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Energy Futures & Future Players

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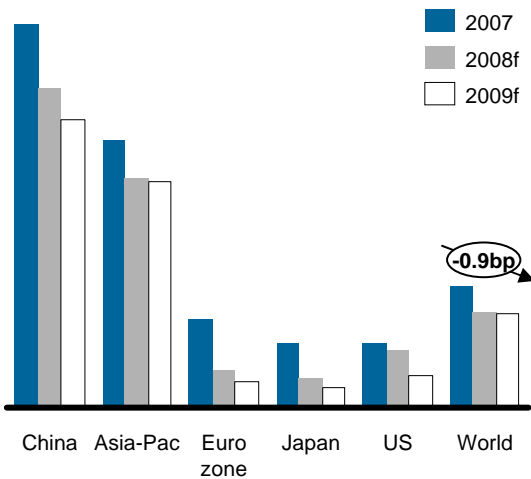


ENERGY FORUM
JAMES A. BAKER III
INSTITUTE FOR
PUBLIC POLICY
RICE UNIVERSITY

October 27th 2008

Slowing growth

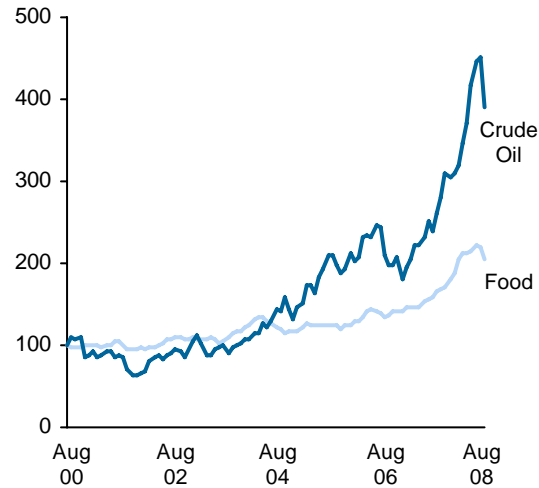
GDP Growth Rates
(real annual percentage change)



Source: Accenture P&CA Analysis

Volatile commodity prices

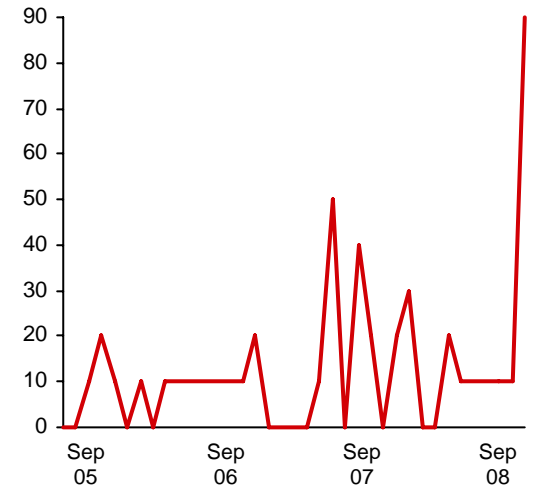
Oil & Food prices
(Indexed, August 2000 = 100)



Source: EIU, Accenture P&CA Analysis

Tighter credit

Cost of borrowing in wholesale money markets
(Basis point spread of 1-week LIBOR against BoE)

