

## Global

# Introducing GS SUSTAIN

### Introducing the GS SUSTAIN focus list

GS SUSTAIN brings together our analysis of the sustainability of corporate performance. It includes our proprietary framework for analyzing competitive advantage in mature industries and the identification of winners in emerging industries as they evolve in response to a rapidly changing, globalizing world.

### The world is changing

Companies are operating in a rapidly changing and more challenging world than previously. Globalization and a shifting political landscape are combining with significant changes in populations, urbanization, resource utilization, climate change, and employee and consumer attitudes. With the evolution of communications networks, there is greater connectivity than ever before and, in conjunction with the rise of NGOs, companies now operate in a more transparent environment than before.

### Valuation isn't changing

Cash return spreads and valuation over the past 15 years have been highly correlated, and portfolios constructed on this basis have consistently outperformed. The market rewards competitive advantage with premium valuations.

### Our ESG framework helps pinpoint sustainability and emerging players

The trends we have highlighted will only intensify, making it imperative that investors pinpoint sustained competitive positioning and the emergence of new entrants. While there is no evidence that ESG or SRI investing on their own add value, incorporating our proprietary ESG framework into long-term industrial analysis and returns-based analysis of the sectors covered to date (energy, mining, steel, food, beverages, and media) has enabled us to select top picks that have outperformed the MSCI by 25% since August 2005. Of these, 72% have outperformed their peers over the same period.

### THE GS SUSTAIN FOCUS LIST

The GS SUSTAIN focus list is aimed at long-term, long only performance, with a low turnover of ideas. It incorporates 21 identified winners from mature industries, which are set to undergo structural change or maintain a leadership position, and 23 attractively valued winners from emergent industries. Average upside to our analysts' price targets is 15% and the list approximates to c.2% of our total coverage universe globally.

### RELATED RESEARCH

Global Pharmaceuticals: Integrating ESG, May 2007

Global Food & Beverages: Integrating ESG, February 2007

Global Energy: Enhanced energy ESG framework, October 2006

Global Mining & Steel: Integrating ESG, July 2006

European Media: Integrating ESG: February 2006

Global Energy: Integrating ESG, August 2005; and Introducing the Goldman Sachs Energy Environmental and Social Index, February 2004

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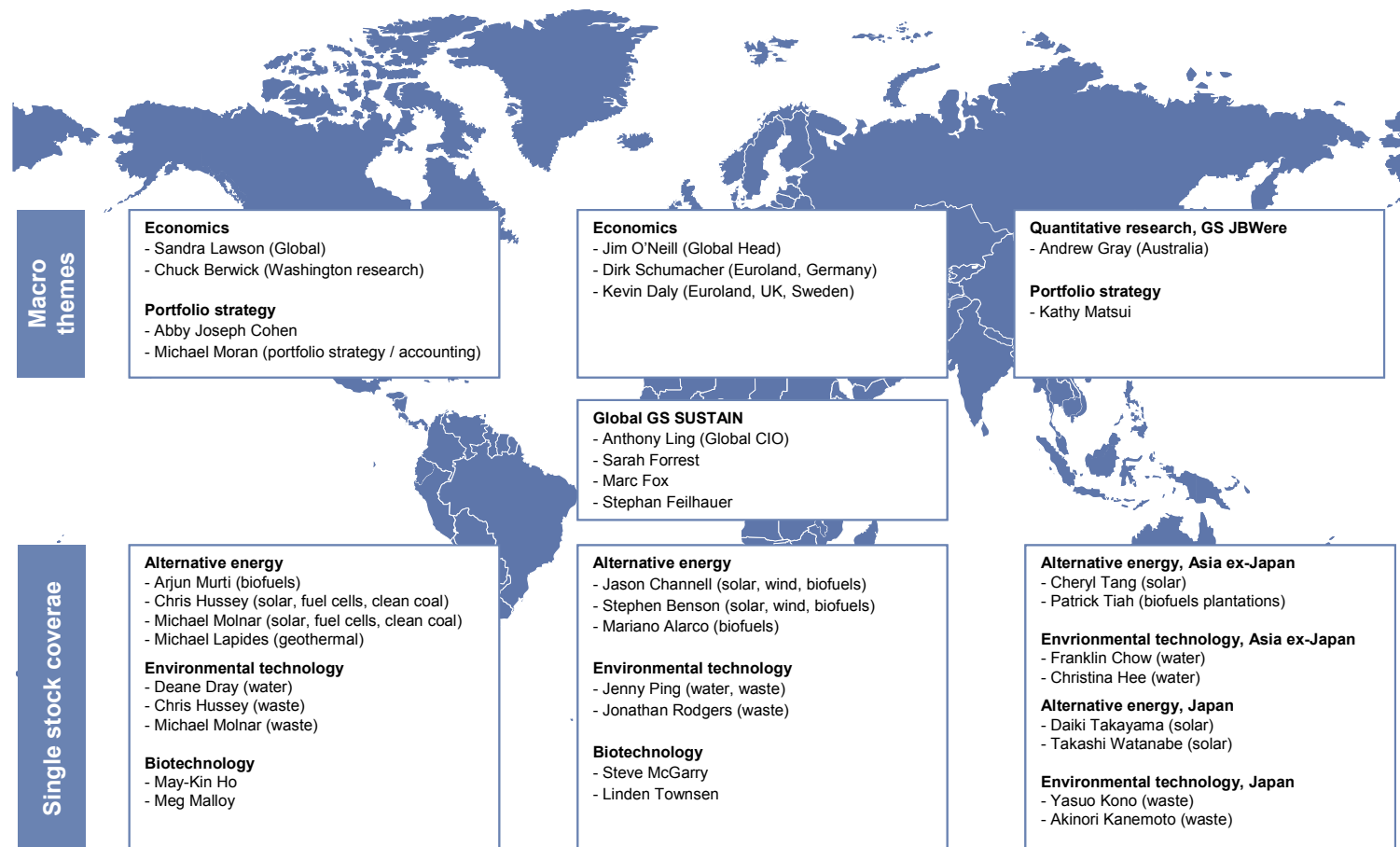
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*The prices in the body of this report are based on the market close of June 15, 2007, unless otherwise stated.*



We would like to thank all the people who have been involved with creating GS SUSTAIN, and in particular this report. Our thanks go to Jim O'Neill and Sandra Lawson from our global economics team whose work we have used extensively, and Clare Du, who has worked closely with us on this report. Our research extends across many sector teams and we thank Jonathan Waghorn, Peter Mallin-Jones, Mark Lynch, John Murphy, Jo Leach and Jean-Michel Bonamy, among many others for their help. Finally, we would like to thank all the analysts named above in Alternative Energy, Environmental Technology and Biotechnology, who have contributed to building GS SUSTAIN.

## Overview: Introducing the GS SUSTAIN focus list

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In order to provide the maximum focus on our analysis of sustainability of corporate performance, we are launching the GS SUSTAIN focus list. The list includes companies from established industries, which have been selected by incorporating our proprietary ESG framework into long-run industry drivers and returns-based analysis and valuation, in order to pinpoint structural improvement and sustainable competitive positioning. It also includes selected, attractively valued, pure-play winners from our coverage universe of emergent industries that are evolving to address issues thrown up by a rapidly changing, globalizing world.

### **The world is changing**

In our view, companies are operating in a more rapidly changing and challenging world than previously. Globalization and a changed political landscape are combined with significant changes in populations, urbanization, resource utilization, climatic patterns, and employee and consumer attitudes. The evolution of communications networks means that there is greater connectivity than ever before and, in conjunction with the rise of the NGO, companies operate in a more transparent environment than previously.

More capital is now focused on sustainable business models and the market is rewarding leaders and new entrants in a way that could scarcely have been predicted even 15 years ago. The more globally oriented resource and financial sectors are unrecognizable from the way they looked in the 1990s, with up to 35% of the top 20 energy companies by market capitalization now coming from BRICs countries.

New industries have emerged specifically to target many of the issues mentioned above. Given that the pace of change is increasing, we believe that future changes will be even more profound.

The GS SUSTAIN focus list is designed to pay maximum attention to companies that we believe are best positioned to succeed given the issues arising from a rapidly changing, globalizing world.

### **Valuation doesn't change: The market values companies on returns and rewards sustainable competitive advantage**

In our Director's Cut series, we highlight that there are far greater valuation correlations between return spreads than between multiples and growth for mature industries. On average, companies stay in a quartile of growth relative to their peer group for about a year, compared with longer than three years for returns. It is not surprising that the market should find it easier to ascribe value to returns than to growth. Companies that have been able to generate first-quartile returns for more than three years trade at a premium to the regression line suggested by return spreads. The market is willing to pay a premium for sustainable competitive advantage as expressed by superior returns.

Companies with returns in excess of the cost of capital have given the best returns in the long run. There are points in the cycle where lagging companies with value destroying returns tend to perform due to corporate activity but these tend to be short. In the long run, companies with improving return spreads and sustained competitive advantage have given superior market returns.

Our analysis has been conducted on our European coverage universe from 1992-2007. However, for four of the industries (energy, mining, food & beverages and pharmaceuticals) that we have analyzed on a global basis, return spreads not only have the highest valuation correlation but have also given the best market performance.

This correlation does not necessarily hold for emergent industries. Here, the tightest correlations and key driver of stock market performance lie in the super-normal growth delivered relative to the market. It is only when growth rates normalize that return spreads take over and drive performance.

### **Our GS SUSTAIN methodology incorporates ESG into picking long-run winners and looking for emergent industries**

In 2003 we responded to an invitation from a group of investors forming the Asset Management Working Group (AMWG) of the United Nations Environment Program Finance Initiative (UNEP-FI) to identify environmental and social issues likely to be material for company competitiveness in the global energy industry, and to the extent possible, quantify their potential impact on stock prices. We have subsequently extended our approach into a framework for helping to identify sustainable advantage across all industries. Our approach is to work from first principles to build a quantifiable and objective picture of performance.

Our proprietary ESG framework reflects the fact that all companies have to interact with the four pillars of: the economy in general, their industry, society and the environment. All companies will have some issues that surround them in respect of one of the pillars. Our methodology is not designed to be comprehensive, nor is it designed to be prescriptive in judging what is good or bad practice. It is based on a consistent approach of analyzing objective, quantitative measures which can be adjusted by industry as appropriate.

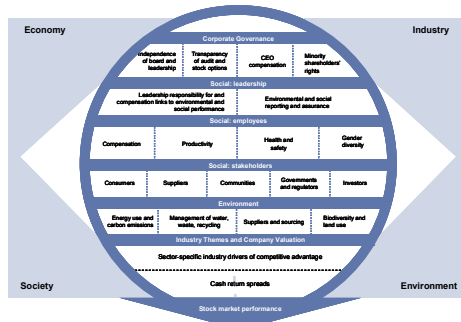
It incorporates corporate governance, social issues with regard to leadership, employees and wider stakeholders, and environmental management. We believe that it is a good overall proxy for the management quality of companies relative to their peers and, as such, gives insight as to their ability to succeed on a sustainable basis. We incorporate the ten principles of the UN Global Compact covering human rights, labour standards, environment and anti-corruption into our ESG framework to the extent possible in every sector and believe that leadership on these issues is crucial.

GS SUSTAIN focus list members have to score well on a combination of ESG score and industry positioning. This must then translate into improving financial performance.

**Exhibit 1: Our GS SUSTAIN methodology incorporates ESG into picking long-run winners and looking for emergent industries**

**ESG** - quantitative, objective analysis of corporate governance, social and environmental performance

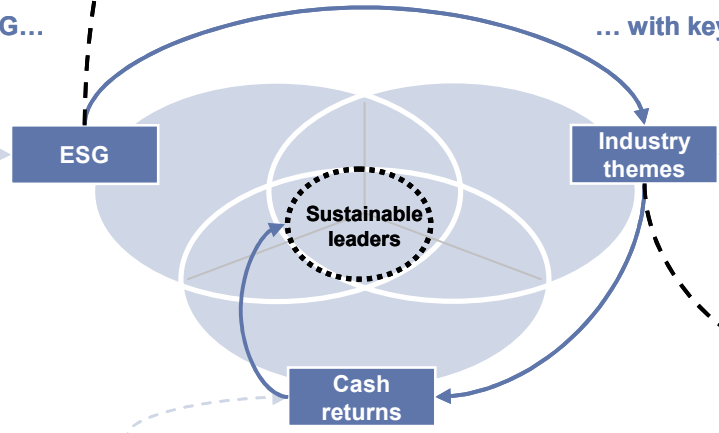
**Industry themes** – such as energy industry’s upstream growth strategy



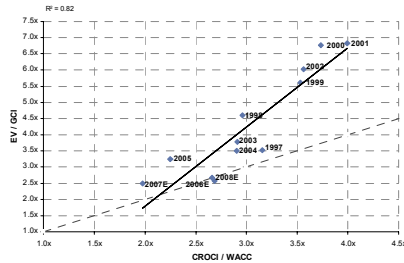
**SRI out of industry context = historic underperformance**

Integrating ESG...

... with key drivers of sector ...



**Cash returns drive valuation and share price performance**



... and sustained competitive advantage

**Sustainability themes – emerging growth industries**

- Alternative energy
- Environmental technologies
- Biotechnology

Source: Goldman Sachs Research.

## **Interesting patterns are starting to emerge**

To date we have performed this analysis on five sectors: global energy, metals and mining, food and beverages, pharmaceuticals and European media. Over 120 companies have been analyzed.

There is a close link between those companies that lead in terms of corporate governance and those that score well on social and environmental issues. There are notable geographic differences. Anglo-American, Chinese and, specifically, American companies score much higher on corporate governance than they do for social, and especially environmental issues. This is not surprising, given the bias of metrics used in terms of assessing corporate governance. At the other extreme, Scandinavian and certain European companies score highly for social and environmental issues compared with corporate governance. In these cases it may well be that issues such as ownership structure, which bring down corporate governance scores, do not actually impact on the long-run competitive position of the company.

Disclosure remains an issue, in particular for Chinese and Russian companies. In general their performance on all measures is notably poor, especially compared with competitors from countries such as Brazil.

There is a high correlation across all sectors in terms of cash flow generated relative to payroll per employee: The more you pay the more you get. This raises questions about the theory of cost control and downsizing as the key to success. It is maybe not surprising when taken in conjunction with the fact that most returns come from companies with above-average CROCI. Companies with above cost of capital returns tend to generate value when their strategy revolves around holding returns and generating growth.

There is a tight correlation between carbon intensity and energy intensity. It looks as if they are more or less one and the same thing, but there are wide differences between industries and across companies within the same industry.

Our conclusion is that companies need to manage all inputs to their business in order to enjoy sustained competitive advantage and a valuation premium versus their peers. What is more profound, perhaps, is that investors cannot rely on ESG factors alone but need to integrate them into an industrial framework and valuation methodology to pick stocks.

## **No correlation between ESG alone and financial metrics or stock market performance**

We have found no correlation across sectors or within sectors between any of our ESG metrics and share price performance. In part, we believe that this is due to the inadequate timeframe and mismatch in terms of timing in relation to the analysis: It takes some time for superior performance on ESG metrics to feed through into financial performance and stock market recognition.

However, the poor performance of indexes such as Dow Jones Sustainability Index and FTSE4Good (both -10% since 2000) suggests that a simplified approach of picking stocks on an ESG basis alone will not lead to stock market outperformance.

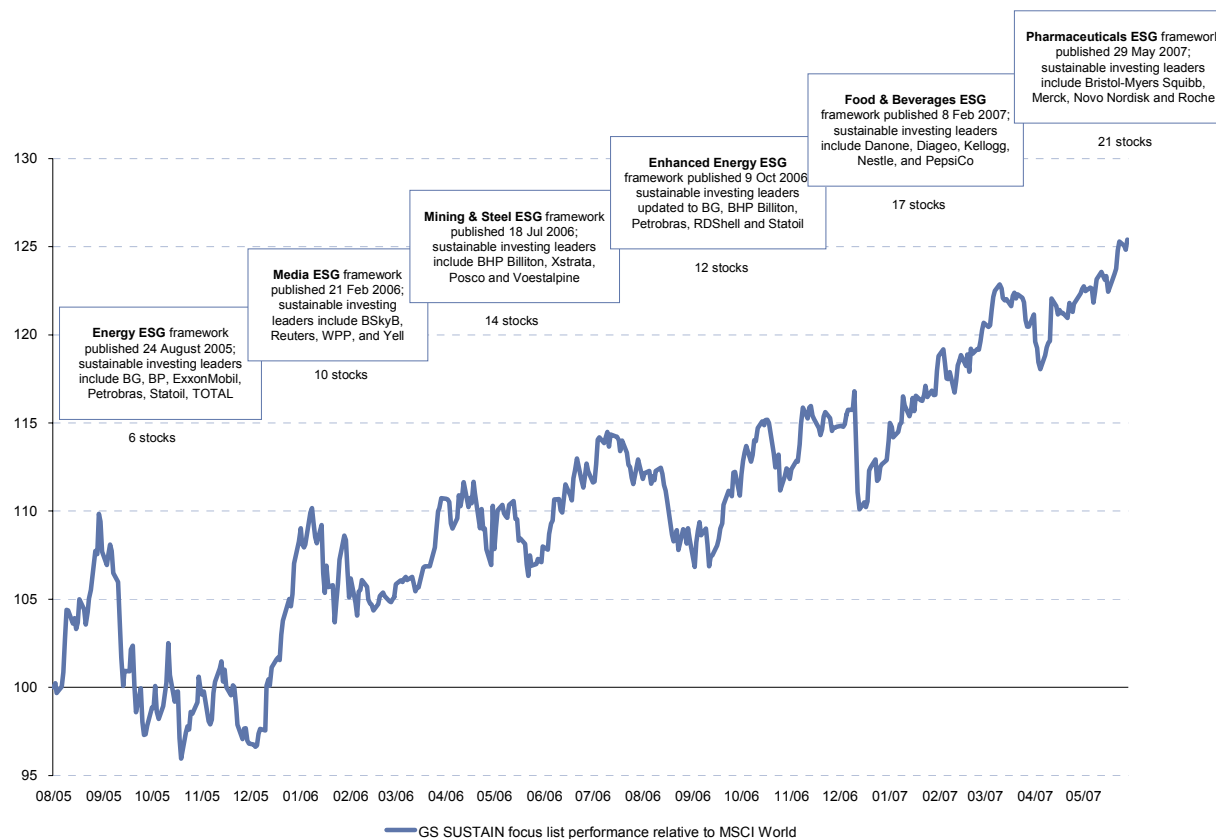
## **GS SUSTAIN methodology has generated alpha with a 72% success rate**

Our methodology is to pick companies that demonstrate sustainable and sustained competitive advantage by leading their peers across all indicators of corporate performance: management quality, industry structural themes and primary drivers and financial returns.

GS SUSTAIN focus list members have to rank well on a combination of ESG score and industry positioning. This must then translate into improving financial performance and, ultimately, returns. Clearly not every company with either improving returns or industry leadership will score well on ESG; for example, companies may have legacy positions as a result of beneficial government relationships. However, we believe that we can be more confident in our predictions for those companies which appear to be best managed in their respective industries as signalled by a strong ESG score.

For the four sectors (energy, mining & steel, media and food & beverages) on which we published reports more than three months ago, we have an average outperformance by our focus list stocks of 25% and a success rate of 72%.

**Exhibit 2: GS SUSTAIN focus list outperformance relative to MSCI World since August 2005**



Source: Datastream, MSCI, Goldman Sachs Research.

Clearly, we do not yet have a long track record of performance in terms of our methodology, but we believe that the early signs are encouraging.



## GS SUSTAIN allows for identification of smaller cap sustainable growth opportunities

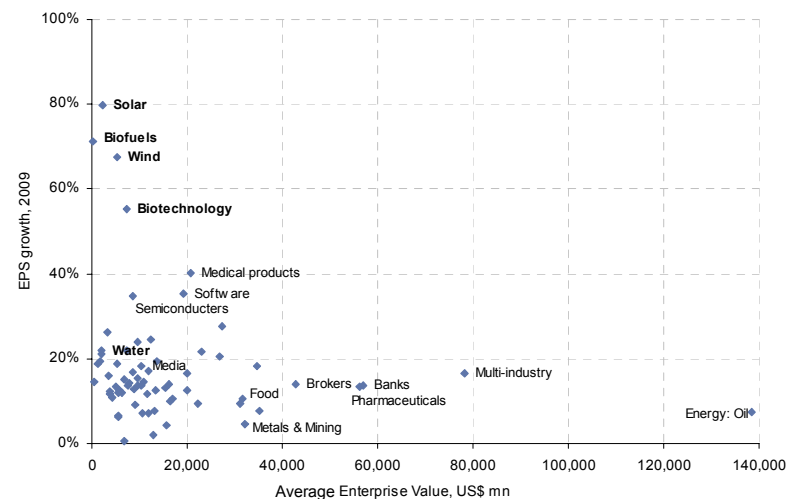
Our comprehensive analysis of the key long-run trends in each industry allows us to identify emerging industries and companies that we believe are well placed to address the structural issues facing major industries in terms of significant global themes.

Examples of these include:

- **Alternative Energy:** Partly to address concerns over climate change, and partly to address issues of security of supply, the Alternative Energy (or Renewable) Industry is blossoming. To meet planned government targets by 2020 globally, we estimate that capex on alternative energy will be approximately US\$400 bn in the period 2007-2020. In comparison, we estimate growth capex for the oil majors will be US\$850 bn over the same period, or roughly double. The market capitalizations of the two groups are around US\$150 bn for alternative energy and US\$1,500 bn for the oil majors – a factor of ten apart.
- **Environmental technology:** While these are not necessarily new industries, population growth and urbanization are increasing the need for more comprehensive resource management in water, waste management and recycling on a global basis.
- **Biotechnology:** Major drug companies are increasing R&D to try to find a new generation of drugs to offset patent risk and address the changing pattern of health issues. Biotechnology companies have a far high number of new drugs in testing relative to their size than the pharmaceutical industry.
- **Nutrition:** With obesity and diet becoming major issues in OECD countries, pure-play healthy, nutrition food and beverage companies are emerging.

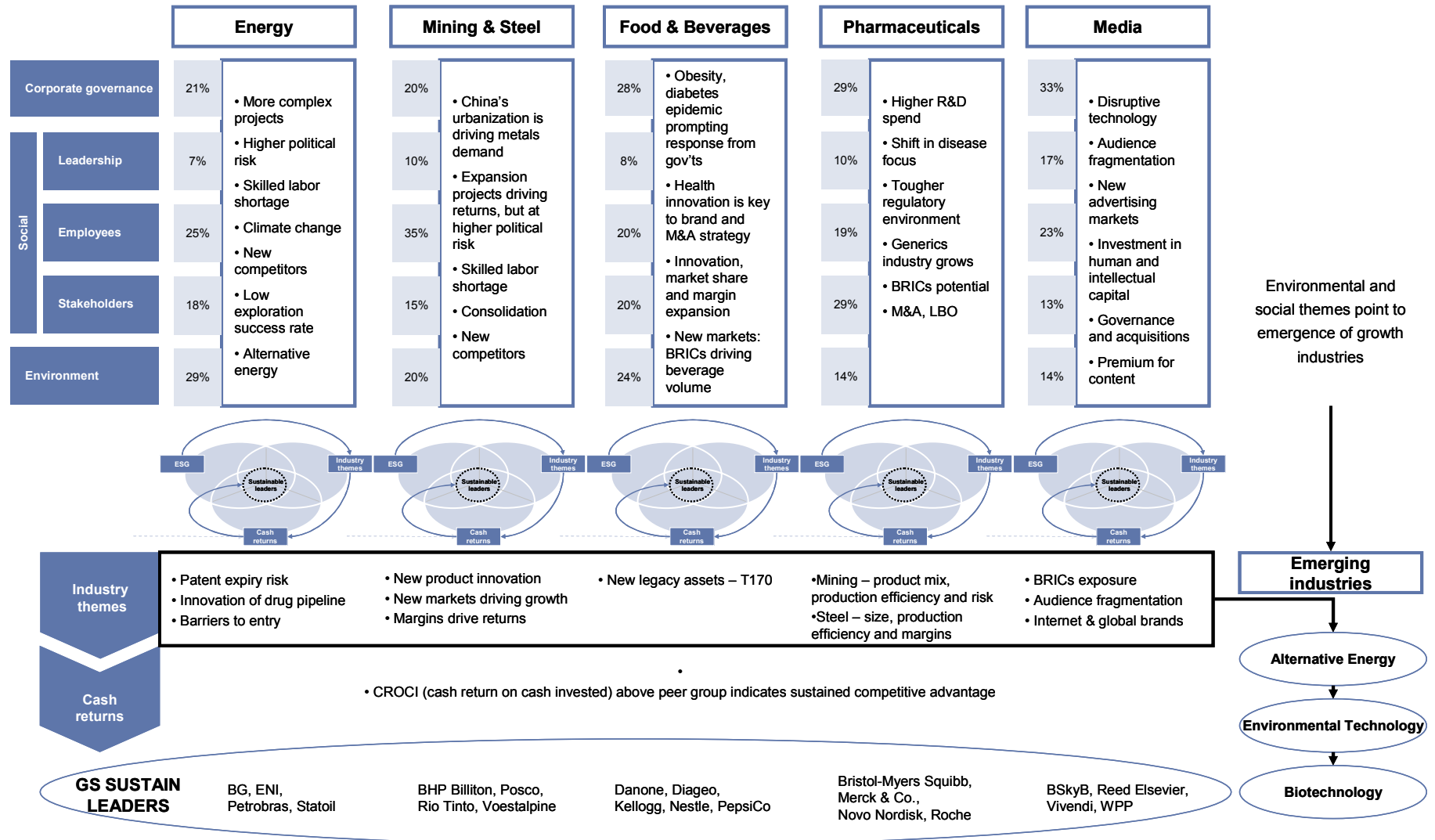
In aggregate, the earnings growth for the stocks under our coverage in these sectors is forecast to be more than three times greater than the average for our entire coverage universe.

**Exhibit 3: Average earnings growth (2008-2009E) versus average Enterprise Value (Goldman Sachs global coverage universe)**



Source: Company data, Goldman Sachs Research estimates, Quantum database.

**Exhibit 4: GS SUSTAIN combines ESG analysis with industry themes and quantitative valuation techniques, and highlights emerging industries**



Source: Company data, Goldman Sachs Research estimates, Quantum database.

## Constructing the GS SUSTAIN focus list

In order to provide a focal list for our GS SUSTAIN analysis we are creating the GS SUSTAIN focus list. This is a long only list aimed at long-term performance with a low turnover of ideas. It will be comprised of two types of stock:

- Long-run winners identified among larger-cap ideas in mature sectors; and
- Strategic assets and winners in emergent industries which address sustainable themes.

The initial list is not comprehensive. It contains only companies from industries for which we have completed our ESG analysis and companies under coverage in emergent industries. As our ESG analysis expands and we add coverage of new industries and/or companies, the list will be amended. The initial list comprises 44 companies. 21 are from our ESG analysis, and 23 from our emergent industry analysis. The average upside to target price is 15% overall. 64% of the stocks are based in Europe, 25% in the US and 11% elsewhere. The list in total comprises c.2 % of our total coverage universe worldwide.

