

Carbon Risk: From Corporate Disclosure to Investor Disclosure

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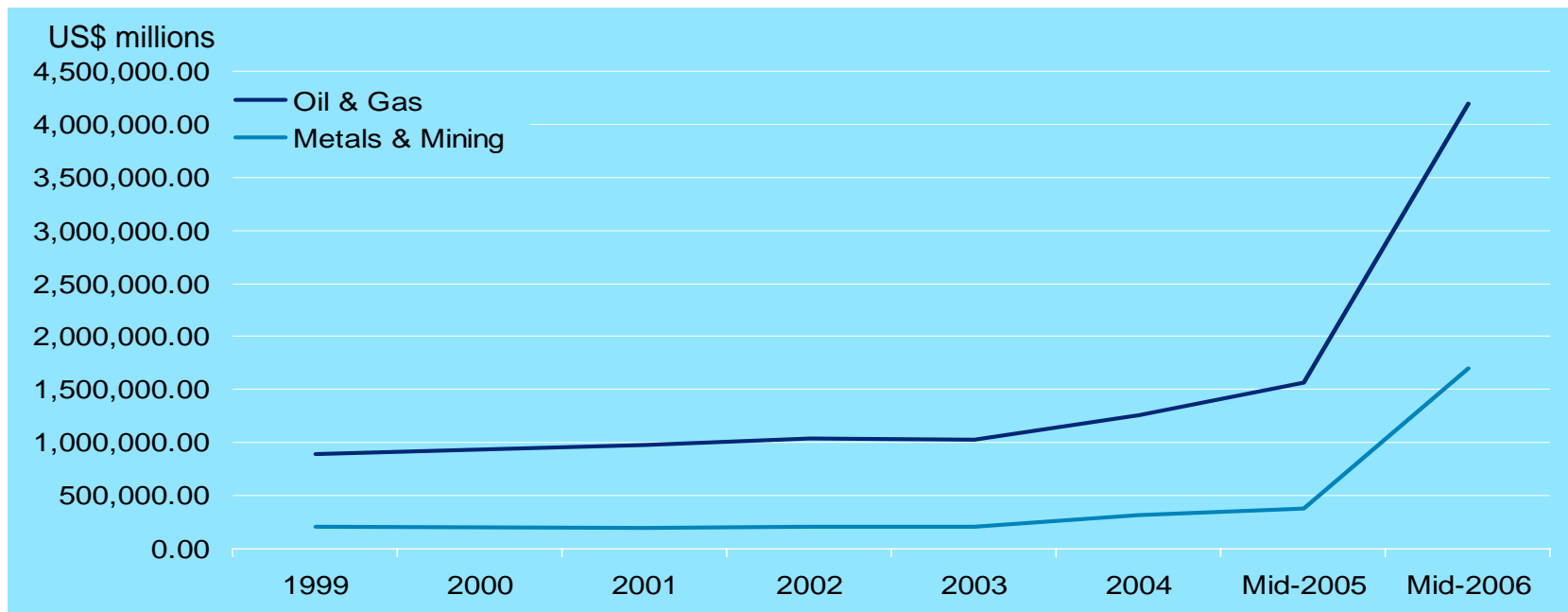
The Carbon Paradox

- Over \$31 trillion of investment now supports the Carbon Disclosure Project's call for better corporate transparency on climate change
- Over £1 trillion in UK pension funds and fund managers support active engagement through the Institutional Investors Group on Climate Change
- Emissions trading has given a price to carbon and spawned a fast-growing market worth over \$10 bn in 2005 – and growing fast
- Over \$70 billion was invested in clean tech and renewable businesses in 2006, a 43% increase on 2005, according to New Energy Finance

But underlying flows of capital still backing carbon...

