EMD GULF COAST COUNCILLOR'S REPORT

For the EMD Leadership Meeting
April 8, 2006

Gulf Coast Section Activities

Introduction:
The energy infrastructure in the Gulf Coast Section has mostly recovered from the three major Gulf Hurricanes of 2005. However, one major refinery is still shut down and many production facilities are either shut down or running at reduced rates. Full recovery will require months if not years of repair and reconstruction. The commodity price shocks initiated by the hurricanes continue to affect the economy and the finances of all citizens. The alternative energy sources represented by EMD are more important than ever before.

Abstracts and talks from recent meetings:

GCAGS Annual Meeting, New Orleans, September 25 – 27, 2005: Several papers of EMD importance were scheduled for this conference. Papers on Coalbed Methane, Methane Hydrates, and Geothermal energy were scheduled. The Conference was cancelled because of the destruction of Hurricane Katrina. GCAGS has invited presenters to resubmit their papers to any other conference or to GCAGS 2006 Annual Meeting in Lafayette, LA.

2005 International Coalbed Methane Symposium (May 16-20, 2005): (Reprinted from June 2005 Report by Bill Ambrose)

The 2005 International coalbed methane symposium, held at Tuscaloosa, Alabama, featured a wide variety of general CBM topics, including technology and site-specific data from areas outside the Gulf Coast region. Other abstracts included examples of CBM production in the Black Warrior Basin. Abstracts from the symposium can be accessed at the web address below: See below for the 2006 Symposium announcement.

Upcoming meetings:

Annual AAPG Convention at Houston (April 11-13, 2006):

Scheduled presentations at the annual AAPG of interest to EMD members in the Gulf Coast section include:

"Structural and stratigraphic controls on storage and CO2 EOR potential in major basins in Texas, California, Illinois, and Michigan" by W. A. Ambrose, M. H. Holtz, V. Nunez-Lopez, S. D. Hovorka, E. H. Guevara, C. Breton, and C. Christopher. Monday, April 11, 0805, room 311

"Injection of biogenic landfill gas into coal seams for enhanced coalbed natural gas recovery and carbon sequestration" by T. R. Carr, K. D. Newell, J. G. Blencoe, and S. Bhattacharya. Monday, April 11, 0925, room 311.

"Hydrodynamic control if coalbed methane performance in the Black Warrior basin" by J. C. Pashin. Monday, April 11, 0905, room317

"Origin and character of biogenic coal gas in north-central Louisiana" by P. D. Warwick. Monday, April 11, 1005, 1005, room 317.

"Volume-based curvature analysis illustrates fracture orientations, Fort Worth basin, Texas" by C. H. Blumentritt and B. Stinson. Monday, April 11, 1420, room 312.

"Fracture-swarm sweetspots" by B. S. Hart. Monday, April 11, 1520, room 312

"Current state of Barnett Shale technology" by D. Steward, B. Curtis, N. Givens, and N. Steinsberger. Poster session, Monday, April 11, 0800 – 1200.

"Hydrate and free gas exploitation along the northern Gulf of Mexico continental slope" by A. Lowrie and C. Lutken. Poster session, Monday, April 11, 1315 – 1700.

"Texas geothermal energy: a new profit commodity for the oil and gas industry" by R. J. Erdlac. Poster session, Monday, April 11, 1315 – 1700.

Oral Session "Gas Hydrates – Emerging Hydrate Deposits – Indices to Active Petroleum Systems Leading to Recognition of Future Energy Targets" Chaired by T. S. Collett and E. Allison. Tuesday, April 12, 0800 – 1125, room 311.

This session will have nine papers of which at least five are of direct interest to the Gulf Coast Section.

"The Barnett Shale play: Phoenix of the Fort Worth basin" by G. P. Mitchell and D. B. Steward. Tuesday, April 12, 1420, room 317

"The Barnett Shale play of North Texas: Current issues" by K. A. Bowker. Tuesday, April 12, 1440, room 317.

Poster Session "Advances and Applications in Geospatial Information Technology: Remote Sensing, GIS, GPS, and GPR" Chaired by S. H. Limerick and R. Dodge. Tuesday, April 12, 0830 – 1200.

This session has ten posters scheduled. Two are of direct interest to the Gulf Coast Section and all should be of interest to practitioners of Geospatial technology.

