

## ENERGY

INDUSTRY QUARTERLY

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The Energy Industry Practice Group of Corporate Finance Associates is pleased to present its First Quarter Energy Newsletter. For further information, please contact your local CFA office. Interested parties may obtain addresses and contact numbers by access to our website [www.cfaw.com](http://www.cfaw.com).

**I. 2010 Review and 2011 Forecast****2010 Review**

The past year presented a number of significant events:

- 2010 was a difficult year for oil and gas but the industry demonstrated its great resilience and adaptability. Despite low natural gas prices and an EPA determined to regulate green house gases, increasing tax burdens, restrictions on fracturing and then the oil spill, crippling deepwater moratorium and public backlash all of which threatened Gulf of Mexico drilling as well as the industry in general.
- Simmons & Co. International reported that global demand for oil and gas accelerated in each quarter of 2010.
- World oil prices gradually increased to the high 80's.
- Despite the adversity, operators shifted from gas to oil and the shale plays where liquid-heavy oil plays like Bakken and Eagle Ford resulted in the drilling of approximately 46,000 new wells.
- Final report has been issued by The National Oil Spill Commission of the BP Deepwater Horizon Oil Spill and Offshore Drilling. The report holds the management of the Macondo well at fault including the Minerals Management Services. The U.S. Justice Dept. has filed a civil suit against BP and eight other companies in federal court. Clean Water Act penalties could be more than 20 billion.

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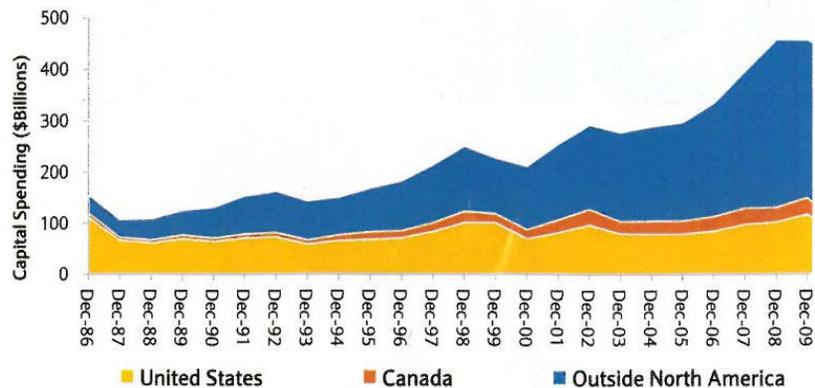
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## Forecast for 2011

- World oil prices will exceed \$100 per barrel rising to at least \$110 per barrel because of political turmoil in N. Africa, Nigeria and other oil producing countries.
- Exxon Mobil predicts growing role of natural gas by 2030, because of the future demand for reliable, affordable and cleaner ways to meet energy needs. Exxon reports that gas demand for power generation will grow by 85% from 2005 to 2030 when gas will provide 25% of world electricity. The demand will be strongest in the countries in The Organization for Economic Cooperation and Development (OECD), particularly China where it will be about six times what it was in 2005.
- Another “boom” will develop in USA & Canada because of demand and high prices for oil with steady gas prices. New successful shale gas plays will continue to develop all over the North American continent.
- Oil and Gas production recoveries will be greatly enhanced by new seismic and fracturing technology.
- Global energy market is expanding and expected to rise 12% in 2011. Largest spending increases will be in Latin America, the Middle East, North Africa and Southeast Asia.