Fossil fuels attract more finance

Perverse Rewards: fossil fuels scale new heights



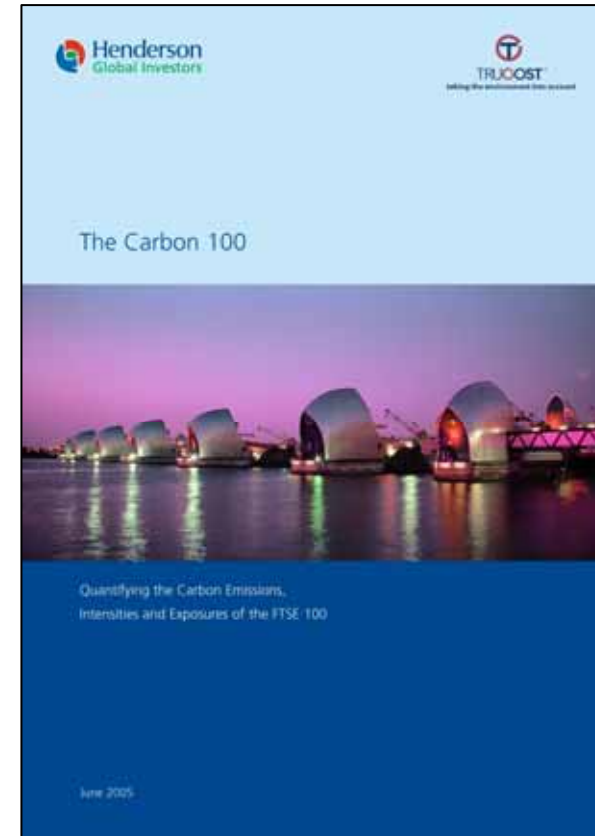
Source: Datastream, Capital Bridge

Investor sentiment: fossil fuel revenues are more secure than the onset of climate change

Quantifying carbon exposure

The Carbon 100 Report

- As a country, the UK emits 2% of global GHGs
- But estimated emissions from the process and products of oil, gas and coal companies listed on the London Stock Exchange amount to at least 15% of the global total
 - BP c.5%
 - Shell c.4%
 - Rio c.2%
 - BHP c.1%
 - Anglo c.1%
 - Xstrata c.1%



The UK's financial carbon is over seven times greater than its geographic footprint

Who owns the carbon?

Worlds largest owners of Oil & Gas businesses

World's asset managers % holdings



Firm	Oil & gas owned £m	Global equity owned £m	% oil & gas
Barclays Global Investors (US)	44,930.9	748,432.7	6.00
Capital Research & Management Company	38,561.3	706,446.0	5.46
Fidelity Investments	30,863.4	698,591.3	4.42
State Street Global Advisors	28,527.3	480,223.6	5.94
Wellington Management Company, LLP	24,529.3	316,983.6	7.74
Vanguard Group	20,589.4	395,292.2	5.21
AllianceBernstein, LP	20,475.9	311,465.8	6.57
Barclays Global Investors (UK)	13,886.6	130,710.3	10.62
Legal & General Investment Management Ltd.	13,204.0	132,007.7	10.00
Fidelity International Ltd.	12,227.6	130,929.6	9.34
M&G Investment Management Ltd.	10,844.8	82,172.9	13.20
Northern Trust Company (The)	10,595.4	190,589.3	5.56
TIAA-CREF Investment Management, Inc.	8,886.2	169,724.9	5.24
Morley Fund Management Ltd.	8,733.1	64,101.7	13.62
State Street Global Advisors Ltd.	8,515.4	53,162.7	16.02

Source: Capital Bridge, as at 29 March 2006

Germany's largest investors in Oil & Gas businesses



Firm	Oil & gas owned £m	Global equity owned £m	% oil & gas
Allianz Global Investors Kapitalanlage GmbH	1,956.8	30,122.7	6.50
DWS Investment GmbH	1,487.8	36,837.2	4.04
Union Investment Privatfonds GmbH	1,399.1	22,227.1	6.29
Universal-Investment-Gesellschaft mbH	1,151.3	18,345.7	6.28
Deka Investment GmbH	1,131.7	20,574.3	5.50
Pioneer Investments Kapitalanlagegesellschaft mbH	939.9	14,557.6	6.46
Deutsche Asset Management International GmbH	757.1	11,955.7	6.33
Union Investment Institutional GmbH	632.7	6,743.4	9.38
INDEXCHANGE Investment AG	520.3	8,393.9	6.20
COMINVEST Asset Management GmbH	479.4	11,705.0	4.10
Metzler Investment GmbH	465.3	8,002.8	5.81
MEAG Munich Ergo Asset Management GmbH	411.1	8,429.5	4.88
AXA Investment Managers Deutschland GmbH	305.0	2,712.0	11.25

Source: Capital Bridge, as at 21 August 2007

UK's most overweight fossil fuel investors



	Oil & gas owned £m	Global equity owned £m	% oil and gas	Weighting
Scottish Widows Investment Partnership	6,457.3	46,668.8	13.84	231
Morley Fund Management Ltd	8,733.1	64,101.7	13.62	227
Threadneedle Asset Management Ltd	6,795.6	50,075.8	13.57	226
M&G Investment Management Ltd	10,844.8	82,172.9	13.20	220
Insight Investment Management Ltd	5,241.0	42,013.9	12.47	208

