

## Energy Predictions 2010

Peter Bommel  
Global Industry Leader, Energy & Resources



**EMEA Partner Seminar 2-4 November 2009**

Amsterdam, the Netherlands

# Introduction

The Deloitte Touche Tohmatsu Global Energy & Resources group is pleased to present the first Energy Predictions report for the year ahead

Within this report you will find 10 predictions that are likely to occur over the next 12 months as determined from in-depth interviews with clients, industry analysts and the most senior practitioners from Deloitte member firms

2010 is likely to challenge all of us

While the energy sector is expected to be impacted by challenging conditions in the year ahead, it should be remembered how important a role energy plays and how its use affects each and every person on the planet

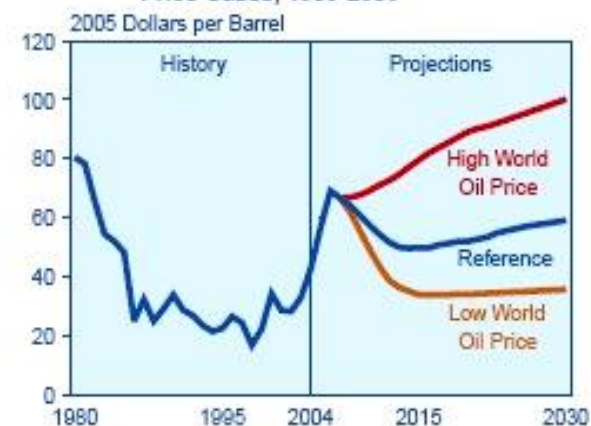
In short, while global growth may be cyclical, the need for energy is and will remain constant

And now, Energy Predictions for 2010

# #1 A global economic turnaround is beginning to take shape but what shape will it take?

- Government stimulus programmes have helped many economies to regain a growth path
- OECD 2010 growth rate is projected on average at 1.5 percent in 2010; China 8.5, India 6.3
- Oil & gas companies have a keen interest in the shape of the economic recovery as it impacts oil prices
- Some economists are predicting a W-shaped, or “double dip” recession; modest levels of growth followed by weakness in several segments
- At present, the global economy cannot withstand another extreme rise in oil prices without severely impacting economic growth
- “Easy does it” is the watchword for now

Figure 17. World Oil Prices in Three World Oil Price Cases, 1980-2030



Source: Energy Information Administration (EIA), *Annual Energy Outlook 2007*, DOE/EIA-0383(2007) (Washington, DC, February 2007), web site [www.eia.doe.gov/oiia/aeo](http://www.eia.doe.gov/oiia/aeo).