Source: http://www.aapg.org/houston/tech_program/index.cfm

Other Conferences

For a list of upcoming Geothermal Energy meetings, see:
http://www.geothermal-biz.com/calendar.htm

2006 International Coalbed Methane Symposium (May 22 – 25, 2006)

The 2006 Coalbed Methane Symposium will be held at the Bryant Conference Center, Tuscaloosa, Alabama. See **http://bama.ua.edu/~coalbed** .

20th Annual Coalbed Methane Association of Alabama Meeting (May 31 – June 2, 2006)

The 20th Annual Coalbed Methane Association of Alabama Meeting will be at the Perdido Beach Resort in Orange Beach, Alabama. See **http://www.pttc.org/**

GCAGS 56th Annual Convention (September 25 – 27, 2006)

The 55th annual GCAGS convention, scheduled for New Orleans, September 25-27, 2005 was cancelled because of hurricane Katrina. At this time, plans are unclear regarding disposition of papers that were to be presented. Themes of potential interests to EMD members included resent discoveries and new developments in the Gulf Coast region, new exploration trends and discoveries in the offshore Gulf of Mexico, as well as deep-water and deep-shelf plays. The 2006 GCAGS Convention will be held in Lafayette, Louisiana in September 2006.

At present, the GCAGS 2005 and 2006 Convention Committees and GCAGS Headquarters are working on a "Convention Cancellation Plan". Among their current thoughts are:

1. Because they were ready to go to press before Katrina hit, they hope to make the Transactions CD's and hard copy available through the Texas Bureau of Economic Geology at some time in the future. Go to: **http://www.beg.utesas.edu/mainweb/publications/gcagscatalog.htm**
2. Authors are encouraged to submit their papers to GCAGS 2006 and to other geologic conferences. For GCAGS 2006 Call for Papers, go to: **http://www.gcags2006.com/**
3. Transaction hard copies will be distributed to those who pre-ordered then via on-line registration

Sources:
http://www.gcags2005.com
http://www.gcags.com/

Miscellaneous Articles:

Two articles of possible interest to EMD members appeared in the January 2006 issue of Hart's E&P magazine.

- "Are unconventional resources for real?" by Rob Caldwell, Hart's E&P, January 2006, p. 68 – 69.

- "Options for CBM production" by Mike Findley and Kathy Shirley, Hart's E&P, January 2006, p.70 – 74.

A short article, "Shell CEO says technology needed to meet fuel demand" in Oil & Gas Journal, February 20, 2006 issue (page 29) reports on a speech by Royal Dutch Shell CEO Jeroen van der Veer. He specifically touts "clean" coal electricity generation, increased exploitation of heavy oil, oil sands and shales, and continued development of CBM and tight gas. He continues that these commodities are especially needed in the USA and China.

A brief article from the EPA, "Hurricane Katrina's impact on CBM and CMM" appears in the EPA web site. It notes that about 10.4 bcf of natural gas per day is produced from the offshore GOM. An additional 3 bcf per day coming from nearby onshore fields. About 40% of this production was shut-in because of the Hurricane. Seven gas processing facilities with a combined capacity of 5 bcf per day were damaged and shut down. The note concludes that CBM and CMM industries were virtually unaffected by the hurricane and that this highlights the importance of this and other alternative sources of energy. CBM and CMM account for about 8% of U. S. gas production.

Source: **http://www.epa.gov/coalbed/resources/notes/2005/9-15.html**

Commodities

Coal:

The Energy Information Administration (EIA) estimates that in the 52-week period ending February 5, 2006, Alabama has produced 22,802 thousand short tons of coal, a 1.3-percent increase over a similar period ending in February 2005. Louisiana has produced 4,177 thousand short tons of coal over the same time period, an increase of 9.5 percent. Mississippi has shown an increase of 6.8 percent from last year, with 3,723 thousand short tons of coal. Texas continues to be the leader in mined coal in the Gulf Coast, with 44,156 thousand short tons, representing a 3.1-percent decrease from last year.

The Texas Railroad Commission (TRRC) is still currently regulating 19 surface coal/lignite mines distributed from northeast Texas in the East Texas Basin to the Maverick Basin in southwest Texas. Four of these mines are in the Maverick Basin, 8 are in east-central Texas, and the remainder occurs in northeast Texas. Thirteen of the mines are active whereas the others are in various stages of reclamation. Texas is the 5th largest coal-producing state and the largest coal-consuming state, with 54 million tons imported and about 44 million tons mined annually. Texas has the 9th largest domestic coal reserves (as of 2002).