### Exhibit 5: GS SUSTAIN focus list

GS SUSTAIN focus list	Country	Ticker	Mkt cap US\$ mn	GS analyst	Rating	Price	P/E			ESG (quartile)	Industry structure (quartile)	CROCI	
							2007E	2008E	2009E			04-06	07-09E
<b>Mature industries</b>													
<b>Energy</b>													
BG Group	United Kingdom	BG.L	\$ 55,320	Jonathan Waghorn	Sell	799p	14.8x	14.2x	13.9x	1	Top 170 winner; 177% materiality	20%	20%
ENI	Italy	ENI.MI	\$ 133,349	Michele della Vigna, CFA	Buy	€26.97	10.2x	10.0x	9.9x	2	Top 170 near-term winner; 117% materiality	15%	14%
Petroleo Brasileiro S.A. (ADR)	Brazil	PBR	\$ 98,406	Brian Singer, CFA	Neutral	\$123.83				1	Top 170 winner; 69% materiality		
Statol	Norway	STL.OL	\$ 63,659	Michele della Vigna, CFA	Not Rated	Nkr177.25	11.1x	10.1x	9.4x	1	Top 170 winner; 116% materiality	12%	14%
<b>Mining &amp; Steel</b>													
BHP Billiton Plc	United Kingdom	BLT.L	\$ 174,252	Peter Mallin-Jones	Buy	1384p	10.9x	9.9x	11.5x	1	1st Q; 70% BRICs exposure	21%	25%
POSCO	South Korea	005490.KS	\$ 44,416	Rajeev Das	Neutral	₩472500.00	11.7x	8.9x		2	2nd Q; 30.5 Mt pa; high-quality; close to markets	14%	13%
Rio Tinto plc	United Kingdom	RIO.L	\$ 106,239	Peter Mallin-Jones	Neutral	383p	12.3x	10.6x	11.8x	1	2nd Q; 58% BRICs exposure	15%	19%
Voestalpine	Austria	VOES.VI	\$ 13,209	Peter Mallin-Jones	Neutral	€62.62	10.4x	10.9x	12.9x	2	2nd Q; 6.4 Mt pa; niche; close to markets	11%	11%
<b>European Media</b>													
British Sky Broadcasting	United Kingdom	BSY.L	\$ 24,244	Laurie Davison	Neutral	644p	22.5x	18.3x	14.6x	2	Disruptive technology; 1/3 UK TV homes	46%	37%
Reed Elsevier (UK)	United Kingdom	REL.L	\$ 16,238	Veronika Pechlaner, CFA	Neutral	644p	18.0x	16.4x	14.8x	1	Print to online; 30-35% sales online	14%	14%
WPP Group plc	United Kingdom	WPP.L	\$ 18,098	Jean-Michel Bonamy	Not Rated	732p	16.4x	14.3x	12.5x	1	Emerging markets; 21% BRICs exposure	9%	11%
Vivendi	France	VIV.PA	\$ 49,312	Jean-Michel Bonamy	Buy	€31.80	14.1x	13.1x	12.0x	2	Convergence; Music; TV/Film; Telecom	6%	10%
<b>Food &amp; Beverages</b>													
Danone	France	DANO.PA	\$ 39,056	Mark Lynch	Buy	€58.06	20.7x	18.3x	16.3x	1	Innovation and +51 bps margin expansion	13%	17%
Diageo	United Kingdom	DGE.L	\$ 58,954	Mike Gibbs	Neutral	1073p	18.3x	16.6x	15.2x	1	Volume growth; emerging markets	17%	17%
Kellogg Company	United States	K	\$ 20,661	Steven T. Kron, CFA	Buy	\$51.60	18.6x	16.9x	15.3x	2	Innovation and +176 bps margin expansion	14%	17%
Nestle	Switzerland	NESN.VX	\$ 144,617	Mark Lynch	Neutral	Sfr460.75	17.8x	16.1x	14.6x	1	Innovation and +103 bps margin expansion	12%	13%
PepsiCo, Inc.	United States	PEP	\$ 109,615	Judy E. Hong	Buy	\$65.52	20.1x	17.9x	16.0x	2	Innovation and +44 bps margin expansion	21%	21%
<b>Pharmaceuticals</b>													
Bristol-Myers Squibb Company	United States	BMJ	\$ 61,429	James Kelly	Neutral	\$31.23	21.0x	19.3x	16.8x	1	2nd Q; growth; chronic disease focus	18%	22%
Merck & Co., Inc.	United States	MRK	\$ 107,196	James Kelly	Neutral	\$49.26	16.6x	16.6x	14.2x	1	2nd Q; innovation; vaccines focus	21%	22%
Novo Nordisk	Denmark	NOVO.CO	\$ 32,393	John Murphy	Sell	Dkr565.00	19.1x	20.2x	18.2x	2	2nd Q; growth; diabetes focus	22%	24%
Roche	Switzerland	ROG.VX	\$ 154,262	John Murphy	Buy	Sfr216.40	18.4x	15.7x	13.6x	2	1st Q; innovation; growth; oncology focus	17%	25%
	Country	Ticker	Mkt cap US\$ mn	GS analyst	Rating	Price	2007E	2008E	2009E	Theme	Description	EPS growth 2008E	EPS growth 2009E
<b>Emerging industries</b>													
<b>Alternative energy</b>													
Centrosolar	Germany	C3OG.DE	\$ 181	Jason Channell	Buy	€10.14	12.3x	9.3x	7.9x	Alternative Energy: Solar	Niche player focused on residential installations	33%	17%
D1 Oils	United Kingdom	DOO.L	\$ 150	Mariano Alarco	Buy	239p				Alternative Energy: Biofuels	Differentiated strategy using non-food crops	74%	410%
Ersol Solar Energy AG	Germany	ES6G.DE	\$ 785	Jason Channell	Neutral	€59.70	37.1x	13.4x	8.8x	Alternative Energy: Solar	Integrated solar cell and wafer manufacturer	176%	52%
Ormat Technologies, Inc.	United States	ORA	\$ 1,302	Michael Lapides	Neutral	\$36.56	37.3x	22.6x	19.4x	Alternative Energy: Geothermal	Geothermal technology; pure play	65%	16%
Phoenix Solar AG	Germany	PS4G.DE	\$ 158	Jason Channell	Buy	€19.40	17.2x	13.0x	9.7x	Alternative Energy: Solar	Large scale solar power project developer	33%	33%
Solar Millennium	Germany	SZMG.DE	\$ 519	Jason Channell	Neutral	€38.99	23.9x	20.7x	18.0x	Alternative Energy: Solar	Leading solar thermal project developer	15%	15%
SunPower Corp.	United States	SPWR	\$ 4,383	Chris Hussey	Neutral	\$59.45		63.3x	25.6x	Alternative Energy: Solar	Low-cost, high-efficiency producer		147%
Suntech Power	China	STP	\$ 4,928	Cheryl Tang	Neutral	\$33.14	31.1x	21.9x	17.0x	Alternative Energy: Solar	Established track record of execution	42%	29%
Sunways AG	Germany	SWWG.DE	\$ 135	Jason Channell	Buy	€9.23	51.3x	15.6x	11.0x	Alternative Energy: Solar	Niche solar products for buildings/windows	230%	41%
Vestas Wind Systems	Denmark	VWS.CO	\$ 12,902	Jason Channell	Buy	Dkr386.50	39.2x	22.0x	17.8x	Alternative Energy: Wind	World's largest wind turbine manufacturer (~30%)	78%	26%
<b>Environmental technology</b>													
FP	Japan	7947.OS	\$ 708	Yasuo Kono	Buy	¥4010.00	16.5x	14.1x	12.6x	Environmental technology: Recycling	Niche focus on recycled food containers	17%	11%
LKQ Corp.	United States	LKQX	\$ 1,284	Chris Hussey	Buy	\$24.06	23.6x	18.3x	15.3x	Environmental technology: Recycling	Niche focus on recycling autoparts	29%	20%
Pentair, Inc.	United States	PNR	\$ 3,760	Deane M. Dray, CFA	Neutral	\$37.99	19.2x	17.3x	15.2x	Environmental technology: Water	75% water revenues; new management focus	11%	14%
Shanks Group	United Kingdom	SKS.L	\$ 1,256	Jenny Ping	Buy	268p	20.3x	17.1x	14.9x	Environmental technology: Waste	UK growth opportunity in waste services	19%	14%
Sinomem Technology	Singapore	SINO.SI	\$ 385	Christina Hee, CFA	Buy	S\$1.28	19.4x	14.6x	12.4x	Environmental technology: Water	Desalination technology leaders	33%	18%
Tomra Systems	Norway	TOM.OL	\$ 1,392	Jonathan Rodgers, CFA	Neutral	Nkr53.90	27.9x	22.8x	18.9x	Environmental technology: Recycling	Recycles beverage cans through RVM	23%	20%
<b>Biotechnology</b>													
Actelion	Switzerland	ATLN.S	\$ 5,825	Stephen McGarry	Buy	Sfr58.85	20.5x	16.8x	14.3x	Biotechnology	Pulmonary arterial hypertension (PAH)	22%	16%
Amylin Pharmaceuticals, Inc.	United States	AMLN	\$ 5,379	Meg Malloy, CFA	Buy	\$41.30			103.3x	Biotechnology	Obesity and diabetes	71%	183%
Elian Corporation (ADR)	Ireland	ELN	\$ 9,379	Stephen McGarry	Buy	\$21.13			92.8x	Biotechnology	Neurology and Alzheimer's	58%	182%
Intercell	Austria	ICEL.VI	\$ 1,257	Stephen McGarry	Neutral	€23.70		95.7x	38.2x	Biotechnology	Vaccines for infectious diseases	237%	150%
Genentech Inc.	United States	DNA	\$ 79,472	May-Kin Ho, Ph.D.	Buy	\$75.40	29.0x	23.6x	19.7x	Biotechnology	Biotherapeutics for cancer and other conditions	23%	20%
Genmab	Denmark	GEN.CO	\$ 3,002	Stephen McGarry	Buy	Dkr379.00		186.9x	37.0x	Biotechnology	Antibodies; oncology	137%	324%
Gilead Sciences Inc.	United States	GILD	\$ 36,755	Meg Malloy, CFA	Buy	\$79.10	27.3x	23.6x	20.0x	Biotechnology	HIV/AIDS; infectious diseases	15%	18%

Source: Company data, Goldman Sachs Research estimates, Quantum database.

## The world is changing

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In our view, companies are operating in a more rapidly changing and challenging world than previously. Globalization and a changed political landscape are combined with significant changes in populations, urbanization, resource utilization, climatic patterns, and employee and consumer attitudes. The evolution of communications networks means that there is greater connectivity than ever before, and, in conjunction with the rise of the NGOs, companies operate in a more transparent environment than previously.

More capital is now focused on sustainable business models, and the market is rewarding leaders and new entrants in a way that could scarcely have been predicted even 15 years ago. The more globally oriented resource and financial sectors are unrecognizable from the way they looked in the 1990s, with up to 35% of the top 20 energy companies by market capitalization now coming from BRICs countries.

We see the following global trends emerge:

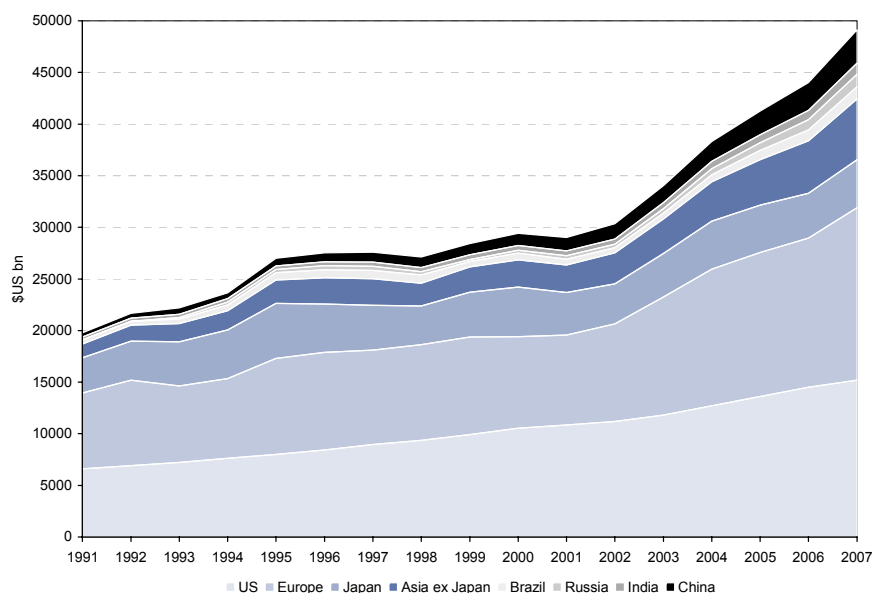
- Changing GDP
- Population is growing and ageing
- Urbanization rates are increasing globally
- Resource constraints and environmental impacts are posing challenges:
  - Energy
  - Food
  - Emissions
  - Water and waste
- The millennial generation creates a different workplace
- Consumers changing in the old world; new consumers in a new world
- Interconnectivity increases communication of the flow of news and ideas
- NGOs continue to focus on companies
- Shareholders are becoming more active
- UN Global Compact provides a mechanism for engagement with stakeholders
- Industry structures are changing rapidly and this change will accelerate in the future

New industries have emerged specifically to target many of the issues mentioned above. The pace of change is accelerating, and we believe that future developments will be even more profound.

## Changing GDP

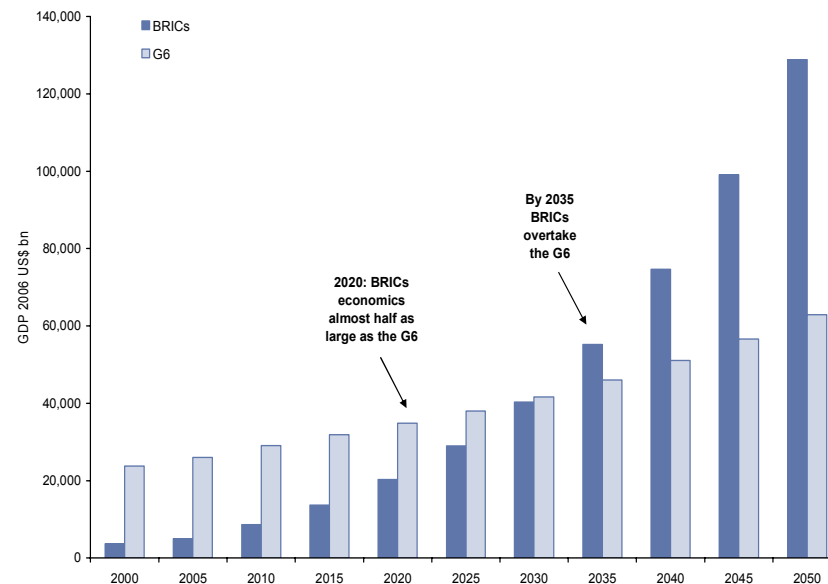
Global GDP remains dominated by G6 countries, with Europe, the US and Japan accounting for 75% of GDP in 2007 compared with 89% in 1991. However, the growth rate for other regions is spectacular. Goldman Sachs economists estimate that BRICs GDP grew from US\$3,664 bn in 2000 to US\$4,941 bn in 2005, or around 15% the size of the G6, and forecast this to reach US\$8,600 bn in 2010, almost 30% of the G6 level. By 2020, BRICs economies could be almost half as large as the G6 and could reach parity around 2030. In less than 30 years, the BRICs economies together could be larger than the G6 in US dollar terms. In US dollar terms, China could overtake Germany by 2007, Japan by 2015 and the US by 2039. India's economy could be larger than all but the US and China in 30 years. Russia could overtake Germany, France, Italy and the UK. Of the current G6 (US, Japan, Germany, UK, France and Italy), only the US and Japan may be among the six largest economies in US dollar terms in 2050.

**Exhibit 6: GDP by region for North America, Europe, Japan, Asia ex-Japan, BRICs countries and ROW**



Source: Goldman Sachs ERWIN Database

**Exhibit 7: Total absolute GDP (US\$ bn) for BRICs and G6 over time, with our forecasts**



Source: Goldman Sachs Economic Research, GS BRICs Model Projections.

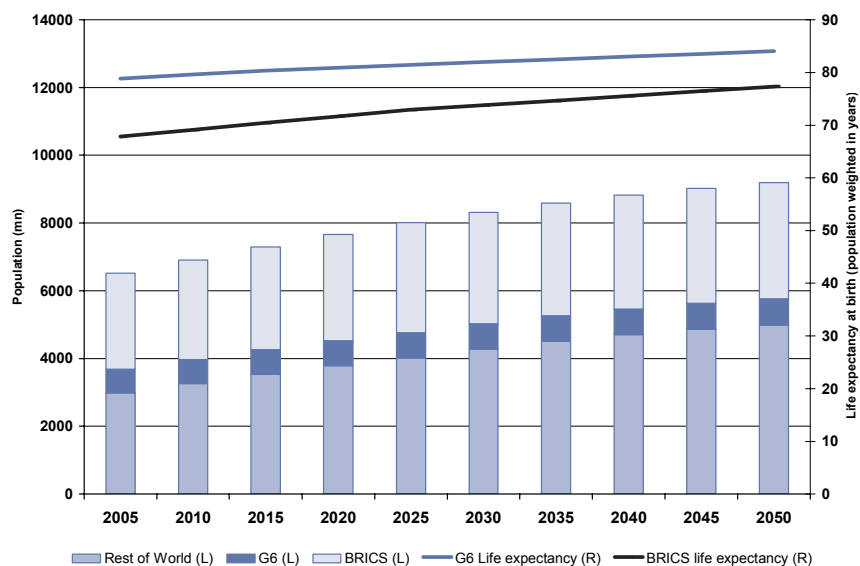
### Population is growing and ageing

The UN forecasts that the global population will grow by 40% from 6.5 bn in 2005 to more than 9 bn by 2050. This compares with 115% growth since 1960. Africa and Asia will account for 90% of the population growth, whereas Europe’s population is forecast to contract by 9% over the period. Working-age populations are peaking across the G6, which could have a significant impact on GDP growth, whereas life expectancy is growing in BRICs countries and working age population is unlikely to peak until 2050. This unequal growth, especially in relation to resource availability, will have profound impacts, not least on migration.

### Urbanization rates are increasing globally

Not only are populations growing, but urbanization rates are increasing rapidly, especially in BRICs countries. The proportion of the world’s population living in urban developments has now overtaken those living in rural areas for the first time. In China and India, this proportion will increase from less than 25% in the early 1980s to around 50% by 2030, according to the United Nations Population Division. Even then, this will be well below the 80% average of the G6. This urbanization will have profound effects on resource utilization, waste creation, emissions and living standards, especially with so much of the population concentrated near the sea in an era of more volatile weather patterns.

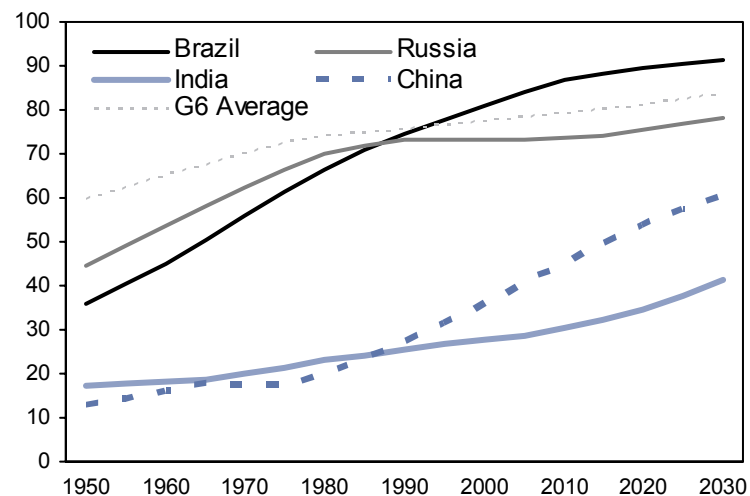
**Exhibit 8: Population growth and life expectancy at birth for the G6, BRICs and Rest of World**



Source: UN Population Division

**Exhibit 9: Urbanization rates for G6 and BRICs**

Urban population share (%)



Source: Goldman Sachs Economic Research, GS BRICs Model Projections

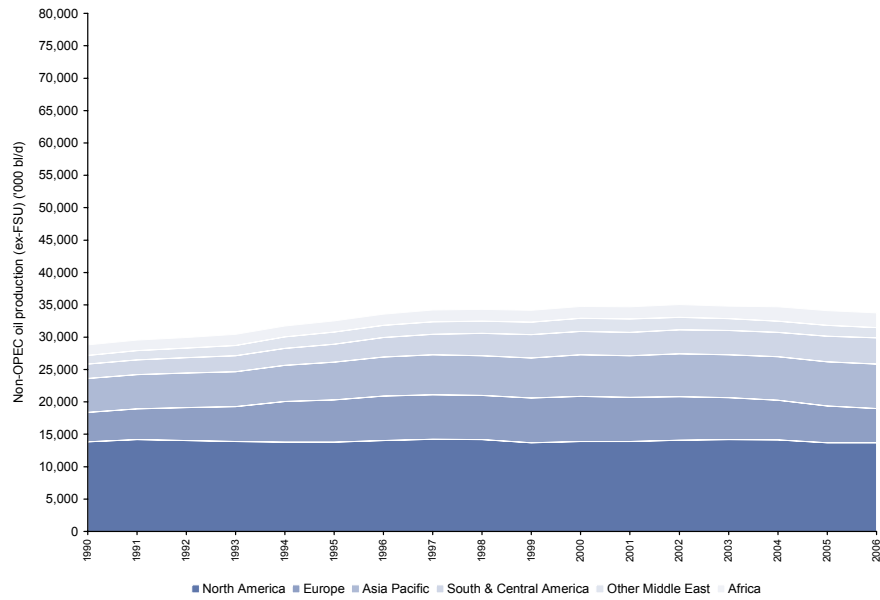
## Resource constraints and environmental impacts are posing challenges

Urbanization, in conjunction with economic development and population growth, will lead to continued growth in resource consumption, and magnify the mismatch between consumption and production of resources.

- **Energy:** incremental energy demand is now largely driven by BRICs countries. Since 2000, growth rates of oil consumption have been 4% pa on average, compared with less than 0.5% for the G6. China accelerated oil production from less than 1% of global production in 1965 to 5% in 2006. In 1965, the US alone accounted for 37% of oil consumption, falling to 25% in 2006. Over that time period, China's oil consumption grew at a staggering 9% per year from less than 1% of world oil consumption to 9%. Even so, the G6 still accounts for 41% of global demand at present. However, the bulk of new projects and future production is set to come from non-OECD countries. The new projects will have 31% higher political risk than current production (based on our political risk index) and will use more complex technology.
- **Food:** Production of beef, pork, and poultry in China and Brazil alone has grown from 21% of world production in 1990 to 43% in 2006. As the population of BRICs countries grows, they are likely to move towards becoming net consumers as opposed to exporters. The use of agricultural products as feedstock for fuels is already causing tension with regard to corn prices.
- **Emissions:** Not surprisingly, such rapid economic growth and urbanization is already resulting in dramatic increases in energy use and associated carbon dioxide and other emissions. Total energy use rose by 24% from 1990 to 2004 and is projected to increase by 53% to 2030 according to the IEA (International Energy Agency). In general, emissions are increasing most rapidly in emerging markets, in line with economic growth and an energy mix concentrated in coal and oil power generation, with China set to have the largest absolute increase in emissions by 2030. In addition to their considerable pollution effect, these emissions are commonly cited as a major contributory factor to global warming.
- **Water and waste:** Water consumption is one of the areas most significantly affected by urbanization. Asia, Africa and Europe all have profound mismatches in clean water supply relative to demand. In 1900, almost 90% of water withdrawal was used for agricultural purposes. While agriculture continues to be the primary use of water withdrawal, at 63% in 2005, urban consumption has been growing at three times the rate of other uses for the past 15 years. Furthermore, global water assets are not equally distributed and large parts of Northern Africa, the Middle East and Asia have low water resources in relation to population, and exhibit high water stress. This can lead to situations of acute shortage, especially in areas of high economic growth and rapid urbanization. For example, 400 of 660 Chinese cities lack sufficient water supply, with 110 cities suffering severe shortages. Waste production is also closely linked to development and urbanization, as there is a close correlation between waste/capita and GDP/capita. We forecast municipal waste generated to grow by 8% pa from the 2005 level of 2 bn tonnes to 2030. The waste market is subject to increasingly strict environmental regulation, where recycling and recovery of waste is becoming a significant part of the sector.

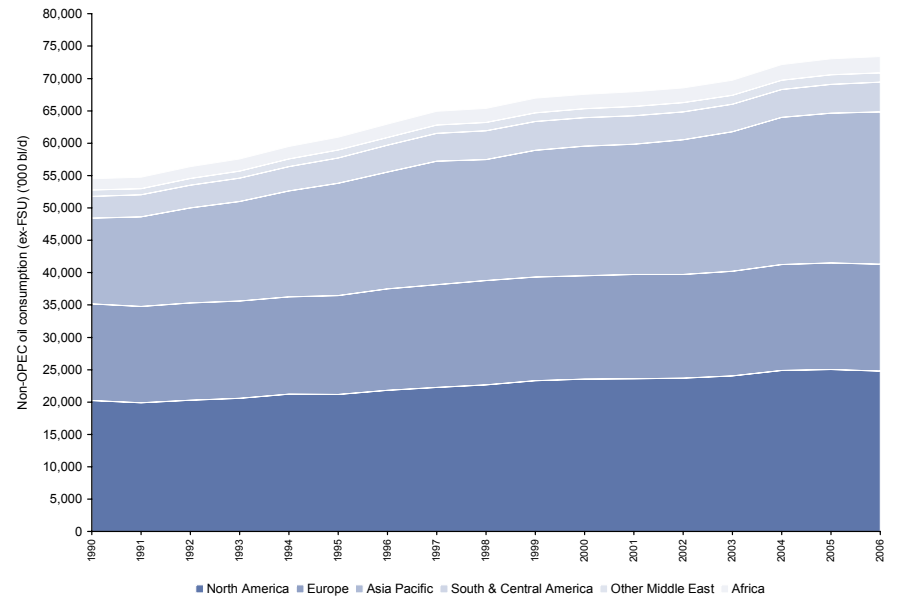
## Incremental energy demand is now largely driven by BRICs countries

**Exhibit 10: Non-OPEC oil production by region**



Source: BP Statistical Review of Energy.

**Exhibit 11: Non-OPEC oil consumption by region**

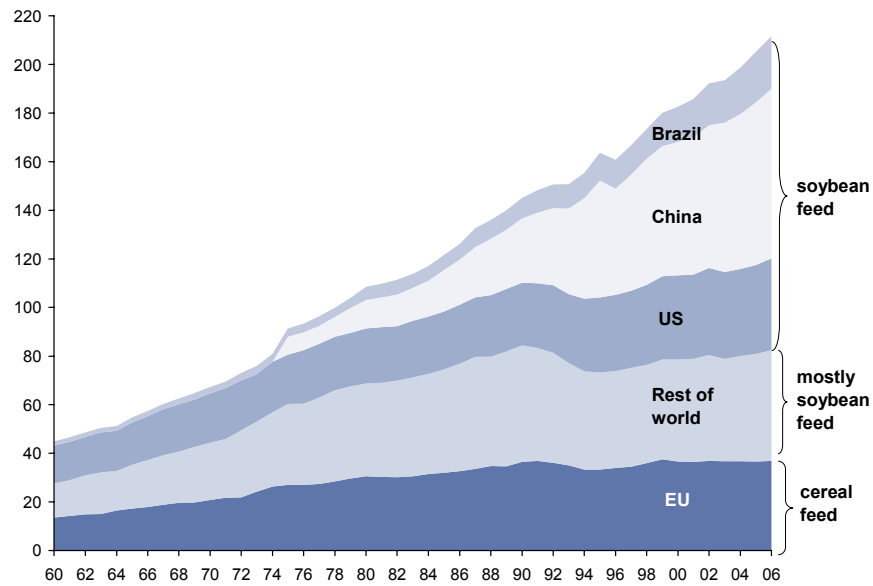


Source: BP Statistical Review of Energy.



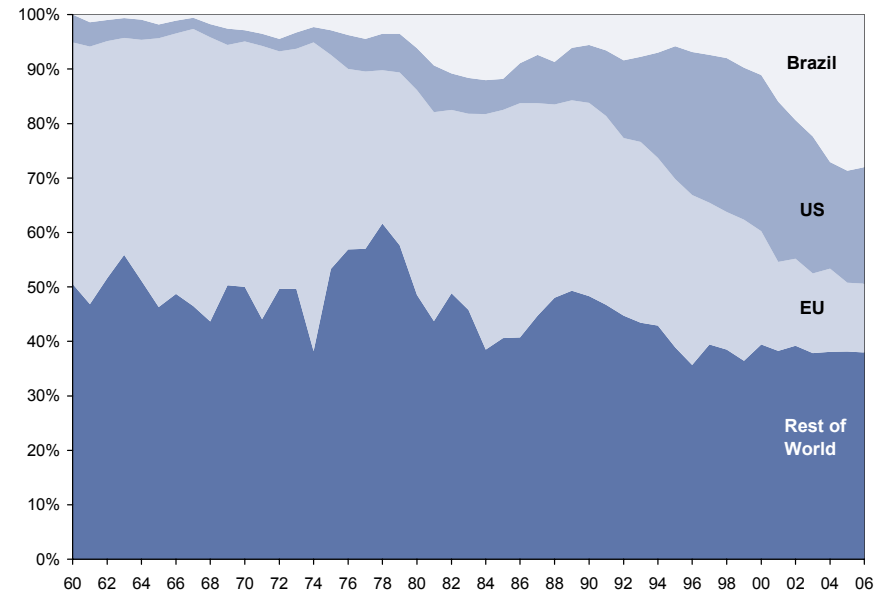
## As the population of BRICs countries grows, they are likely to be net consumers

**Exhibit 12: Million metric tons of beef, pork and poultry production**



Source: USDA, Goldman Sachs Commodities Research.

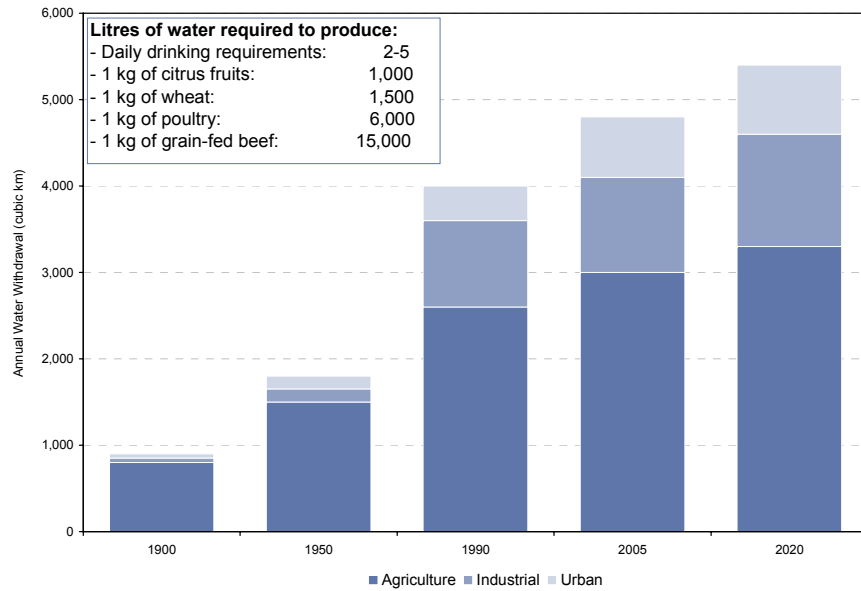
**Exhibit 13: Percentage share of global exports of beef, pork and poultry**



Source: USDA, Goldman Sachs Commodities Research.