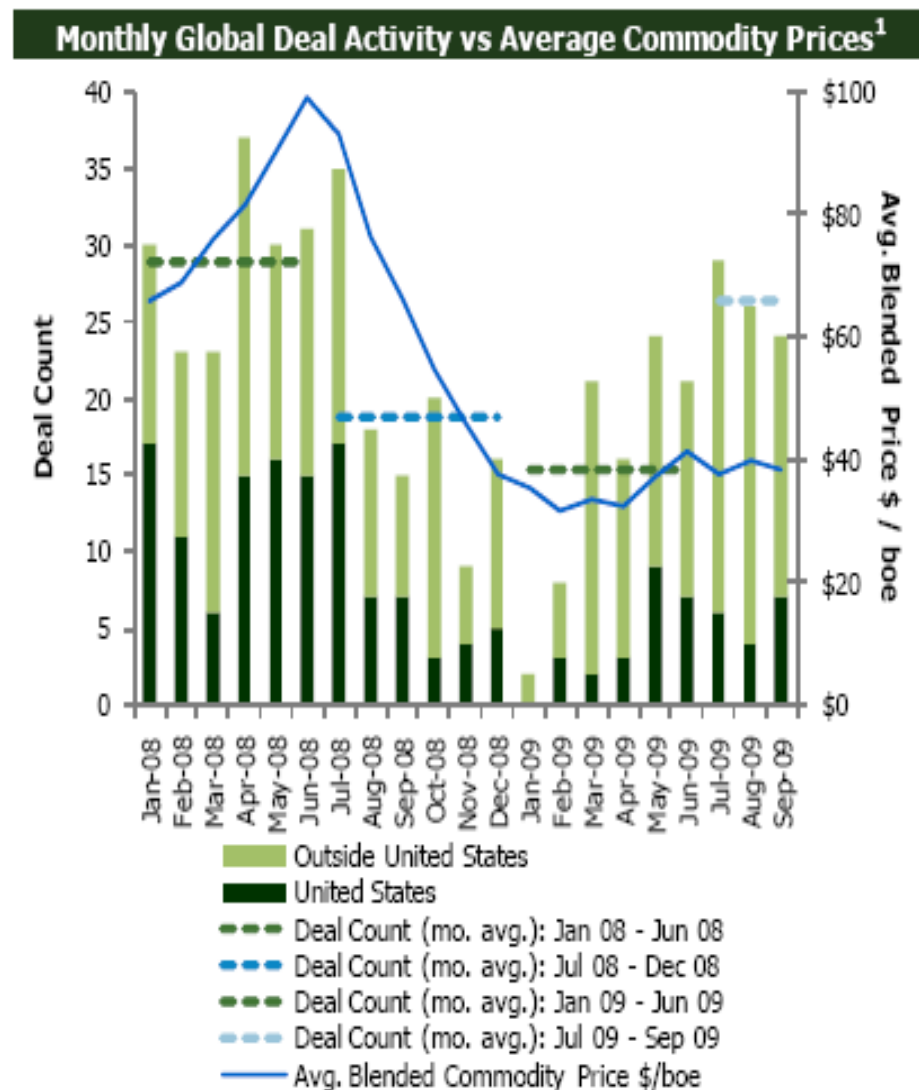
Figure 18. World Marketed Energy Consumption in Three World Oil Price Cases, 2004-2030



Sources: 2004: Energy Information Administration (EIA), *International Energy Annual 2004* (May-July 2006), web site [www.eia.doe.gov/iea](http://www.eia.doe.gov/iea). Projections: EIA, *System for the Analysis of Global Energy Markets* (2007).

## #2 It's acquire or be acquired for many as M&A rebounds

- Oil price crash and ensuing market volatility impacted energy M&A since 2008
- Even those with deep pockets have been reluctant to do M&A or have found there is a limit to what can be accomplished
- Appetite for M&A between the very largest firms is likely to remain limited moving into 2010
- A broad recovery in M&A activity is anticipated, it is likely to play out differently by sector
  - Oil & Gas: Independents and junior companies most severely impacted by economic recession; cash strapped firms likely to be targets
  - Mining: M&A is being led by junior and mid-level players not the majors; expected to be consolidation by major players until there are 4-5 major players much like we saw in the late 1990s with the oil majors – Exxon and Mobil, BP/Amoco/Arco, etc.
  - Power & Utilities: M&A to become part of strategic plans

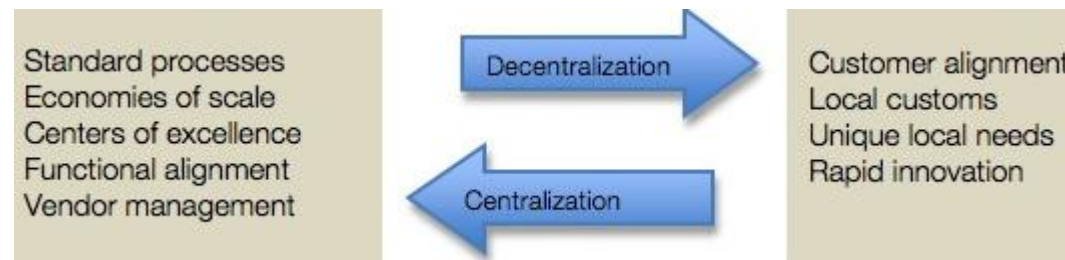


<sup>1</sup> Figures represent all acquisition, merger and swap reserve transactions >US\$10MM, including transactions with no disclosure on reserves and/or production