Sources:
http://www.eia.doe.gov/cneaf/coal/weekly/weekly_html/wcpweek.htm
http://www.rrc.state.tx.us/divisions/sm/programs/regprgms/mineinfo/mines.html
http://www.rrc.state.tx.us/tepc/616presentations/EPCcoalpresentation.pdf

Coalbed Methane: ***(In part, reprinted from June 2005 Report by Bill Ambrose***

Reserves and Production:

Recent figures for 2004 from Energy Information Administration (Most recent data available):

Reserves: Fell 2% to 18.4 tcf from 2003
Production: Increased 7% to 1,72 tcf from 2003
CBM Reserves are nearly 10% of US dry gas proven reserves.
CBM production is about 9% of US dry gas production
(From *Oil & Gas Journal*, October 17, 2005)

Recent developments in the Black Warrior Basin, Alabama:

A paper by Jack Pashin "Hydrodynamic control of coalbed methane reservoir performance in the Black Warrior basin" will be presented at the AAPG 2006 convention on Monday, April10 at 9:05 AM.

Recent Developments in Louisiana, east Texas, and Mississippi:

A paper by Peter Warwick and others "Origin and character of biogenic coal gas in North-Central Louisiana" will be presented at the AAPG 2006 Convention on Monday, April 10 at 10:05 AM.

Data from a USGS GIS database (see "Geospatial Information" section in this report), consisting of depth-to-Wilcox and apparent-Wilcox-thickness maps along with published measured sections and cross sections, indicate that portions of Texas, Louisiana, Mississippi and Alabama contain shallow Wilcox coal seams with 20 to 40 ft (6 to 12 m) of net thickness. The thicker coal zones are controlled by growth faults that apparently influenced peat deposition. Shallow occurrences of the Wilcox "lignite" range in depth from outcrop to <4,000 ft (<1,219.5 m) and locally reach a maturity equal to bituminous coal. This rank level is an important benchmark for coalbed methane prospects because it marks the onset of thermogenic gas generation. The data also indicate that coalbed methane prospects for the Gulf Coast are better in Webb, Dimmitt, LaSalle, and Frio counties in South Texas, due to anomalously high coal rank, coupled with shallow depth of occurrence over an extensive area. These higher rank coal seams are also plumbed to an apparently very thick section of Wilcox to the east that is mature with respect to gas generation and which could provide significant thermogenic gas.

Sources:
http://www.aapg.org/houston/tech_program/index.cfm
http://energy.er.usgs.gov (USGS Open-File Report 00-048)
http://certmapper.cr.usgs.gov/data/gulf/gulflib/spatial/doc/wlcxthkg.htm

Recent Developments in the Maverick Basin, southwest Texas:

The USGS has recently completed a huminite reflectance study of Paleocene and upper Cretaceous coal seams from 19 borehole cuttings in Zavala and Dimmit Counties in the Maverick Basin. These cuttings are from the Core Research Center at the Bureau of Economic Geology. Preliminary observations from these and other data in the Maverick Basin are that increased depth of burial is mostly responsible for the apparent rank elevation in south Texas. However, two samples in the western parts of the sample area contain slightly elevated vitrinite reflectance values compared to others from the same depth farther east, which may have resulted from thickening of the post-Olmos Cretaceous section towards the southwest into the Maverick Basin, coupled with exhumation from deeper burial under the Sierra de Madre Orientale piedmont (Ewing, 2003).

Sources:
http://pubs.usgs.gov/of/2005/1144/of2005-1144.pdf

Ewing, T.E., 2003, Review of the tectonic history of the lower Rio Grande border region, south Texas and Mexico, and implications for hydrocarbon exploration in Rosen, N.C., (ed.), Structure and stratigraphy of south Texas and northeast Mexico: Applications to exploration: GCSEPM Foundation, Houston, TX, CD-ROM, p. 7-21.