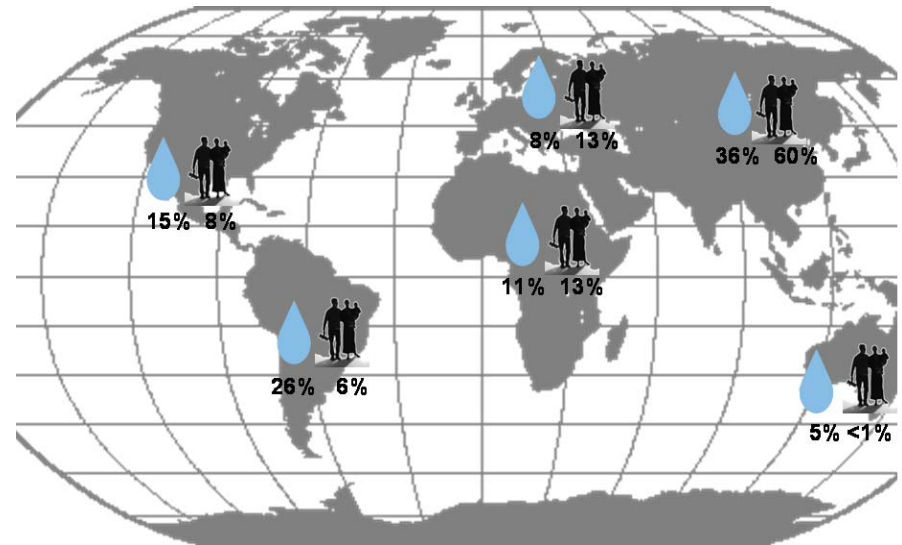
## Water consumption significantly affected by urbanization

**Exhibit 14: Absolute water consumption for agriculture, industrial and urban uses with typical water consumption rates (inset)**



Source: International Commission on Irrigation and Drainage.

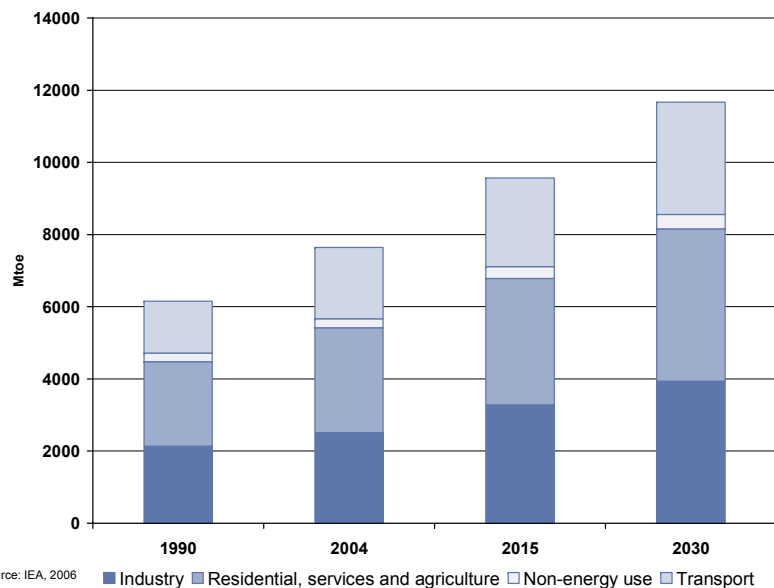
**Exhibit 15: Regional share of water resources and population**



Source: United Nations.

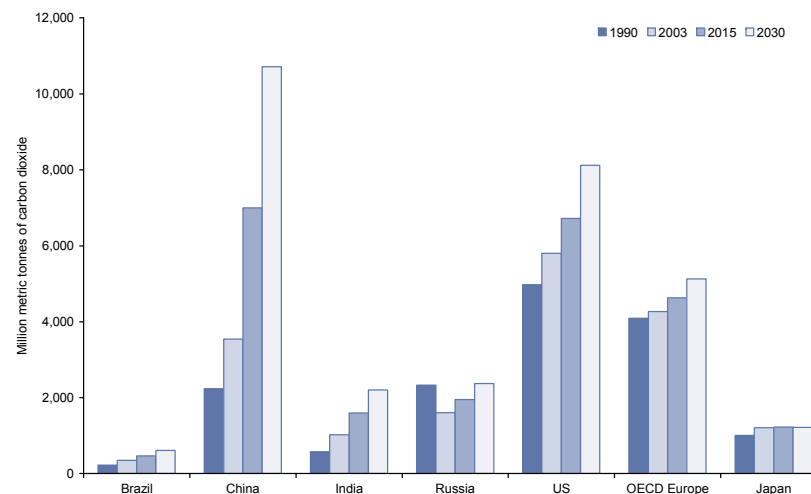
## Rapid economic growth results in energy use and emissions to match

**Exhibit 16: Absolute energy use by industry, residential, services and agriculture, non-energy use and transport**



Source: IEA.

**Exhibit 17: Carbon dioxide emissions projections (mn metric tons of carbon dioxide)**

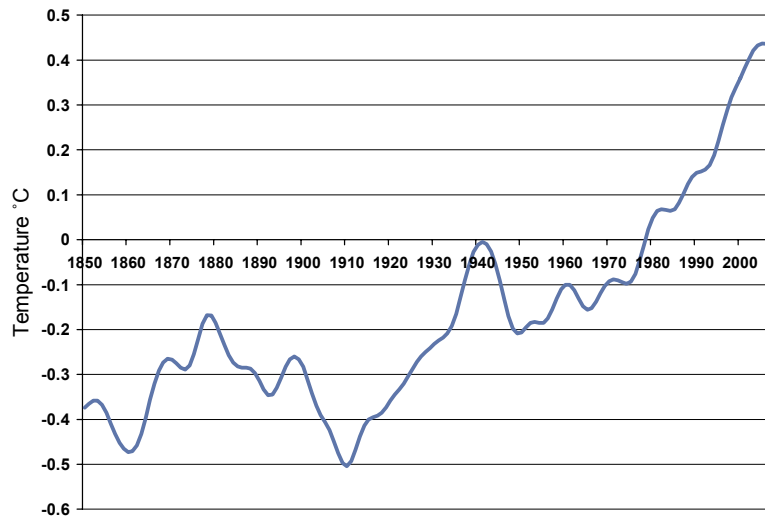


Source: EIA.

### Irrespective of the cause, global temperatures are rising

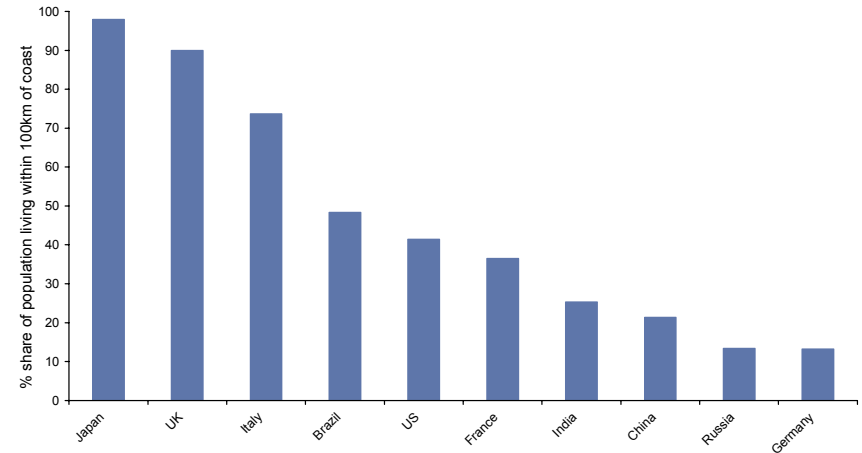
Rising temperatures, increased emissions, water supply constraints and increased waste production make up a heady cocktail that is set to pose greater challenges to an increasingly urbanized global population. These challenges must be met to maintain living standards. The recent focus on climate change by national governments following the publication of the Stern Review, the IPCC reports and the G8 summit agreement, highlights the potential for further regulation around carbon and the environment, increasing the risk of punitive regulation on companies. As weather patterns alter and become more unpredictable, this poses risks to the significant and increasing percentage of the world's population that lives within 100 km of the coast. The risk of dislocation to business also increases.

**Exhibit 18: Global warming expressed as annual deviation from global expected mean temperature**



Source: Met Office

**Exhibit 19: Share of population living within 100 km of the coast**

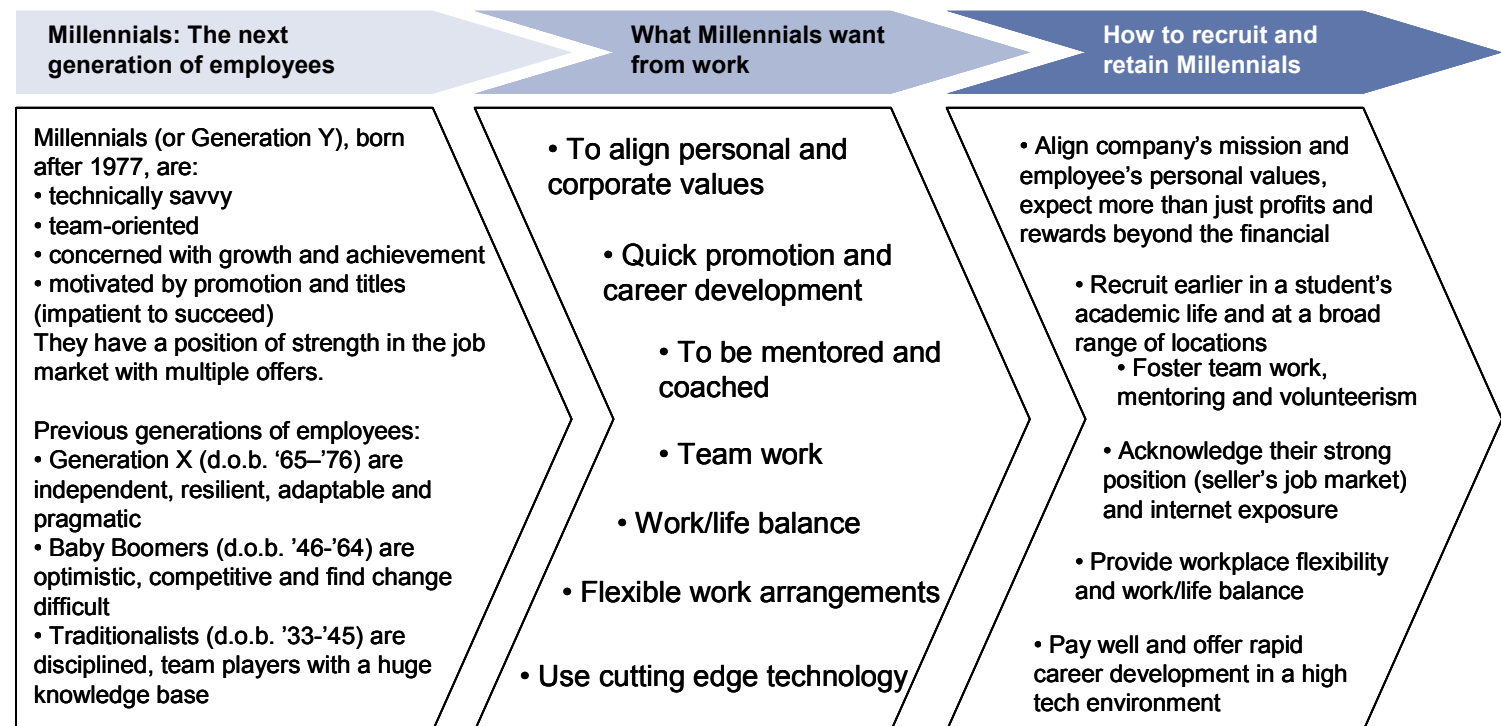


Source: Socioeconomic Data and Applications Center.

## The millennial generation creates a different workplace

Not only are workforces becoming more global, but the needs of employees are changing. The percentage of the population born after 1977 (the millennial generation, or generation Y) is almost 50% greater than that of generation X. Research at both the corporate and university levels suggests that the next generation of employees and consumers have specific needs at work that are dramatically different from previous generations. High among these are a desire to align personal and corporate values. To attract and retain this group, we believe that companies need to provide rewards beyond financial gain, in addition to mentoring and coaching and a high-tech, flexible workplace.

### Exhibit 20: Millennials: The next generation of employees



Note: Goldman Sachs summary of literature on the Millennial Generation using a variety of sources and personal interviews

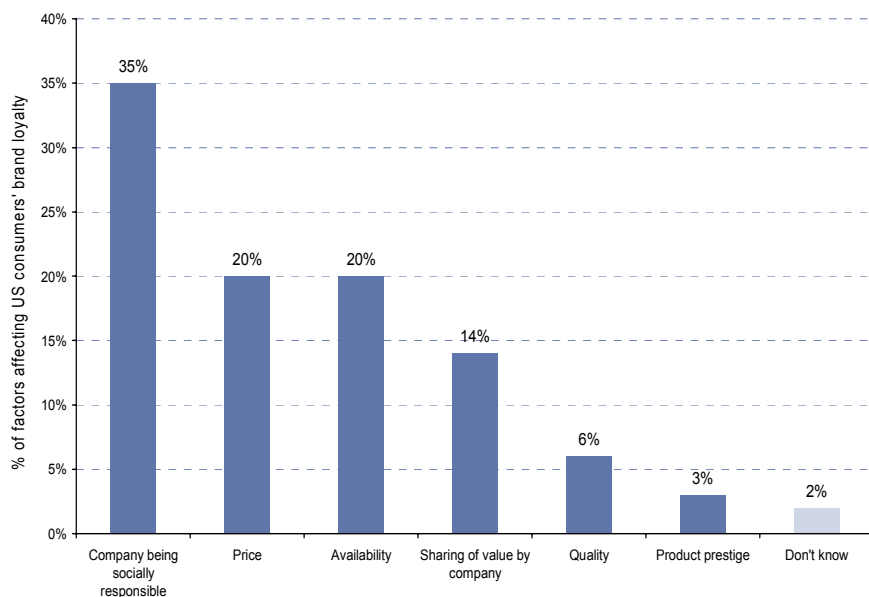
Source: Goldman Sachs Human Capital Management.

## Consumers changing in the old world

We believe that consumers will continue to be a driving force of corporate awareness. Recent studies have shown that consumers identified "being socially responsible" as the most likely factor influencing brand loyalty at 35%, compared with lower price (20%), easily available products (20%), product prestige (3%), company shares your values (14%) and quality (6%).

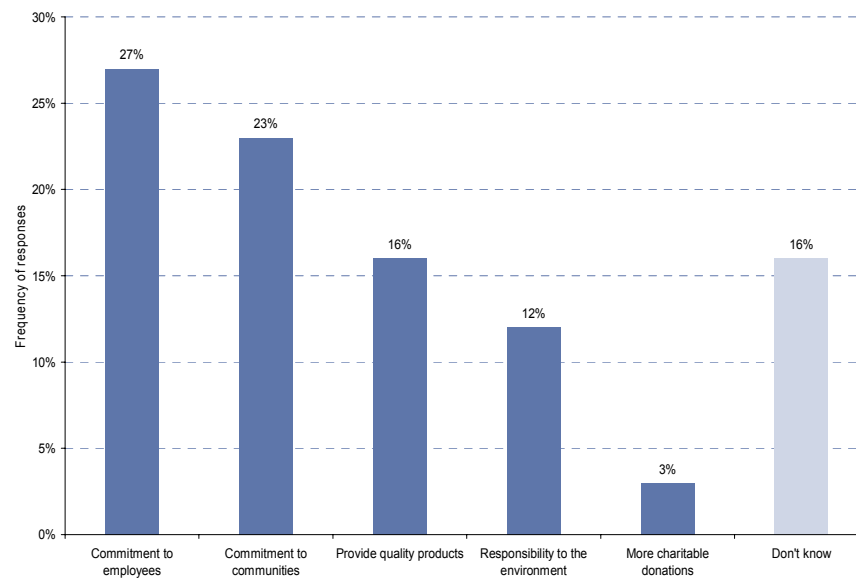
In addition, 52% of US consumers claim that they actively seek information on companies' Corporate Social Responsibility (CSR) record "all of the time" (6%) or "sometimes" (46%), with almost half (47%) indicating that they use the internet as the primary source of CSR-related information, but citing credibility concerns. As more of the millennial generation makes a significant impact on the consumer base, we believe this trend will increase.

**Exhibit 21: Factors influencing brand loyalty for Western consumers**



Source: Rethinking Corporate Social Responsibility, National Consumers League and Fleishman-Hillard.

**Exhibit 22: How US consumers define corporate social responsibility**

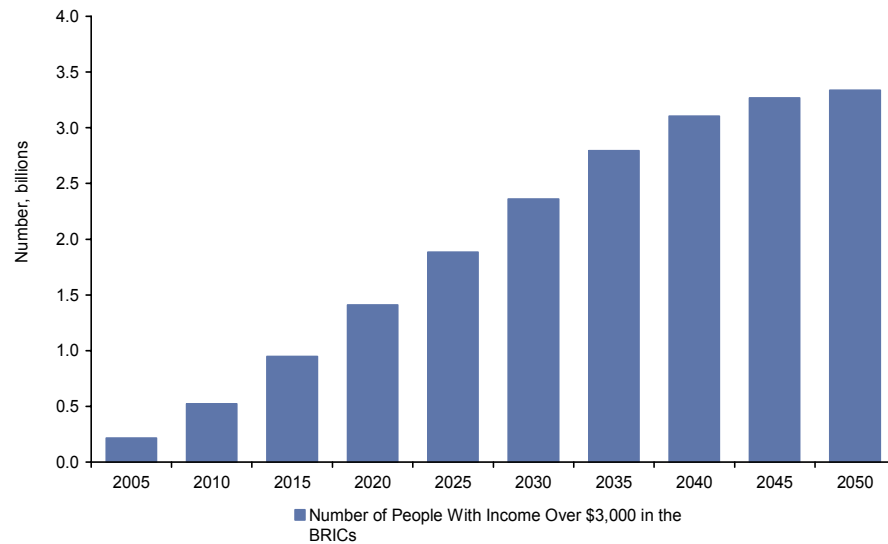


Source: Rethinking Corporate Social Responsibility, National Consumers League and Fleishman-Hillard.

## New consumers in a new world

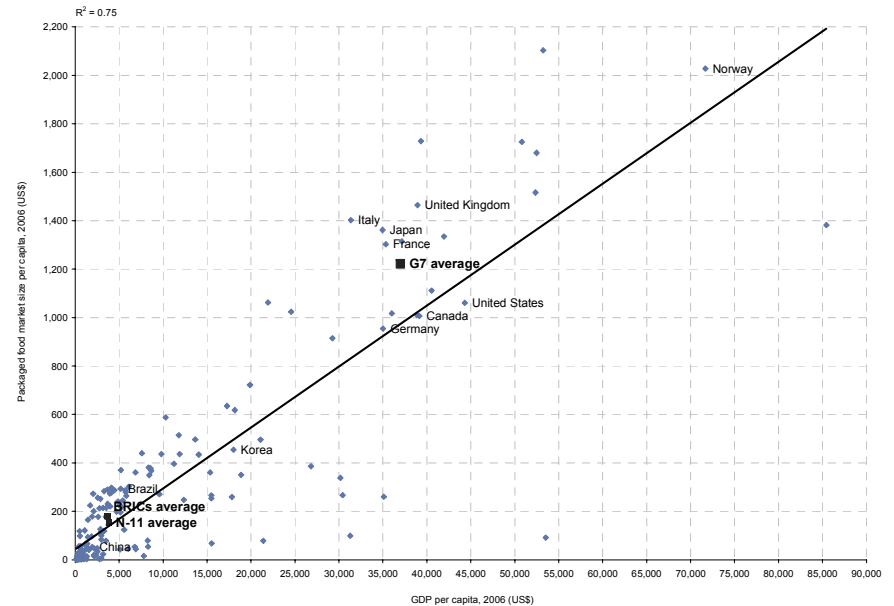
Even though GDP/capita in BRICs countries will lag well behind that of the G6 for the foreseeable future, the number of people earning a middle-class income will increase exponentially. We define middle-class income in BRICs countries as US\$3000 per capita. In China, we expect the number of people with incomes over US\$3,000 to increase ten times by 2015, 14 times in India and to double in Brazil and Russia from already high levels. We forecast that an incremental 2 bn people will attain this level of income over the next 20 years. The impact on markets and consumption patterns will be significant.

**Exhibit 23: The emerging middle class of the BRICs**



Source: Goldman Sachs Economics Research, GS BRICs Model Projections.

**Exhibit 24: Packaged food consumption versus GDP per capita**

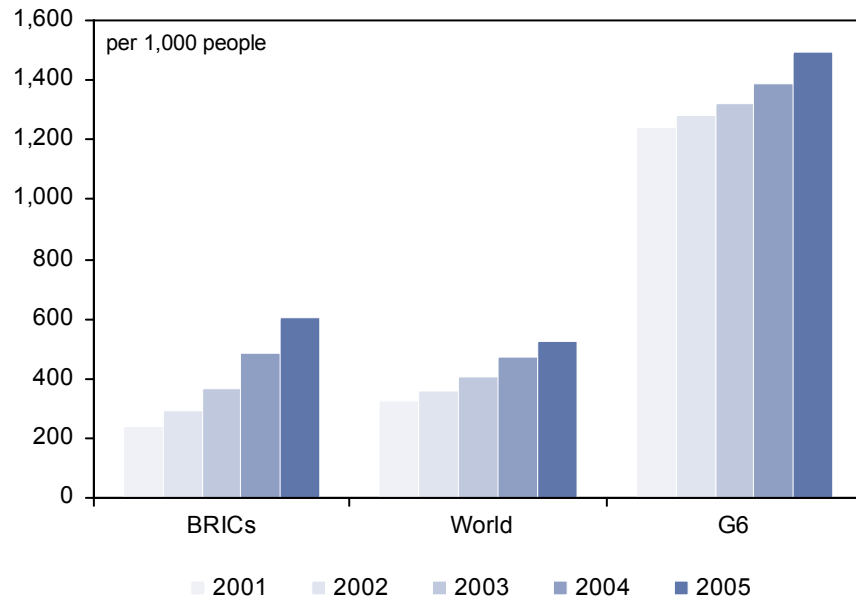


Source: Goldman Sachs Economics Research, GS BRICs Model Projections.

### Interconnectivity increases communication of the flow of news and ideas

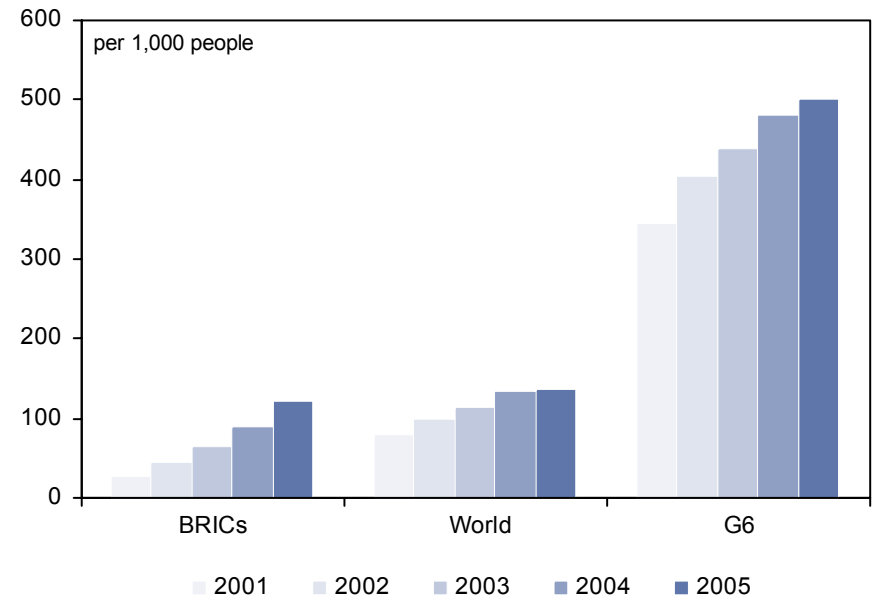
Approximately half the people in the world have either fixed line or mobile phones, and between one and two out of ten are internet users. While the G6 is still well ahead, with 1.4 phone lines per person and over half the population being internet users, the rate of growth for both in BRICs countries is extremely high. Phone penetration grew by 26% per annum from 2001 to 2005, outpacing the world (13%) and the G6 (5%), and internet penetration grew by 46%, outpacing the world (14%) and the G6 (10%). These increases in connectivity are shrinking the world and resulting in a more transparent environment.

**Exhibit 25: Fixed line and mobile phone subscribers (per 1,000 people)**



Source: World Development Indicators.

**Exhibit 26: Internet users (per 1,000 people)**



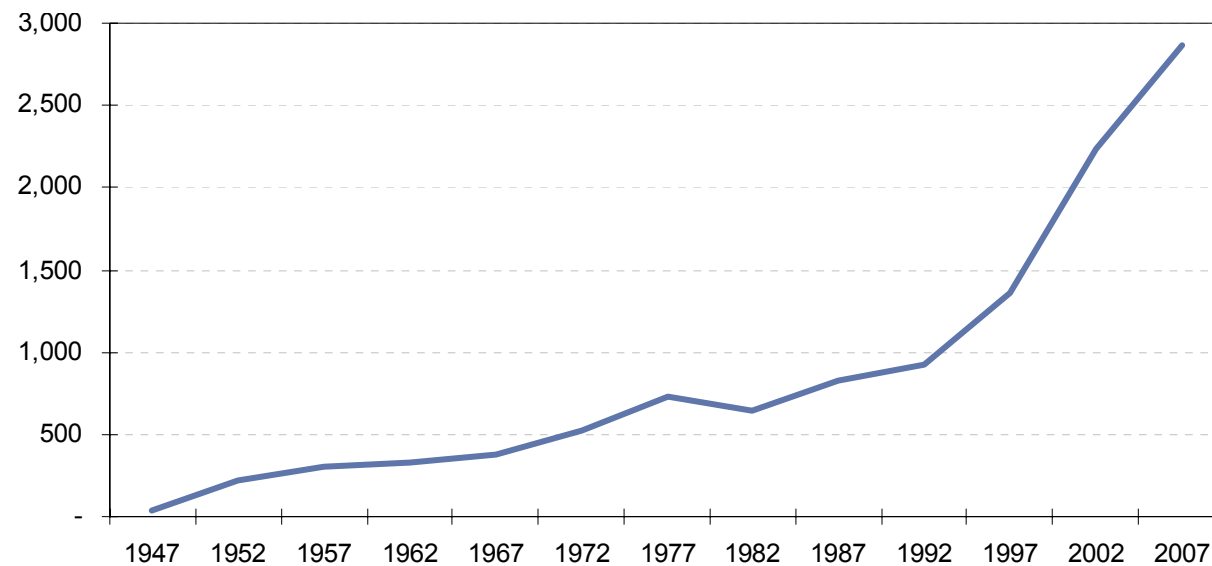
Source: World Development Indicators.



## NGOs continue to focus on companies

Non-governmental organizations began formally participating with the United Nations following WWII, when the Economic and Social Council granted consultative status to 41 NGOs. The number of NGOs registered with the UN Economic and Social Council has doubled over the last decade. The UN now has 3,000 registered NGOs with consultative status. Especially in view of the increase in interconnectivity mentioned above, it is far easier for NGOs to raise issues and bring pressure to bear in public forums than in the past. The operating environment for the corporate world is far more transparent than historically.

**Exhibit 27: Number of NGOs in consultative status with the United Nations Economic and Social Council (ECOSOC)**

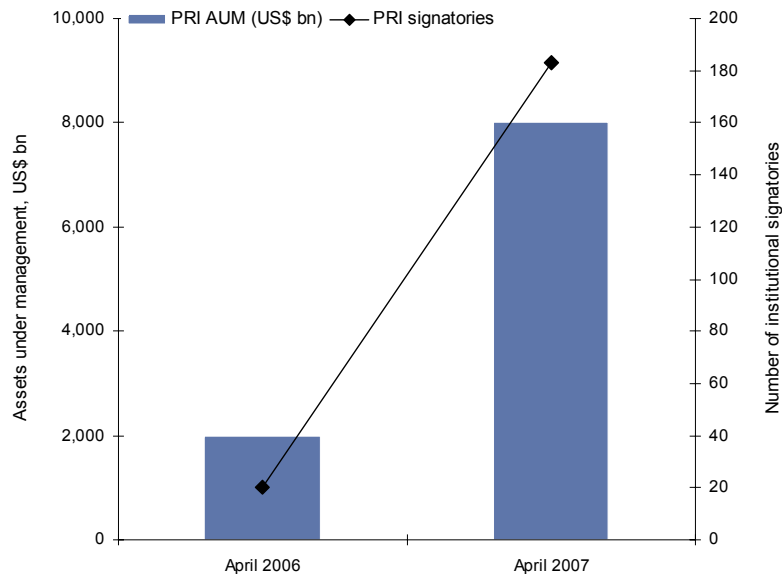


Source: United Nations Economic and Social Council (ECOSOC).