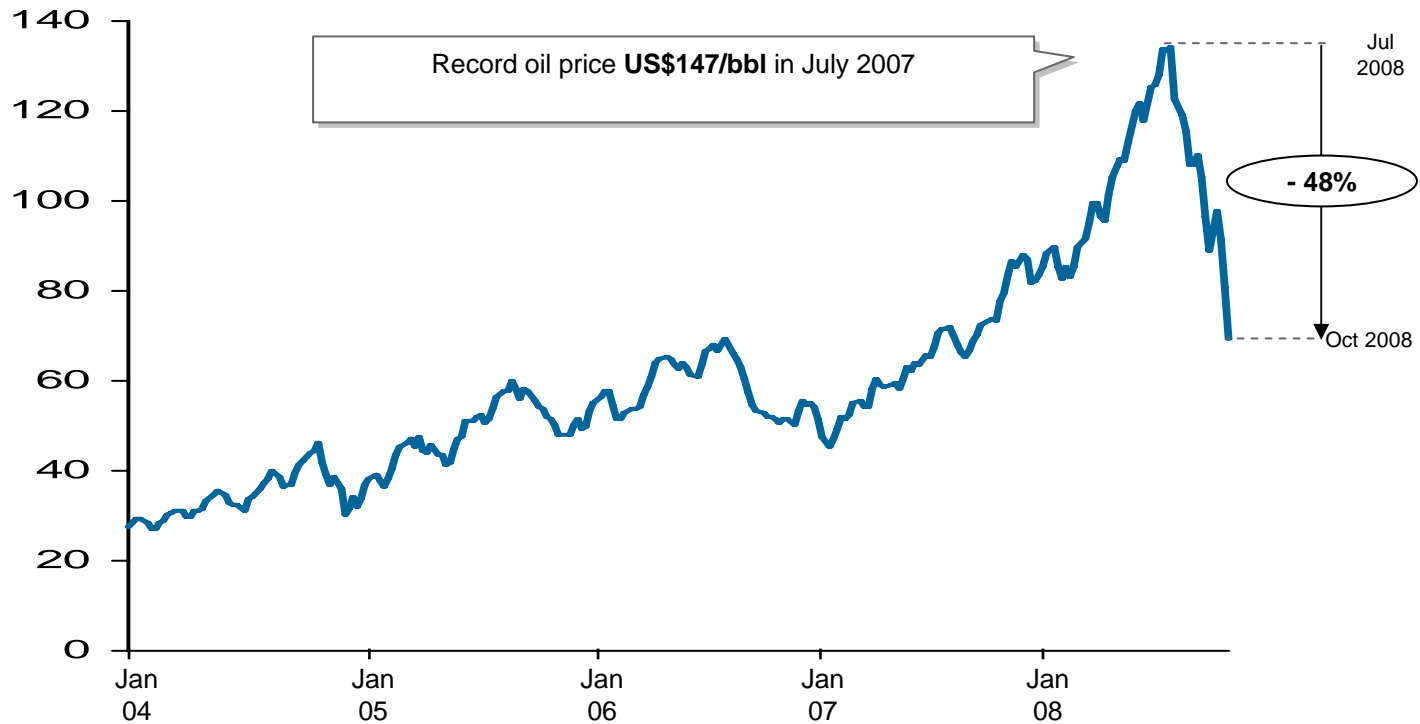


Source: Bank of England, Accenture P&CA Analysis

Oil price halves in 4 months

Crude oil price plummets:
Oil price has halved in 4 months

Weekly US spot crude price*
(US\$/bbl)



*Weekly US spot price FOB weighted by Estimated Import Volume
Source: Energy Information Administration, Accenture Analysis

The fundamental long-term drivers remain the same

Upstream

Midstream & Downstream

Renewables

Key Drivers

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> • Demand continues to rise particularly from developing countries • Era of easy-oil is over, fields are increasingly more complex or difficult to access • A structural, upward cost shift and more areas open up and are economically feasible • Players battle to strengthen position • Increasing role of gas | <ul style="list-style-type: none"> • Demand shifting increasingly to emerging economies • Crude feedstock becoming heavier. Demand for light, medium and more complex petrochemical products increasing • Downstream has been squeezed in 2008 by high oil prices, though this will ease given a low • Current underinvestment in new refineries is likely to result in capacity constraints as demand outstrips supply between 2010-2015 | <ul style="list-style-type: none"> • Growing policy support and consumer demand for action on climate change and switching energy source • Stricter government targets on carbon emissions • 1st generation biofuels are set to play a much larger role in meeting world road-transport fuel demand • Increasing importance of green business credentials and reduction of carbon footprint |
|--|---|---|

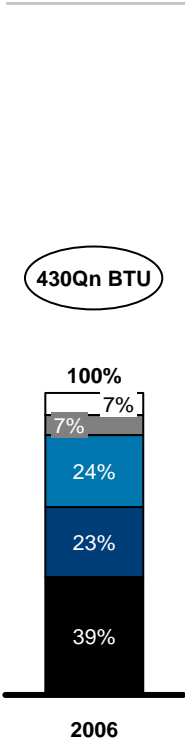
Cross Segment Drivers

- | | |
|---|--|
| <ul style="list-style-type: none"> • Increasing M&A and alliances • Internationalisation of NOCs and resource nationalism | <ul style="list-style-type: none"> • Technologies to convert heavy oil to lighter oil in great demand • Increasing skills shortage |
|---|--|