Recent Developments in the Sabinas Basin (Maverick equivalent), northern Mexico:

Mexican coal operator Minerales Monclova (MIMOSA) has been pursuing a program of methane drainage in Olmos coal seams in the Sabinas Basin, the Mexican equivalent to the Maverick Basin. Recently, MIMOSA has drilled a gob well in the first long wall panel of the mine La Esmeralda mine to reduce mining delays caused by high methane levels. Currently, MIMOSA operates six underground mines in Northern Mexico, five in the gassy Olmos Coals of the Sabinas Basin and one in the Saltillo Basin. Horizontal boreholes produce 610,000 cubic feet per day (17,275 cubic meters per day or 6.3 million cubic meters per year), while gob well production is approximately 1.5 million cubic feet per day (42,600 cubic meters per day or 15.5 million cubic meters per year).
Source:
http://www.epa.gov/coalbed/resources/notes/2005/9-15.html

Energy Economics & Technology:

Hurricanes Katrina and Rita:
These two storms had minimal impact on EMD commodities. However, the loss of crude oil, natural gas, and refined products has had, and will continue to have, a serious effect on the economy of the region and the nation. The impact that EMD alternate fuels, particularly coal, nuclear, and methane hydrates, could have on future storm disasters should be evaluated.

These two major storms, arriving just three weeks apart, devastated the Gulf Coast energy producing infrastructure between Houston, Texas and Mobile, Alabama. Current estimates indicate that Katrina will be the most expensive storm ever in terms of insured losses. The impact on U. S. energy supplies is enormous and promises to remain so for some time. The chart below provides some insight into the enormity of the damage as well as continued improvement. However, improvement in both production and refining capacity has flattened since November. This reflects the long lead times required to replace major platforms that were destroyed.

Chart revised February 15, 2006.

Sector	August 30, 2005	October 5, 2005	November 8, 2005	January 25, 2006
Crude Oil	• 95% of GOM production shut-in • Equivalent to 26% of daily U.S. production	• 87% GOM production shut-in • Equivalent to 24% of daily U.S. production	• 47% GOM production shut-in • Equivalent to 13% of daily U.S. production	• 24% GOM production shut-in • Equivalent to 6.8% of daily U.S. production
Natural Gas	• 88% of Gulf of Mexico production shut-in • Equivalent to 16% of daily U.S. production	• 69% of GOM production shut-in • Equivalent to 13% of daily U.S. production	• 41% GOM production shut-in • Equivalent to 7.7% of daily U.S. production	• 17% GOM production shut-in • Equivalent to 3.1% of daily U.S. production
Refinery Operations (U. S. Capacity)	• 11% of shut down • 17% operating at reduced rates (as of August 31)	• 5% of shut down (Katrina impact) • 15% shut down or restarting (Rita impact)	• 10.8% shut down or restarting (Rita impact)	• 6.1% shut down or restarting
Pipelines	No electricity to some pipelines originating in GOM; Operations limited or halted. Includes major crude line to Midwest and two key products lines serving Southeast and East Coaast	Several key pipelines fully operational but at reduced rates	Delivery impacted by inoperative gas processing plants with pre hurricane flow of 4.65bcf/d	Primary lines mostly operating.
Louisiana Offshore Oil Port (LOOP)	• Closed • Loss of 8.5% of daily U.S. crude imports	• Operational	• Operational	• Operational

Source: API, MMS, and Energy Information Administration
Sources: **http://www.api.org/**
http://www.gomr.mms.gov/index.html

According to DOE, crude oil input to refineries in the seven day period ending October 5 was 11.7 million BOPD. This is the smallest refinery feed since the week ending March 13, 1987. The figure is 4.5 million BOPD less than the week before Katrina.

Platforms and Rigs Evacuated
As of October 11, 266 platforms (32.5%) and four (2.99%) drilling rigs were evacuated. Shut-in oil production was 1,062,530 BOPD or 70.8% of daily GOM production. Shut-in gas production was 6.042 BCFPD, 60.4% of daily. These figures are improving weekly, but there is much left to repair. (MMS)

As of November 10, 190 platforms (23%) and five drilling rigs (3.7%) were evacuated. Shut-in oil production is 736,279 BOPD or 49% of daily GOM production. Shut-in gas production is 4.015 BCFPD or 40.16% of daily. These figures continua to improve but were also impacted by hurricane Wilma. (MMS)

As of February 8, 2006, No remaining rigs were evacuated but 90 platforms (11%) were still evacuated. Shut-in oil production is 364,195 BOPD or 24% of daily GOM production. Shut-in gas production is 1.554 BCFPD or 15.5% of daily gas production.

