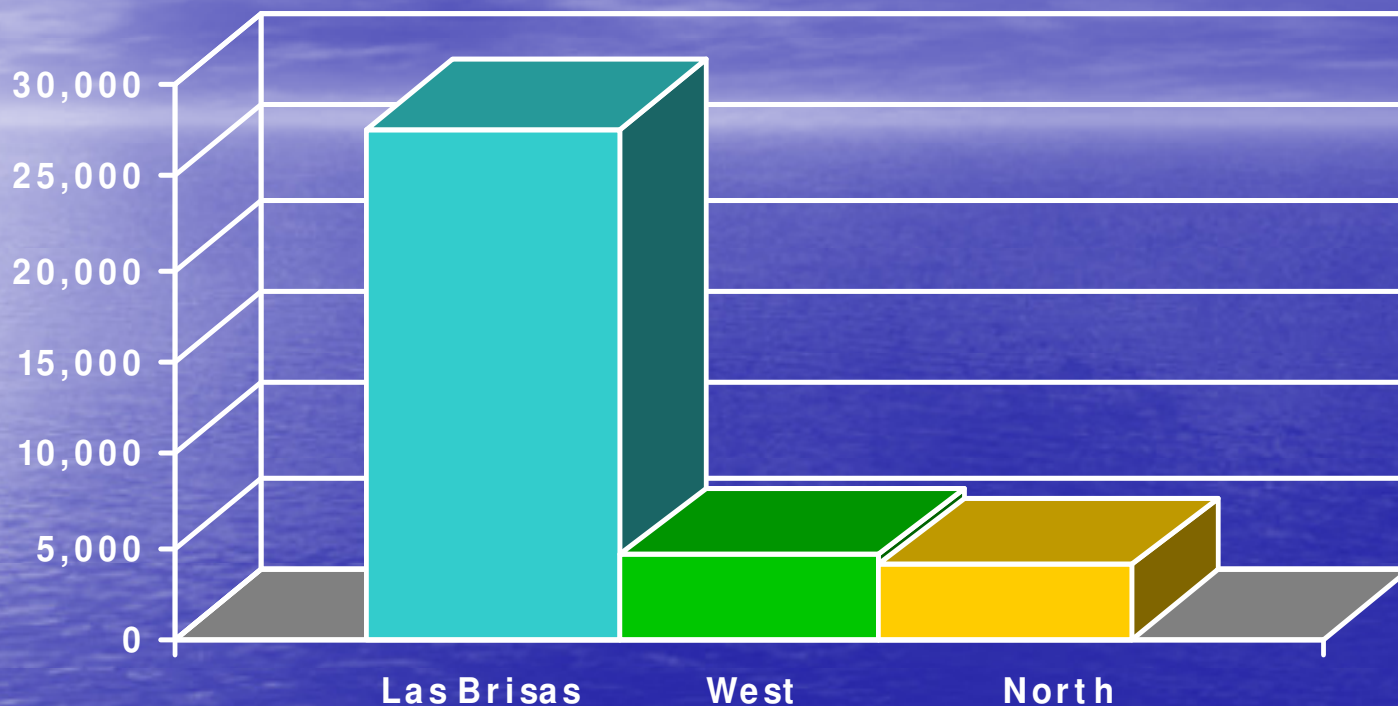


# How Much is Too Much?

- Las Brisas will rank #1 in Nueces county in particulate matter (PM) ten microns or smaller (1,664 tpy), nitrogen oxides (NO<sub>x</sub> -3,024 tpy), sulfur dioxide (SO<sub>2</sub> – 8,096) tpy) and carbon monoxide (CO - 5,977 tpy).
- NO<sub>x</sub> emissions would be two times larger than the #2 largest existing source in Nueces County based on 2006 data (2006 TCEQ data)
- The SO<sub>2</sub> emissions (8,096 tons) would be nearly 7X larger than the #2 largest existing source (1,274 tons) in Nueces County based on 2006 data (2006 TCEQ data).
- PM<sub>10</sub> emissions (1,664 tons) would be over 2x larger than the #2 largest existing source (782 tons) in Nueces County based on 2006 data (2006 TCEQ data).

