Lessons from a liberalising European energy market

Jon Dudas

Director: Energy Marketing & Trading

bhpbilliton

A. Look at the macro-environment
- demand issues

variability in growth by region

- European import demand is likely to grow (at different rates regionally) in the short-term as subsidies disappear but plateau in the medium-term as coal-fired plants are displaced

threat of substitution from gas and new technologies

- natural gas is a more economical and environmentally friendly fuel for new plants
- but the switch to gas not constrained by limited infrastructure
- alternative generation technologies, distributed generation and renewables, will have a limited impact on coal-fired power generation in the medium-term

ageing coal-fired power plants

- installed base of coal-fired power plants is ageing
- refurbishing delivers only minor improvements
- coal-fired generation will decline unless new technologies are developed

impact of new environmental policies

- global environmental pressure is likely to have a limited impact until 2005 but it is expected to increase in the longer-term
- increased cost of carbon emissions due to new environmental policies makes coal-fired generation less competitive but the Kyoto Protocol provides opportunities for carbon emissions trading

- supply/competitiveness issues

declining prices

- real prices of energy coal have declined cyclically over the last 20 years
- the constant increase in energy coal supply is one of the drivers behind declining prices, supported by the success of the industry in driving down costs and expanding low cost mines

industry consolidation

- recent consolidation activities in the seaborne coal industry increased the concentration of suppliers but fragmentation remains high with an important number of independent producers remaining

new entrants - China

- Chinese exports are a destabilising factor in the industry
- China faces infrastructure challenges which should limit its short-term export capability
- uncertainty remains with regards to the potential size and growth of energy coal exports from China in the medium-term

advent of paper trading

- the proliferation of integrated trading desks set up by utilities facilitated growth in physical coal and derivatives trading
- customers in the same competitive space of coal trading as coal suppliers
- the total paper market for energy coal could reach 500 Mt by 2005, estimated to be worth a maximum of USD 50m in incremental gross margin opportunity

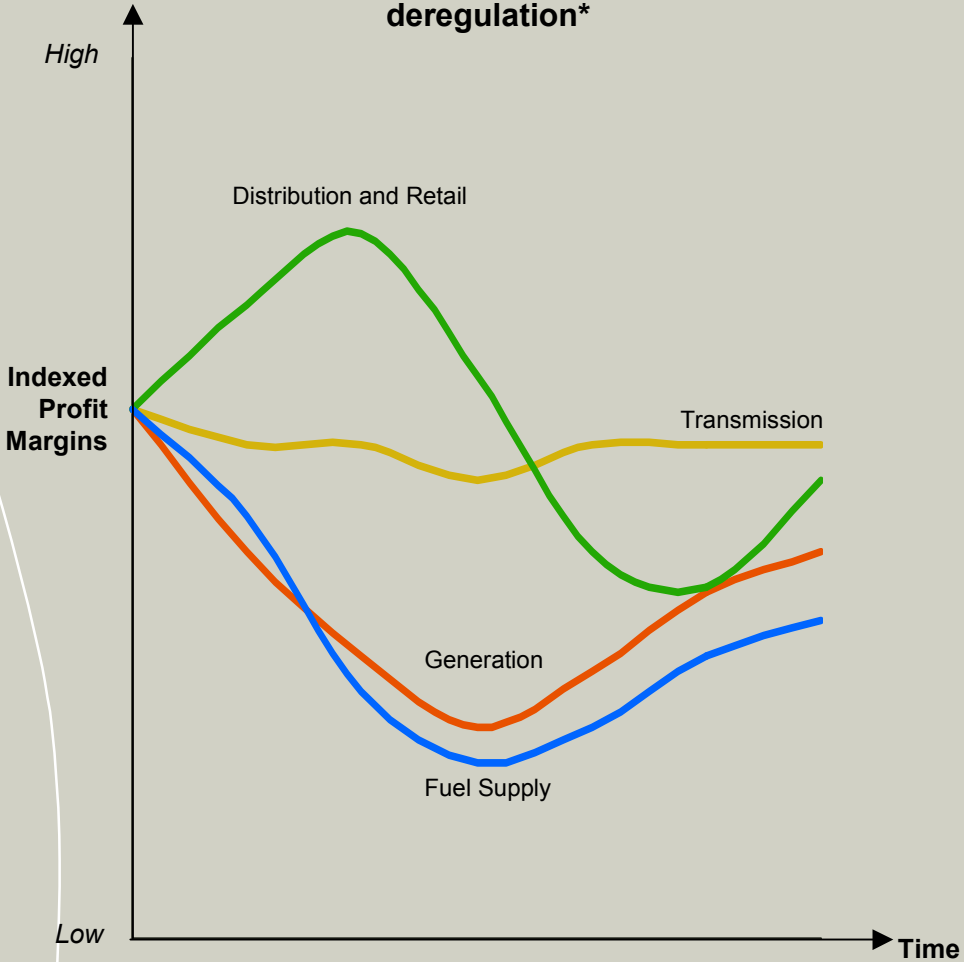
bhpbilliton

B. Interpret the trends
Europe – undergoing considerable change

- demand declining – imports growing slowly
- Kyoto already influencing market
- EU subsidy reduction program
- energy market convergence
  - power generation growth from gas
  - strong coal/gas competition
- deregulation and liberalisation
- emergence of spot,derivative and screen traded markets