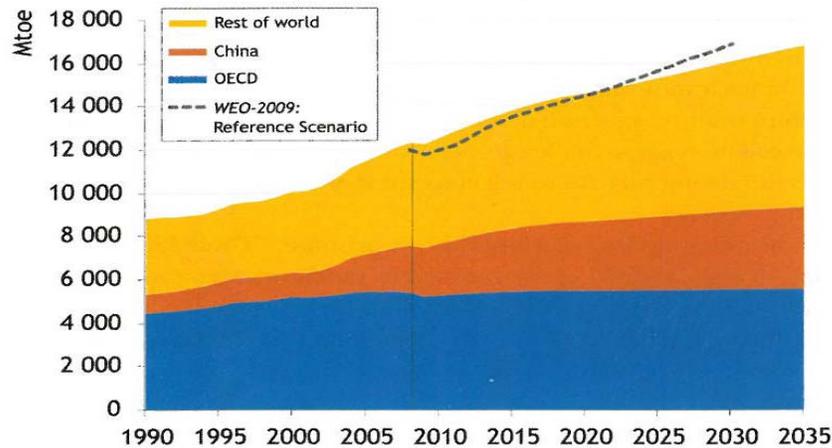


**Worldwide E&P spending is on the rise, particularly outside of North America. (Graph courtesy of Barclay's Capital)**

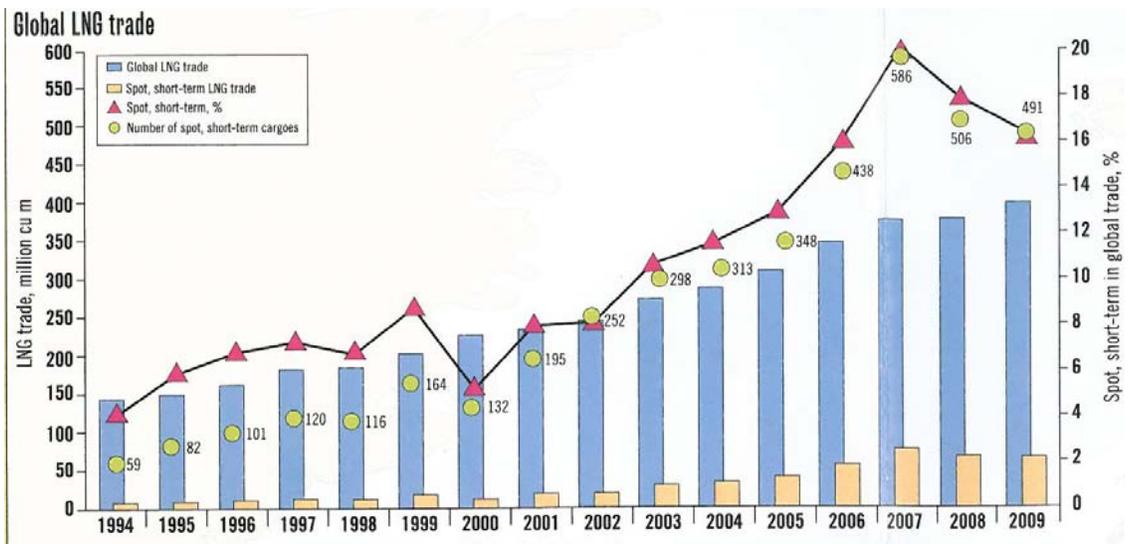
- Iraq government says it intends to increase its oil production from the current 2.2 to 2.4 million barrels a day by 2011. It will become a new oil super-power.

## II. Global Production and Demand for Oil and Gas

- Demand in late 2010 of 88.5 MM bbl/day topped the previous quarterly high of 88 MM bbl/d. Global energy use is expected to grow by 36% with non-OECD led by China, where demand surges by 75% accounting for almost all the increase (Graph Courtesy of the International Energy Agency).



- Global LNG trading has increased at a dramatic rate since 2002 but has eased off some the past two years. The chart below is provided courtesy of Oil and Gas Journal February 7, 2011.



### III. Markets and Pricing

#### Performance Indices

WORLD CRUDE OIL PRODUCTION<sup>†‡</sup>

Thousand BOPD						
2010						
OPEC	J	J	A	S	O	N
Algeria	1808	1808	1808	1808	1808	1808
Angola	1980	1970	1890	1790	1790	1790
Ecuador	492	489	486	490	497	510
Iran	4127	4033	4040	4047	4053	4060
Iraq	2425	2325	2325	2375	2375	2375
Kuwait*	2350	2350	2350	2350	2350	2350
Libya	1650	1650	1650	1650	1650	1650
Nigeria	2410	2410	2510	2550	2580	2580
Qatar	1113	1136	1164	1193	1216	1235
Saudi Arabia*	8540	8640	8640	8540	8540	8640
UAE	2415	2415	2415	2415	2415	2415
Venezuela	2140	2140	2140	2140	2140	2140
<b>Total</b>	<b>31449</b>	<b>31367</b>	<b>31418</b>	<b>31348</b>	<b>31414</b>	<b>31553</b>