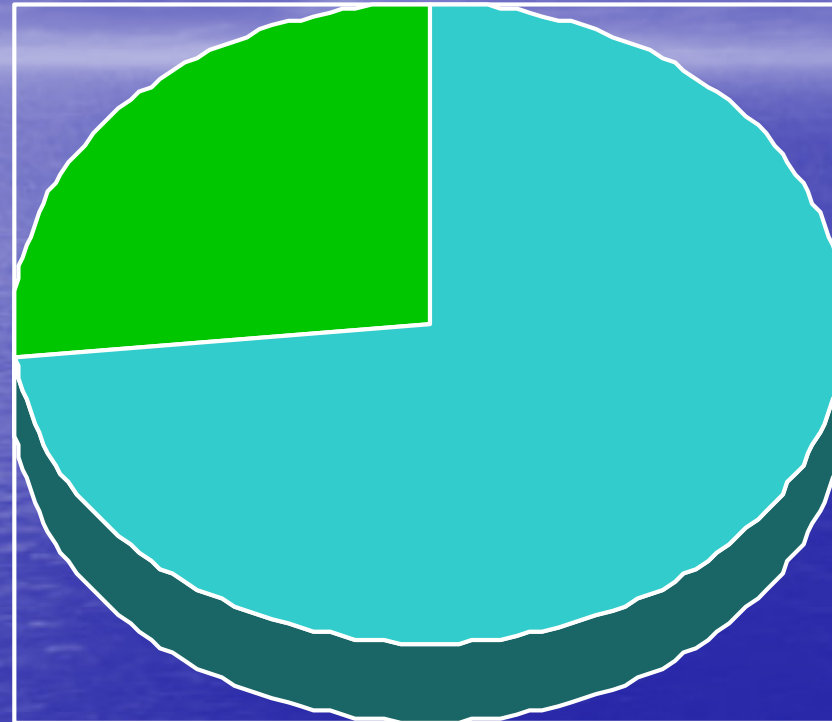
# LAS BRISAS

Could Be #1 SOURCE OF AIR POLLUTION IN NUECES COUNTY



1. Las Brisas: 27,600 tons per year
2. Valero's West Refinery: 4,500 tpy
3. Valero's East Refinery: 4,000 tpy

# Las Brisas Emissions



■ Nueces County  
2006 NOx  
Emissions

■ Additional Las  
Brisas NOx

The Las Brisas power plant will increase Nueces County industrial nitrogen oxides by 36% over 2006 levels of 10,395 tons.

# **CORPUS CHRISTI**

## **BORDERLINE SMOG NON-ATTAINMENT AREA**

- **LAS BRISAS Could Be #1 industrial source of Nitrogen Oxides in Nueces County.**
- **Ozone, also known as smog, is formed when nitrogen oxides react with volatile organic compounds from industrial plants, mobile sources and others in the presence of sunlight.**
- **The U.S. Environmental Protection Agency (EPA) lowered eight-hour smog-ozone standard from 80 to 75 parts per billion on March 13, 2008. The AAP and the EPA's Clean Air Scientific advisory Committee had both suggested the standard be 60 ppb.**
- **The Las Brisas power plant may shift Corpus Christi from its borderline non-attainment status into full blown non-attainment.**

# Nitric Oxides and Ozone: Health Effects

- **NO<sub>x</sub> exposure causes eye, nose and throat irritation at low levels of exposure. At high exposure levels it causes serious damage to the tissues of the upper respiratory tract, fluid build-up in the lungs and death**
- **Ozone is a potent respiratory irritant. At low levels of exposure, it can cause coughing, wheezing, shortness of breath and chest pain. At higher concentrations, it can lead to lung tissue damage, reduced lung capacity, asthma exacerbation, as well as increased risk of hospitalization for asthma, bronchitis and other chronic respiratory symptoms. It is associated with premature death.**

# Sulfur Dioxide

- The SO<sub>2</sub> emissions from Las Brisas (8,096 tons) would be nearly 7 times greater than the #2 largest existing source.
- SO<sub>2</sub> is the chemical pollutant associated with acid rain. It is one of the chemicals involved in the generation of particulate matter air pollution.
- It is also a potent respiratory irritant known to cause asthma exacerbations. Elevated levels of SO<sub>2</sub> trigger cough and shortness of breath in patients with asthma or COPD.

# **Particulate Matter (PM,PM10,PM2.5): Profound Health Effects**

- **Las Brisas will rank #1 in Nueces county in particulate matter (PM10) ten microns or smaller (1,664 tpy),**
- **While particulate matter is released directly from smokestacks to some extent, a much greater amount of particle pollution is formed from atmospheric reactions of SO2 and NOx.**
- **Particulate matter is, perhaps, the most harmful pollutant produced by coal-fired power plants. Elevations in PM10 have been associated with increased death from heart and lung disease, increased infant mortality, reduction in lung function growth in children, asthma attacks, hospitalizations, and days lost from school and work.**