Activities that generate superior returns change over the course of the deregulation process

Generic pattern of value migration during deregulation*



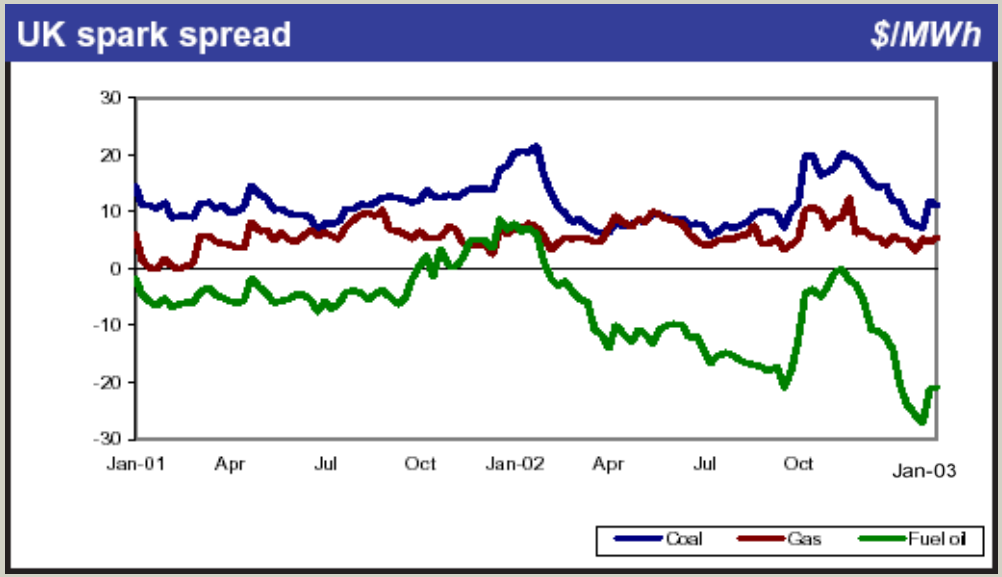
Implications for Value Creation

- **Fuel Supply:**
  - fuel prices experience pressures exerted by generators and new entrants as markets deregulate
- **Generation:**
  - generation privatisation and competition results in a wholesale price decrease, unless there is capacity shortfall
  - generators generally seek cost savings through more efficient operations and by pressuring fuel suppliers into reducing prices
- **Transmission:**
  - regulated guaranteed returns in most markets
- **Distribution and Retail:**
  - when generators deregulate, retailers take advantage of lower wholesale prices
  - as competition for customers begins, retailers lower prices, reducing their profitability

Note: * Germany, UK and US

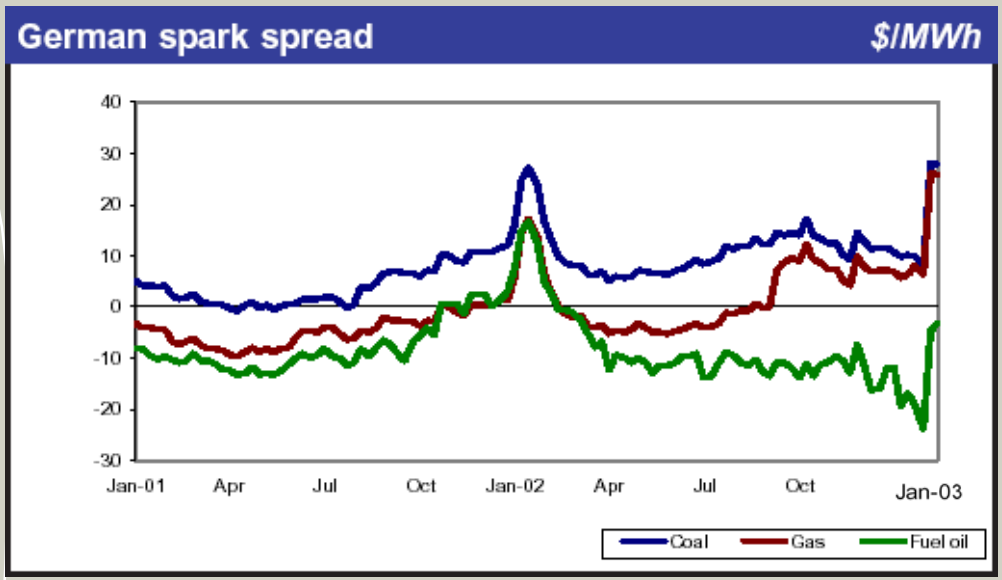
bhpbilliton

Interfuel competition



gas and coal competing head on

deregulated gas market



coal generally still favoured

gas market in process of deregulating

bhpbilliton

C. How has the customer responded?

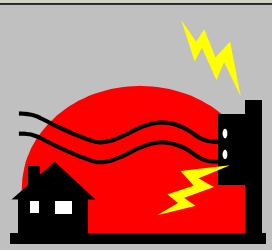
- power market liberalisation induced change

Europe (spot)	1996: 29%	2002: >75%
RoW (spot)	1996: 20%	2002: >60%

- security of supply / diversification policies abandoned
- advances in technology
- “green” pressure
- shift in focus of differentiation