## Shareholders are becoming more active

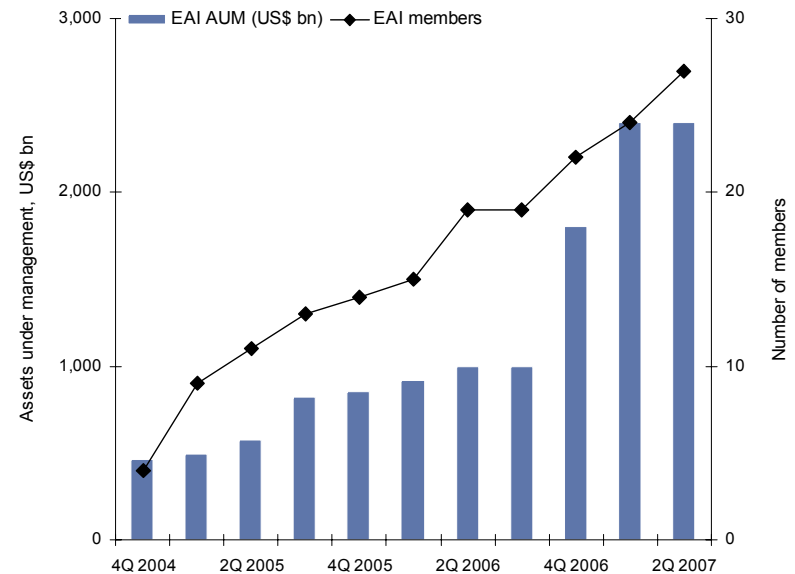
There has been a dramatic increase in the number of investors seeking to incorporate sustainability and ESG (environmental, social and governance) factors into their portfolio construction. This is particularly true of pension funds, responding to the desire by investors to see their money being managed successfully for the long run but also to enjoy the benefits of it in the most congenial environment possible. More than 180 institutions representing US\$8 bn have signed up to initiatives such as UNEP FI (United Nations Environment Program Finance Initiative) and UN PRI (United Nations Principles for Responsible Investment), and the EAI (Enhanced Analytics Initiative) has 27 institutions representing US\$2.4 bn of assets.

**Exhibit 28: The UN Principles for Responsible Investment (PRI) has grown to 183 institutions representing US\$8.0 tn in assets under management**



Source: United Nations Principles for Responsible Investment.

**Exhibit 29: The Enhanced Analytics Initiative (EAI) has grown to 27 institutions representing US\$2.4 tn in assets under management**



Source: Enhanced Analytics Initiative.

## UN Global Compact provides a mechanism for engagement with stakeholders

Companies are trying to protect themselves in response to this changing environment by grouping together to create voluntary standards and pre-empt potential regulation. Industry-led initiatives, such as IPIECA (International Petroleum Industry Environmental Conservation Association), ICMM (International Council on Mining & Metals) and SAI (Sustainable Agriculture Initiative), are driven by self-interest. There is a greater level of engagement with regulators, government and inter-governmental organizations, such as the UN. With more than 2,900 companies as members in over 100 countries at the end of 2006, the UN Global Compact reaches far beyond the principles to be a network with which companies can connect to their suppliers, consumers, governments, regulators and employees.

**Exhibit 30: UN Global Compact at the crossroads of companies, external stakeholders, investors and governments**

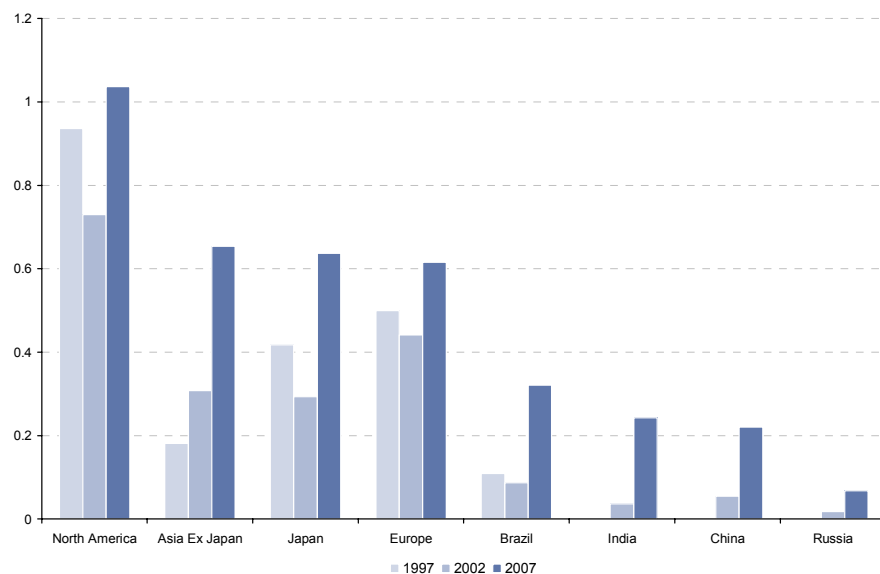


Source: Goldman Sachs Research.

## Industry structures are changing rapidly and will accelerate in the future

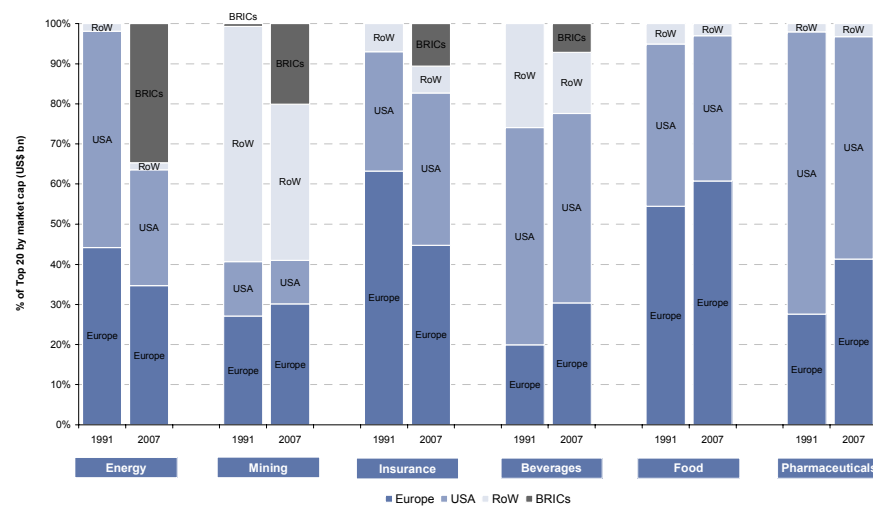
In spite of dramatic recent growth, market cap relative to GDP for BRICs countries is still a fraction of that of the G6. This suggests further dynamic growth ahead. The structures of the more globalized industries, particularly resource-based ones, have changed in a way that could not have been imagined even a decade ago. Of the top 20 companies by market capitalization in the energy industry, for example, 35% are now from BRICs countries. In the mining industry, the proportion is now up to 20%. To date, consumer sectors have yet to be affected, but we believe that change is inevitable. In addition, new industries are emerging to meet the challenges of the changing world with disruptive business models.

**Exhibit 31: Market capitalization versus total GDP for various regions (with no corrections for free float)**



Source: Goldman Sachs Economics Research, GS BRICs Model Projections.

**Exhibit 32: Market cap in 1990 and 2007 for the Top 20 companies in energy, mining, insurance, beverages, food and pharmaceuticals**



Source: Datastream, Goldman Sachs Research estimates.

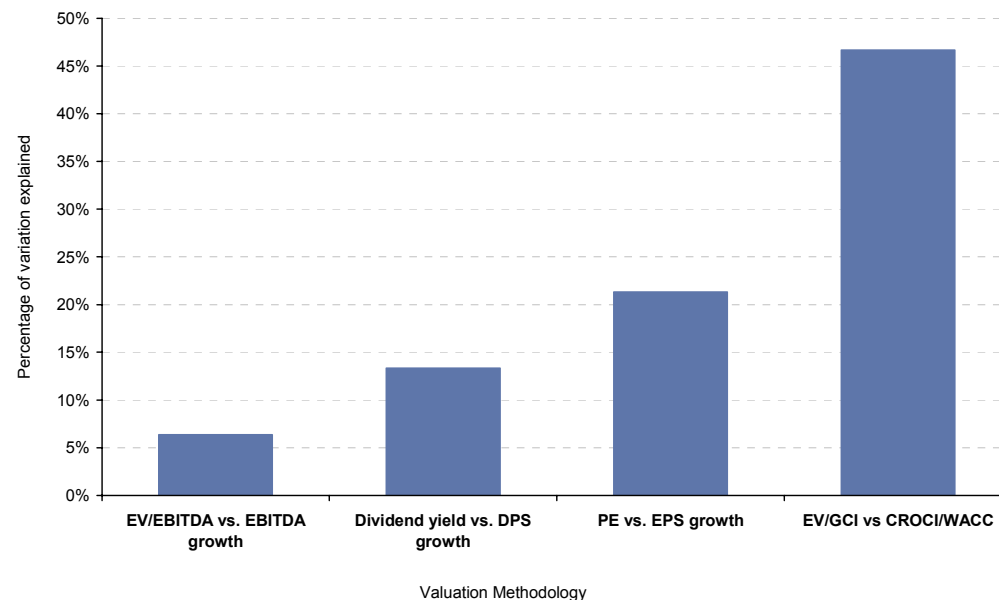
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## Market valuation of companies is not changing

### Cash return spreads drive valuation and performance

Our analysis of more than 15 years of historical financials finds that economic returns, not growth, have had by far the greatest predictive power of outperformance, as the market pays for sustainable returns. Our analysis suggests that there is little, if any, correlation between multiples and growth (such as EV/EBITDA to growth, P/E to growth, and dividend yield to growth), either for the market or for individual sectors. However, correlations between the valuation of cash invested in the business and the spread of economic returns to the cost of capital are consistently high. We observe that growth is far less durable than returns, both for European companies and the global sectors that we have analyzed to date (energy, mining, food, beverages and pharmaceuticals). As such, it is harder for the market to ascribe a multiple to growth than to returns.

**Exhibit 33: Goldman Sachs cash return spreads valuation methodology**



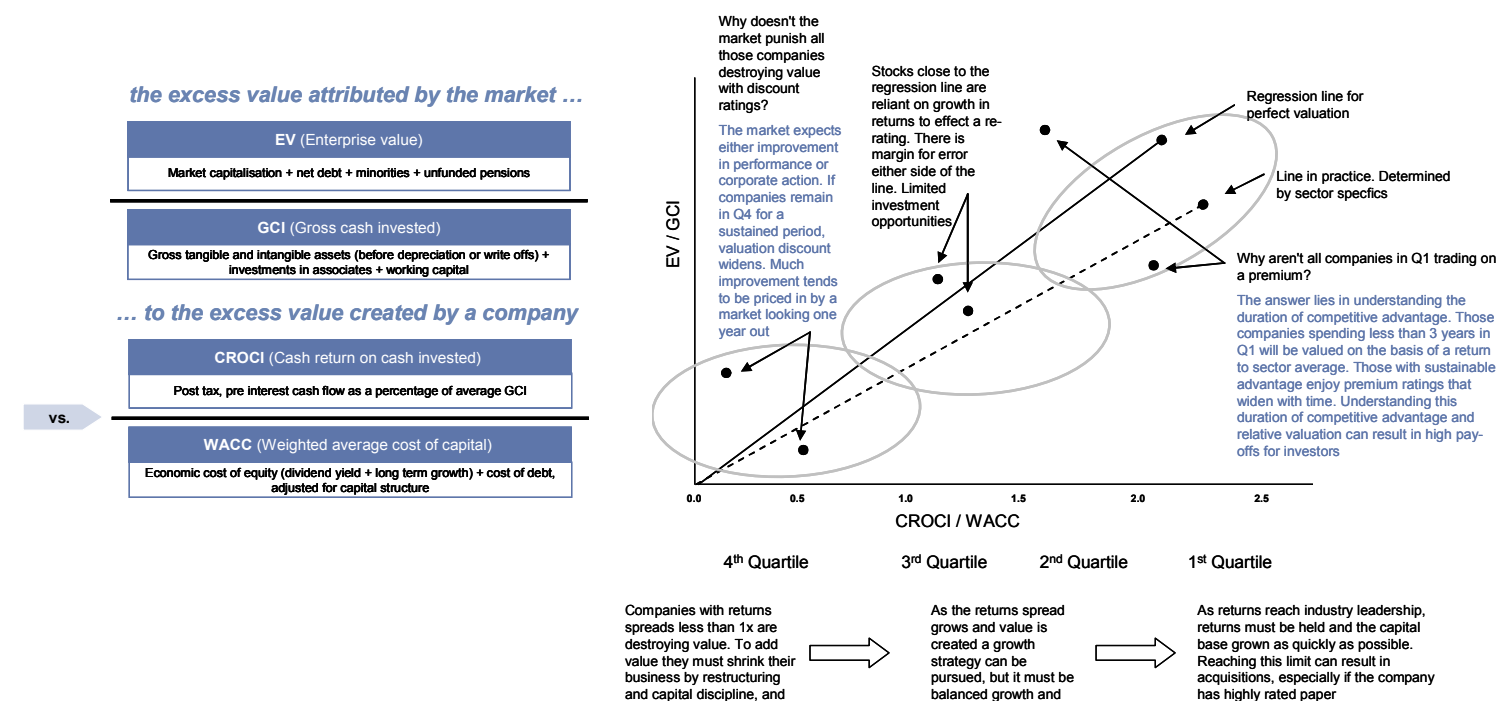
Source: Goldman Sachs Research.

## Mature industries trade on returns

Assessing valuation across industries, markets and regions introduces challenges in terms of reconciling metrics, which are often distorted by differing accounting techniques (such as for net income). Our Director's Cut series focuses on the key drivers of valuation and performance across the market using a cash returns-based valuation methodology. This in effect eliminates such distortions by focusing on cash rather than earnings, to broadly capture the major financial elements of long-term company performance (see our report *In-depth analysis of industrial performance and valuation*, September 2003).

For those who believe in the efficiency of markets, it should come as no great surprise that this methodology works well. This is because it encapsulates most of the components that should be taken into consideration when analyzing a company and is less distorted by accounting techniques than other valuation measures. The following components are included in the equation: amount of invested cash, independent of amortization policies; economic return on invested cash, adjusted for exceptional and non-cash items; capital structure; cost of capital; and evaluation of the corporate entity, not just the equity component. As all these components are included in the equation, this methodology captures the major financial elements of a company's performance. It also links valuation to relative competitive advantage and corporate strategy.

**Exhibit 34: Goldman Sachs cash return spreads valuation methodology**



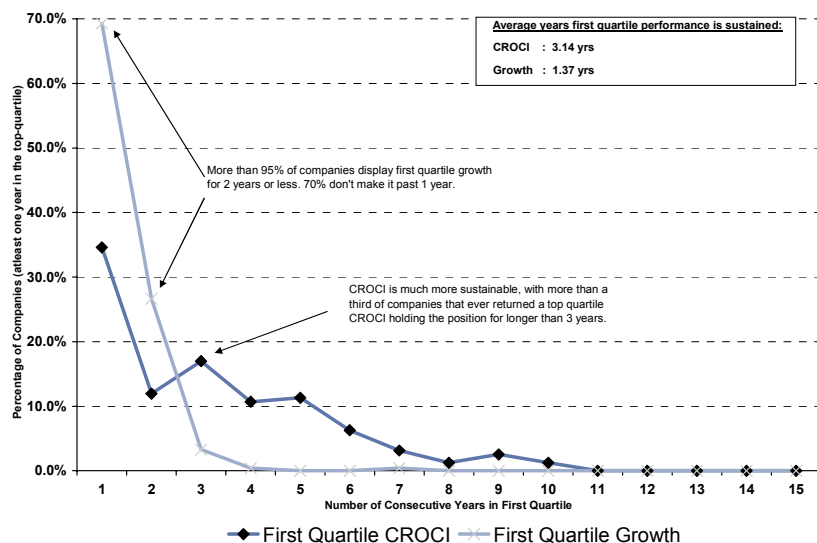
Source: Goldman Sachs Research.

## Returns more sustainable than growth

On average, we have found that a company can stay in a first growth quartile, relative to its industry for only 1.4 years. Only 30% of companies have been able to maintain first quartile growth for more than one year, and only 4% have managed to sustain it into the third year. In comparison, the average number of years that a company can maintain first quartile CROCI is 3.1 years, as highlighted in Exhibit 35. Of the companies we looked at, 64% managed to generate first quartile returns for at least three consecutive years.

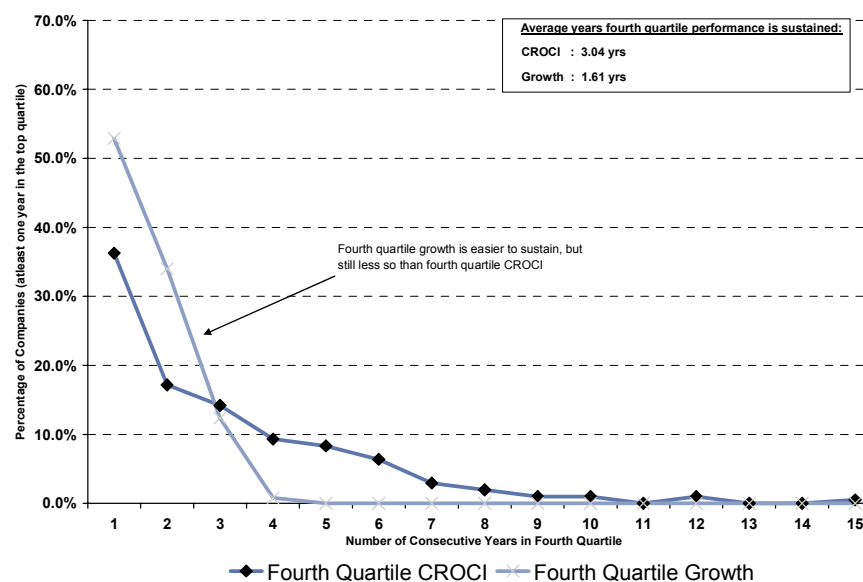
First quartile growth rates are often driven by expansion into new markets, new investments coming on stream, cyclical patterns and one-off effects. By contrast, factors such as better cost efficiency, cash flow conversion, asset utilization and capital efficiency are stronger determinants of CROCI than growth. These advantages are both more sustainable and predictable, and thus much easier for the market to consistently reward. The pattern is generally repeated across all quartiles, and the fourth quartile is shown in Exhibit 36. The pattern is also repeated across the global sectors that we have analyzed to date. With the exception of steel, all sectors show that returns are more durable than growth. The food & beverage industry is the most extreme example, with 90% of companies being in the first quartile of growth for less than two years and 70% of companies in the first quartile for returns staying there for more than four years.

**Exhibit 35: Average years first quartile performance is sustained for returns and growth**



Source: Company data, Goldman Sachs Research estimates, Quantum database.

**Exhibit 36: Average years fourth quartile performance is sustained for returns and growth**



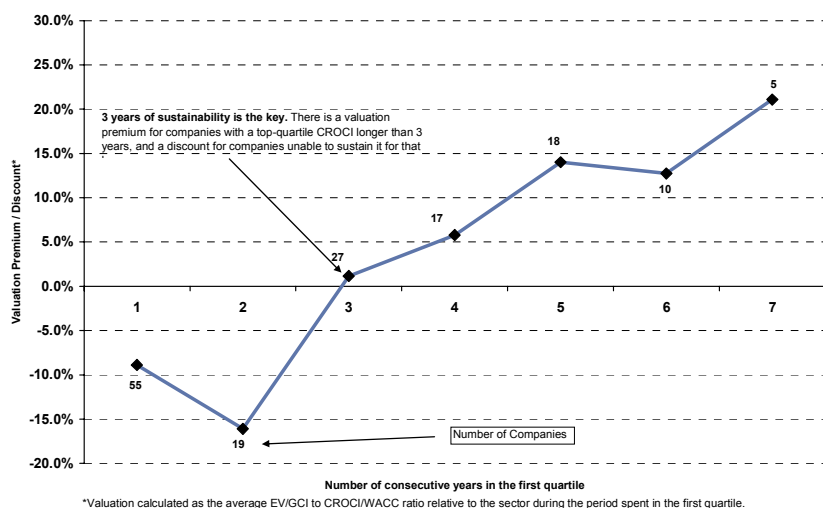
Source: Company data, Goldman Sachs Research estimates, Quantum database.



### The market attaches a valuation premium to companies with a sustainable CROCI advantage

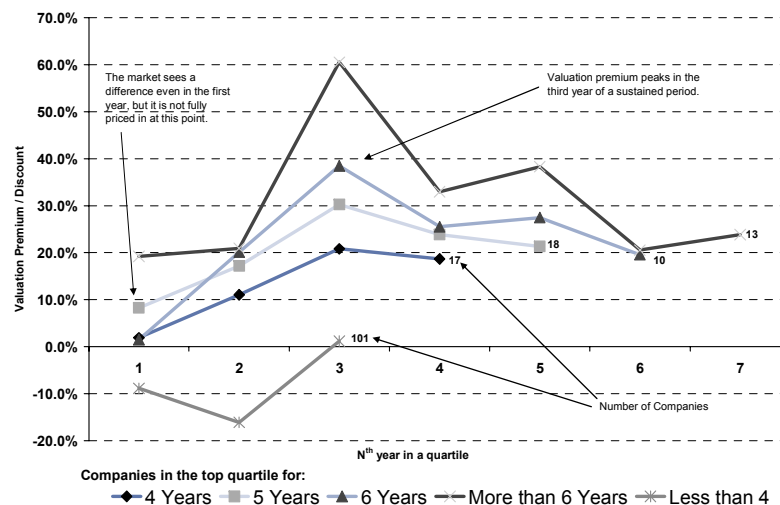
There is a clear relationship between the length of time that a company spends in the top or bottom quartile of CROCI performance and the valuation premium/discount that the market is willing to pay. The critical period for sustaining top quartile performance is three years – beyond which the market is willing to ascribe a premium for sustainable competitive advantage, as illustrated in Exhibit 37. This is the same period of time that a company spends on average in the first quartile. In the first two years of a company’s returns moving into the first quartile, the market tends to apply a discount to the theoretically correct valuation (defined as where a company should trade on the EV/GCI vs. CROCI/WACC regression line for the sector). This is because the market is yet to be convinced that the industry-leading returns are sustainable. Companies that stay in the first quartile for longer than three years see the market ascribe an increasing valuation premium. On average, this premium tends to be capped out at about 20% irrespective of how long the competitive advantage is maintained. We believe this is because the market recognizes that such an advantage cannot be maintained forever.

**Exhibit 37: Sustained advantage is reflected in the valuation premium**



Source: Company data, Goldman Sachs Research estimates, Quantum database.

**Exhibit 38: Valuation premium for companies displaying sustainable advantage**



Source: Company data, Goldman Sachs Research estimates, Quantum database.

### Stocks with above-average returns outperform in most years

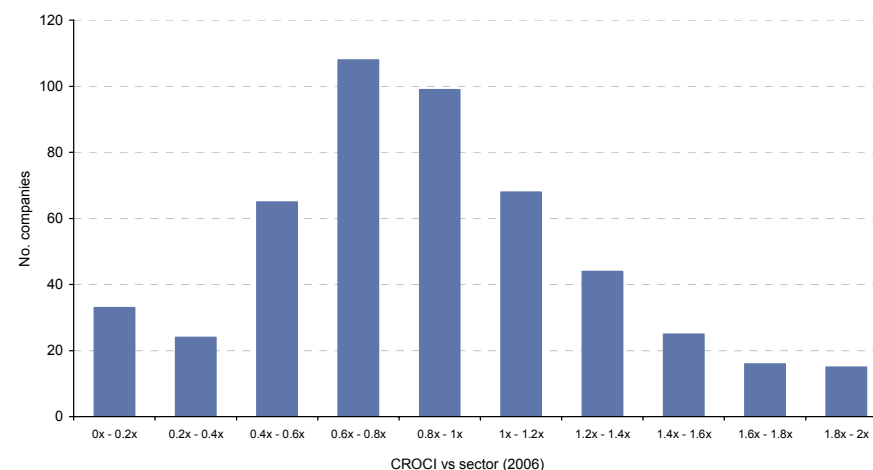
Since 2000, companies with above-average returns relative to their industries have consistently outperformed, as illustrated in Exhibit 39. There are periods when companies with weak returns profiles outperform due to corporate activity and private equity approaches, but in general, most outperformance has come from companies whose returns are above average. There is a relatively normal distribution of returns across the market. Most companies have returns gathered around 0.6x-1.2x their sector averages. Roughly 20% of companies have returns in excess of this. GS SUSTAIN aims to identify companies undergoing positive structural change or those that have sustained a competitive advantage, as this is where we believe that most share price performance is generated in well-established industries over time.

**Exhibit 39: Sector-relative CROCI and outperformance**

Sector-relative CROCI	2000	2001	2002	2003	2004	2005	2006
1.8 - 2	0%	14%	16%	-11%	3%	-4%	11%
1.6 - 1.8	23%	3%	12%	-13%	6%	22%	7%
1.4 - 1.6	2%	4%	14%	6%	19%	14%	11%
1.2 - 1.4	2%	3%	11%	-3%	4%	9%	7%
1.0 - 1.2	7%	9%	1%	5%	6%	4%	7%
0.8 - 1	5%	4%	-7%	-1%	4%	-1%	-4%
0.6 - 0.8	6%	-5%	-2%	-10%	-8%	-8%	-3%
0.4 - 0.6	-7%	-5%	-3%	-1%	-11%	-8%	-4%
0.2 - 0.4	-28%	11%	-13%	10%	-14%	-5%	-8%
0.0 - 0.2	-4%	-20%	-29%	-29%	-42%	-6%	-7%

Source: Company data, Goldman Sachs Research estimates, Quantum database.

**Exhibit 40: Distribution of sector-relative CROCI across the market for 2006**



Source: Company data, Goldman Sachs Research estimates, Quantum database.

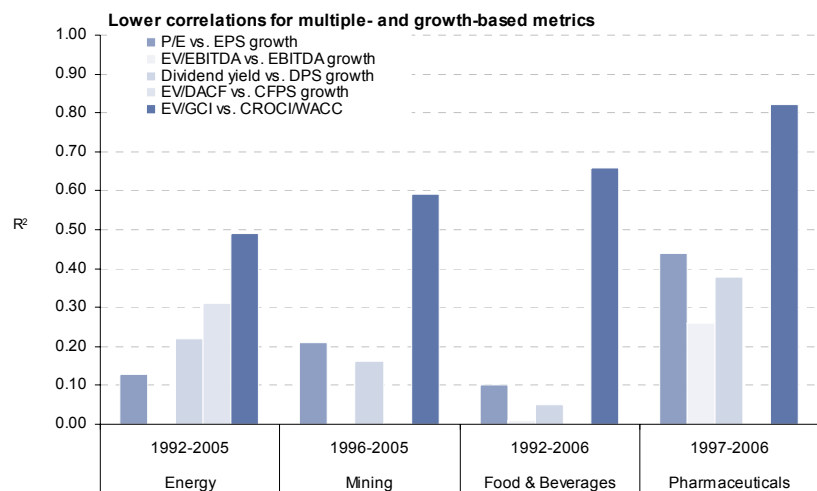
### Cash returns spreads demonstrate more predictive power

Our analysis of the global energy, mining, food and beverages, and pharmaceuticals sectors provides further evidence of the relationship between valuation and cash returns. Over the past 15 years, the relationship between the market valuation premium (EV/GCI) and the excess value created by companies (CROCI/WACC) has been more strongly correlated in each sector than traditional value- and growth-based metrics (P/E versus EPS growth; EV/EBITDA versus EBITDA growth). The correlations range from 50% for energy to over 80% for pharmaceuticals. This emphasizes that investors should be focused on cash rather than earnings, as cash return spreads are the key driver of valuation and share price performance.