Source: HIS Herold. Herold M&A Perspectives – Upstream Oil, 2009

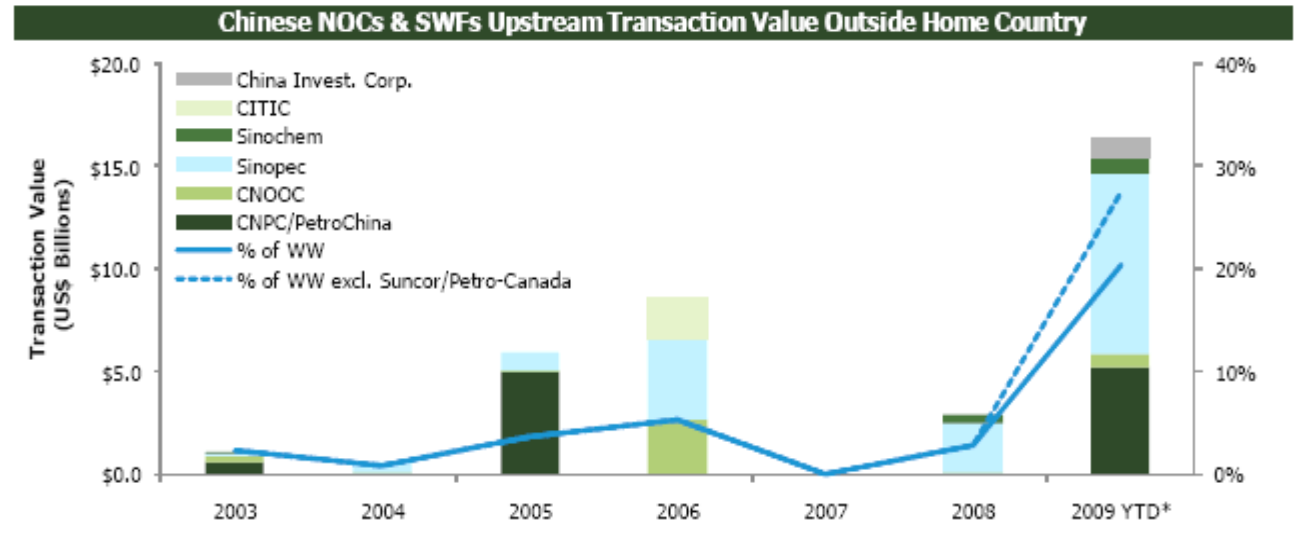
# #3 Think fast: The lure of centralized decision-making

- Economic downturn forced many oil & gas companies to develop strong cash management programs
- Now they are turning their attention to streamlining decision-making processes
- This shift is occurring in the upstream business where success can be undermined by political events, failed project execution, and cost overruns
- Process involves reorganizing existing E&P divisions into new geographically defined businesses
- Will help to sharpen focus, accelerate plans to reduce complexity and costs, and promote faster decision-making



# #4 Like attracts like as NOC-to-NOC transactions continue to increase

- National oil companies are on the hunt
- Looking at acquiring assets and corporations with international reserves
- Korea National Oil Corp and Sinopec; Kuwait Petroleum and PetroVietnam are the latest examples of the trend



Note: Excludes transactions between Chinese NOC parent and subsidiaries, and excludes transactions within China. 2007 included no transactions by Chinese NOCs outside home country with entities other than subsidiaries. In transactions where Chinese NOCs partnered with another buyer, Herold has allocated percentages of the total transaction value based on disclosure.

\*As of 30 September 2009

- China “loans-for-oil” with Rosneft (Russia) and Petrobras (Brazil) may portend a new wave of investment in the upstream sector
- NOC-to-NOC transactions to increase as countries see economic and political value
  - Cultural similarities and ease of doing business
  - NOC countries often view each other as being more politically-stable

# #5 Making every electron count: The rise of the Smart Grid

- Average efficiency of the world's existing electricity grid is only around 33 percent; can be 60 percent with better technology
- Power outages and disruptions cost world's electricity sector at least US\$180 billion annually
- Smart grids may be the solution
  - Has the potential to reduce energy consumption by up to 30 percent and dramatically decrease the need to construct new plants
  - Smart grids add computer intelligence and networking to what is a physical maze of interconnecting wires
  - Smart meters increase to 73 million in 2009; global spending on smart grids likely to reach US\$33 billion by 2014