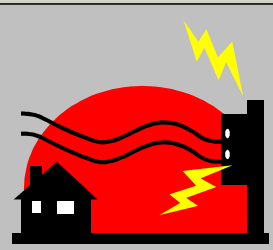
consequence: ever increasing cashflow volatility / risk

German major A



$

German major B



$

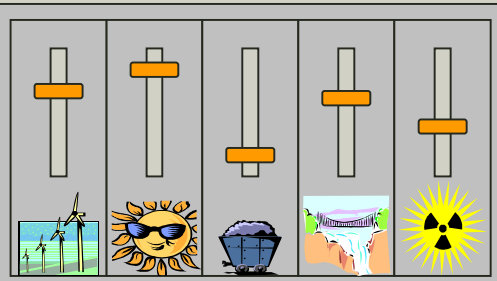
=

Differentiation

introduction of a new trade-off for the customer

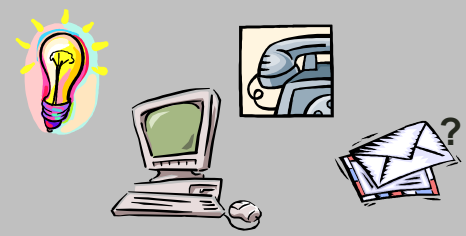
Structural Adjustment

integration of complementors



CO_2 vs. $