Cumulative Shut-in Production
Cumulative shut-in oil production for the period 8/26/2005 to 02/08/2006 is 124,502,898 bbls, approximately 22.74% of the yearly production in the GOM (547.5 million BO). Cumulative shut-in gas production for the same period is 631.326 BCF, approximately 17.297% of the annual gas production in the GOM (3.65 TCF). (MMS)

Damage to GOM Petroleum Infrastructure:
The table below show the extent of damage caused by hurricanes Rita and Katrina to oil and gas production infrastructure.
* Table revised February 15, 2006 from MMS Press Release 3428 of January 19, 2006.

	Rita	Katrina
Platforms destroyed	69*	46*
Platforms extensive damage	32	20
Rigs adrift	13	6
Rigs extensive damage	10	9
Rigs destroyed or missing	4	4
Total platforms in path	1683*	1367*
Pipelines damaged	83*	100*

As of November 9, five Gulf Coast refineries were shut down or operating at reduced rates. The total shut down capacity is 804,000 BOPD. By January 25, 2006, about 6.1% of refining capacity was still shut down (about 454,000 BOPD).
Source: MMS, November 9, 2005, API January 25, 2006.

Energy Economics:

The Energy Information Agency (EIA) estimates that undeveloped resources from the unconventional gas resource base in the Gulf Coast region will continue to be dominated by tight gas (>50 Tcf), with production from coalbed methane expected to be fairly stable.

The Texas electricity mix continues to be dominated by natural gas and coal (51 and 37% of all energy sources, respectively). However, coal use for Texas electricity generation has declined from 50 to 37% since 1994, due to increased consumption of natural gas.

Sources:
http://www.enbridge.com/investor/pdf/2004-enbDay-00-USGasStrategy.pdf
http://www.rrc.state.tx.us/tepc/616presentations/EPCcoalpresentation.pdf

Recent Developments in Technology:

The Texas Clean Coal Technology Council announced a bidding process to bring a billion-dollar, zero-emission power plant prototype to Texas. The Council will lead the effort to bring FutureGen – a 10-year project to create a coal-based, zero-emission power plant to sequester carbon dioxide. FutureGen can also be used for enhanced oil and gas recovery in Texas where 31 billion barrels of crude oil could be recovered though CO_2 flooding. FutureGen will produce 275 megawatts of electric power with hydrogen as a by-product.

Five finalist Texas sites were announced March 1, 2006. These were Baytown, Palestine, Pearsall, Jewett, and Odessa. On March 15, 2006, the two finalist sites, Odessa and Jewett were announced. The 17 member FutureGen Texas Advisory Board recommended the two sites to Governor Perry after reviewing proposals from the five finalist sites. The panel noted that the two sites offered distinctly different proposals. The Jewett proposal is a collaboration between Leon, Limestone, and Freestone Counties that lie in the Texas lignite belt. The Odessa proposal is attractive because the area has already proven itself in the production and use of carbon dioxide, a by-product of the proposed plant and there would also be a ready market for produced hydrogen.

The FutureGen Industrial Alliance, a non-profit consortium of coal producers, and the DOE anticipate naming the national winner in fall 2007.

Environmental progress in Texas is marked by a 44% reduction in NO_x from 1997-2002, and a reduction in SO_2 emissions by >140,000 tons since 1999. The Center for Energy and Economic Development (CEED) estimates that between 2000 and 2005, electric generating companies in Texas will have spent >$1 Billion on NO_x emission reductions.

Sources:
San Antonio Express-News, March 15, 2006, page 3 B.
http://www.cleancoalfoundation.org/
http://www.rrc.state.tx.us/tepc/616presentations/EPCcoalpresentation.pdf

Gas Hydrates: ***(Reprinted in part from June 2005 Report by Bill Ambrose***

Recent Developments in the Joint Industry Project (JIP):