### Historical portfolio backtesting shows cash return spreads win

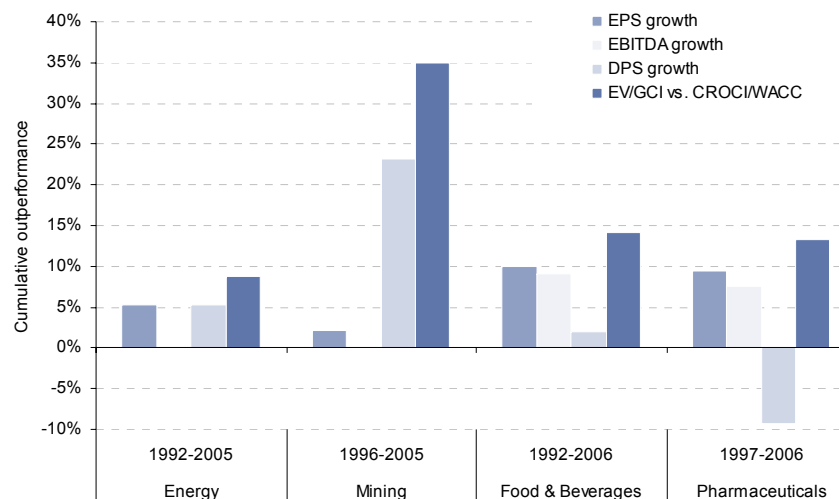
We have conducted historical backtests of the global energy (1992-2005), mining (1996-2005), food and beverages (1992-2006) and pharmaceuticals (1997-2006) sectors to compare different valuation strategies for portfolio construction. We find that selecting a portfolio of stocks identified as undervalued relative to the sector on the basis of EV/GCI versus CROCI/WACC would have delivered an excess return of between 9% pa (energy) and 35% pa (mining). Cash returns spreads outperformed other common portfolio strategies including earnings-per-share growth, dividend-per-share growth, and EBITDA growth. The consistency of stock selection using cash returns spreads is above 50% for all sectors studied.

**Exhibit 41: Cash return spreads drive performance: Low correlations for multiple- and growth-based metrics**



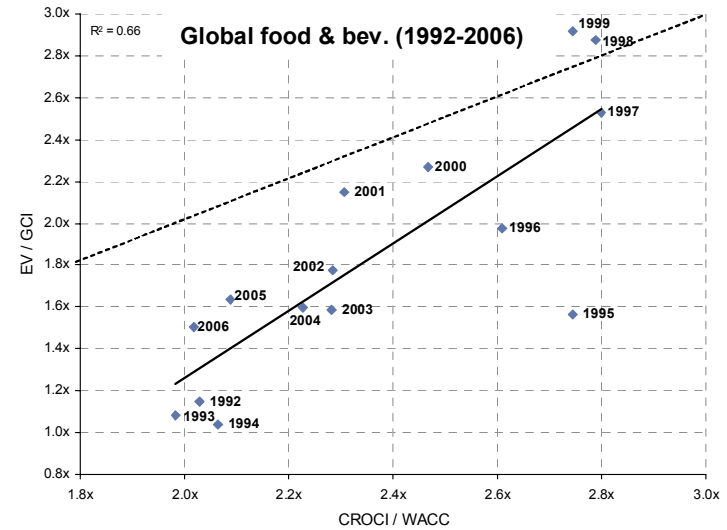
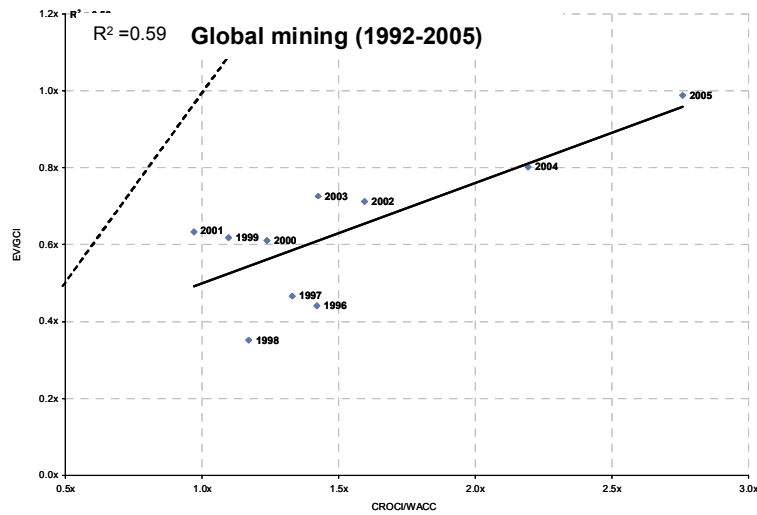
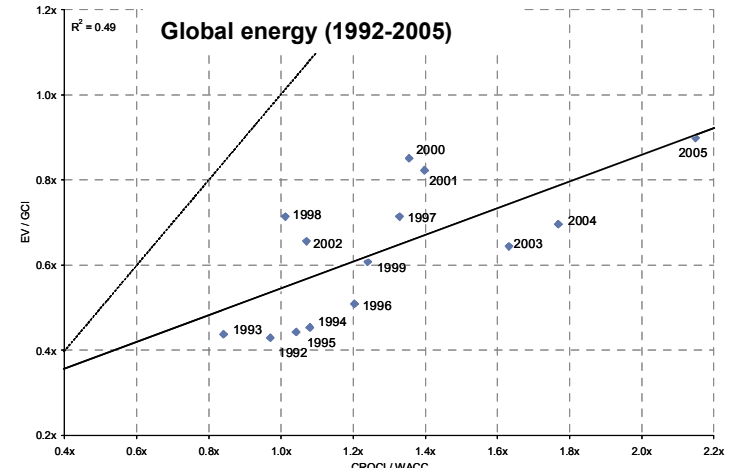
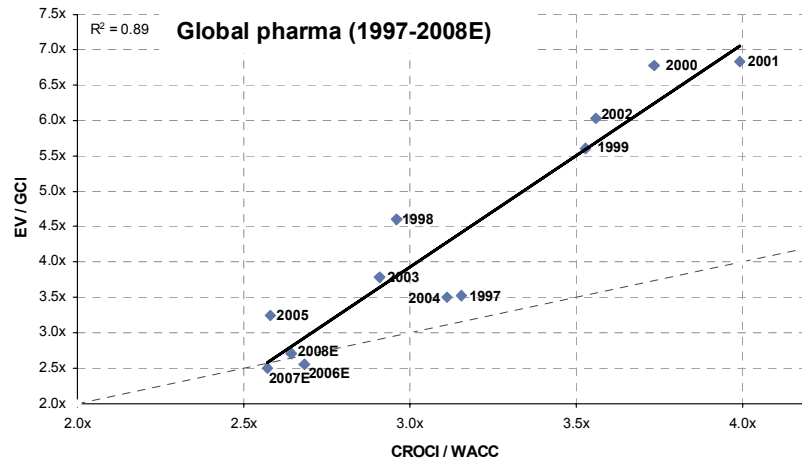
Source: Company data, Goldman Sachs Research estimates, Quantum database.

**Exhibit 42: Historical portfolio back-testing shows cash return spreads win**



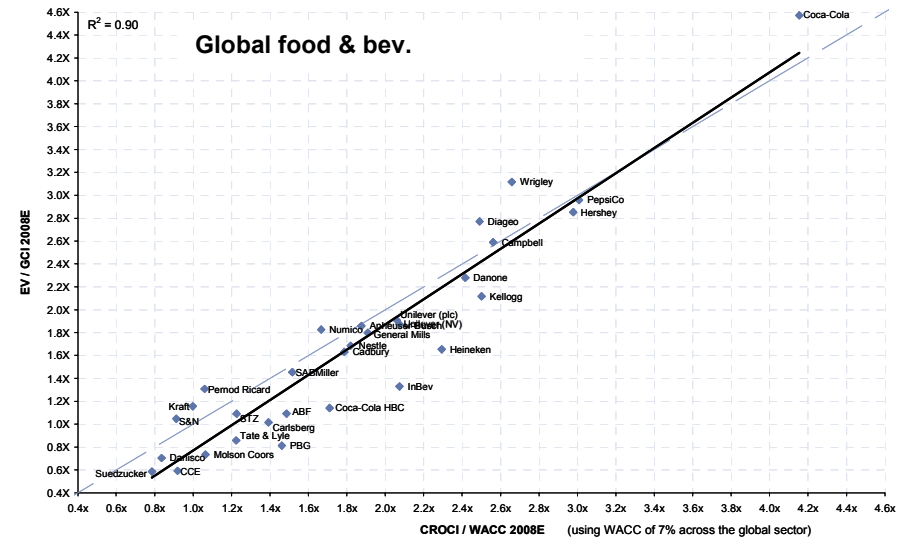
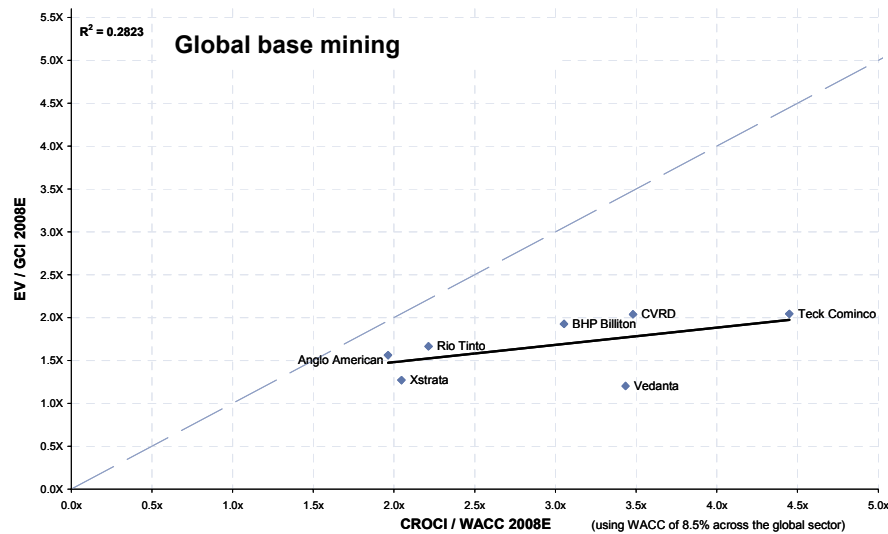
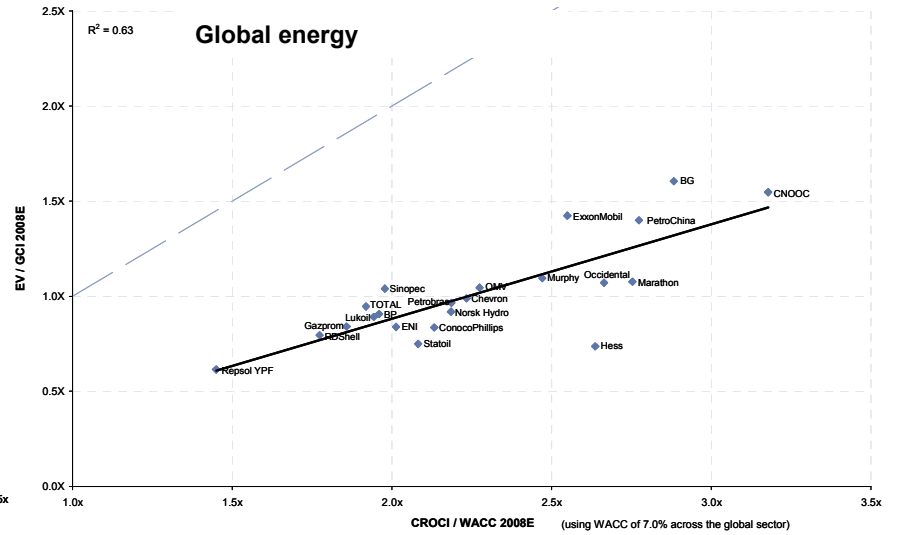
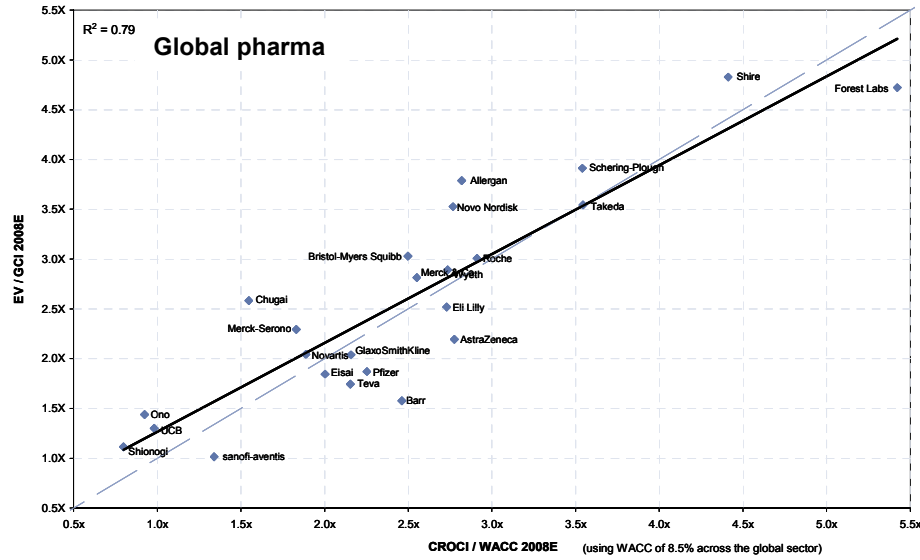
Source: Company data, Goldman Sachs Research estimates, Quantum database.

**Exhibit 43: Director's Cut: Correlations for cash return spreads valuation methodology over sectors: energy (1997-2005), mining (1996-2005), food and beverages (1992-2006), pharmaceuticals (1997-2008E)**



Source: Company data, Goldman Sachs Research estimates, Quantum database.

**Exhibit 44: Director's Cut: Correlations for cash return spreads valuation methodology within sectors for 2008E: energy, mining, food and beverages, pharmaceuticals**



Source: Company data, Goldman Sachs Research estimates, Quantum database.

## **Our ESG framework captures all factors companies need to manage in a changing world**

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The positive effects of globalization for companies have been largely concentrated in greater operating efficiency and lower costs through access to a wider range of resources, production processes and employees. At the same time growth in GDP and population has put increased pressure on the aggregate resources available to companies associated social impacts. Pressure from NGOs and investors has also been significant. We believe companies need to perform well in five broad categories to capitalize on the opportunities of globalization while minimizing the impact from environmental and social side-effects. These categories are: corporate governance, leadership, employees, stakeholders and environment.

### **Our proprietary ESG framework uses 20 to 25 objective and quantifiable indicators**

Our proprietary ESG framework is made up of 20 to 25 objective and quantifiable indicators for each sector, of which around two-thirds are universal across all sectors and the remaining one-third are sector-specific. All our corporate governance and leadership indicators are universal, whereas all our stakeholder indicators are sector-specific. In the employees and environment categories we use a combination of universal and sector-specific indicators. We have identified the indicators using a bottom-up analysis of the issues facing companies on a sector-specific basis across the market. As the world changes it is essential to understand the sustainability issues in a sector, but also the long-term drivers of industry competitive advantage, valuation and share price performance in order to determine relative company performance. We score each of the indicators on a scale of 1 (worst) to 5 (best) and aggregate the scores to calculate an overall percentage and ranking. The data comes from primary company sources in all cases and we invite every company we analyze to verify the accuracy of the information. We typically receive a response rate of between 70% and 80% of companies.

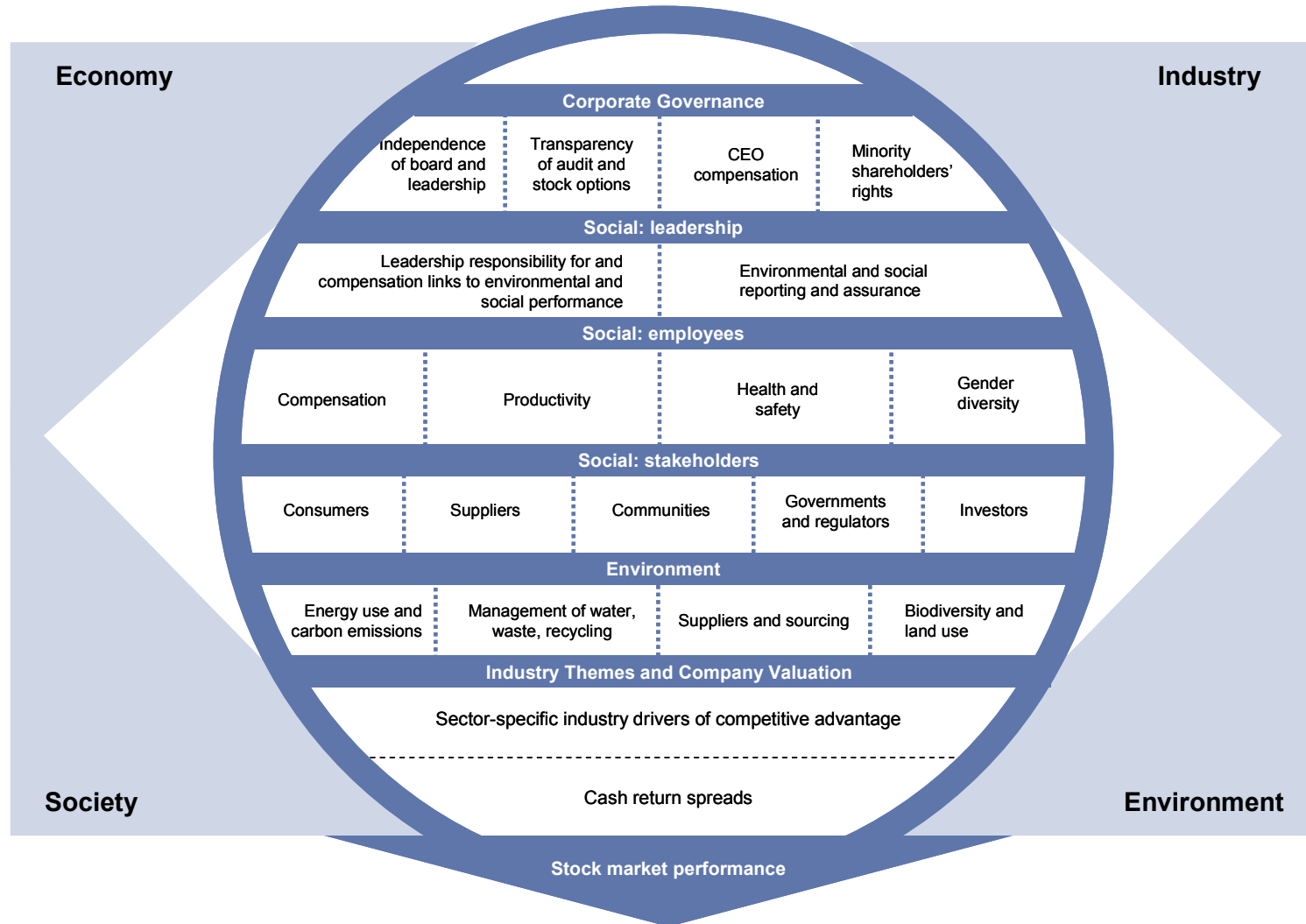
### **Disclosure affects performance across all categories**

In particular, we highlight employees and environment performance more than any other category, as several companies do not view employees and environmental impacts as sufficiently material to company performance to warrant quantification and public disclosure and therefore do not publish environmental performance indicators.

### **Quantitative and consistent, but not exhaustive or prescriptive**

Our ESG framework cannot capture the full impact of companies on society and the environment, nor is it intended to do so. We also recognize that our ESG framework does not quantify several issues relevant to companies. We are challenged by data inconsistencies, regional differences in policy focus, degrees of integration across the value chain, and diverse product portfolios across the companies in our ESG universe. We do not believe that sufficient quantifiable and comparable data exists to objectively measure several issues such as human rights, recruitment, training, local waste and water management and biodiversity. However, we believe that the indicators we use to assess performance with respect to the environmental, social and corporate governance issues are essential to analyze a company's ability to have sustained competitive advantage over the long term. We incorporate the ten principles of the UN Global Compact covering human rights, labour standards, environment and anti-corruption into our ESG framework to the extent possible in every sector and believe that leadership on these issues is crucial.

**Exhibit 45: Goldman Sachs ESG framework: A tool to measure relative management quality**



Source: Goldman Sachs Research.

**Exhibit 46: Goldman Sachs ESG framework relative sector weightings between categories**

ESG category		Energy	Mining & Steel	Food & Beverages	Pharmaceuticals	Media
Corporate governance		21%	20%	28%	29%	33%
Social	Leadership	7%	10%	8%	10%	17%
	Employees	25%	35%	20%	19%	23%
	Stakeholders	18%	15%	20%	29%	13%
Environment		29%	20%	24%	14%	14%

Source: Goldman Sachs Research.

### Corporate governance indicators are universal across sectors

Our corporate governance analysis focuses on four key areas: (1) independence of board and leadership, (2) transparency of audit and stock options payments, (3) CEO compensation, and (4) minority shareholders' rights. We view the separation of the CEO and Chairman of the Board roles, and the appointment of an independent lead director to convene the non-executive directors, as indications of balance of power, board independence and ultimately, a proxy for efficiency. We favour companies with boards comprising a three-quarters majority of independent, non-executive directors and board audit, compensation, and nomination committees comprising all independent directors. We also assess the independence of auditors based on the ratio of non-audit to audit fees and disclosure of the fair value of share-based compensation relative to cash flow to ensure the integrity of financial disclosure and present an accurate view of a company's financial position. CEO compensation represents the incentives given to managers to maximize firm value. We compare CEO compensation (cash- and stock-based, where disclosed) relative to total shareholder return (TSR) or cash flow as the basis for comparisons to examine how boards motivate managers. The final area of our corporate governance analysis includes dispersion of ownership to assess the influence by large shareholders and restrictions on minority shareholder rights, including classified/staggered boards where directors are not elected annually by shareholders, poison pill provisions and unequal voting rights as takeover defences.

### Leadership indicators are universal

In our view, the best measure of company action on social and environmental issues is the actions and commitments of its leaders, including the board and senior management. We assess social leadership in two areas: (1) leadership responsibility for, and compensation links to, environmental and social (ES) performance; and (2) disclosure of ES performance with assurance of ES reporting.



## Employee indicators for pay, productivity and gender diversity are universal

We measure companies' ability to attract, retain and motivate employees by assessing employee compensation and productivity, health and safety performance and gender diversity. We compare average compensation per employee to assess companies' ability to retain motivated and ambitious personnel, and again observe wide disparities of compensation due to geographical concentrations (developed versus emerging markets). Cash flow per employee provides a useful metric for measuring employee productivity. Notably, but perhaps not surprisingly, companies with high compensation levels per employee generate more cash flow per employee. Finally, we evaluate quantitative data on gender diversity for all employees, at the senior executive level, and on the board, as a proxy for companies' ability to attract and retain highly skilled staff from all backgrounds.

## Employee indicators for health and safety are sector-specific

To assess company performance with respect to health and safety (H&S), we use a range of indicators depending on the sector, including fatalities, lost time injuries, total injuries, health management, occupational disease and HIV/AIDS management. Companies that manage the health of their workforce are likely to benefit from increased productivity, lower turnover and lower costs, especially for those that operate in regions where HIV/AIDS is prevalent. We measure employee and contractor fatalities both in absolute terms and as a rate per 100 mn hours or 50,000 employees; in our opinion, the number of fatalities is one of the most visible and important indicators of health and safety for employees and other stakeholders. The lost time injury (LTI) rate is the number of injuries resulting in fatalities, permanent disabilities and lost workday cases, but not restricted to workday cases and medical treatment cases, per million hours worked. We believe that low and decreasing LTI rates (both for employees and contractors) can help attract and retain a skilled workforce, as well as improve operational efficiency. Employee health management is evaluated based on the presence of a group-wide health and safety (H&S) policy, H&S training, on-site medical facilities and disclosure of H&S performance. Management systems for HIV, malaria and TB offset the effects of the diseases and help to maintain a healthy workforce and community that will deliver the highest possible operational efficiency.

- **Energy:** Fatalities, lost time injuries, total injuries, health management.
- **Food and beverages:** Fatalities, lost time injuries.
- **Media:** Health management.
- **Mining and steel:** Fatalities, lost time injuries, total injuries, occupational diseases, health management.
- **Pharmaceuticals:** Lost time injuries.

## Stakeholder issues are sector-specific and closely related to industry themes

We assess companies' ability to manage complex relationships with key stakeholders – consumers, suppliers, communities, governments and regulators, and investors. We believe companies need to perform well with these stakeholders in order to capitalize on the opportunities of globalization.

- **Energy.** Investment in research and development (R&D) demonstrates a company's commitment to improving its long-run performance for its stakeholders through development of new technologies. We compare companies based on the percentage they spend on R&D investment relative to capex. Social investment in local and regional communities helps build relationships with host governments, and can help companies obtain and maintain a licence to operate. This reduces political risk and uncertainties, which are increasingly prevalent, and increases the probability of delivering production on time and within budget. We evaluate community investment as a percentage of capex. Growth capex is a key indicator of the ability to gain access to new resources and markets. We look at the ratio of expenditure on one of the drivers of growth versus payment to shareholders and debt-holders in the near term, measured by share buybacks, dividends and interest payments. Stakeholder engagement, or seeking input from governments, the voluntary sector and employees, is increasingly practiced by oil companies to build better relationships in the developed and developing world. We look at a range of engagement activities, including the code of conduct, reporting on bribery among employees, participation in the EITI (Extractive Industries Transparency Initiative) and VPSHR (Voluntary Principles on Security and Human Rights), publication of revenue payments made to host governments and assessment of risks from corruption and political instability in countries of operation.
- **Mining and steel.** As for energy, the extractive nature of mining makes relationships with local communities and governments near to mining and production sites a key part of overall success of any project. We evaluate community investment as a percentage of capex. We also examine the code of conduct on bribery and reporting of incidents of corruption among employees, membership of EITI and the VPSHR, and the reporting of tax payments to individual governments. The mining industry has small R&D budgets in comparison to steel manufacturers, as the main factors of technological development are outsourced to construction and machinery companies. R&D spending in the steel industry is critical to improve production efficiency, reduce energy use and carbon emissions and to produce steels that are tailored to niche markets, such as ultra-low carbon steels.
- **Food and beverages.** We evaluate companies' ability to respond to increased focus on health, nutrition and obesity by the implementation of a global policy to address this issue, establishment of an external advisory council comprising of independent nutrition experts, research and development centres focused on product innovation and reformulation, and consultation with stakeholders such as the World Health Organization, medical associations and NGOs. We track the percentage of product innovations with health claims as a percentage of total product innovations as a proxy for companies' ability to respond to consumer shifts towards health- and nutrition-focused consumption patterns. As communities and regulators increase scrutiny of the contribution of food and beverage marketing practices to rising obesity rates across the developed world, we believe that policies of voluntary self-regulation of marketing practices, with specific guidelines for marketing to children, nutrition labelling and 'front-of-product' labeling, address risks relating to regulatory measures and brand perception. Finally, we measure the value of community investments (cash-in-kind contributions and product donations) relative to capital expenditure as a proxy for companies' investment in building brand awareness and boosting staff morale while adding value to communities.

- **Pharmaceuticals:** The heavy regulation of the pharmaceutical industry has led to increased scrutiny of governance and lobbying practices. We measure the lobbying costs and political donations above US\$10,000, as disclosed by the pharma companies and the United States Senate Office of Public Records. Lobbying has the potential to damage a company's reputation, although we believe that pharma companies are important stakeholders in the public health debate. Access to drugs is a key issue for pharma companies in honouring the responsibility of providing drugs to as many patients as possible while maintaining R&D leadership through premium pricing of patent-protected drugs. We assess whether pharma companies participate in relief schemes of developed markets, sell drugs at a discount in emerging markets or at no profit in least developing countries. We measure the value of all drug donations as a percentage of the company's debt-adjusted cash flows (DACF) and drug donations reach up to 27.5% of DACF. We measure the litigation charges pharmaceutical companies incur for large-scale legal challenges, such as the recent VIOXX case. In an industry faced with long and costly litigation cases, we record litigation charges of ongoing cases or payments made for settlements as a percentage of cash flow from operations.
- **Media:** Effective self-regulation of marketing can avoid potential risks of reputational damage to companies and brands caused by controversial marketing messages, as well as government regulation of marketing practices. The presence of safeguards to preserve the independence of content is essential to maintaining the trust of consumer and business audiences as well as company reputation. The intellectual footprint of media companies, including creation and distribution of environmental, human rights, and public health content as well as other charities and campaigns as a proxy for media companies' promotion of such issues. Media companies have a significant influence on society by informing public opinion. Companies that associate their media brands with the promotion of content related to environmental, human rights and public health issues, as well as pro bono work on behalf of charities, may improve their ability to expand their audiences and attract and retain employees passionate about such issues. The implementation of policies, management systems and leadership to ensure ethical business conduct as an essential part of management in the media industry. We assess group-wide code of conduct with explicit policies regarding political donations and bribery, a 'whistle-blower' policy outlining the procedure for employees to report potential business misconduct, and senior executive responsibility for employee conduct attests to the ethics and transparency of the business.

## Energy use and carbon emissions apply across all industries

In a world of high energy prices and limited resources, the quantity of direct energy consumed for operations can be directly related to costs. Many companies now acknowledge the threat of climate change and the need to stabilize greenhouse gas (GHG) levels in the atmosphere. We contend that eco-efficiency is a proxy for management quality over the long term, and that companies demonstrating leadership in environmental performance are likely to manage business operations in a similarly efficient manner. We assess company performance on the intensity of energy consumption relative to asset base on a metric that translates directly to cost containment, as low levels of energy consumption demonstrate efficient resource use and cost control as energy prices continue to rise. The level of greenhouse gas emissions, as measured by tonnes of carbon dioxide equivalent (CO<sub>2</sub>e), is the standard unit measure for reporting effects on global warming, and our performance indicator determines the level of greenhouse gas emissions relative to asset base.