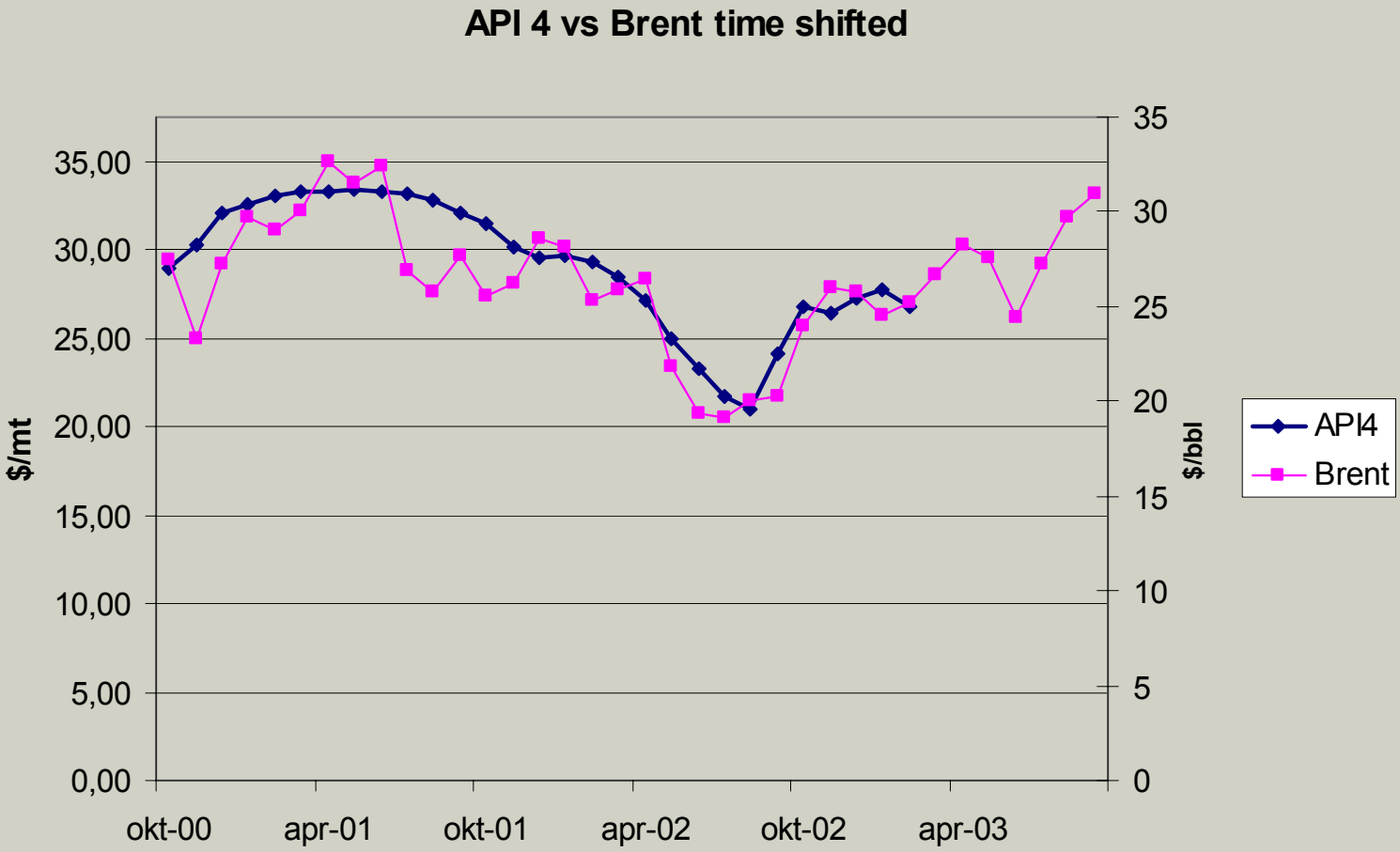
≠



one utility bill

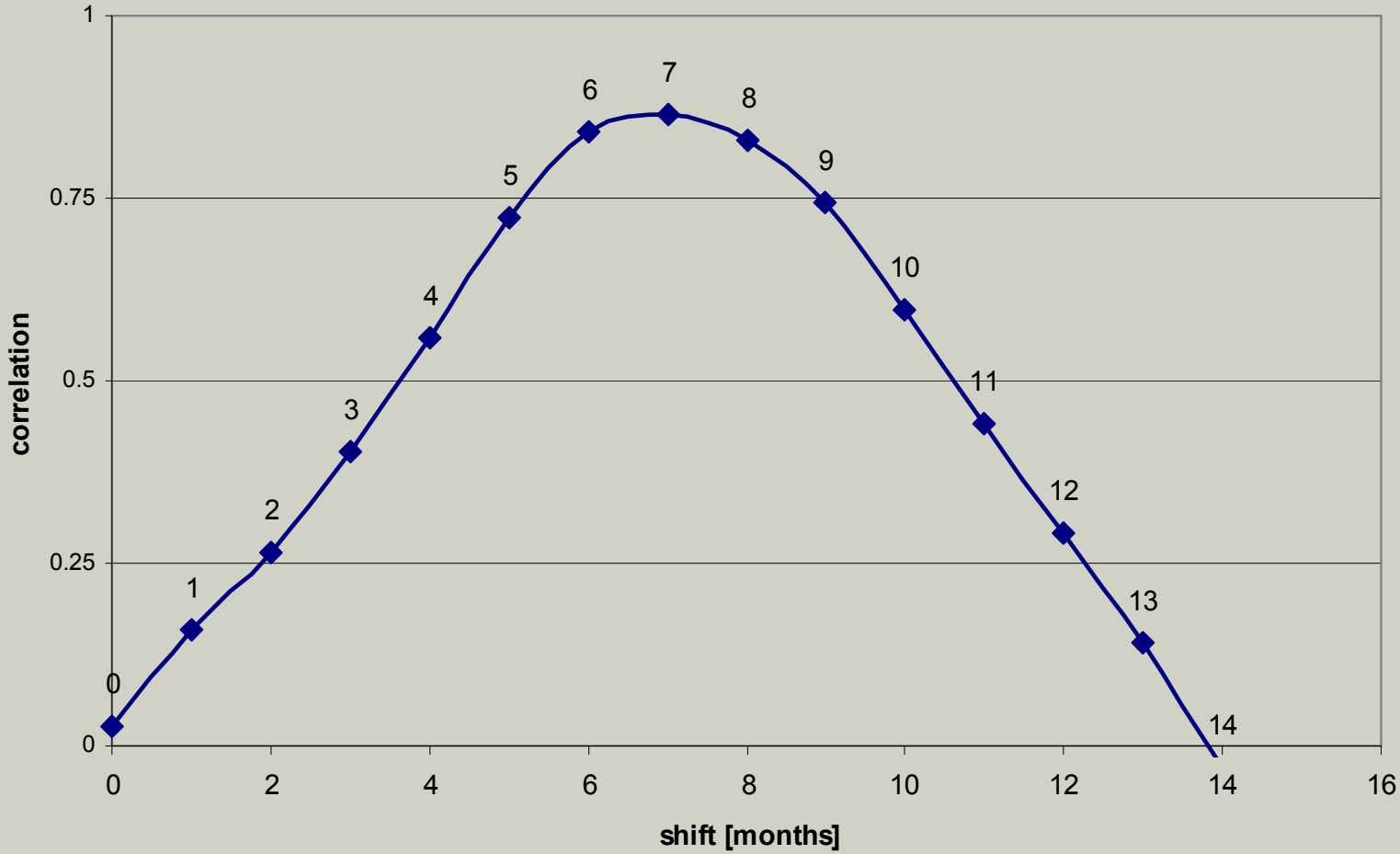
bhpbilliton

D. Consider potential leading indicators
- link between oil prices and coal prices



bhpbilliton

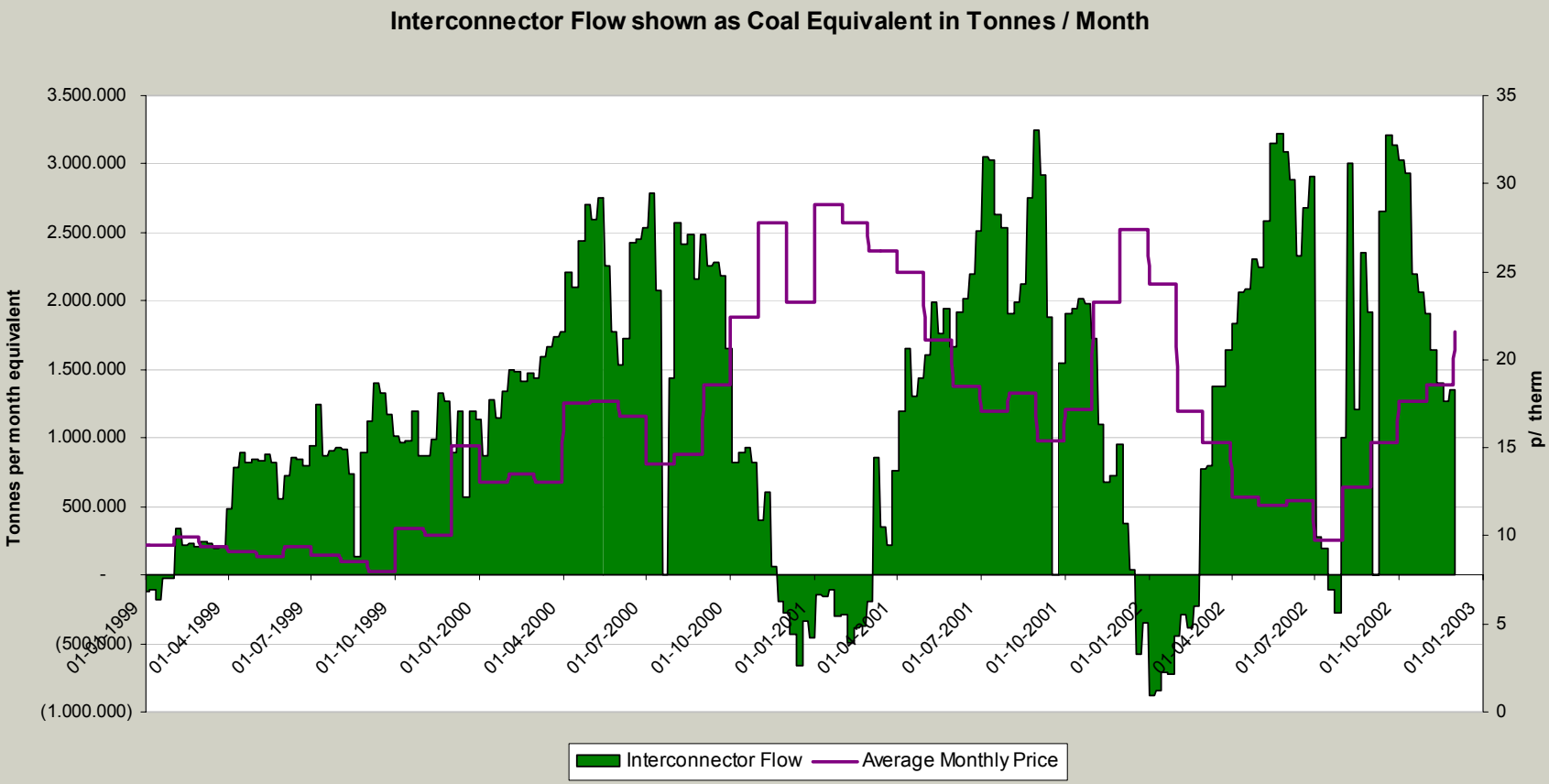
Correlation between coal and lagged oil prices



Will this correlation hold in the future?