The Department of Energy Gulf of Mexico Gas Hydrates Joint Industry Project (JIP) has advanced to Phase II, in which potentially gas-hydrate-bearing sediments will be drilled, logged, and cored in the offshore Gulf of Mexico (GOM). Drilling targets occur in total

depths ranging from 1007 ft to 1,814 ft (307 to 553 m) beneath the sea floor in the Atwater Valley 13/14 and Keathley Canyon 151 leases. Shallow coring (<20 ft [<6 m]) has recovered sediments with gas hydrates consisting predominantly of microbial methane near these proposed coring locations. Gas hydrates are also inferred from a faint bottom-simulating reflector (BSR) at depths of 1,279 to 1,443 ft (390 to 440 m) at Keathley Canyon. The Phase II drilling program was planned for 35 to 40 days in April and May, 2005. Preliminary results were obtained in early May, including: (1) very shallow (0 to 95 ft [0 to 29 m] below sea floor) coring of sediments at mound site ATM2 (27°56'11.6''N, 89°16'47''W). Three Fugro Hydraulic Piston Corer (FHPC) cores were obtained from the upper 78.7 ft (24 m) beneath the seafloor. Observations from these cores indicate gas hydrate having been present in the sediment and decomposing before sampling. X-ray images indicate discrete zones of low density (approximately 1 gcm^{-3}) and more detailed imaging of 3-D CT imaging is in progress. Future plans include analysis of three other coring sites at Atwater Valley.

Sources:
https://cpln-www1.chevrontexaco.com/cvx/gasjip.nsf/main/72c468e2ffc161b788256fd9000cc630/$FILE/Cruiseprospectus.pdf

https://cpln-www1.chevrontexaco.com/cvx/gasjip.nsf/main/72c468e2ffc161b788256fd9000cc630/$FILE/5%20May%202005%20Daily%20Science%20Report.doc

Other Developments:

Researchers at the Georgia Institute of Technology suggest that shallow-marine deposits in the northern Gulf of Mexico may be too warm and salty to contain significant quantities of gas hydrates. They report that high-resolution geophysical and geochemical data from two sites offshore of New Orleans suggest previous estimates for the northern Gulf of Mexico should be revised sharply downward, as published in the March 15 issue of the journal of Geophysical Research Letters (GRL). The abundance of diapiric salt bodies there is thought to promote high heat flow, therefore making the presence of gas hydrates unfavorable.

In a presentation at the 2005 Annual AAPG Conference in Calgary, Daniel R. McConnell describes seismic inversion methods that can be applied to image the lateral and vertical extents of the gas hydrate traps in northwest Walker Ridge in the deepwater Gulf of Mexico. Because of the regular distribution of gas traps across the uplifted minibasin the Northwest Walker Ridge example is an excellent setting in which to test the ability of inversion methods to characterize the extents of gas hydrate traps using typically available data. Inversion results in the Walker Ridge area show high-impedance interpreted gas hydrate deposits updip from the trapped gas, consistent with the interpreted gas hydrate distribution model.

Harry H. Roberts, in a recent presentation at the 2005 Annual AAPG Conference, demonstrates that distal turbidite toe sets of highstand deltas in the northern Gulf of Mexico fall within the gas hydrate stability zone. Vertical gas migration is inhibited by capillary sealing in these turbidites, although up-dip lateral gas migration and charging of self-edge clinoforms is common. Seismic data indicate clinoform sets are gas-charged and leaking gas to the water column. During periods of lowstand, a decrease in hydrostatic pressure and the

impact of warm surface layer water is inferred to promote gas hydrate decomposition. The resulting gas expulsion and a decrease in sediment strength can cause massive shelf edge failures and canyon formation.

Erika Geresi, in a recent presentation at the 2005 Annual AAPG Conference, reports the progress in processing and development of a remote, multi-sensor sea-floor station planned for the continental slope of the northern Gulf of Mexico to monitor changes in the shallow substrate. Experiments with a prototype Vertical Line Array (VLA) were conducted, with VLA, multi- and single-channel reflection seismic data collected from Mississippi Canyon and Atwater Valley Area. These datasets were integrated to assess potential geohazards such as gas hydrates and free gas using propagation velocities, physical properties and the acoustic character of the substrate.

Additional information on Gas Hydrates will be provided in an oral and a poster session at the 2006 AAPG Annual Convention. The oral session is Tuesday, April 11 from 0800 to 1145 in room 311. The poster session is Monday, April 10 from 1315 to 1700 in the poster section of the exhibits hall. Several of the presentations have direct links to the Gulf Coast.