2010						
Non-OPEC	J	J	A	S	O	N
Argentina	655	651	652	643	637	636
Australia	444	444	422	405	419	450
Azerbaijan	1004	1038	1062	1034	1060	1046
Brazil	2051	2056	2078	1998	1998	2089
Canada	2767	2765	2774	2649	2707	2933
China	4108	4056	4104	4183	4181	4263
Colombia	783	783	788	800	800	821
Denmark	248	239	191	233	247	258
Egypt	523	522	522	522	522	525
Eq. Guinea	302	300	299	289	287	284
Gabon	228	227	226	225	225	225
India	732	779	770	775	782	813
Indonesia	956	937	954	938	892	933
Kazakhstan	1492	1535	1559	1514	1522	1582
Malaysia	548	528	537	570	552	552
Mexico	2546	2573	2559	2570	2571	2512
Norway	1611	1864	1648	1637	1952	1868
Oman	844	871	854	876	866	881
Russia	9727	9710	9623	9725	9816	9484
Sudan	510	510	515	515	505	505
Syria	368	367	365	364	364	364
UK	1076	1040	1053	1183	1196	1248
USA	5465	5406	5506	5567	5616	5595
Vietnam	328	322	339	333	309	299
Yemen	258	257	254	249	247	245
Other	2412	2399	2385	2400	2366	2362
<b>Total</b>	<b>41986</b>	<b>42180</b>	<b>42040</b>	<b>42208</b>	<b>42666</b>	<b>42703</b>
<b>Total World</b>	<b>73435</b>	<b>73547</b>	<b>73458</b>	<b>73556</b>	<b>74080</b>	<b>74256</b>

<sup>†</sup> Figures do not include NGLs and oil from nonconventional sources.

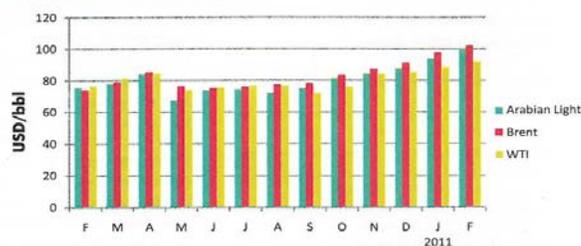
<sup>\*</sup> Includes approximately one-half of Neutral Zone production.

<sup>†</sup> Includes crude oil, lease condensates, natural gas plant liquids, other hydrocarbons for refinery feedstocks, refinery gains, alcohol, and liquids produced from nonconventional sources.

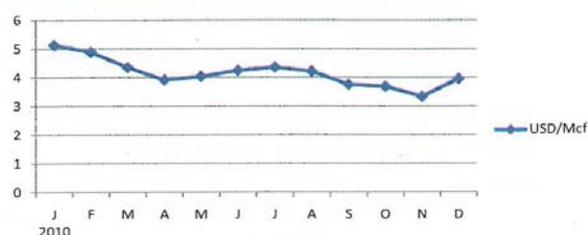
<sup>‡</sup> Source: Baker Hughes.

<sup>‡</sup> Source: US Dept. of Energy/Energy Information Admin.

WORLD CRUDE PRICES<sup>‡</sup>



US NATURAL GAS WELLHEAD PRICES<sup>‡</sup>



WORLD OIL SUPPLY AND DEMAND<sup>1‡</sup>

Million BOPD	2009		2010	
Quarter	4th	1st	2nd	3rd
Supply	85.44	85.94	86.19	86.23
Demand	85.16	85.42	86.36	87.50

WORLD ROTARY RIG COUNT<sup>†</sup>

Region	2010				2011		
	A	S	O	N	D	J	F
US	1638	1655	1668	1683	1711	1711	1718
Canada	387	347	398	420	398	564	629
Latin America	388	381	377	393	385	403	412
Europe	84	94	95	100	105	117	118
Middle East	271	276	270	274	267	269	292
Africa	84	88	83	87	79	86	94
Asia Pacific	275	281	274	276	282	286	273
<b>Total World</b>	<b>3127</b>	<b>3122</b>	<b>3165</b>	<b>3233</b>	<b>3227</b>	<b>3436</b>	<b>3536</b>