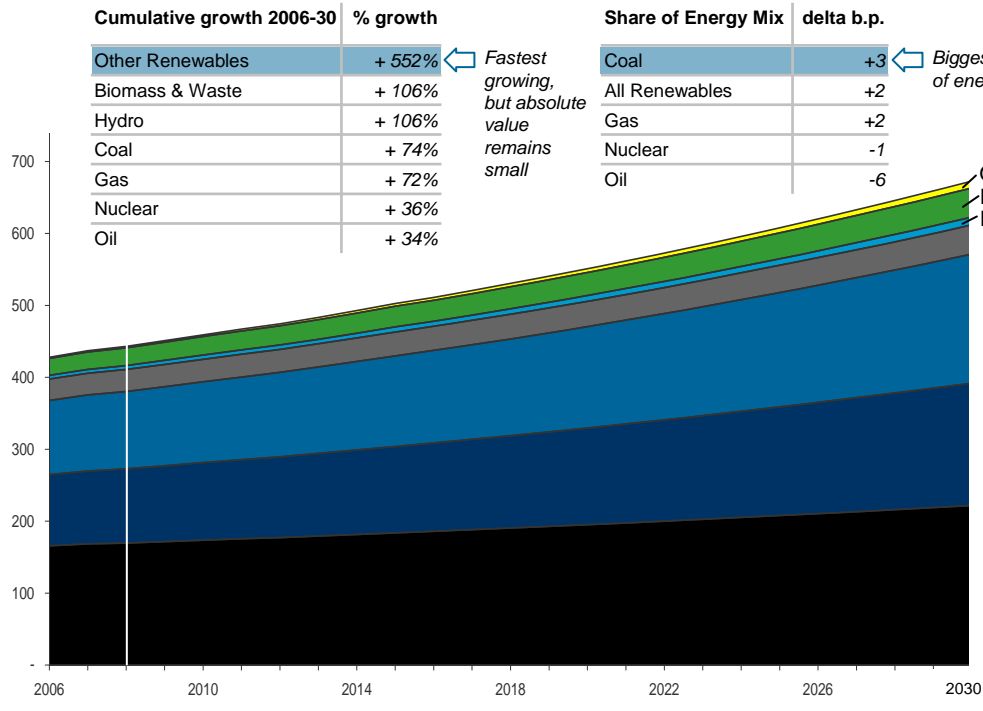
Oil, coal and gas dominate in 2030, but renewables are the fastest growing, and coal gains the biggest increase in share of energy mix

Growth by energy type

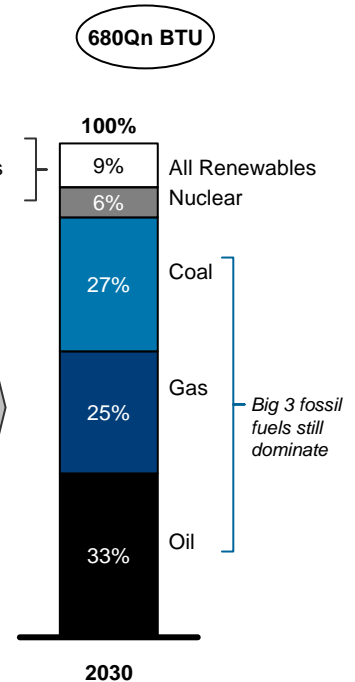
2006 Energy Mix (% share)



Projected Primary Energy Demand 2006 – 2030 (Quadrillion BTU)