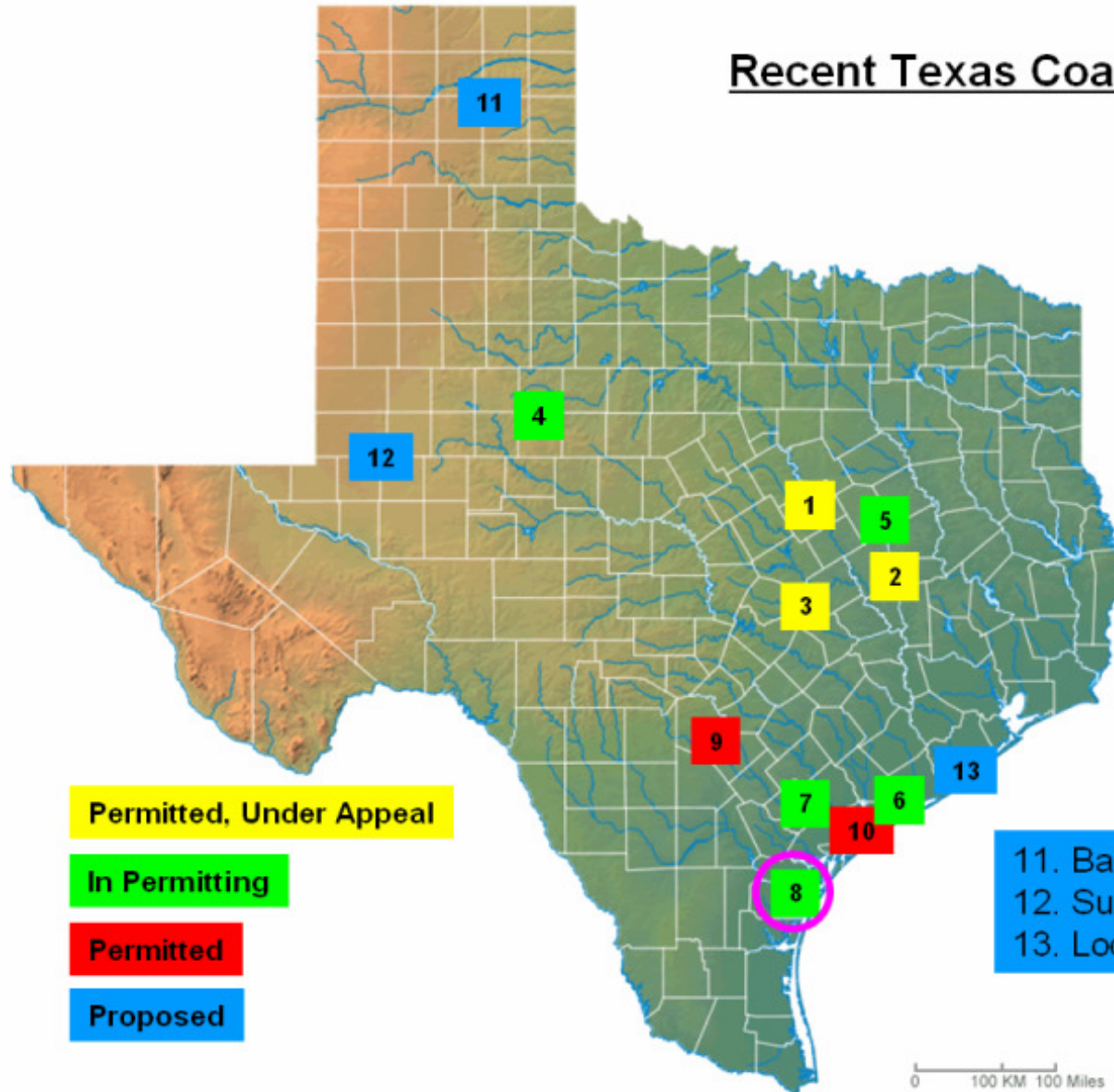
# Particulate Matter PM10: Documented Health Effects

<b><i>Health Effect</i></b>	<b><i>Frequency/year</i></b>
Premature death	26,600
Heart Attack	38,200
Asthma attack	554,000
Hospital admissions	21,850
ER visits	26,000
Days lost from work	3,186,000

Brook, RD, et al. Air Pollution and Cardiovascular Disease: A Statement for Healthcare Professionals From the Expert Panel on Population and Prevention Science of the American Heart Association. *Circulation*, 2004;109:2655-2671;  
Hong, Y.-C., Lee J.-T., Kim, H., Ha, E.-H., Schwartz, J., Christiani, D.C. Effects of Air Pollutants on Acute Stroke Mortality. *Environ. Health Perspect* 2002; Vol. 110, pp. 187-191;  
Zanobetti A, Schwartz J. The Effect of Particulate Air Pollution on Emergency Admissions for Myocardial Infarction: A Multicity Case-Crossover Analysis. *Environ Health Perspec* 2005; 113:978-982.  
Abt Associates. *The Particulate-Related Health Benefits of Reducing Power Plant Emissions*, 2000.  
[http://www.catf.us/publications/reports/Abt\\_PM\\_report.php](http://www.catf.us/publications/reports/Abt_PM_report.php)



## Recent Texas Coal Plants



- 1. Sandy Creek
- 2. Oak Grove
- 3. Sandow

- 4. Tenaska \*
- 5. Limestone
- 6. White Stallion
- 7. Coletto Creek
- 8. Las Brisas

- 9. Spruce
- 10. NuCoastal

- 11. Babcock & Brown IGCC \*
- 12. Summit IGCC \*
- 13. Lockwood IGCC \*

Permitted, Under Appeal

In Permitting

Permitted

Proposed

\* Carbon Separation

# Pollution:

- We think of pollution as an obnoxious haze that hangs over the city, a bad smell, an irritant, an annoyance.
- What it actually is, is a poisonous substance that causes significant disease and even death.
- The Las Brisas plant may make some people cough. It will make a smaller number become short of breath enough to go to the emergency room. A very small number – mostly older people with chronic illness – will die during periods of increased exposure. On the average, it will literally shorten our lives.