## IV. Current Activity

- Devon Energy, one of the larger independents has had steady growth both in North America and overseas. Foreign and offshore assets are being divested in a new plan to direct funds to US and Canadian onshore portfolio as well as to retire debt. Areas of concentration are the Wordford play in Oklahoma, Permian basin and extensively in Canada where they have a 50/50 joint venture with BP.
- Enormous reserve volumes have directed the industry's attention to the Arctic. Many technologies must be further developed and implemented to produce these vast reserves. The Arctic challenges are best presented by the following chart courtesy of DNV appearing in February 2011 issue of EPmaq.com
- China is now the #1 energy user in the world, ahead of America and climbing very fast. In order to meet expanding energy demands Chinese "Supra-National" firms like Sinopec and PetroChina have been aggressively buying small coal seam gas companies with properties in the hydrocarbon rich region of Queensland Australia. Not to be out-done, the oil giants including Royal Dutch Shell, Conoco Philips and British Gas are pouring billions of dollars into the region in a bidding war with the Chinese over junior coal seam gas companies like Sentry Petroleum. In fact in the last 18 months over \$225 BILLION has been doled out to shareholders in coal seam gas and energy-related acquisitions in Queensland.

TOP 20 ARCTIC CHALLENGES		
Challenge	Rank	Status (%)
Low temperature design and operation - experience feedback	1	70
Year-round operation - operational risks, ice management	1	60
Structural design: ice and environmental loading	1	80
Risk analysis - accident preparedness	1	30
Rules and Regulations development	2	70
Adequate arctic experience	2	50
Quick disconnectable structures	2	65
Icing	3	90
Ice management	2	60
Analytical modeling	3	80
Ultimate strength of hull structures	2	90
Consensus	3	40
Ice scour	2	60
Real-time ice environment data gathering	2	70
Arctic transportation and navigation	1	70
Fatigue strength of hull structures in ice	4	60
Crew qualifications, training, and EER implementation	1	60
Permafrost and arctic infrastructure requirements	1	60
Who owns the Arctic?	4	50
Effects of global warming/climate change/environmental challenges	3	30

Source: World Energy Report - 2011 Edition.

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## V. Outstanding M&A Exploration and Production Deals

- UK oil giant BP PLC has agreed to pay as much as \$9 billion for a 30% stake in oil and natural gas assets controlled by Reliance Industries Ltd of India. This is an example of India's fast growing market for Western energy companies despite the country's uncertain regulatory environment. Reliance will gain access to BP's expertise in deep water drilling to expand production.
- Linn Energy has signed three definitive purchase agreements to acquire oil properties for a combined total contract price of \$434 million. One of the properties is located in the Williston Basin of North Dakota. The other two are in the Permian Basin of Texas and New Mexico.
- Refining operators Holly Corp. and Frontier Oil Corp. are combining in an all stock deal valued at nearly \$3 billion. The new company will have a refining capacity of more than 440,000 barrels per day across five refineries. The deal will reportedly create the most profitable independent U.S. refinery company

## VI. Alternative Sources of Energy

- The Japanese crisis will be a setback for nuclear energy and the question is what fills the gap. Coal is abundant but dirty. Natural gas is cleaner but under fire for the way it is extracted. Renewables like wind and solar are cleaner but remain expensive and hard to deploy. Demand for alternative sources of energy could rise to nearly 40% by 2035 according to energy analysts, IEA and others.
- In a recent publication Morgan Stanley reminds us that a great constant energy source is geothermal. It is clean, accessible and never shuts off. Geothermal energy is an industry that could reach \$122 billion by 2035, according to The International Energy Agency. John McDonald, chief technology officer at Chevron Corp was quoted "you can't shut off any major piece of energy and expect to make it up with the rest."
- Interest in heavy oil is continuing to grow rapidly worldwide. An example is the vast resource of heavy oil above the producing fields in Alaska at Prudhoe Bay & Kuparuk River Unit. Resource size ranges from 18 to 27 billion barrels of oil in place.

## VII. Innovative Designs for Future Marine Vessels

- DNV CEO, Henrick O. Madsen has announced in [Marine Log](#) a solar powered ship will be in the water by 2015.