2030 Energy Mix (% share)

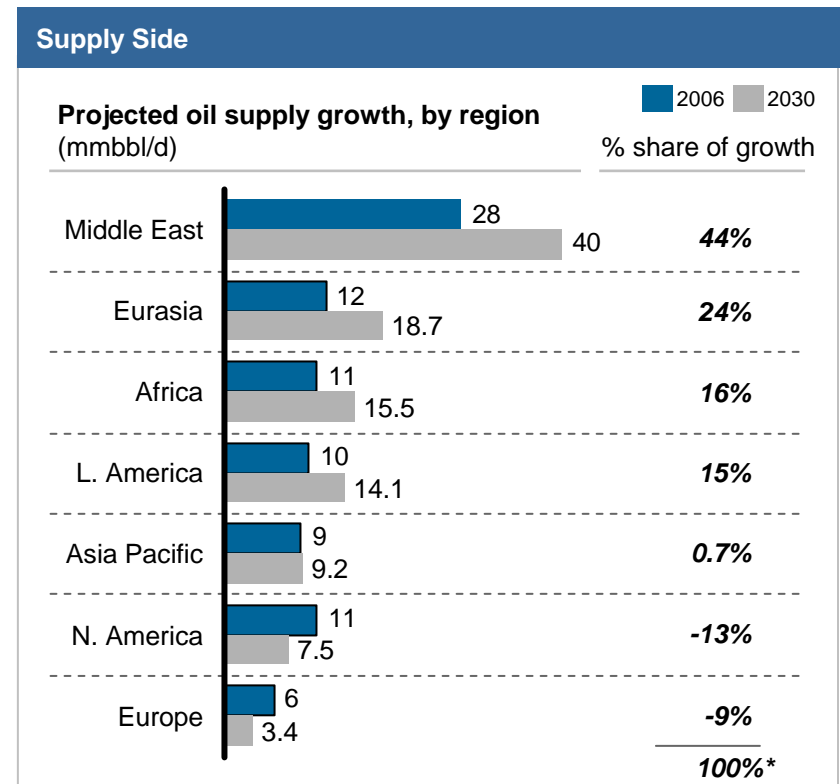
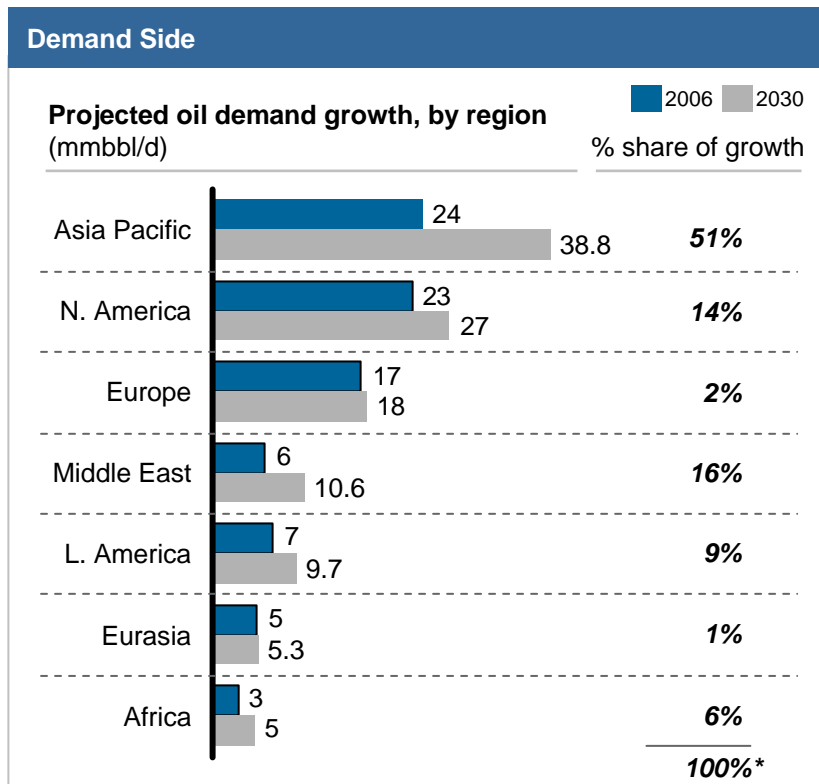


Share of Energy Mix	delta b.p.
Coal	+3
All Renewables	+2
Gas	+2
Nuclear	-1
Oil	-6

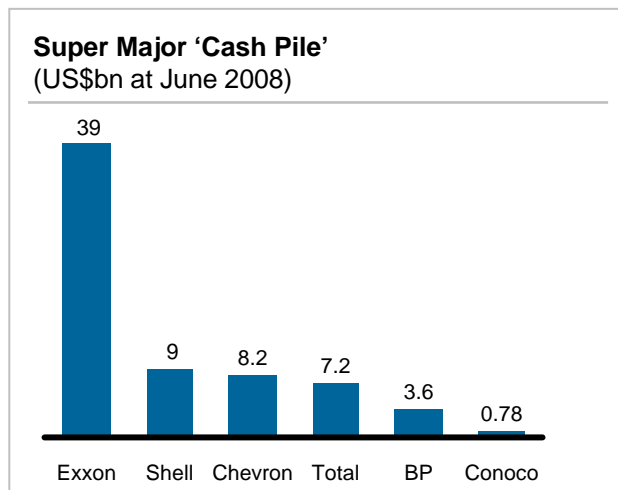
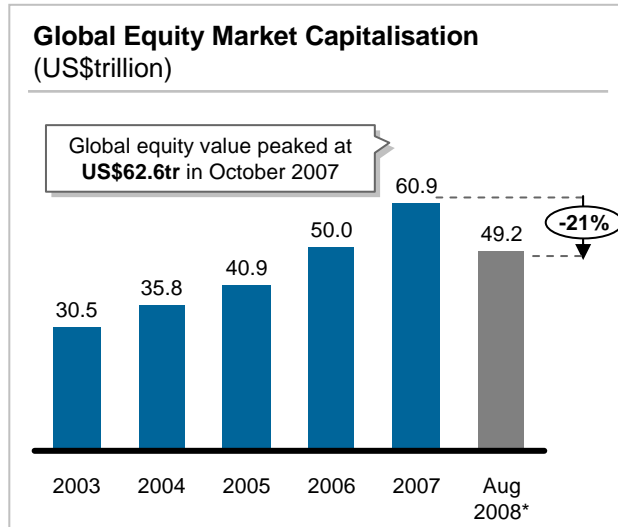
Biggest gainer of energy mix