## #6 Pressure to resolve the coal conundrum intensifies

- Coal is the fuel of the future
- International Energy Agency (IEA) forecasts that coal will account for 29 percent of global energy requirements by 2030
- Most of the growth in coal use will come from non-OECD countries
- Majority of coal reserves at year-end 2008 came from three countries: U.S., Russia, and China
- Downside of coal: emits 1 tonne of carbon for every megawatt of electricity generated; gas 0.4 tonne and wind is mostly neutral
- Carbon capture and storage (CCS) technology may provide a solution but inhibits power plant output
- Will need to reduce costs of CCS technology; governments should help now



# #7 Renewable energy production heats up in key oil-producing regions

- Middle East and North Africa are synonymous with oil and natural gas
- The geographic and demographic conditions are just right for renewable energy production
- By 2050 approximately 10 billion people will inhabit the earth and will need energy
- The Desertec Foundation, a Club of Rome initiative, seeks to produce clean energy from desert regions and aims to provide Europe with electricity at a cost of €400 billion
- Eco-cities such as Masdar City in Abu Dhabi will provide local population with power that is emission-free
- Lead or get left behind

“ Within **6 hours** deserts receive more energy from the sun than humankind consumes within **a year.** ”

*Dr. Gerhard Knies*

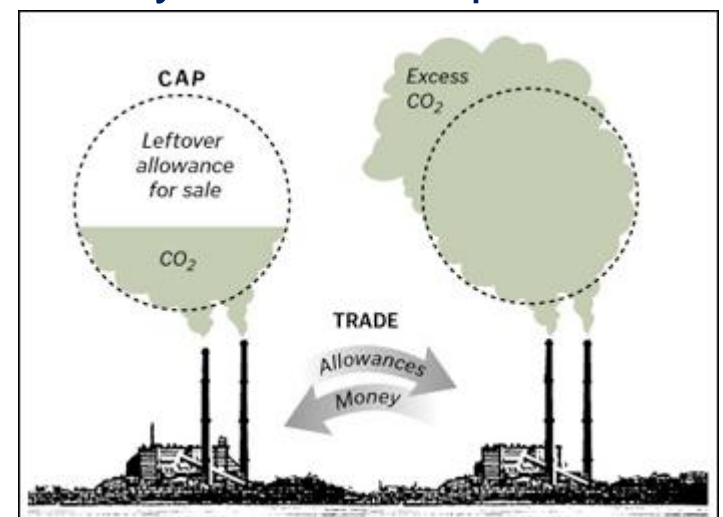
The **red square** represents the total surface needed to provide the **worlds total electricity demand.**

In reality numerous CSP-Plants will be spread in the deserts all around the globe.



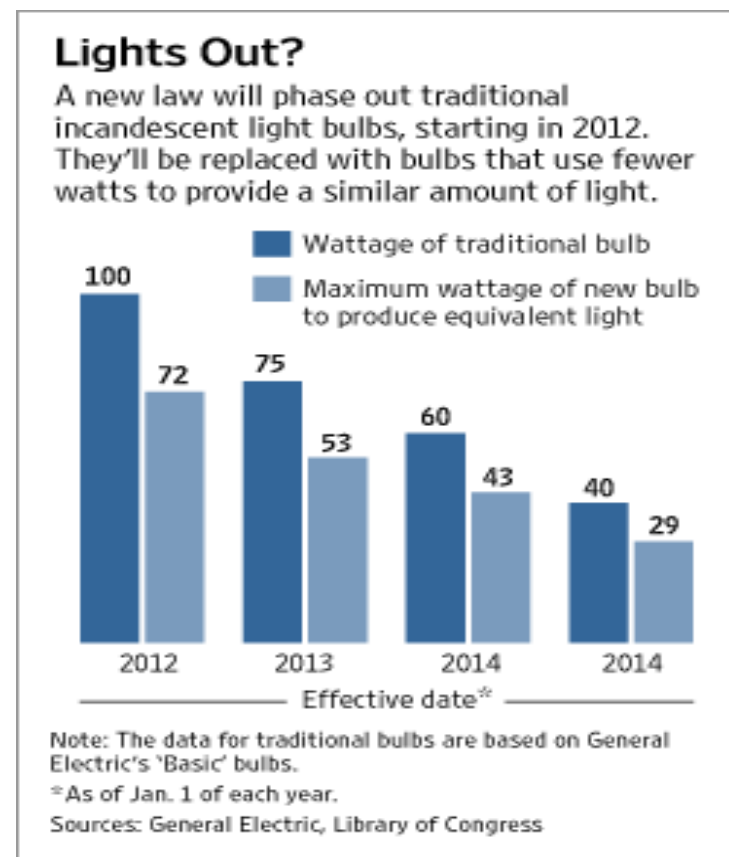
## #8 Sector-specific cap-and-trade schemes emerge as viable options in carbon-intensive industries