## A range of other environmental indicators are sector-specific

We compare fresh water consumption to asset base as a measure of environmental efficiency and a key component of companies' ability to manage relationships with host governments on the issue of water – central to development growth.

- Energy:** Reducing continuous flaring of natural gas from oil and gas operations is acknowledged as the most simple and cost-effective method of reducing greenhouse gases, with potential to increase hydrocarbon recovery. We score companies on the level of flaring relative to hydrocarbon production. Gas as a fuel creates around 50% less carbon than oil when burned on a relative basis, while energy from wind and solar sources is abundant, local and emission free. Carbon capture and storage technology allows continued use of fossil fuels while avoiding or reducing the carbon they release into the atmosphere. We examine each company's activities in gas reserves, renewables and carbon sequestration to measure their strategic focus on a lower carbon future. Efficient water consumption and waste management are indicators of operational efficiency at the corporate level. We also measure the level of oil spills and overall biodiversity management as these are two of the connected risks that can impact the company's reputation and lead to a direct loss of cash flow.
- Mining and steel:** The impacts of mining and steel companies on the environment near to mine sites and process plants can be significant and we examine water consumption and waste management as indicators of operational efficiency. As for oil, biodiversity is one of a range of connected risks and opportunities that may affect the reputation and shareholder value of mining companies. We measure biodiversity management, land disturbance and remediation by analyzing the management systems put in place to mitigate degrading effects on biodiversity, making adequate environmental provisions and minimizing environmental rehabilitation costs compared to asset base (gross cash invested). For steel companies we measure dust production and water use expressed in grams per tonne of steel or in litres per US dollar of asset base (gross cash invested). We also measure energy and carbon intensity per tonne of steel produced, expressed in GJ/tonne or tonnes of CO<sub>2</sub> equivalent per tonne of steel.
- Food and beverages:** We assess companies based on the implementation of sustainable sourcing policies to address agricultural and water supplies, with guidelines and assessments of suppliers to protect reputation and ensure sustainability of resources. The packaging waste from consumer staples products that goes to landfills across the globe is a critical issue, and we believe that companies that maximize the percentage of packaging materials from recycled sources and regularly report on reduction targets and performance demonstrate a commitment to sustainable packaging and environmental efficiency. Conservation of resources demonstrates a commitment to efficiency and cost containment as well as environmental sustainability. We measure company programmes and targets to conserve water, products to reduce energy consumption, and use of renewable energy (such as biofuels, solar and wind energy).
- Pharmaceuticals:** We define good environmental management as having supplier assurance programmes, and low water and waste intensities. We regard water and waste intensities relative to asset base as an indicator of the strength of a company's environmental management programme and score companies highly that have intensities below those of their peers.
- Media:** We assess environmental management, including company-wide policies on environmental protection, supplier assurance, recycling programmes and renewable energy use. In addition, we measure paper consumption and waste produced versus asset base.

Finally, not all companies have implemented environmental reporting for public disclosure. Some companies clearly demonstrate consciousness of environmental issues and have embedded environmental sustainability into their business operations, but do not disclose fundamental metrics such as energy consumption and GHGs. Although each environmental metric has different levels of importance relative to each company, we have assigned an equal weighting as we believe that as investors seek increased company disclosure regarding environmental management and performance, companies will in the future respond with more accurate assessments of their environmental footprints.

### **A note on our ESG framework**

Our ESG framework cannot capture the full impact of companies on society and the environment, nor is it intended to do so. We also recognize that our ESG framework does not quantify several issues relevant companies. We are challenged by inconsistencies in data, regional differences in policy focus, degrees of integration across the value chain, and diverse product portfolios across the companies in our ESG universe, and we do not believe that sufficient quantifiable and comparable data exists to objectively measure several issues such as human rights and human capital management. However, we believe that the indicators we use to assess performance with respect to the environmental, social and corporate governance issues provide a basis for analyzing a company's ability to have sustained competitive advantage over the long term.

- **Human rights.** Companies with operations in emerging markets typically have more developed initiatives with regards to human rights, including company-wide human rights policies, upholding the UN Declaration of Human Rights, guidelines for, and audits of, suppliers, and reporting on human rights performance. However, many companies do not disclose sufficient information with which to measure company performance.
- **Human capital management.** Human capital management is perhaps the most challenging area of ESG performance to quantify consistently across companies with diverse operations, geographies and product portfolios. While most companies in our ESG universe disclose policies on equal opportunity (that prohibit discrimination and harassment in the workplace), freedom of association, prohibition of child labour, and employee training, few provide consistent data that can be used to compare companies across the global industry. Furthermore, while European companies may disclose training hours per employee as a proxy for enhancement of employee skills, US companies generally do not. Finally, companies with operations located in emerging markets often discuss employee behaviour-based health and safety training and pandemics management (HIV/AIDS, malaria and tuberculosis). However, these are often the same companies that lag global peers on H&S performance indicators such as fatalities and lost time injury rates. In short, we believe that employee compensation, productivity and gender diversity build a solid foundation with which to measure human capital management, but our ESG framework falls short of capturing all possible measures of company performance in this area.

## The UNGC principles form a part of our research framework

The ten principles of the UN Global Compact covering human rights, labour standards, environment and anti-corruption have been incorporated into our ESG framework to the extent possible in every sector. As noted above, many companies do not disclose sufficient information and key performance indicators to enable measurement of company performance on human rights and labour standards. More consistent and comparable data is needed before an assessment of these factors can be made across all companies. However, our framework has taken human rights into account for the energy and mining sectors through the Universal Declaration of Human Rights, the Voluntary Principles on Security and Human Rights and training for employees and contractors on human rights. In relation to labour standards, we analyze average pay per employee and the gender diversity at all levels of the company. Once again, a lack of consistent, comparable data on freedom of association, forced and child labour and training hours and policies prevents complete analysis across all sectors. The three principles relating to the environment (precautionary approach, environmental responsibility and technologies) can be measured relatively easily using data on energy use, carbon emissions, water and waste management and climate change strategy. The final principle on anti-corruption is incorporated into our ESG framework, in particular for the extractive industries, through looking at the code of conduct, membership of the EITI, reporting on corruption incidents and transparency on tax payments to individual governments. An example of the integration of the UN Global Compact principles and our Energy ESG framework is shown below.

**Exhibit 47: Mapping the UN Global Compact principles to the Goldman Sachs Energy ESG framework**

United Nations Global Compact		Goldman Sachs Energy ESG framework		
The Ten Principles		Indicator	Scope	Purpose
Human Rights	<i>Principle 1:</i> Businesses should support and respect the protection of internationally proclaimed human rights; and	Human rights and security	Support human rights principles and assess risk in operations	Building relationships to find new reserves
	<i>Principle 2:</i> make sure that they are not complicit in human rights abuses.			
Labour Standards	<i>Principle 3:</i> Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	Employee training and workplace policies	Training hours per employee and workplace employment policies	Quality of workplace for employees
	<i>Principle 4:</i> the elimination of all forms of forced and compulsory labour;			
	<i>Principle 5:</i> the effective abolition of child labour; and			
Environment	<i>Principle 6:</i> the elimination of discrimination in respect of employment and occupation.	Employee gender diversity	Gender diversity of total workforce and employees at manager level	Quality of workplace for employees
	<i>Principle 7:</i> Businesses should support a precautionary approach to environmental challenges;	Greenhouse gas emissions	Greenhouse gas emissions to atmosphere as a ratio to asset base	Impact of operations
	<i>Principle 8:</i> undertake initiatives to promote greater environmental responsibility; and	Fresh water consumption	Fresh water consumption as a ratio to asset base	Water efficiency
Anti-Corruption	<i>Principle 9:</i> encourage the development and diffusion of environmentally friendly technologies	Climate change strategy	Gas reserves vs total reserves, renewable energy, carbon sequestration activities	Strategic product mix
	<i>Principle 10:</i> Businesses should work against all forms of corruption, including extortion and bribery.	Business ethics and transparency	Prohibition of bribery, monitor corruption, EITI membership and tax disclosure	Building relationships to find new reserves

Source: United Nations Global Compact, Goldman Sachs Research.

## **Sustainability trends across the market show many factors need to be considered**

We have done a comprehensive analysis for ESG data across all sectors completed to date including two resource industries and three consumer sectors with over 100 companies and begin to see trends on corporate governance, employee management, energy and carbon. Companies with superior corporate governance (leadership and board independence, reasonable compensation structures, transparency and shareholders' rights) tend to perform better with respect to social leadership, human capital management, community and stakeholder engagement, and the environment, and vice versa.

We observe that companies that pay their employees more return a higher level of debt adjusted cash flow per employee. This breaks with the common preconception of improving operational efficiency through cutting payroll and, on the contrary, seems to suggest that companies that invest in their workforce will reap exponential benefits.

We have plotted the energy intensities of the industries we have analyzed so far and find them closely correlated to the company's carbon footprint. Of the industries we have looked at mining and steel is the most energy and carbon intensive, followed by energy, food and beverages, pharmaceuticals and media. Companies within sectors are widely dispersed. This reflects the business mix and the upstream power generation mix available to the companies.

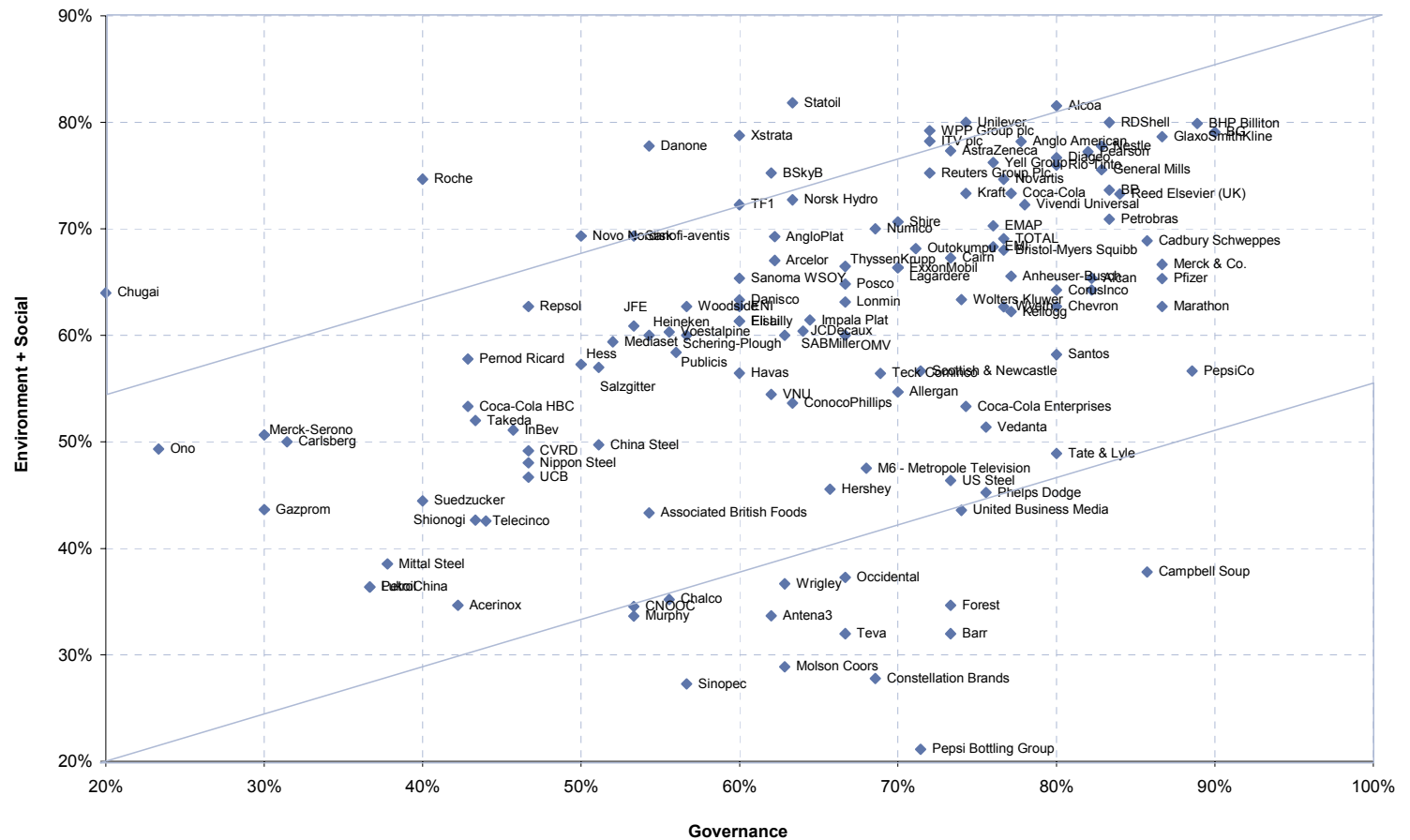
Our conclusion is that companies need to manage all inputs to their business in order to enjoy sustained competitive advantage and a valuation premium versus their peers. What is more profound, perhaps, is that investors cannot rely on ESG factors alone but need to integrate them into an industrial framework and valuation methodology to pick stocks.

## A fish rots from the head: Governance and sustainability are inextricably linked

Investors focused on quality of management over the long term cannot separate corporate governance issues from social and environmental issues. Our analysis has shown that, with few exceptions, the two go hand-in-hand.

The statistical relationship for the 120+ companies included in our ESG framework reports to date is low ( $R^2=.18$ ). However, lack of disclosure influences company performance with respect to environmental and social indicators. Excluding predominantly US, Chinese and Russian outliers, the relationship improves ( $R^2=.59$ ).

**Exhibit 48: Relationship between governance and environmental and social performance is strong**



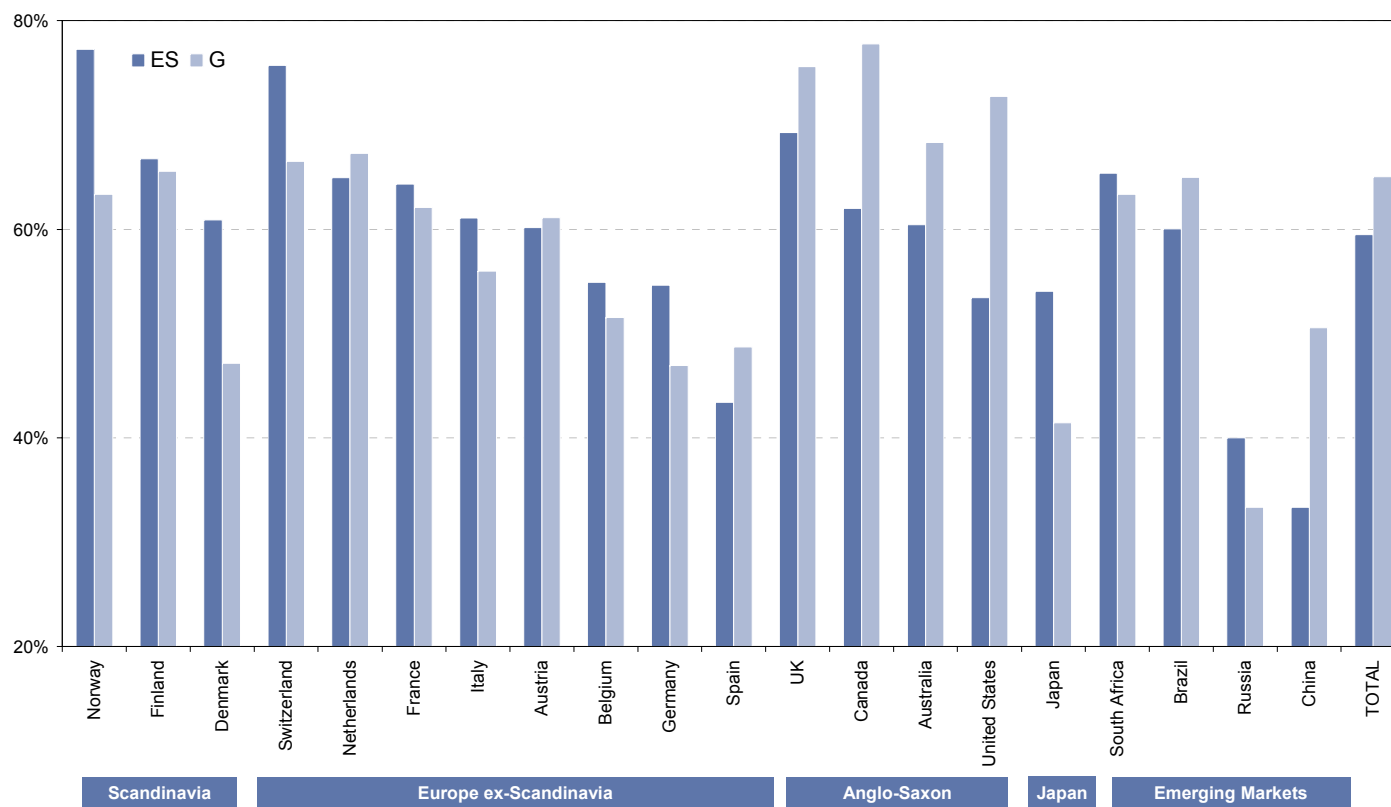
Source: Company data, Goldman Sachs Research estimates.



### ESG performance reflects national bias with regards to sustainability and corporate governance

Our analysis of global companies has uncovered country bias with regards to environmental, social and corporate governance performance. Companies in Norway, Switzerland and the UK have the highest ES performance on average, while companies in Anglo-Saxon countries (the UK, Canada, Australia and the US) have the highest corporate governance performance. Our analysis is guided by US/UK corporate governance codes, including the (Higgs) Combined Code on Corporate Governance in the UK and the NYSE/SEC in the US. Definitions of board independence, shareholder’s rights and transparency vary by region. Notwithstanding these differences, we find that the increase in focus on corporate governance combined with the rise in global investors has improved governance.

**Exhibit 49: There are national variations in performance on ES and corporate governance according to our ESG framework scores**

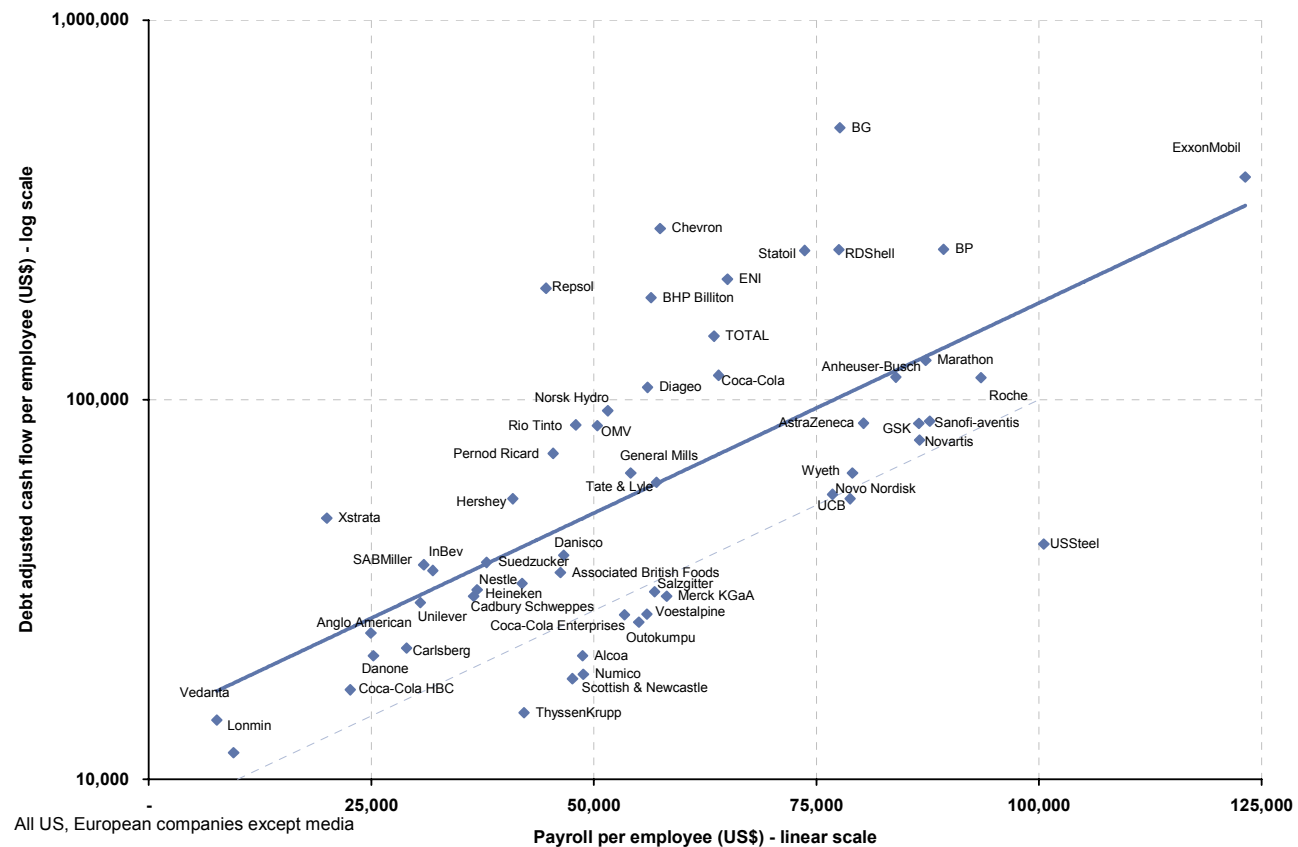


Source: Company data, Goldman Sachs Research estimates.

## Rethinking employee compensation: The more you pay the more you get

There is an exponential relationship between the payroll per employee and the debt adjusted cash flow companies earn per employee. This breaks with the common preconception of improving operational efficiency through cutting payroll and, on the contrary, seems to suggest that companies that invest in their workforce will reap exponential benefits. Eleven of the 15 companies with greater than US\$100,000 cash flow per employee are in the energy, mining and steel sectors, reflecting the recent high cash flows in commodity markets. The companies below the dotted line have lower cash flows than payroll expenses per employee and many of these companies operate in heavily unionized industries, such as steel. A group of emerging market players also stands out due to low payroll costs when translated into US dollars, although these figures would need to be adjusted for purchase power parity to be fully comparable to their peers.

**Exhibit 50: Cash flow per employee versus payroll per employee**

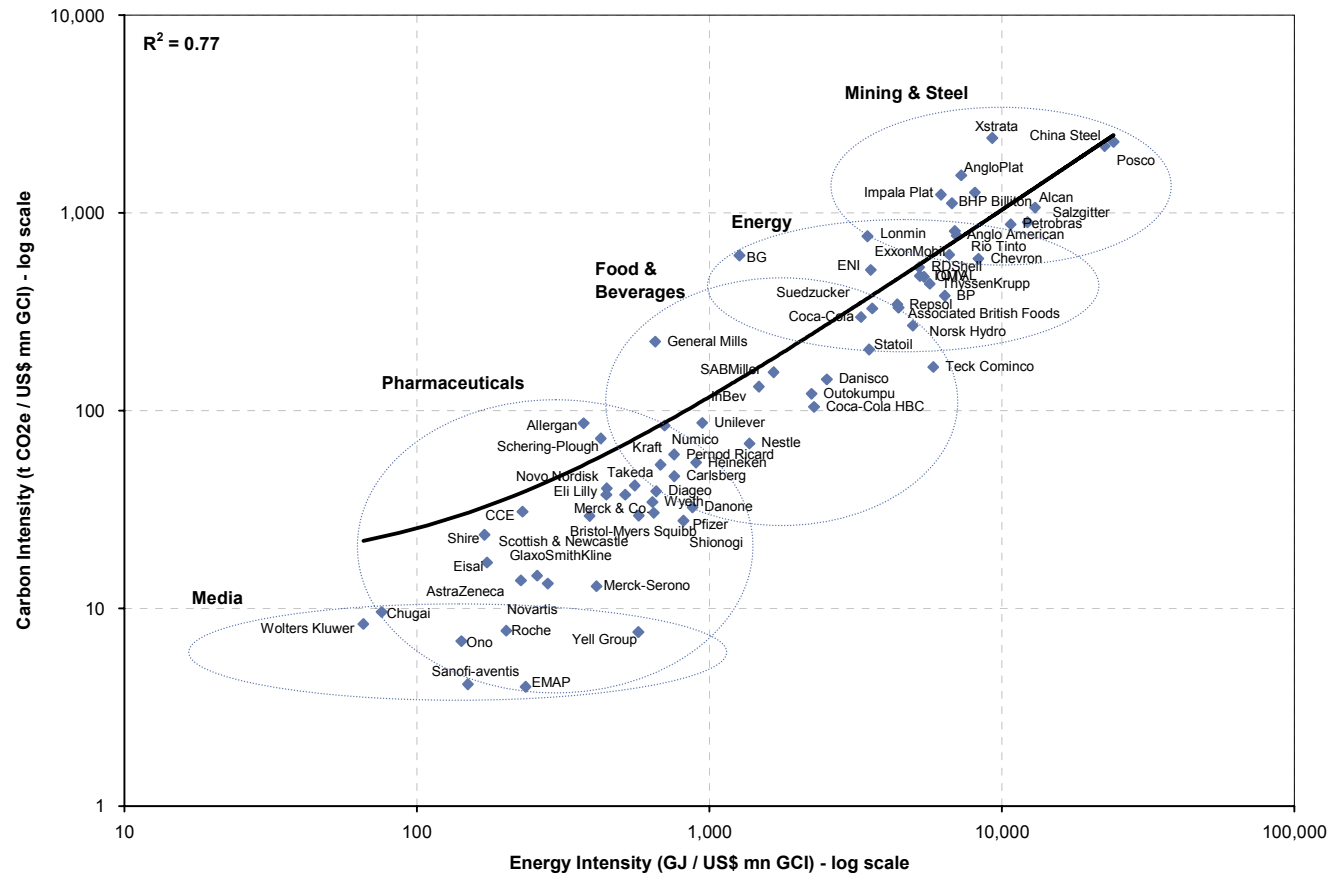


Source: Company data, Goldman Sachs Research estimates.

### It's all about energy

We have plotted the energy intensities of the industries we have analyzed so far and find them closely correlated to the company's carbon footprint. Mining and steel is the most energy- and carbon-intensive sector, followed by energy, food and beverages, pharmaceuticals and media. However, within sectors there is wide dispersion of company performance, such as that between food ingredients (e.g. Associated British Foods) and packaged foods (e.g. Danone), and between Xstrata and Teck Cominco in mining, while the energy industry is relatively tightly grouped. We believe the dispersion reflects the business mix as well as the upstream power generation mix available to the company.

**Exhibit 51: Carbon intensity is dependent on energy consumption (tonnes CO<sub>2</sub>e per US\$ mn GCI versus GJ per US\$ mn GCI)**

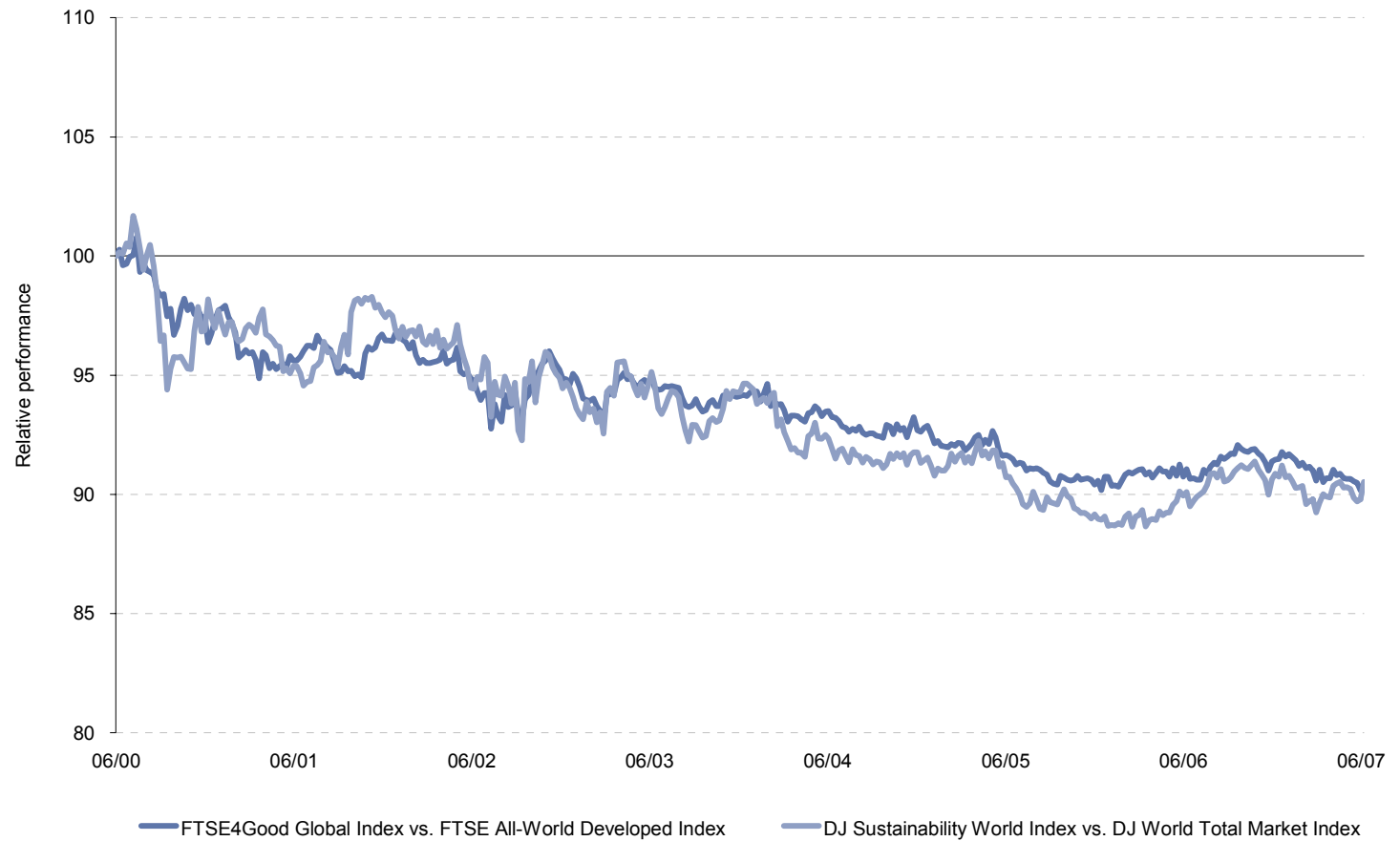


Source: Company data, Goldman Sachs Research estimates.