Source: CERA, Accenture analysis
 * Includes all renewables (Hydro, Biomass & Waste and Other)
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Asia drives 50% of demand growth to 2030, the Middle East will dominate supply, but in the short term, demand dampens and supply is restricted accenture



Source: CERA, Accenture analysis
 * May not sum to 100% due to rounding and negative values
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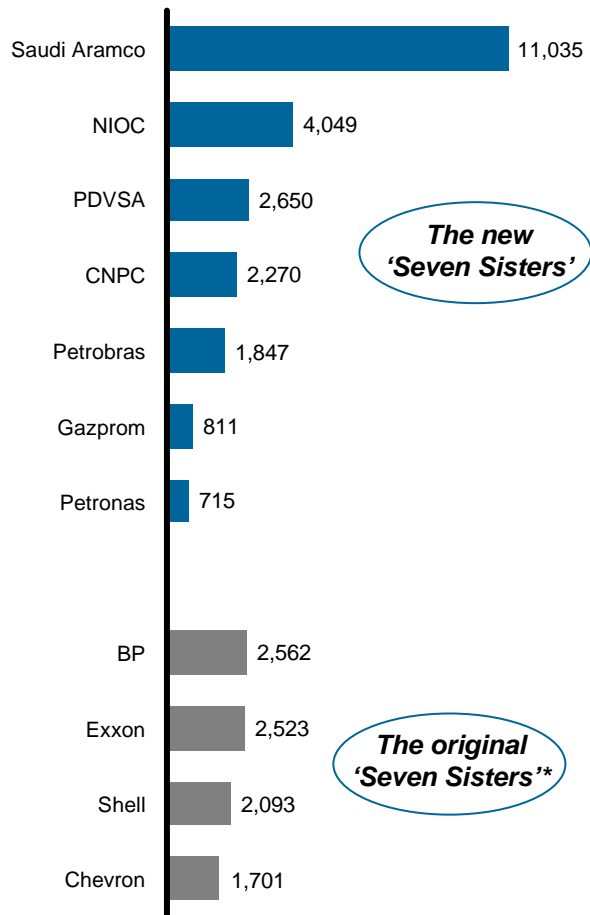
Impact of the credit crunch

- Supermajors largely unaffected from a cash perspective
- M&A activity likely to increase
- Independents, Mid Caps and Oil Services first to feel the pinch
- Unconventionals at risk, renewables temporarily marginalised
- Refining future remains uncertain
- Lower capex budgets, and large projects on hold

*Current value likely to be larger given the continued fall in equity value
Source: Bloomberg, Capital Markets Report, Accenture Analysis
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Impact on players – the longer run

Oil production (mboe/d)



- Major inflexion point in the distribution of power between NOC's, IOC's and oil service companies
 - NOC's are internationalising
 - NOC deal activity is increasing, particularly with each other
 - NOC's benefit from strong balance sheets and use of sovereign funds
 - NOC's are better now at leveraging governmental relationships
 - Oil service companies have invested heavily in their capabilities and trying to position themselves as partners to NOC's
- But, the primary energy demand curve, required investment and needs capabilities means that no group can go it alone

*After mergers

Source: Financial Times, March 12, 2007

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Key trends

Return to market fundamentals

Relationships

Capability

Technology

Diversification

What will be the recipe for success?

- Robust balance sheets
- Taking advantage of market dynamics e.g. low asset prices

- NOCs and IOC partnerships
- Exploit a new wave of M&A
- IOCs that develop differentiated value propositions

- Attract and retain the best talent

- Invest heavily in efficient technology in the short term such as refining efficiency, and enhanced oil recovery

- Build economically viable renewable projects
- Secure government subsidies in alternative energy
- Reputation for security of supply



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Additional Information

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