- All eyes on the delegates at the upcoming Copenhagen talks in December
- Industries most affected by climate change policies should lead the way by developing their own carbon-trading schemes before government-backed ones
- Shipping industry has been pushed to self-regulate and trade amongst themselves to avoid inclusion in national and regional trading schemes
- Aviation industry is also exploring its own cap-and-trade solution
- The oil & gas downstream sector should be motivated by these examples to actively participate in discussions
- An opportunity for oil refiners to develop their own solution; may offer a more balanced approach
- A number of experimental intra-industry carbon-trading schemes will likely appear in the near term to find the most expedient and cost-effective means of mitigating climate change



# #9 Waste not, want not: Energy efficiency goes from optional to essential

- Worldwide energy consumption is anticipated to grow at 1.6 percent per year on average between now and 2030
- Emphasis will shift from building more generating capacity to using power much more wisely
- 2010 will bring about increased use of conservation and energy efficiency efforts on the part of businesses and Individuals
- EU has already barred the traditional incandescent light bulb in favor of energy-efficient models



# #10 “Employment Nationalism” poses another access issue for international oil companies (IOCs)

- Oil & gas sector operates in a dynamic environment
- Key business challenges include increasing global demand for energy, development of unconventional reserves, and continuous need for innovation in technology; cannot be resolved with current talent pool
- Examples of “ employment nationalism” already taking place in Venezuela, Russia, Africa, and the Middle East
- Focus on hiring from the local population at the expense of the best candidate
- Both IOCs and NOCs will be affected
- IOCs have taken steps to develop their own talent by partnering with engineering-oriented universities and sponsoring petroleum-engineering programs in the most needed areas
- NOCs face the reality of an unskilled labor force





#### **About Deloitte**

"Deloitte" is the brand under which tens of thousands of dedicated professionals in independent firms throughout the world collaborate to provide audit, consulting, financial advisory, risk management, and tax services to selected clients. These firms are members of Deloitte Touche Tohmatsu, a Swiss Verein (DTT). Each member firm provides services in a particular geographic area and is subject to the laws and professional regulations of the particular country or countries in which it operates. DTT helps coordinate the activities of the member firms but does not itself provide services to clients. DTT and the member firms are separate and distinct legal entities, which cannot obligate the other entities. DTT and each DTT member firm are only liable for their own acts or omissions, and not those of each other. Each of the member firms operates under the names "Deloitte," "Deloitte & Touche," "Deloitte Touche Tohmatsu," or other related names. Each DTT member firm is structured differently in accordance with national laws, regulations, customary practice, and other factors, and may secure the provision of professional services in their territories through subsidiaries, affiliates and/or other entities.

Deloitte provides audit, tax, consulting, and financial advisory services to public and private clients spanning multiple industries. With a globally connected network of member firms in more than 140 countries, Deloitte brings world-class capabilities and deep local expertise to help clients succeed wherever they operate. Deloitte's more than 168,000 professionals are committed to becoming the standard of excellence.

Deloitte's professionals are unified by a collaborative culture that fosters integrity, outstanding value to markets and clients, commitment to each other, and strength from cultural diversity. They enjoy an environment of continuous learning, challenging experiences, and enriching career opportunities. Deloitte's professionals are dedicated to strengthening corporate responsibility, building public trust, and making a positive impact in their communities.

This publication contains general information only, and none of Deloitte Touche Tohmatsu, its member firms, or its and their affiliates are, by means of this publication, rendering accounting, business, financial, investment, legal, tax, or other professional advice or services. This publication is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your finances or your business. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser.

None of Deloitte Touche Tohmatsu, its member firms, or its and their respective affiliates shall be responsible for any loss whatsoever sustained by any person who relies on this publication.