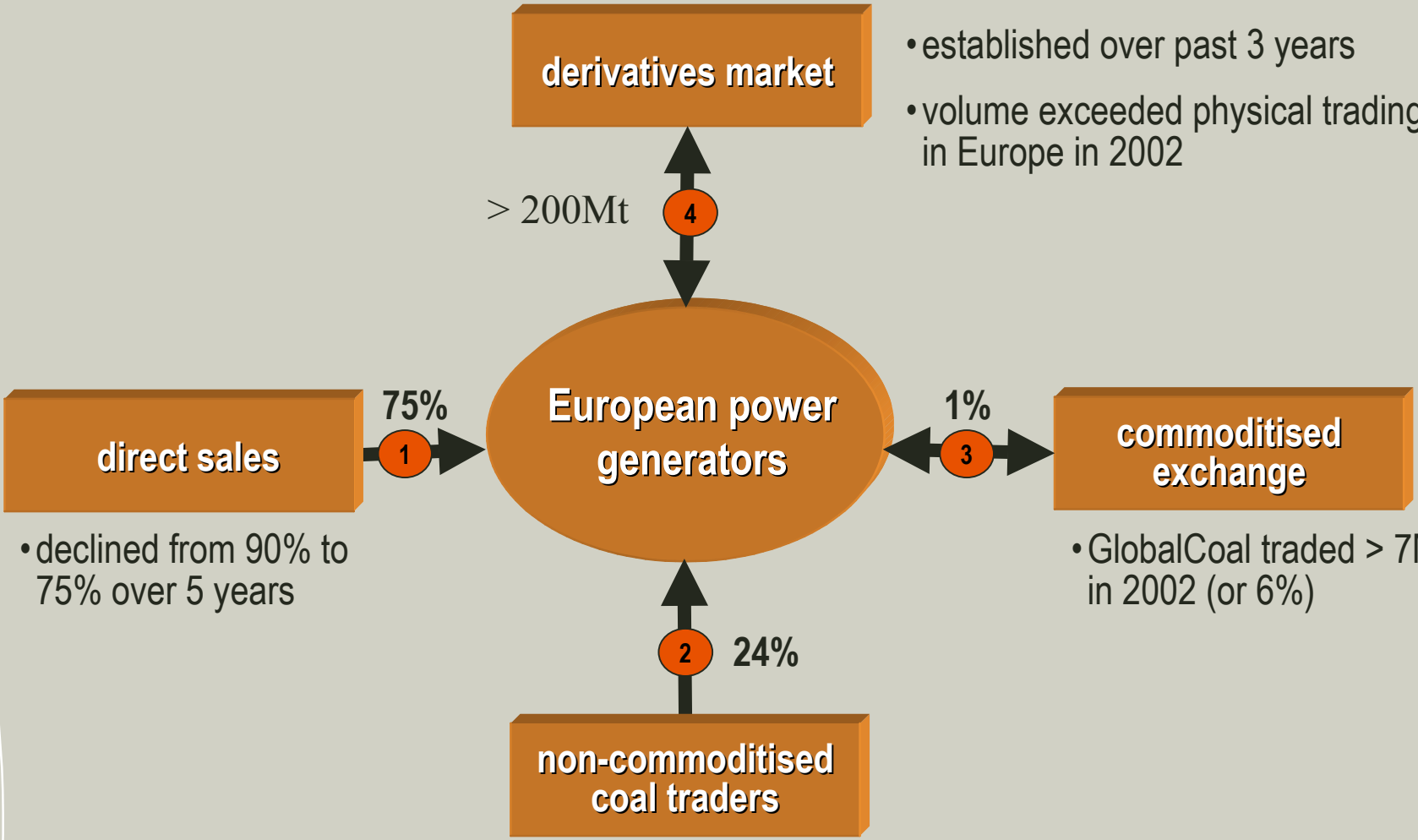
bhpbilliton

Interconnector flows signal ‘energy’ shortage?



bhpbilliton

E. Participate in all areas of evolving market



- established over past 3 years
- volume exceeded physical trading in Europe in 2002

- declined from 90% to 75% over 5 years

- GlobalCoal traded > 7Mt in 2002 (or 6%)

- coal producers
- power generators
- trading houses

bhpbilliton

F. Do business from a risk management perspective

The uncertainty of the future total cash value of an investment (trade) at your delivery/receivable date

- **Market risk** arises from movements in price
- **Credit risk** considers a customer defaulting (also sovereign/FM)
- **Liquidity risk** if market is too thin for efficient trading
- **Operational risk** is loss associated with production entities
- **Other risks:** currency ,legal, regulatory,….

Example of deploying price risk management tools

Bullish?

- buy API swaps,
- buy commoditised physicals (GC RB1)
- buy physically settled call options
- buy financially settled call options

- sell physically settled put options (with care)
- sell financially settled put options

Need for General Trade Master Agreements (GTMA)

- speed up contract negotiation
- save money….. lawyers are expensive
- simplify the physical coal business
- lower barriers of entry to new market players

- SCoTA of GlobalCoal has the potential to become a full blown master agreement

G. Change to “market driven” mindset

Production driven	Market driven
• **“Dig and Deliver”** • volume at gate • sweat the assets • sell what you produce • volume based pricing • compete with producers	• **“Match supply to meet demand”** • volume, location and timing to meet customer needs • value is created throughout the whole chain • produce what you can sell • value based pricing • compete with producers, traders and alternative fuels • match customers risk profile • customer solutions