Sources:
http://www.aapg.org/houston/tech_program/index.cfm
http://www.rigzone.com/news/article.asp?a_id=21222
http://www.sciencedaily.com/releases/2005/03/050323143659.htm
http://aapg.confex.com/aapg/cal2005/techprogram/A97217.htm
http://aapg.confex.com/aapg/cal2005/techprogram/A96846.htm
http://aapg.confex.com/aapg/cal2005/techprogram/A96171.htm

Geospatial Information:

The USGS maintains a GIS database on the Wilcox Group in portions of Texas, Louisiana, Mississippi and Alabama, with the purpose of characterizing certain attributes if the Wilcox Group such as apparent net thickness, depth, vitrinite reflectance, and thickness of coal zones to aid in identification of prospective areas for coalbed methane production. The Apparent Wilcox Group thickness maps are contoured from location and top information derived from the Petroleum Information (PI) Wells database. The Wilcox apparent thickness map was constructed by searching for Wilcox and Midway Group tops. Geographic control is superimposed on the maps from USGS state line, county, elevation and other data files.

A newly issued report, “Guide to Land Imaging Satellites” by W. E. Stoney was presented at the Pecora 16 Conference in Sioux Falls, SD, in October. This useful,13 page pdf format compendium is available for down loading at:
http://www.asprs.org/news/satellites

Source:
http://certmapper.cr.usgs.gov/data/gulf/gulflib/spatial/doc/wlcxthkg.htm

Geothermal Energy: ***(Reprinted in part from June 2005 Report by Bill Ambrose)***

According to the latest available data from DOE, between 2000 and 2004, total domestic energy use increased 1.49% as measured in quadrillion BTU. Because of small declines in use between 2000 and 2003, the increase from 2003 to 2004 of 1.54% accounted for all of this change. In 2004, total geothermal energy accounted for 0.29% of the total domestic energy use, an increase of 7.26% from 2000.

Source: http://www.eia.doe.gov/cneaf/solar.renewables/page/trends/table1.html

Texas:

Potential geothermal resources in Texas are located in the East Texas Basin, the geothermal/geopressured Wilcox and Frio trends in the Gulf Coast, and in the Val Verde and Delaware Basins. The Texas geothermal resource consists of hydrothermal, geopressured, and hot dry rock types. Hydrothermal resources in Texas are widespread and occur in central and east Texas, as well as along the Rio Grande in Trans-Pecos. The primary uses for geothermal energy are thermal, chemical (production of dissolved methane), and mechanical. DOE studies of the overpressured Frio trend in the Texas and Louisiana Gulf Coast suggest that there is sufficient heat for binary plant facilities.

The geothermal energy potential of the Gulf Coast, if measured in estimated Earth temperatures (°C) at 6 km depth, is greatest in South and East Texas, Louisiana, and western Mississippi, where temperatures range from 150 to 200°C. Northern Louisiana contains the largest high-temperature trend (>200°C) in the Gulf Coast, whereas northern Alabama contains an extensive trend of low (<100°C) temperatures. Detailed contours of heat flow in the Gulf Coast are part of a heat-flow map of North America recently compiled by the SMU Geothermal Laboratory. Heat-flow in this map was calculated by multiplying the value of temperature gradient, obtained from well data, by the thermal conductivity.

The Texas Geothermal Working Group met in Dallas on November 7, 2005. The meeting agenda is available at:
http://www.smu.edu/geothermal/GPW_TX/Texas%20Geothermal%20Working%20Group%20Meeting.htm
No other information is available.

Sources:
"Oil-Gas-Geothermal-An Energy Triad Parts I and II", presented by Richard J. Erdlac, Jr. on April 12, 2005 at the Southwest section meeting of AAPG.

http://www.geo-energy.org/USGeoProv.pdf

http://www.smu.edu/geothermal/heatflow/geothermal_all_us_clipped_150dpi_pagesize_legend.gif

Nuclear Minerals (Uranium):

According to the latest available data from DOE, between 2000 and 2004, total domestic energy use increased 1.49% as measured in quadrillion BTU. Because of small declines in use between 2000 and 2003, the increase from 2003 to 2004 of 1.54% accounted for all of this change. In 2004, total nuclear electricity accounted for 3.43% of the total domestic energy use, an increase of 4.71% from 2000.