## If ESG is not part of mainstream investing, you cannot outperform

We have looked at the performance of two well-known sustainable investing indices and observe that both the FTSE4Good Global Index and the Dow Jones Sustainability World Index have historically underperformed their respective market benchmarks. In our opinion, this is because the analysis is conducted on ESG factors alone and does not integrate these into the context of industrial analysis or valuation.

**Exhibit 52: Relative performance since June 2000 for the FTSE4Good Global Index versus FTSE All-World Developed Index and the Dow Jones Sustainability World Index versus Dow Jones Global Total Market Index**



Source: Datastream, FTSE4Good, Dow Jones Sustainability Indices.

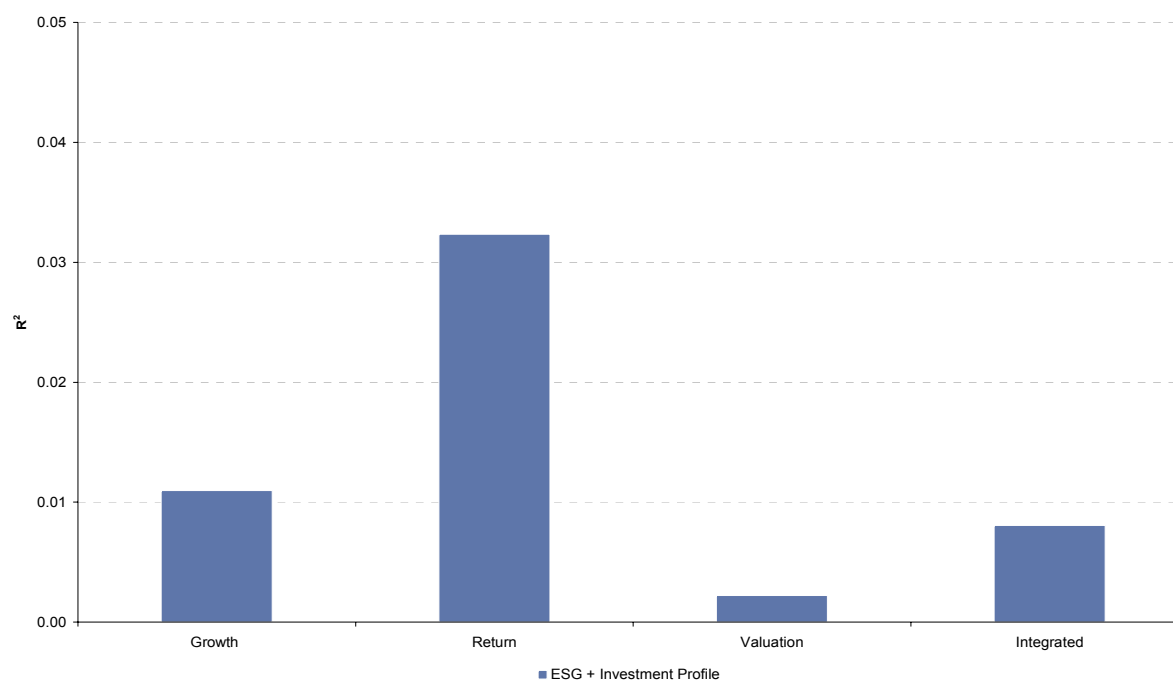
## ESG alone has no correlation with the investment profile of companies

One explanation for the historical relative underperformance of various SRI and/or ethical investment indices is the lack of integration with financial analysis. Our experience has uncovered no discernable relationship between ESG performance and traditional investment characteristics across five sectors for over 120 companies. Relative ESG performance is based on the most recent year of data in building our ESG framework series for all sectors to date, comprising media, mining & steel, energy, food & beverage and pharmaceutical companies. For all companies covered by Goldman Sachs we generate a GS Investment Profile, which graphically ranks each stock by growth, valuation, return on capital and volatility relative to the stocks covered in its region and industry. The first three of these are based on current Goldman Sachs Research estimates.

- **Growth** is calculated using a measure of a company's sales, EBITDA and EPS growth.
- **Returns** (return on capital/profitability) is calculated using Return on Equity, Return on Capital Employed and CROCI, a measure of cash returns.
- **Valuation** is calculated using P/E, Price/Book Value, Price/Dividend, EV/EBITDA, EV/FCF and EV/DACF.

**The integrated Investment Profile is an overall score for growth, valuation and returns that improves portfolio returns.**

**Exhibit 53: No correlation between ESG performance and growth, return or valuation across sectors ( $R^2 < .05$ )**



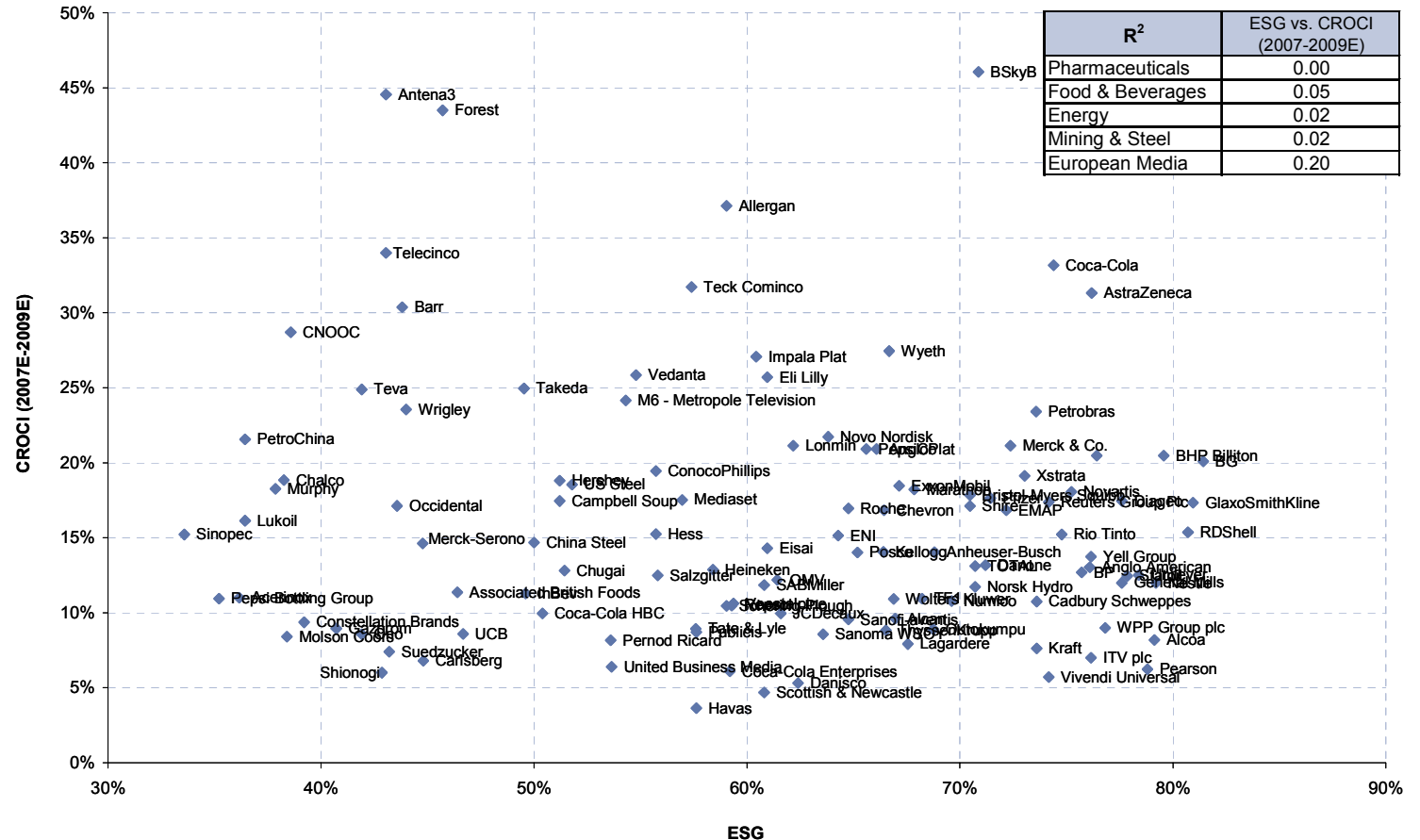
See our European Tactical Research team's report Investment Profiling for stock selection, June 25, 2006.

Source: Company data, Goldman Sachs Research estimates.

### ESG alone has no correlation with cash returns

Our analysis shows no discernable relationship between ESG performance and sustained competitive advantage across sectors, and limited relationships in individual sectors. Relative ESG performance is based on the most recent year of data in building our ESG framework series for all sectors to date, including media, mining, steel, energy, food, beverage and pharmaceutical companies. Sustainable competitive advantage is measured by cash returns, calculated as average CROCI (2007E-2009E) based on our analysts' estimates of three-year forward performance.

**Exhibit 54: No correlation between ESG performance and CROCI across sectors ( $R^2=0.01$ ) or for individual sectors (inset)**

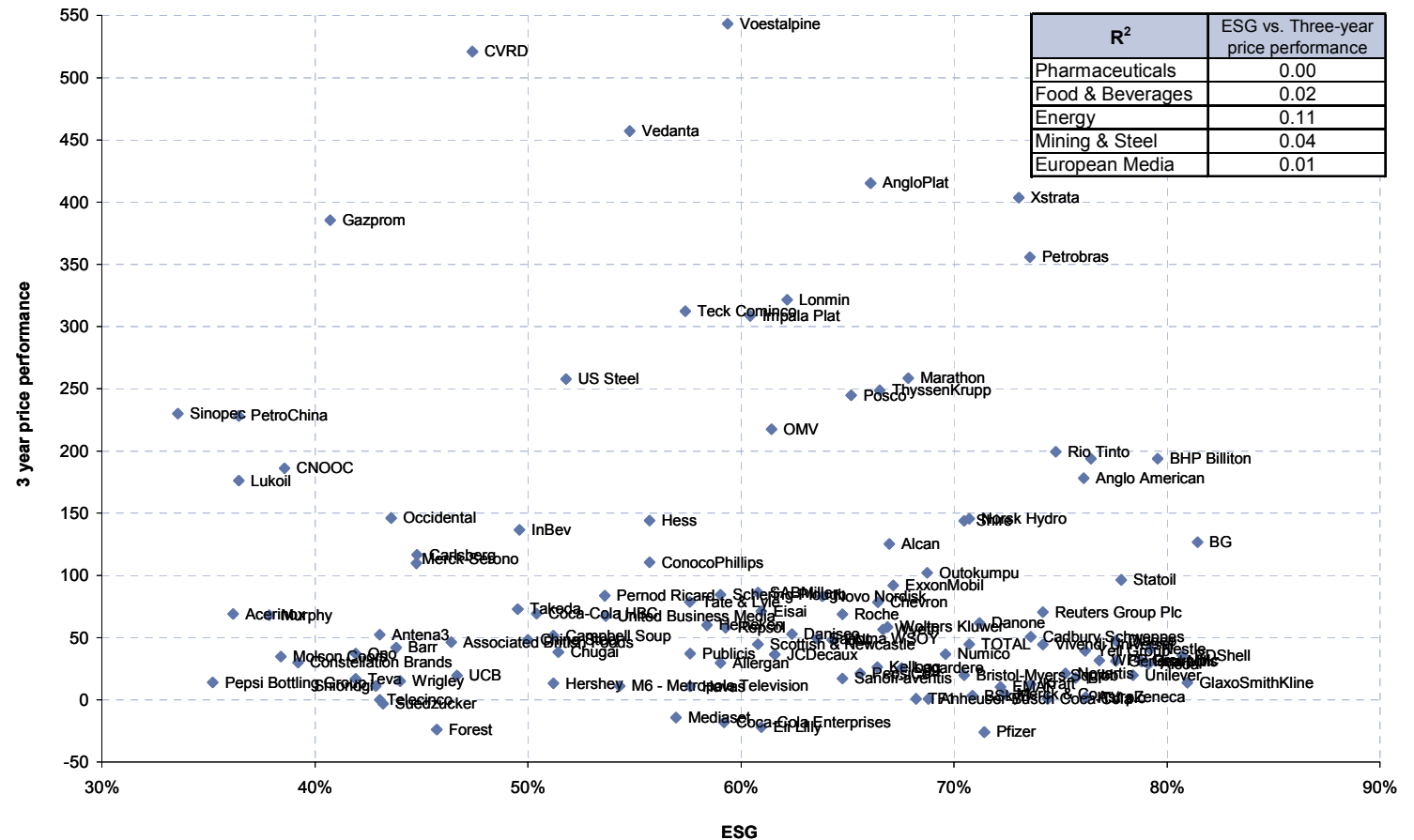


Source: Company data, Goldman Sachs Research estimates.

### Furthermore, ESG alone has no correlation with price performance

Our analysis shows no discernable relationship between ESG performance and price performance across sectors or in individual sectors. Relative ESG performance is based on the most recent year of data in building our ESG framework series for all sectors to date, including media, mining, steel, energy, food, beverage and pharmaceutical companies. Price performance is measured by three-year price performance.

**Exhibit 55: No correlation between ESG performance and three-year price performance across sectors (R<sup>2</sup>=0.01) or for individual sectors (inset)**



Source: Company data, Goldman Sachs Research estimates, Quantum database.

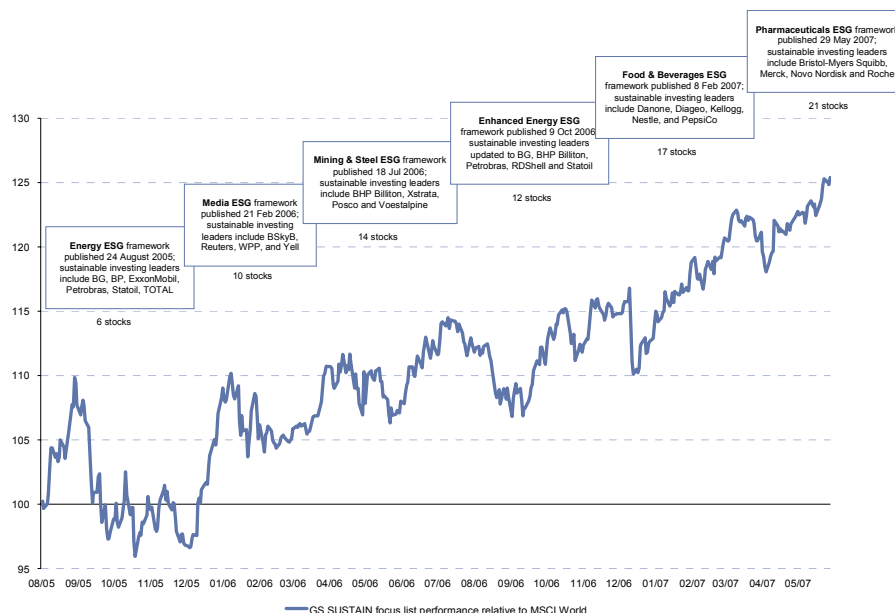
# We are launching a sustainable investment focus list: GS SUSTAIN

We believe that in order to outperform the market by integrating ESG, it is essential to derive the analysis for mature industries from the key long-term drivers in each sector and use it to determine which large-cap, mature companies will have sustained competitive advantage or improvement in competitive positioning. This analysis also allows us to identify emerging industries with high growth rates to pick small- and mid-cap sustainable investing winners in new industries that are set to become established in coming years.

GS SUSTAIN combines these methodologies into one sustainable investing focus list. It is aimed at a long-term investment horizon and therefore may have stocks which are neutral rated. The difference in rating is because our analysts' time horizon on recommendations is typically 12 months. The aim of GS SUSTAIN is to focus on a longer time horizon and holding period. There will be low turnover in the list. At the time of publication, the list is not comprehensive and is restricted only to the stocks we currently have under coverage. GS SUSTAIN will be expanded as we undertake ESG analysis for other sectors such as financials, and bring more emergent industries, such as nutrition, under coverage.

Since publication, our methodology has outperformed the market and sectors for global energy (19%, 7%, October 2006), global mining and steel (66%, 49%, July 2006) and European media (10%, 12%, February 2006). If you had held the stocks on the GS SUSTAIN focus list, and rebalanced the day following each publication, you would have outperformed the MSCI World Index by 25% since August 2005.

**Exhibit 56: Absolute and relative performance of sustainable investing picks since publication (as of June 14, 2007)**



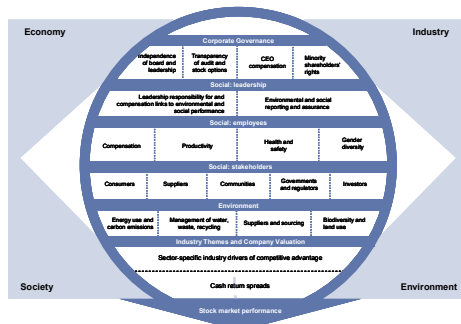
Source: Datastream, MSCI, Goldman Sachs Research.



**Exhibit 57: Integrating (1) ESG analysis with (2) key drivers of sector and (3) sustained competitive advantage**

**ESG** - quantitative, objective analysis of corporate governance, social and environmental performance

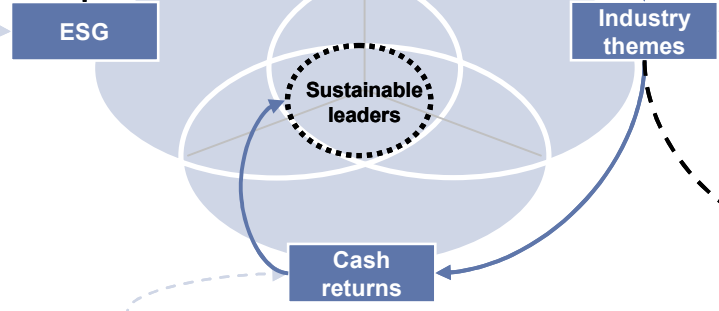
**Industry themes** – such as energy industry’s upstream growth strategy



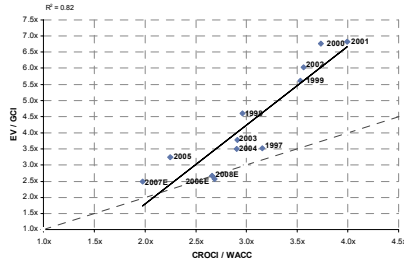
**SRI out of industry context = historic underperformance**

Integrating ESG...

... with key drivers of sector ...



**Cash returns drive valuation and share price performance**



... and sustained competitive advantage

**Sustainability themes – emerging growth industries**

- Alternative energy
- Environmental technologies
- Biotechnology

Source: Goldman Sachs Research.

## GS SUSTAIN methodology

In 2003, we responded to an invitation from a group of investors forming the Asset Management Working Group (AMWG) of the United Nations Environment Programme Finance Initiative (UNEP FI) to identify environmental and social issues likely to be material for company competitiveness in the global energy industry, and to the extent possible, quantify their potential impact on stock prices.

### **(1) We believed then, as we do now, that it is imperative to work from first principles to build a framework from the bottom up using objective and quantifiable indicators of company performance.**

We begin the process of integrating ESG by assessing how the world has changed in relation to each industry. Analyzing the industry context in which companies under coverage compete includes the impacts of globalization, the growing active participation of investors to improve corporate governance, and the demands of key external stakeholders such as host governments, national regulators, NGOs, employees and consumers. Understanding the industry context in which companies operate is critical to understanding the potential materiality of environmental, social and governance issues and the appropriate assessment of company response.

Corporate governance is a key focus of investors, securities regulators and stock exchanges in recent years in the wake of corporate accounting scandals. Leadership is crucial in response to strategic environmental and social issues impacting the company through governance systems, external reporting, verification and compensation incentives. Superior human capital management is needed to meet the increasingly complex needs of employees desiring to align their personal values and their work as well as compensation, career development, labour standards, and health and safety. Stakeholder relationships are critical to maintaining the licence to operate, from community investment and philanthropy to business ethics and corruption, to responding to the shifting consumer needs. Environmental management systems, policies and tracking key performance indicators such as energy, carbon and water can improve operating efficiency and reduce costs.

Analysis of the environmental, social and governance issues facing companies is not new; socially responsible investors (SRI) and NGOs have assessed companies on ESG metrics alone for the better part of three decades since the early 1970s. However, the integration of ESG with industry analysis and financial returns is a relatively new conceptual approach. SRI indices were originally designed to separate socially responsible and sustainability-focused companies from laggards on the basis of social, environmental and/or ethical screens alone; ESG analysis was separate from industrial and financial analysis. Our observation of SRI indices shows that major global SRI indices historically underperformed the broader market.

### **(2) We assess the drivers impacting competitive positioning across global sectors; the key determinants of success or failure in any given industry.**

In extractive sectors such as energy and mining, competition for access to resources in countries of increasing political risk drives company profitability and economic returns. In the food and beverages industry, company health and wellness strategies in response to the global obesity epidemic and expansion to emerging markets are driving margin expansion. In the pharmaceutical industry, pipeline innovation – the ability to successfully develop new drugs through research and development – will determine success or failure in the industry. Central to this second stage of our process is understanding the link between the drivers of industrial competitiveness and material environmental and social issues impacting companies. Evidence of this link is central to our thesis. In Global Energy, companies that lead on ESG are best positioned on access to the largest oil and gas projects in development around the world, the Top 170 projects, pivotal to the future profits of the industry. In Global Food, companies that lead their peers on social performance are driving global product innovation by actively introducing and reformulating food and

beverage products to adapt to the changing needs of consumers and dynamics of global consumer markets. In Global Pharmaceuticals, companies that lead their peers on ESG deliver the highest economic returns (CROCI, ROCE, ROE) and are best-positioned with respect to pipeline innovation and barriers to entry. **In the absence of linking ESG performance to industrial competitiveness in this critical second stage of the process, ESG analysis is immaterial to investment performance.**

**(3) GS SUSTAIN returns leaders are those large-cap companies that demonstrate sustainable and sustained competitive advantage by consistently leading peers across all indicators of corporate performance: management quality, industry structural themes and financial returns.**

Economic returns (CROCI, or cash return on cash invested) above peer group indicates the best measure of sustained competitive advantage, in our opinion. Applying quantitative valuation techniques developed by our Tactical Research Group (TRG), we explore the relationship between ESG, industry analysis, and sustained competitive advantage.

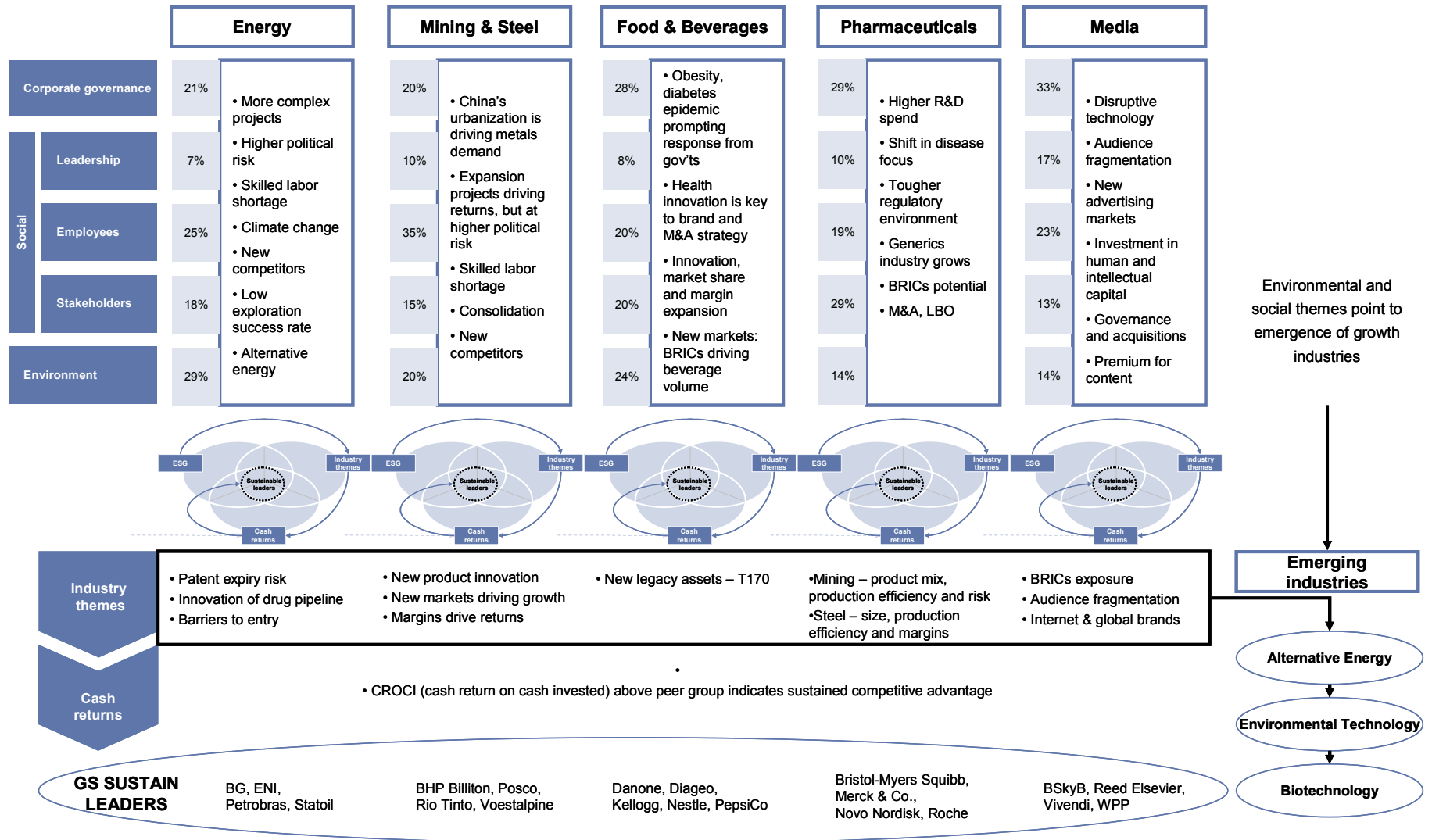
**(4) GS SUSTAIN focus list members have to score well on a combination of ESG score and industry positioning. This must then translate through into improving financial performance.**

Clearly not every company with either improving returns or industry leadership will score on ESG; for example, companies may have legacy positions as a result of beneficial government relationships. However, we believe that we can have more confidence in our predictions for those companies who appear to be best managed in their respective industries, as signaled by a strong ESG score. A success rate of 72% in terms of performance relative to sectors and the market in stocks selected to date highlights the validity of the methodology.

**(5) GS SUSTAIN growth leaders are small-cap companies best positioned to capitalize on opportunities presented by sustainability themes while delivering superior growth profiles not yet priced into the market.**

The combination of ESG and industry analysis often leads to the discovery of emerging sustainability themes, industry trends and best-positioned companies. For instance, in 2003 during the process of writing our original Global Energy report, we discovered the global investment opportunity presented by alternative energy due to the rise of energy prices, regulations on greenhouse gas emissions and government incentives for 'renewable' energy alternatives (see GSEES, February 2004, page 21). Coinciding with global growth in publicly-traded alternative energy companies, we launched alternative energy coverage including solar, wind, biofuels, fuel cells and power generation technologies in 2006. Similarly, analysis of the Mining, Steel and Energy industries alerted us to the global constraint on natural resources aside from energy. The emergence of environmental technology companies focused on water sanitation, desalination and filtration machinery; waste services; and recycling technologies has coincided with growing demands on water and waste infrastructure. Finally, our analysis of the challenges facing large-cap, incumbent pharmaceuticals in the development of innovative drug pipelines underscored the strategic advantage of smaller, more nimble biotechnology firms positioned to capitalize on the development of novel approaches to curing global diseases, including cancer, CNS, HIV/AIDS, respiratory disease and infections. As we continue to integrate our ESG framework across global large-cap sectors, we expect to discover additional small-cap growth industries with sustainability themes, such as nutrition from packaged food companies.