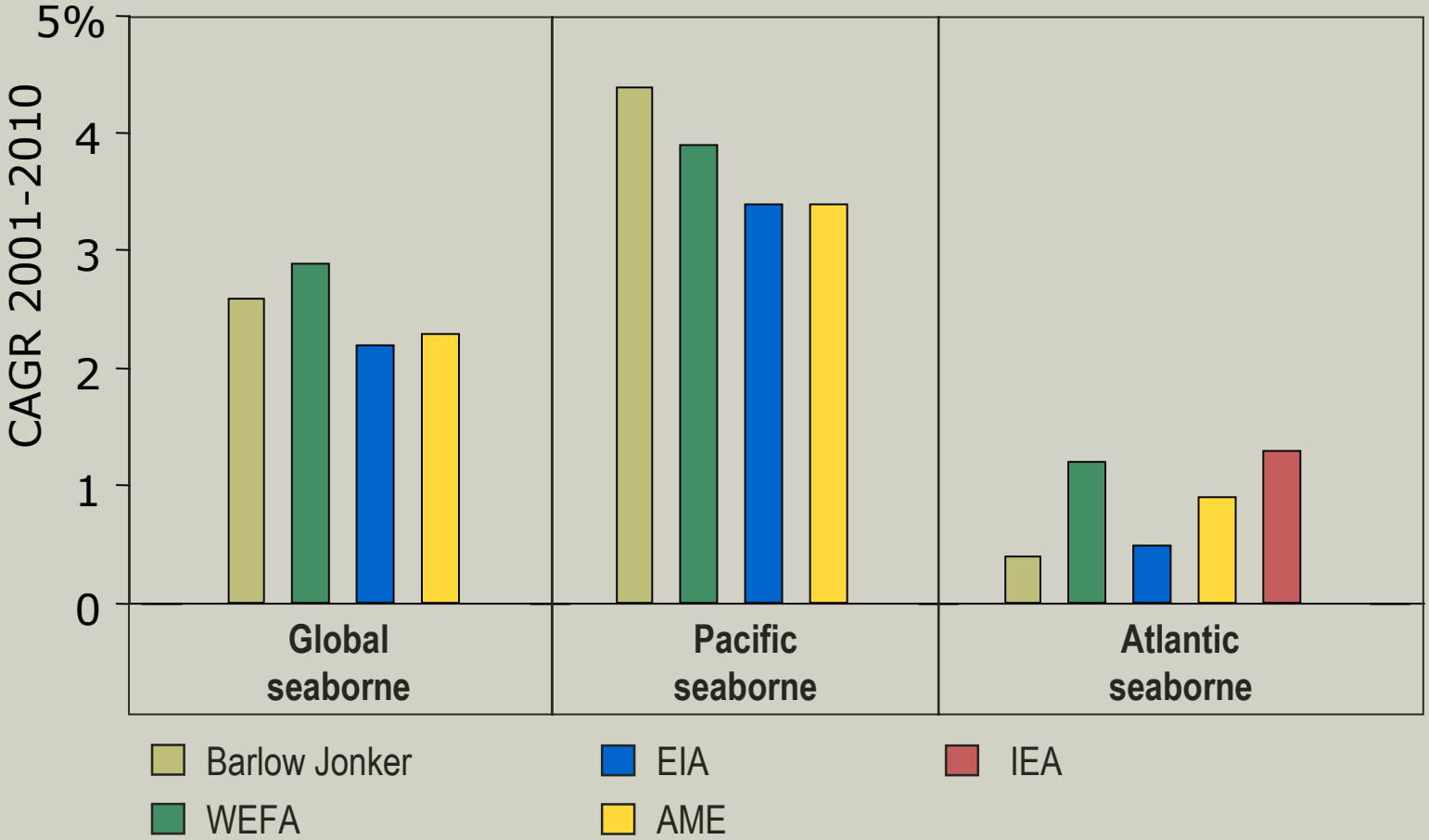
bhpbilliton

Lessons from European market deregulation

- look at the macro-environment
- interpret the trends
- how has the customer responded?
- look for leading indicators
- participate in all areas of evolving market
- risk manage the business
- change your mindset *(and possibly organisation)*

What about Asia?
Industry growth forecasts are consistent

- consistent global growth
- stronger Atlantic growth – domestic substitution
- **lower Pacific growth – mainly Japan**