Source: http://www.eia.doe.gov/cneaf/solar.renewables/page/trends/table1.html

The U.S. uranium production industry initiated a turnaround in 2004. All U.S. uranium drilling, mining, production, and employment activities increased in 2004 for the first time since 1998 and continued this trend in 2005. More companies conducted exploration and development drilling than in the prior 2 years. During 2005, 2.7 million pounds of uranium were mined in the United States, 18 percent more than in 2004, one new in-situ leach mine commencing operations. Total U.S. uranium concentrate (yellowcake) production in 2005 was 2.7 million pounds U3O8, 18 percent above the 2004 estimated level. Shipments of uranium concentrate from domestic production mills and in-situ leach facilities were also 2.3 million pounds in 2004. Employment in the U.S. uranium production industry totaled 420 person-years in 2004 (latest figures available), an increase of 31 percent from the 2003 total. Reclamation employment increased 3 percent. Wyoming accounted for 33 percent of the total 2004 employment, while Colorado and Texas employment almost tripled since 2003. Overall, $86.9 million went to drilling, production, land, exploration, reclamation and restoration activities in 2004.

A recent report released on February 13, 2006 by the Energy Information Administration (EIA) on the operating status of U. S. in-situ leach uranium sites at the end of 2005. Four sites in Texas are reported, including Alta Mesa (production capacity, 1,000,000 pounds of U_3O_8 per year, status operational), Kingsville Dome (production capacity, 1,000,000 pounds of U_3O_8 per year, status standby), Rosita (status depleted), and Vasquez (production capacity, 800,000 pounds of U_3O_8 per year, status producing). The Vasquez site, located in Duval County 50 miles east of Laredo, is operated by Uranium Resources, Inc. (URI). On March 31, 2005, URI reported that the production obtained from Vasquez in the first quarter of 2005 was approximately 100,000 pounds U_3O_8. The production zone is approximately 45 to 70 ft (13.7 to 21.3 m) thick in the Oakville (Miocene) Sandstone at a depth of 150 ft (45.7 m) below land surface and 480 ft (146.3 m) below sea level.

A recent report by the Center for Energy and Economic Development (CEED) shows that nuclear energy accounts for 9% of electric power in Texas.

Sources:
http://www.eia.doe.gov/cneaf/nuclear/dupr/uisl.html
http://www.antenna.nl/wise/uranium/upusa.html#USTX
http://www.rrc.state.tx.us/tepc/616presentations/EPCcoalpresentation.pdf

Oil Shale: ***(Reprinted from June 2005 Report by Bill Ambrose***

About a year ago, a news release by Kiplinger presented the basic stratigraphic and reservoir parameters for the Tuscaloosa Oil Shale play in southern Mississippi, where the Tuscaloosa Marine Shale contains a dense, black matrix and varies in thickness from 500 to 2000 ft (152 to 609.8 m). The interval known as the Oil Saturated Marine Shale section, occurring in the middle part of the Tuscaloosa, is identified by greater resistivity values. The oil-saturated section ranges from 70 ft (21.3 m) flanks of structurally high areas to 250 ft (76.2 m) within the center of structures.

The original report could not be located. No other information is available.

Source:
http://kiplinger.stockgroup.com/sn_newsreleases.asp?symbol=CNES&newsid=4311735&dir=next

Tar (Oil) Sands: ***(Reprinted from June 2005 Report by Bill Ambrose***

In a presentation at the 2005 Annual AAPG Conference in Calgary, Thomas E. Ewing describes the stratigraphic occurrence and possible heavy-oil resources in the Southwest Texas Heavy Oil Province, the largest heavy oil resource in the Gulf Coast region, and perhaps the largest in the United States. The province extends for 1,660 mi^2 (4,300 km^2), at depths of 0 to 3,280 ft (0 to 1000 m). Several Cretaceous formations host this heavy oil, including early to middle Campanian, asphalt-saturated carbonate grainstone shoals in the Anacacho Formation, and late Campanian-Maastrichtian asphalt and heavy oil in sandstones in the San Miguel (10 to -2°), Olmos, and Escondido Formations. The province occurs on the northeastern margin of the rapidly-subsiding Late Cretaceous Maverick Basin, and the southwest flank of the coeval San Marcos Arch. Regional traps are related to unconformities in Maastrichtian and the Paleocene strata. The province-wide resource is poorly known, but may exceed ten billion barrels in place.

Source:
http://aapg.confex.com/aapg/cal2005/techprogram/A97090.htm

No other information available.

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