Source: Capital Bridge, as at 29 March 2006

Putting carbon on the capital markets balance sheet

Proved Oil/NGL Reserves, Millions of Barrels

World's largest listed owners of reserves

	2002	2003	2004	2005
Lukoil	15,258	15,977	15,972	16,114
PetroChina	10,999	10,997	11,940	11,962
ExxonMobil	12,623	12,856	11,651	11,229
Petrobras	8,955	9,772	9,945	9,716
BP	9,165	10,081	9,934	9,565
Chevron	8,668	8,599	8,140	8,146
Total	7,231	7,232	7,003	6,592
ConocoPhillips	5,137	5,171	5,539	6,189
Royal Dutch Shell	7,157	6,386	5,503	5,382
ENI	3,783	4,138	4,008	3,773
ONGC	-	-	3,711	3,700
Sinopec	3,3320	3,257	3,267	3,294

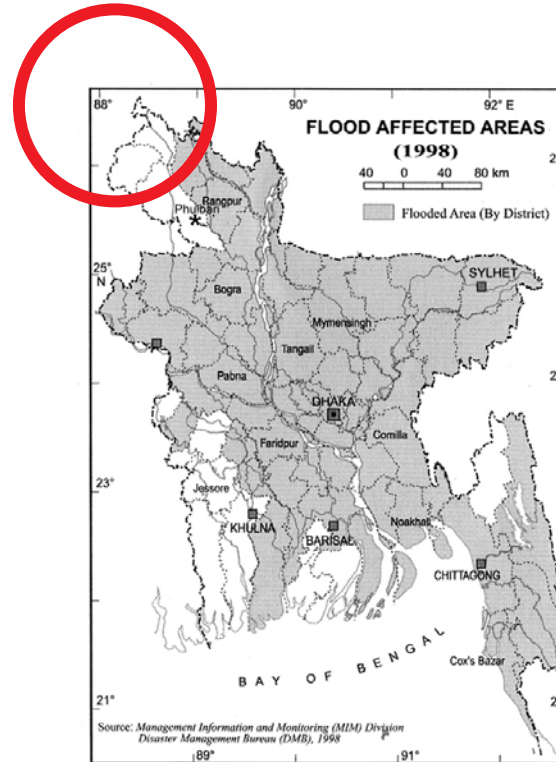
Source: Evaluate Energy, as at 1 September 2006

Stock exchange listings - disclosure

- Generally no mention of climate change or Kyoto in IPO documents
- Fossil fuel companies
 - Produce statements validating their proven and probable reserves
 - But are not required to disclosure potential climate impact if assets are converted to CO₂
- Example following of UK listed Asian coal mining company that has 572 million tonnes of coal reserves and aims to install up to 1000 MW of coal fired power generating capacity in Bangladesh

Bangladesh flood affected areas

1955, 1974, 1988, 1998



“Flooding is due to a combination of monsoon rains and glacial melt and storms in the Bay of Bengal. However the Phulbari area is one of the highest points in the country and has not been flooded even in the worst floods of 1955, 1974, 1988 and 1998”

From reserves to liabilities

Internalising carbon hits reserves valuation

- Carbon booked as reserves which, if burnt, would tip atmospheric CO₂ above threshold critical levels
- But from a climate change perspective, these “assets” carry carbon liabilities
- Current accounting does not allow for a complete assessment of external costs
- Estimates suggest could be equivalent to over half the total market capitalisation of an oil and gas company

Proven, probable and <unburnable>?

Incorporating carbon into financial regulation

Pricing carbon on balance sheets will transform capital allocation

- Stock Exchange listing rules:
 - Require 'proven and probable reserves' of energy companies to be converted to CO2 equivalent
 - Disclose impact upon atmospheric parts per million of CO2 if these assets are burnt
- The EU prospectus regulation directive:
 - Require disclosure of the CO2/carbon intensity of fossil fuel assets when capital raising
- Carbon accounting standards:
 - Develop an accepted framework for the measurement and reporting of carbon emissions.