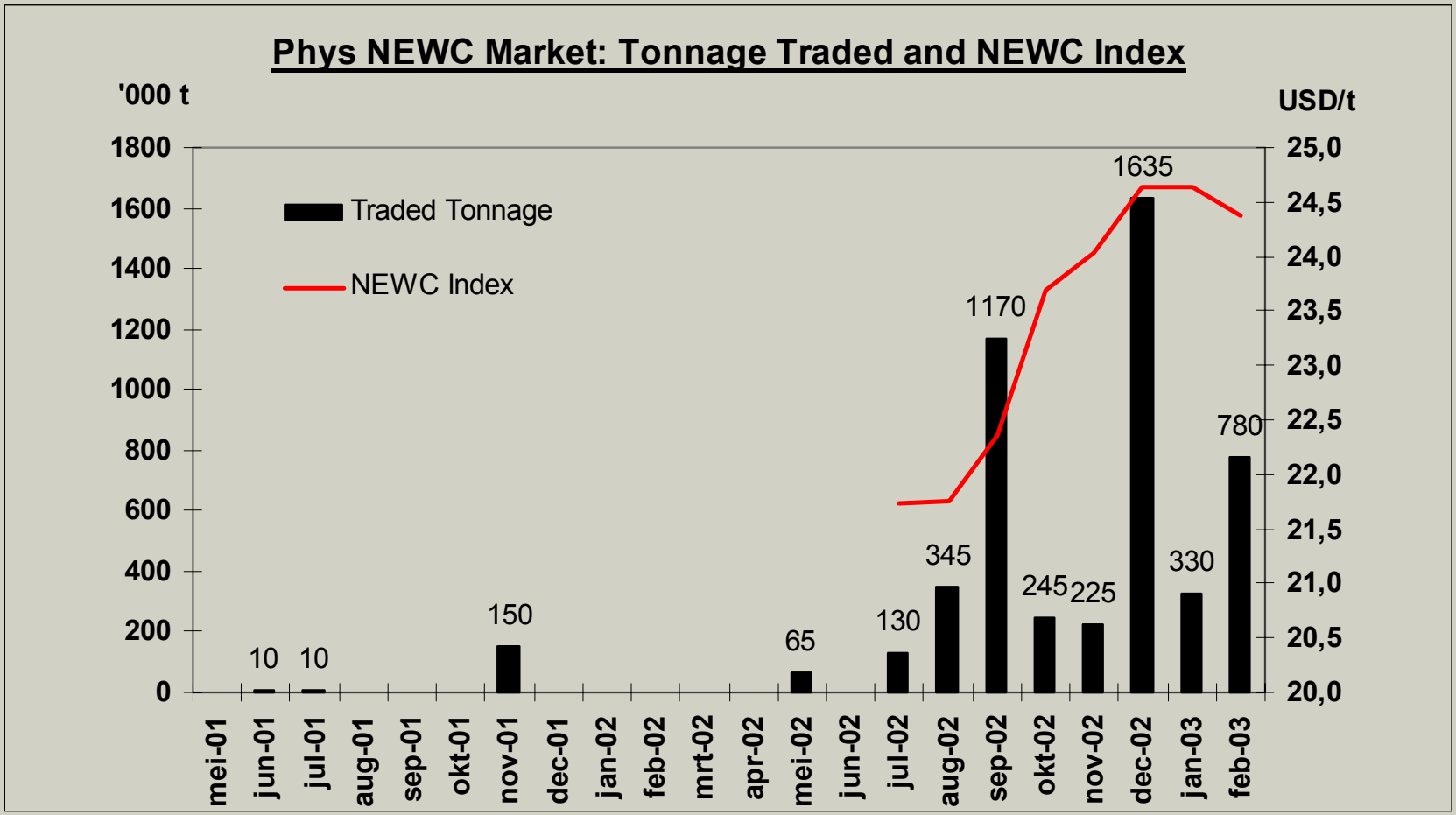
bhpbilliton

Asian macro-environment

- increasing flexibility in coal purchasing
  - China penetration
  - spot purchases
  - prices compete on delivered basis
  - environmental considerations on the rise
- lack of pipeline gas alternatives
- LNG competitiveness
- nuclear concerns
- South Korean “privatisation” of generators

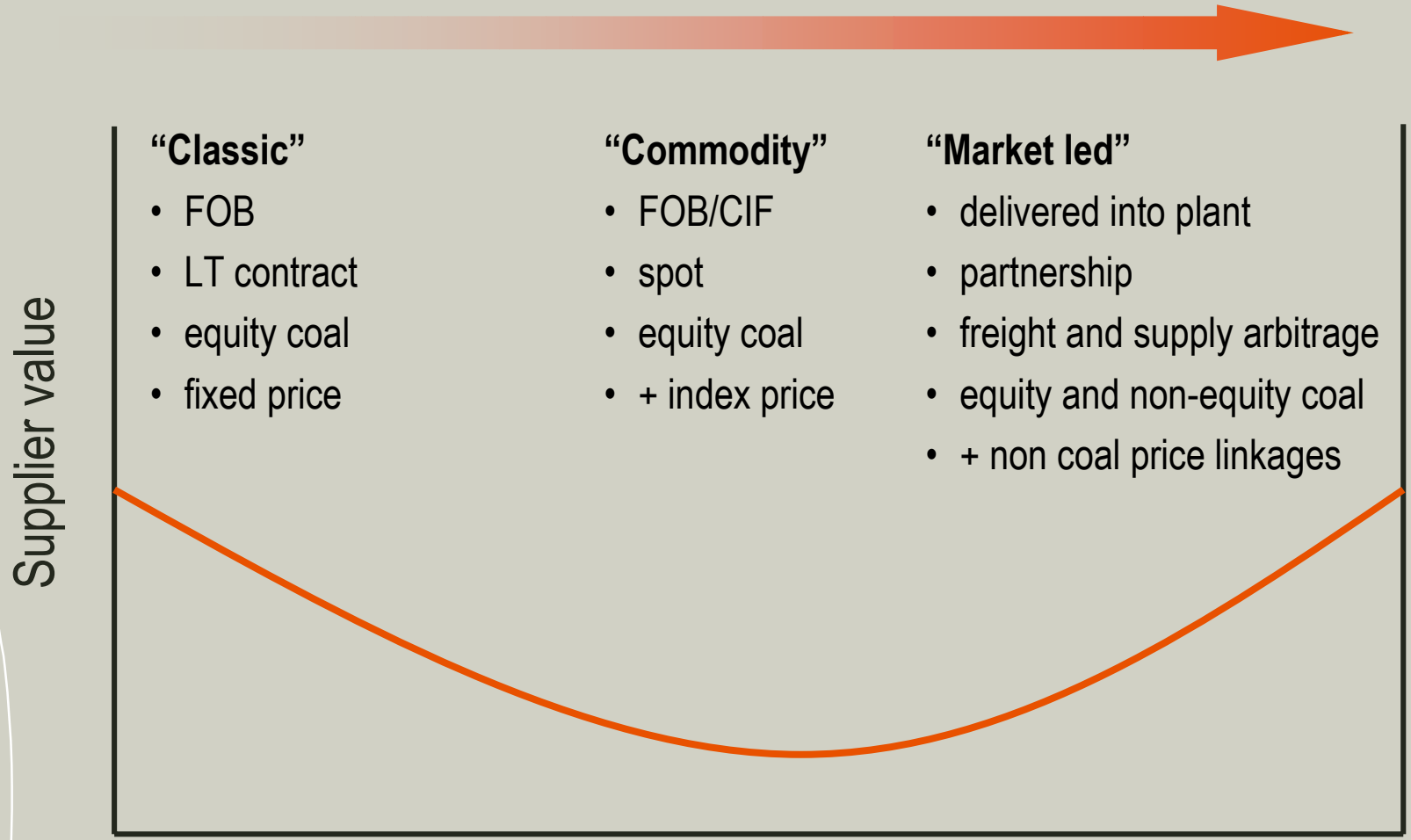
….. slowly embracing deregulation

Embryonic signs:
GC screen traded tonnages and NEWC index



bhpbilliton

Asian market evolution?



bhpbilliton

Where does this lead the Asian market to?

- indexation to power, gas, oil, emissions indices
- financially settled options
- physical coal supply with price caps, floors and collars
- CO2e emissions – bundled with coal supply
- cross commodity trading – coal spark spreads etc.
- coal producers becoming proxy-energy traders

world class assets fundamental

….. *but not sufficient for long term success*