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- In Manhattan, a hybrid hydrogen fuel cell Ferry is being built.
  - By 2020, the majority of owners will order tankers that can operate on liquefied natural gas (LNG)

## VIII. Recent M&A Deals in Equipment and Services

- **April 2011** - GE (NYSE: GE) announced it has completed the strategic acquisition of John Wood Group PLC's Well Support Division, expanding GE Oil & Gas' extensive drilling and surface manufacturing and services portfolio. The John Wood Group PLC Well Support division, which has over 3,800 employees globally and operates approximately 20 manufacturing and multiple sales and service centers worldwide, is comprised of three business platforms - ESP (electric submersible pumps), Pressure Control (surface wellheads and trees) and Logging Services - which, combined, recorded 2010 revenues of \$947 million. The \$2.8 billion transaction enables GE to capitalize on the fast-growing demand for enhanced oil recovery from mature oil fields using downhole pump 'artificial lift' in Brownfield developments; as well as, expanding GE's high-technology product and service offering in unconventional oil and gas production, with significant applications for shale gas production.
- **April 2011** - CISCO, Texas--(BUSINESS WIRE)--A consortium of investors, including Maju Investments (Mauritius) Pte Ltd., a wholly-owned investment holding company of Temasek Holdings (Private) Limited (Temasek), and RRJ Capital, has reached an agreement to purchase Frac Tech Holdings, LLC, the majority shareholder of Frac Tech Services, LLC ("Frac Tech"). At closing, the members of the consortium will own 70 percent of Frac Tech, while Chesapeake Energy Corporation (NYSE:CHK) will receive a cash distribution and will increase its ownership to 30 percent from its current ownership of approximately 26 percent. Frac Tech is the fourth largest provider of well stimulation services to the U.S. exploration and production industry, with approximately 1.1 million horsepower currently in service and plans for 1.6 million in horsepower in service by the end of 2011. The transaction is expected to close in second quarter 2011 and is subject to customary closing conditions.
- **March 2011** - Precision Drilling Corporation (TSX: PD - News) (NYSE:PDS - News) announced the closing of the acquisition of Drake Directional Drilling, LLC and Drake MWD Services, LLC. These companies provide directional drilling services in Texas, Louisiana, Oklahoma and Colorado and typically operate 10 - 14 directional drilling jobs, on a continuing basis. The companies have been in business for four years and have operating facilities in the Houston, Texas area. "One of our stated priorities for 2011 is to build our directional drilling experience and presence in North America", stated Kevin Neveu, President and Chief Executive Officer of Precision. "These acquisitions along with our organic growth in directional drilling are further steps in meeting that priority. We are pleased that the principals and employees of these two outstanding companies are joining the Precision team."
- **March 2011** - Greene's Energy Group has acquired the assets of Production System Specialists (PSS). PSS is located near Lafayette, La. and does business in the Gulf Coast region, but plans to expand into the Marcellus, Bakken and Eagle Ford areas in

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the near future. The acquisition will expand services in Greene's newly formed Commissioning and Specialty Services Division to include dehydration, nitrogen and glycol services - eliminating the need for services provided by a third party. Intellectual property acquired includes a Storage Tank Vapor Recovery System that is used to prevent BTEX and VOCs hazardous vapors from polluting the environment and harming production personnel; and a Glycol Reboiler Vapor Condenser system that also prevents BTEX and VOCs vapors from harming people and the environment, but also increases the sales of hydrocarbons for customers. In addition, the Glycol Reboiler Vapor Condenser will play a key role in helping companies meet the expanded emission laws expected to be imposed by the government.

- **March 2011** - The deepwater subsea services arm (EMAS AMC) of Ezra announced the completion of Ezra's acquisition of Aker Marine Contractors AS (AMC) of Houston. Ezra, which operates in the offshore market under the EMAS brand name, successfully completed the acquisition of AMC from Aker Solutions AS on March 1, 2011. With the established SURF (subsea umbilicals, risers & flowlines) and floater installation company AMC under its fold, Ezra's EMAS AMC now has a comprehensive offering that includes the installation of subsea/SURF products and equipment, and the provision of EPIC (Engineering, Procurement, Installation & Construction) solutions globally.
- **March 2011** - Clearlake Capital Group, L.P. ("Clearlake") announced that it led and sponsored the \$135 million recapitalization of Platinum Energy Solutions, Inc. ("PES"), in partnership with Layton Corporation and management. In connection with the transaction, Clearlake has acquired the majority of the newly issued preferred stock of the company and, together with management, will own a majority of the voting shares of PES. Based in Houston, PES provides pressure pumping, cementing and coil tubing services to the domestic oil and gas industry. The company currently has long-term contracts to provide services to companies operating in the Haynesville Shale and Eagle Ford Shale. Proceeds from the transaction will be used to fund working capital and to purchase pressure pumping and coiled tubing equipment. L. Charles Moncla, Jr., an industry veteran with over 45 years of relevant experience, will serve as the company's Chairman and CEO.



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