Appendices

Largest owners of Metals & Mining stocks

UK asset managers % holdings

	Metals & mining owned £m	Global equity owned £m	% metals & mining	Weighting
Merrill Lynch Investment Managers (UK) Ltd	7,470.7	38,198.4	19.56	574
M&G Investment Management Ltd	4,425.9	47,177.1	9.38	275
Legal & General Investment Management Ltd	4,128.4	75,788.3	5.45	160
Barclays Global Investors (UK)	3,339.5	75,043.4	4.45	130
Standard Life Investments (UK)	2,332.7	32,826.3	7.11	208
JPMorgan Asset Management (UK) Limited	2,237.9	45,344.4	4.94	145
Old Mutual Asset Managers (UK) Ltd	2,102.0	4,615.6	45.54	1336
Threadneedle Asset Management Ltd	2,006.3	28,749.5	6.98	205
AXA Investment Managers UK Ltd	1,861.3	17,414.7	10.69	313
Fidelity International Ltd	1,740.3	75,169.3	2.32	68
State Street Global Advisors Ltd	1,611.4	30,521.8	5.28	155
Schroder Investment Management Ltd	1,574.8	48,554.7	3.24	95
HSBC Investment (UK) Ltd	1,551.2	22,765.1	6.81	200
Morley Fund Management Ltd	1,366.6	36,802.1	3.71	109
Scottish Widows Investment Partnership	1,355.0	26,793.5	5.06	148
Insight Investment Management Ltd	1,232.5	24,121.0	5.11	150
Baillie Gifford & Company	1,198.1	18,053.9	6.64	195
F&C Asset Management PLC	1,170.8	28,164.9	4.16	122

Source: Capital Bridge, as at 29 March 2006

Largest owners of Oil & Gas businesses

UK asset managers % holdings

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Barclays Global Investors (UK)	13,886.6	130,710.3	10.62	177
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M&G Investment Management Ltd	10,844.8	82,172.9	13.20	220
Morley Fund Management Ltd	8,733.1	64,101.7	13.62	227
Schroder Investment Management Ltd	7,382.7	84,572.5	8.73	145
Merrill Lynch Investment Managers (UK) Ltd	6,930.4	66,533.8	10.42	174
Threadneedle Asset Management Ltd	6,795.6	50,075.8	13.57	226
Scottish Widows Investment Partnership	6,457.3	46,668.8	13.84	231
JPMorgan Asset Management (UK) Limited	5,785.2	78,980.6	7.32	122
Insight Investment Management Ltd	5,241.0	42,013.9	12.47	208
Standard Life Investments (UK)	5,084.9	57,176.8	8.89	148
F&C Asset Management PLC	4,727.9	49,057.5	9.64	161

Source: Capital Bridge, as at 29 March 2006

Switzerland's largest investors in Oil & Gas businesses

Firm	Oil & gas owned £m	Global equity owned £m	% oil & gas
UBS Global Asset Management (Switzerland) Ltd.	2,153.4	44,245.8	4.87
Pictet Asset Management SA	610.9	19,518.5	3.13
Capital International SA	555.3	7,470.6	7.43
UBP Asset Management	273.6	2,484.7	11.01
Swisscanto Asset Management AG	273.2	6,669.8	4.10
Credit Suisse Asset Management (Zürich)	255.0	8,666.0	2.94
Julius Baer Investment Management	168.3	3,489.5	4.82
Clariden Leu AG	102.6	1,375.9	7.46
Lombard Odier Darier Hentsch & Cie	99.4	3,027.7	3.28

Source: Capital Bridge, as at 21 August 2007

Source of data: Capital Bridge

CapitalBridge produces equity ownership analysis using most recent publicly disclosed ownership positions from a variety of sources. Monthly UK Share Register analysis, related 212 responses and RNS sourced information in the UK, SEC filings in the US, including quarterly 13(f) filings, made by US and other large Global equity investors, the latest available holdings of all Global Mutual Funds, and individual positions beyond that sourced from Global Exchanges, Company Web Sites and relevant news items.

Some of this public data is procured from FactSet, as well as other data providers to help properly value and benchmark this information. Above and beyond this, CapitalBridge also serves hundreds of Corporate clients directly, with Real-Time equity ownership, sourced from direct contact with industry sources, analysis of nominees and DTC lists, issuing 212 notices and similar. All of our ownership data regularly is scrubbed by a myriad of quality control filters to allow us to catch as many inconsistencies and errors as possible before reaching our clients. CapitalBridge also Profiles all Global BuySide Institutions and Contacts as part of our one Integrated service.

Overweight/Underweight refers to expected % of Portfolio, based on an Industry or Sector's % of the overall Market being examined. Real case scenario: Publishing is 1.46% of all UK equity. Schroders has 2.64% of their UK equity in Publishing (March 29 2006). Hence, they are Significantly Overweight Publishing in the UK. CapitalBridge tend to calculate the Weighting as Significantly Overweight, Overweight, Level, Underweight, or Significantly Underweight, based on these types of percentage differences.

London Bridge Capital

- London Bridge Capital Limited ("LBC") is an investment banking boutique specialising in the provision of advice to small and medium enterprises whose products are in the clean technology space, with a particular focus on the renewable energy industry.

LBC has a strong management and executive team with many years of experience gained in all areas of the World's stock markets, across a number of differing functions.

London Bridge Capital Limited is Authorised and Regulated by the Financial Services Authority.

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