The Financial Crisis and its Impact on the Oil & Gas Industry

Prepared for World Bank Energy Week
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The "Oil Century" was said to be ending. A new demand scenario?

**Energy Transition**
Pinched supply and technological innovation lead to abandoning of the internal combustion engine

**Demand Destruction**
High prices and pinched supply curtail demand

**Economic Shock**
reduces demand temporarily, slows development and defers solutions

Recession?
But the Oil and Gas industry has been hit with a triple whammy ...

- A massive de-leveraging by financial institutions contributed to a collapse in the price of oil.
- A global economic slowdown is creating a real decline in the demand for oil which will persist for some years.
- The drying up of new credit availability and more restrictive terms will hamper the normal business financing of some players.

... and perhaps a fourth whammy ...

- Accelerating momentum towards carbon regulation.
Oil Prices and Structural Trends

WTI Prompt Month Price

Oil became a financial / investment vehicle as well as a physical commodity

Demand Shock, Lack of Spare Capacity

"Traditional" Price Structure

Oil as a Financial Asset
Signs of significant demand destruction

YOY change in US monthly gasoline demand

Source: PFC Energy Downstream Monitoring Service
Massive value destruction in value

From PFC Energy 50
Implications to Oil & Gas Companies

1. Some exploration programs and development projects will not be economic at the lower prices and will be deferred or cancelled.

2. Some companies – IOCs, NOCs, Independents and Service Companies – will not be able to find funding, resulting in delays, defaults and consolidation. Cash is King—but so is Paper…

3. Irrespective of demand destruction, a supply crunch still looms in the next decade.

4. Huge uncertainty on potential carbon legislative frameworks, timing and exposure.
Cuts, Delays, Consolidation ... and Opportunities
IOCs may have limited access—but control bulk of investment

Access to Reserves

- NOC reserves (equity access) 12%
- Reserves held by Russian companies 16%
- Full IOC access 7%
- NOC reserves (limited equity access) 65%

Total E&P Capex in 2007

- Top 10 IOCs 32%
- Top 10 NOCS 26%
- Others 42%

Source: PFC Energy NOC Strategy Service, Upstream Competition Service
Oil & Gas sector investment cuts accelerating

- The credit crisis caught independents off guard and the oil price fall weakened all players’ finances

- Upstream cuts: Independents, and some IOCs (and NOCs)
  - Some IOCs postponing projects to negotiate lower EPC costs
  - Many other players unable to find financing

- Most affected: new source developments in OECD

Source: PFC Energy Market Intelligence Service
Downstream project delays in Middle East (by end 2008)

- Middle East had enormous plans for petrochemical and other downstream projects by 2015
- These plans increasingly in doubt as project sponsors retrench from significant investment activity during a period of uncertainty
- Most Downstream projects in pipeline threatened with cancelation or delay

Source: PFC Energy Market Intelligence Service
Fewer LNG trains will be added in the future...

Source: PFC Energy Global LNG Service
Lessons from 1998 – more consolidation?

- Of 74 larger E&P Independents that produced a combined 6.5 mmboe/d in 1995, only 32 still existed in 2007.

- Most mergers were between independents and occurred in 1999 to 2002, when oil price was ~$11-25.

Source: PFC Energy Upstream Competition Service
But Producing Countries also exposed ...

Price Needed to Balance External Accounts
WTI $ per Barrel

Source: PFC Energy Market Intelligence Service
Cracks in NOC landscape combined with financial stress also create opportunities

Capacity is a function of:
- Government mandate & support
- Ability to manage rising costs
- Money
- People
- Technology
- Project management

Source: PFC Energy NOC Competition Service
Meanwhile, oil demand will continue to increase ... 

Cars per 1000 People vs. GDP/capita
Historical Data 1970 - 2007

Cars/Capita (000)

Without major technological change—Pickens’ gasification and/or electrification of fleet—transportation drives oil demand growth

Source: PFC Energy
Production crunch delayed, but still in our future

2020 call on OPEC ~50–70 mmb/d, given 1.1% - 2.4% growth

Source: PFC Energy Global Liquids Supply Forecast
And then there is climate change ...
Value of emissions: 2007 - 2012
The cost of Carbon – threat or opportunity?

Intensity per boe (kg CO2e/boe) vs. Potential Liability $ billions
The cost of Carbon – threat or opportunity?

![Graph showing the cost of Carbon for Oil Sands and CCS technologies](image-url)
The Cost of Carbon – threat or opportunity?

- Oil Sands
- CCS
- Additional 10% in energy efficiency

Intensity per boe (kg CO2e/boe)

Potential Liability $ billions

10.0 15.0 20.0 25.0 30.0 35.0

40 42 44 46 48 50 52 54 56 58 60
The cost of Carbon – threat or opportunity?

- Flaring
- Additional 10% in energy efficiency
- Oil Sands CCS

Intensity per boe (kg CO2e/boe)

Potential Liability $ billions
In conclusion

- At least 3 major issues threaten the oil and gas industry
- Except for a few IOCs, major cuts and project deferrals
- But short term, three sets of opportunities:
  - Potential increased access to NOC reserves
  - Reduced contractor prices
  - Acquisitions by stronger players among Independents and ServCos
- Carbon regulation will force action
- Longer term, a major oil supply crunch looms
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