**Exhibit 58: GS SUSTAIN combines ESG analysis with industry themes and quantitative valuation techniques, and highlights emerging industries**

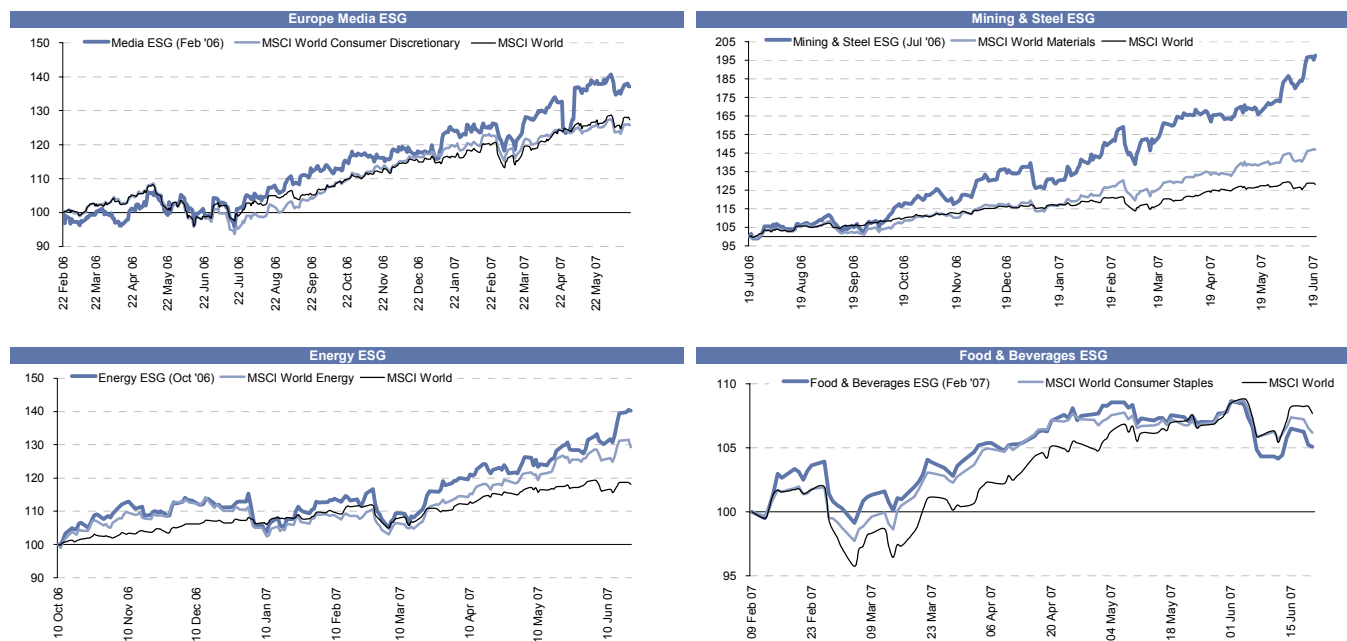


Source: Goldman Sachs Research.

## Track record of outperformance

The three sectors with a track record over 6 months have demonstrated consistent alpha generation. Media, Mining & Steel and Energy ESG leaders have outperformed both the broader market (MSCI World) and their global sectors (MSCI World Level I sector) since publication (February 21, 2006, July 18, 2006 and October 9, 2006). Given that our ESG focus list is designed to capture long-term performance over a 3-5 year period and each of the aforementioned sectors took between 3-6 months to generate sustainable outperformance, we remain positive on the outlook for Food & Beverages and Pharmaceuticals leaders published in the last 4 months (February 8, 2007 and May 29, 2007).

**Exhibit 59: Absolute and relative performance of sustainable investing picks since publication (as of June 14, 2007)**



GS ESG report	Date of publication	Sustainable investing leaders	Absolute performance	Relative to sector	Relative to world
			Equal-weight performance since publication	vs MSCI World sector since publication	vs MSCI World since publication
Europe Media ESG	21 Feb 2006	BSkyB, Reuters, WPP and Yell	+37.1%	+11.4%	+9.7%
Mining & Steel ESG	18 Jul 2006	BHP Billiton, Xstrata, Posco and Voestalpine	+97.6%	+50.7%	+69.5%
Energy ESG	09 Oct 2006	BG, BHP Billiton, Petrobras, RShell and Statoil	+40.3%	+11.0%	+22.2%
Food & Beverages ESG	08 Feb 2007	Danone, Diageo, Kellogg, Nestle and PepsiCo	+5.1%	-1.1%	-2.6%
Pharmaceuticals ESG	29 May 2007	Bristol-Myers Squibb, Merck, Novo Nordisk and Roche	-2.3%	+0.2%	-2.6%

Performance is calculated on an equally weighted basis in US\$ relative to the MSCI World index and MSCI World sector indices (market-cap-weighted total return series in US\$). Please see p.96 for a full list of stocks analyzed in each sector piece. Full details of the performance of stocks in our coverage universe can be provided upon request.

Source: Datastream, MSCI, Goldman Sachs Research

## Success rates versus the global benchmarks is on average 72%

The success rate of the GS SUSTAIN focus list versus MSCI World Level 1 Sector is 72% on average across all sectors since publication, excluding the pharmaceutical sector, which we published on less than one month ago (May 2007). The performance of sectors published on more than six months ago has been highest, with mining & steel at 100%, energy at 80% and media at 75%.

**Exhibit 60: ESG performance relative to MSCI World Level 1 Sector (as of June 19, 2007)**

GS ESG framework	ESG publication date	ESG framework performance since publication		
		Absolute performance	MSCI World (Level 1 Sector)	Success rate (vs. sector)
Pharmaceuticals		Healthcare		
Bristol-Myers Squibb	29 May 2007	3.7%	-2.5%	N/M
Merck	29 May 2007	-5.9%	-2.5%	N/M
Novo Nordisk	29 May 2007	-2.1%	-2.5%	N/M
Roche	29 May 2007	-5.0%	-2.5%	N/M
Food & Beverages		Consumer Staples		
Danone	08 Feb 2007	3.6%	6.2%	0
Diageo	08 Feb 2007	10.0%	6.2%	1
Kellogg	08 Feb 2007	6.7%	6.2%	1
Nestle	08 Feb 2007	1.6%	6.2%	0
PepsiCo	08 Feb 2007	3.6%	6.2%	0
Energy		Energy		
BG Group	09 Oct 2006	31.2%	29.3%	1
BHP Billiton	18 Jul 2006	57.9%	29.3%	1
Petrobras	09 Oct 2006	51.8%	29.3%	1
Royal Dutch Shell	09 Oct 2006	25.5%	29.3%	0
Statoil	09 Oct 2006	35.0%	29.3%	1
Mining & Steel		Materials		
BHP Billiton	18 Jul 2006	57.9%	46.9%	1
Posco	18 Jul 2006	120.6%	46.9%	1
Voestalpine	18 Jul 2006	136.2%	46.9%	1
Xstrata	18 Jul 2006	87.7%	46.9%	1
European Media		Consumer Discretionary		
BSkyB	21 Feb 2006	45.8%	25.7%	1
Reuters	21 Feb 2006	65.5%	25.7%	1
WPP	21 Feb 2006	33.9%	25.7%	1
Yell	21 Feb 2006	3.1%	25.7%	0
Pharmaceuticals		-2.3%	-2.5%	N/M
Food & Beverages		5.1%	6.2%	40%
Energy		40.3%	29.3%	80%
Mining & Steel		97.6%	46.9%	100%
European Media		37.1%	25.7%	75%
<b>ESG framework success rate</b>				<b>72%</b>

Source: Datastream, MSCI, Goldman Sachs Research.

## Exhibit 61: GS SUSTAIN focus list (prices as of the market close of June 20, 2007)

GS SUSTAIN focus list	Country	Ticker	Mkt cap US\$ mn	GS analyst	Rating	Price	P/E			ESG (quartile)	Industry structure (quartile)	CROCI	
							2007E	2008E	2009E			04-06	07-09E
<b>Mature industries</b>													
<b>Energy</b>													
BG Group	United Kingdom	BG.L	\$ 55,320	Jonathan Waghom	Sell	799p	14.8x	14.2x	13.9x	1	Top 170 winner; 177% materiality	20%	20%
ENI	Italy	ENI.MI	\$ 133,349	Michele della Vigna, CFA	Buy	€26.97	10.2x	10.0x	9.9x	2	Top 170 near-term winner, 117% materiality	15%	14%
Petroleo Brasileiro S.A. (ADR)	Brazil	PBR	\$ 98,406	Brian Singer, CFA		\$120.83				1	Top 170 winner, 69% materiality		
Statoil	Norway	STL.OL	\$ 63,659	Michele della Vigna, CFA	Not Rated	Nkr177.25	11.1x	10.1x	9.4x	1	Top 170 winner; 116% materiality	12%	14%
<b>Mining &amp; Steel</b>													
BHP Billiton Plc	United Kingdom	BLT.L	\$ 174,252	Peter Mallin-Jones	Buy	1384p	10.9x	9.9x	11.5x	1	1st Q; 70% BRICs exposure	21%	25%
POSCO	South Korea	005490.KS	\$ 44,416	Rajeev Das	Neutral	W472500.00	11.7x	8.9x		2	2nd Q; 30.5 Mt pa; high-quality; close to markets	14%	13%
Rio Tinto plc	United Kingdom	RIO.L	\$ 106,239	Peter Mallin-Jones	Neutral	3838p	12.3x	10.6x	11.8x	1	2nd Q; 58% BRICs exposure	15%	19%
Voestalpine	Austria	VOES.VI	\$ 13,209	Peter Mallin-Jones	Neutral	€62.62	10.4x	10.9x	12.9x	2	2nd Q; 6.4 Mt pa; niche; close to markets	11%	11%
<b>European Media</b>													
British Sky Broadcasting	United Kingdom	BSY.L	\$ 24,244	Laurie Davison	Neutral	644p	22.5x	18.3x	14.6x	2	Disruptive technology; 1/3 UK TV homes	46%	37%
Reed Elsevier (UK)	United Kingdom	REL.L	\$ 16,238	Veronika Pechlaner, CFA	Neutral	644p	18.0x	16.4x	14.8x	1	Print to online; 30-35% sales online	14%	14%
WPP Group plc	United Kingdom	WPP.L	\$ 18,098	Jean-Michel Bonamy	Not Rated	732p	16.4x	14.3x	12.5x	1	Emerging markets; 21% BRICs exposure	9%	11%
Vivendi	France	VIV.PA	\$ 49,312	Jean-Michel Bonamy	Buy	€31.80	14.1x	13.1x	12.0x	2	Convergence; Music, TV/Film, Telecom	6%	10%
<b>Food &amp; Beverages</b>													
Danone	France	DANO.PA	\$ 39,056	Mark Lynch	Buy	€58.06	20.7x	18.3x	16.3x	1	Innovation and +51 bps margin expansion	13%	17%
Diageo	United Kingdom	DGE.L	\$ 58,954	Mike Gibbs	Neutral	1073p	18.3x	16.6x	15.2x	1	Volume growth, emerging markets	17%	17%
Kellogg Company	United States	K	\$ 20,661	Steven T. Kron, CFA	Buy	\$51.60	18.6x	16.9x	15.3x	2	Innovation and +176 bps margin expansion	14%	17%
Nestle	Switzerland	NESN.VX	\$ 144,617	Mark Lynch	Neutral	SFr460.75	17.8x	16.1x	14.6x	1	Innovation and +103 bps margin expansion	12%	13%
PepsiCo, Inc.	United States	PEP	\$ 109,615	Judy E. Hong	Buy	\$65.52	20.1x	17.9x	16.0x	2	Innovation and +44 bps margin expansion	21%	21%
<b>Pharmaceuticals</b>													
Bristol-Myers Squibb Company	United States	BMJ	\$ 61,429	James Kelly	Neutral	\$31.23	21.0x	19.3x	16.8x	1	2nd Q; growth; chronic disease focus	18%	22%
Merck & Co., Inc.	United States	MRK	\$ 107,196	James Kelly	Neutral	\$49.26	16.6x	16.6x	14.2x	1	2nd Q; innovation; vaccines focus	21%	22%
Novo Nordisk	Denmark	NOVOB.CO	\$ 32,393	John Murphy	Sell	Dkr565.00	19.1x	20.2x	18.2x	2	2nd Q; growth; diabetes focus	22%	24%
Roche	Switzerland	ROG.VX	\$ 154,262	John Murphy	Buy	SFr216.40	18.4x	15.7x	13.6x	2	1st Q; innovation; growth; oncology focus	17%	25%
	Country	Ticker	Mkt cap US\$ mn	GS analyst	Rating	Price	P/E			Theme	Description	EPS growth	
							2007E	2008E	2009E			2008E	2009E
<b>Emerging industries</b>													
<b>Alternative energy</b>													
Centrosolar	Germany	C3OG.DE	\$ 181	Jason Channell	Buy	€10.14	12.3x	9.3x	7.9x	Alternative Energy: Solar	Niche player focused on residential installations	33%	17%
D1 Oils	United Kingdom	DOO.L	\$ 150	Mariano Alarco	Buy	239p			15.2x	Alternative Energy: Biofuels	Differentiated strategy using non-food crops	74%	410%
Ersol Solar Energy AG	Germany	ES6G.DE	\$ 785	Jason Channell	Neutral	€59.70	37.1x	13.4x	8.8x	Alternative Energy: Solar	Integrated solar cell and wafer manufacturer	176%	52%
Ormat Technologies, Inc.	United States	ORA	\$ 1,302	Michael Lapides	Neutral	\$36.56	37.3x	22.6x	19.4x	Alternative Energy: Geothermal	Geothermal technology pure play	65%	16%
Phoenix Solar AG	Germany	PS4G.DE	\$ 158	Jason Channell	Buy	€19.40	17.2x	13.0x	9.7x	Alternative Energy: Solar	Large scale solar power project developer	33%	33%
Solar Millennium	Germany	S2MG.DE	\$ 519	Jason Channell	Neutral	€38.99	23.9x	20.7x	18.0x	Alternative Energy: Solar	Leading solar thermal project developer	15%	15%
SunPower Corp.	United States	SPWR	\$ 4,383	Chris Hussey	Neutral	\$59.45			63.3x	Alternative Energy: Solar	Low-cost, high-efficiency producer		147%
Suntech Power	China	STP	\$ 4,928	Cheryl Tang	Neutral	\$33.14	31.1x	21.9x	17.0x	Alternative Energy: Solar	Established track record of execution	42%	29%
Sunways AG	Germany	SWWG.DE	\$ 135	Jason Channell	Buy	€9.23	51.3x	15.6x	11.0x	Alternative Energy: Solar	Niche solar products for buildings/windows	230%	41%
Vestas Wind Systems	Denmark	VWS.CO	\$ 12,902	Jason Channell	Buy	Dkr386.50	39.2x	22.0x	17.5x	Alternative Energy: Wind	World's largest wind turbine manufacturer (~30%)	78%	26%
<b>Environmental technology</b>													
FP	Japan	7947.OS	\$ 708	Yasuo Kono	Buy	¥4010.00	16.5x	14.1x	12.6x	Environmental technology: Recycling	Niche focus on recycled food containers	17%	11%
LKQ Corp.	United States	LKQX	\$ 1,284	Chris Hussey	Buy	\$24.08	23.6x	18.3x	15.3x	Environmental technology: Recycling	Niche focus on recycling autoparts	29%	20%
Pentair, Inc.	United States	PNR	\$ 3,760	Deane M. Dray, CFA	Neutral	\$37.99	19.2x	17.3x	15.2x	Environmental technology: Water	75% water revenues, new management focus	11%	14%
Shanks Group	United Kingdom	SKS.L	\$ 1,256	Jenny Ping	Buy	268p	20.3x	17.1x	14.9x	Environmental technology: Waste	UK growth opportunity in waste services	19%	14%
Sinomem Technology	Singapore	SINO.SI	\$ 385	Christina Hee, CFA	Buy	S\$1.28	19.4x	14.6x	12.4x	Environmental technology: Water	Desalination technology leaders	33%	18%
Tomra Systems	Norway	TOM.OL	\$ 1,392	Jonathan Rodgers, CFA	Neutral	Nkr53.90	27.9x	22.8x	18.9x	Environmental technology: Recycling	Recycles beverage cans through RVM	23%	20%
<b>Biotechnology</b>													
Actelion	Switzerland	ATLN.S	\$ 5,825	Stephen McGarry	Buy	SFr58.85	20.5x	16.8x	14.3x	Biotechnology	Pulmonary arterial hypertension (PAH)	22%	18%
Amylin Pharmaceuticals, Inc.	United States	AMLN	\$ 5,379	Meg Malloy, CFA	Buy	\$41.30			103.3x	Biotechnology	Obesity and diabetes	71%	183%
Elan Corporation (ADR)	Ireland	ELN	\$ 9,379	Stephen McGarry	Buy	\$21.13			92.8x	Biotechnology	Neurology and Alzheimer's	58%	182%
Intercell	Austria	ICEL.VI	\$ 1,257	Stephen McGarry	Neutral	€23.70		95.7x	38.2x	Biotechnology	Vaccines for infectious diseases	237%	150%
Genentech Inc.	United States	DNA	\$ 79,472	May-Kin Ho, Ph.D.	Buy	\$75.40	29.0x	23.6x	19.7x	Biotechnology	Biotherapeutics for cancer and other conditions	23%	20%
Genmab	Denmark	GEN.CO	\$ 3,002	Stephen McGarry	Buy	Dkr379.00		156.9x	37.0x	Biotechnology	Antibodies, oncology	137%	324%
Gilead Sciences Inc.	United States	GILD	\$ 36,755	Meg Malloy, CFA	Buy	\$79.10	27.3x	23.6x	20.0x	Biotechnology	HIV/AIDS, infectious diseases	15%	18%

Source: Company data, Goldman Sachs Research estimates, Quantum database.

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## Large-cap sustainable investment ideas in mature industries

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Goldman Sachs Global Investment Research has developed an ESG framework as a tool to enable the integration of ESG with industrial analysis and valuation in mature industries and pick large-cap sustainable investing winners. The tool also allows us to identify emerging industries with high growth rates to pick small- and mid-cap sustainable investing winners. The London-based ESG research team has published seven sector frameworks to date covering resources and consumer industries, including energy (February 2004, August 2005, October 2006), media (February 2006), mining & steel (July 2006), food & beverages (February 2007) and pharmaceuticals (May 2007).

We present five sector case studies to illustrate how our framework for integrating ESG works in practice: by capturing the long-term drivers of valuation and performance industry-by-industry. Each case study combines our analysis of universal and sector-specific ESG issues, industry structural themes, competitive positioning, and quantitative valuation techniques developed in our Director's Cut reports by the Tactical Research Group (TRG).

- **Global Energy under pressure to find and develop new growth projects** (October 9, 2006)  
<http://portal.gs.com/gs/portal/?action=action.binary&d=2523068&fn=/document.pdf>
- **Global Mining and Steel respond to step change in demand for metals and minerals** (July 18, 2006)  
<http://portal.gs.com/gs/portal/?action=action.binary&d=2326605&fn=/document.pdf>
- **Global Food & Beverages brands expand into healthy products and emerging markets** (February 8, 2007)  
<http://portal.gs.com/gs/portal/?action=action.binary&d=3049428&fn=/document.pdf>
- **Global Pharmaceuticals at a turning point: Innovate or restructure** (May 29, 2007)  
<http://portal.gs.com/gs/portal/?action=action.binary&d=3587536&fn=/document.pdf>
- **European Media in a race to keep up with dynamic change** (February 21, 2006)  
<http://portal.gs.com/gs/portal/?action=action.binary&d=1958705&fn=/document.pdf>

### We highlight sustainable investing leaders based on three screens

**Management quality.** We view ESG as a proxy for quality of management in a changing world.

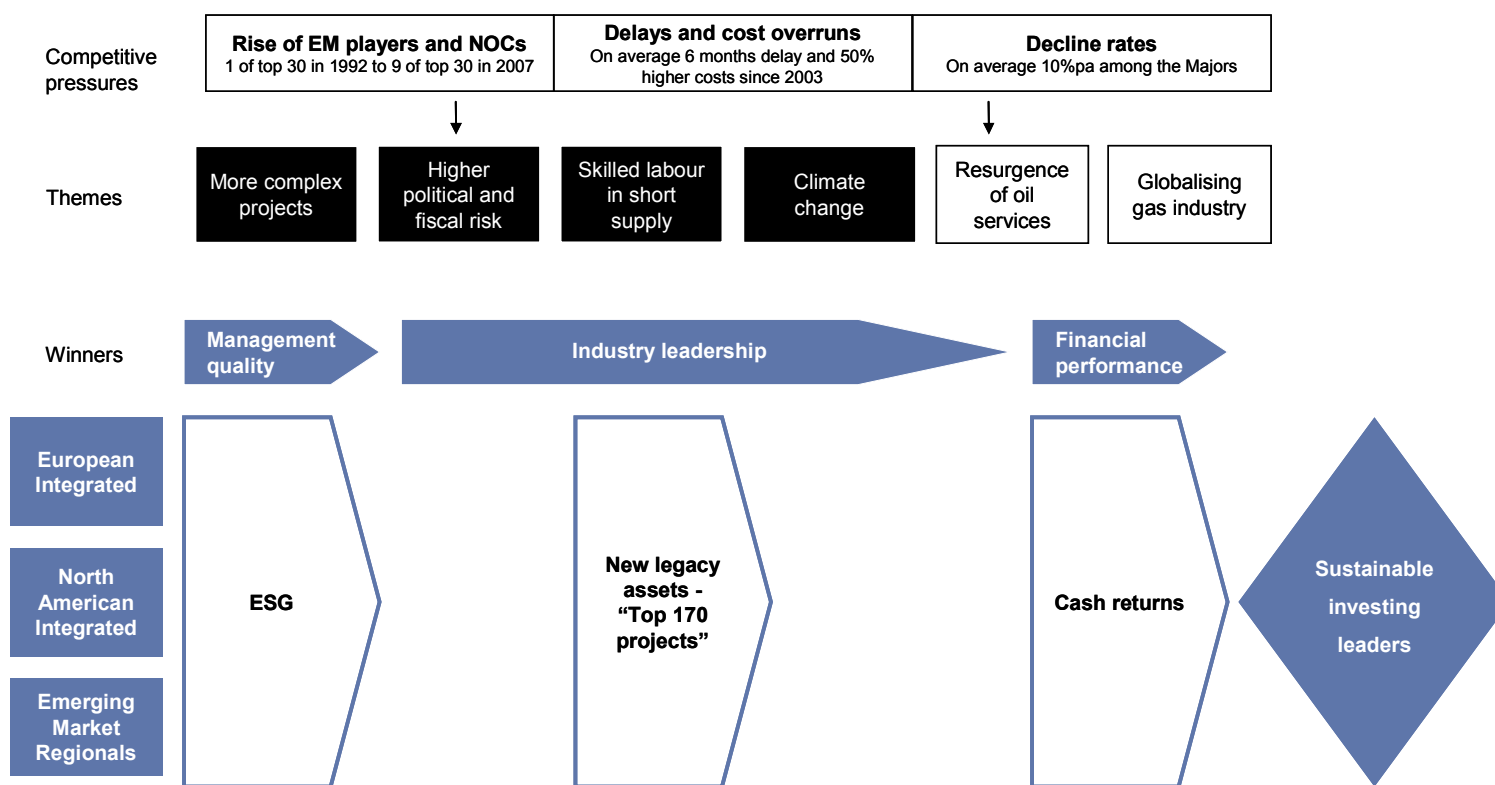
**Industry structural themes.** For each sector we highlight the ways in which companies can maintain or improve returns.

**Financial performance.** To assess sustainable competitive advantage, we rank companies by average future cash returns in 2007E-2009E. Using the Goldman Sachs Quantum database, we have conducted backtests of financial data and found that portfolios based on cash returns outperformed those based on multiples and growth based metrics including P/E, dividend yield and EPS growth in global pharmaceuticals, food and beverages, energy, mining and European media.

# Global Energy under pressure to find and develop new growth projects

The oil industry continues its upstream growth strategy with mixed success. Our Top 170 study models 286 bnboe of oil and gas reserves, with a total investment of US\$1.2 tn and potential maximum production of 30 mnboe/d by 2016E. We estimate the Majors' share of investment will represent 91% of their planned upstream growth capex over the next five years and will be the key driver of incremental returns, corporate strategy and share price performance. Delays, cost increases and fiscal pressures as a result of more complex projects, higher political risk, environmental concerns and the lack of skilled labour have depressed oil company returns and companies will need to overcome these challenges to deliver the legacy of these projects.

**Exhibit 62: Industry roadmap: Competitive pressures, structural themes in the industry and characteristics of sustainable investing winners**



Source: Goldman Sachs Research.

### The Top 170 Projects sample set is bigger and more material for the integrated oil companies

The industry continues to add new resources. The average project size is 1.7 bnboe with an investment of US\$7.2 bn per project. The average project delivers a 15.7% IRR and 1.51x profit/investment ratio (at US\$42/bl Brent oil price) and requires less than US\$30/bl to deliver a cost of capital return, on our estimates. The average project delay for the original 50 projects (June 2003) has been around six months and the average cost inflation is around 50% over the same period. We expect 35 projects will be sanctioned in the next two years, and we still see at least another 60 projects that are currently just outside the scope of the Top 170 report and could therefore be included in future studies.

**Exhibit 63: Map of the Top 170 projects**



Source: World Bank, UNDP, Goldman Sachs Research estimates.

## Increasing competitive pressures and political risk challenge oil companies

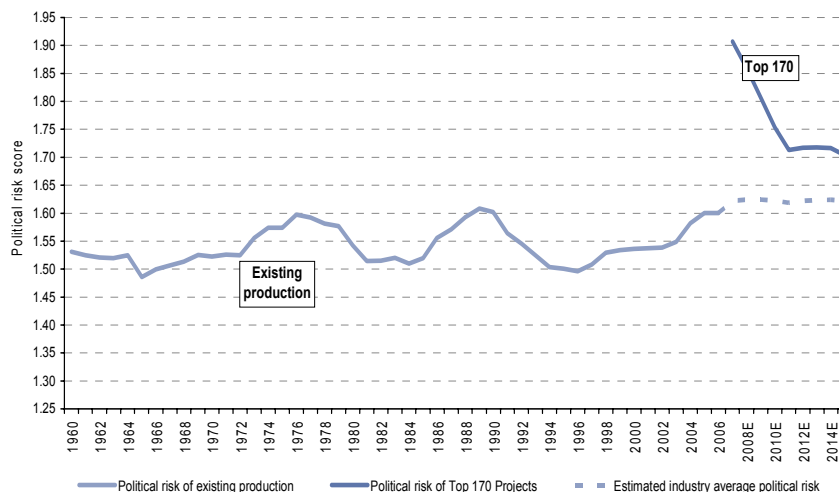
With their business models under increasing pressure from emerging market oil companies and the service companies, integrated oil companies (IOCs) are working harder to justify their inclusion in new projects being offered by resource holders and national oil companies (NOCs). IOCs cannot win projects based purely on access to capital or technological advantage as the high oil price and resurgence of oil services has removed these advantages. We believe competitive advantage will increasingly come from successful R&D, high quality project execution, access to the highest quality labour, successful climate change strategies and increased recovery from existing opportunities.

**Exhibit 64: Market capitalization of Top 30 oil companies shows rise of the NOCs**

Top 30 by Market capitalisation in 1991					Top 30 by Market capitalisation in 2007 (as of 29 June 2007)					1991-2007	
Rank	Company	Country	Market cap (US\$ bn)	Market cap (as % Top 30)	Rank	Company	Country	Market cap (US\$ bn)	Market cap (as % Top 30)	Company	Multiplier
1	Exxon	US	75.7	17.8%	1	Exxon Mobil	US	466.5	14.5%	Exxon Mobil	4.5x
2	Royal Dutch / Shell	UK / Netherlands	75.4	17.7%	2	PetroChina	China	263.3	8.2%	RDS	3.4x
3	BP	UK	29.4	6.9%	3	Royal Dutch Shell	UK / Netherlands	258.2	8.0%	BP	3.1x
4	Mobil	US	27.0	6.4%	4	Gazprom	Russian Federation	243.8	7.6%	TOTAL	5.4x
5	Amoco	US	24.4	5.7%	5	BP	UK	221.8	6.9%	Chevron	3.6x
6	Chevron	US	24.1	5.7%	6	TOTAL	France	190.3	5.9%	ConocoPhillips	20.4x
7	British Gas	UK	21.1	5.0%	7	Chevron	US	174.0	5.4%	EnCana	18.7x
8	Elf Aquitaine	France	18.6	4.4%	8	ENI	Italy	144.9	4.5%	Hydro	9.1x
9	Arco	US	16.8	4.0%	9	ConocoPhillips	US	127.8	4.0%	Occidental	8.7x
10	Texaco	US	15.8	3.7%	10	Petrobras	Brazil	126.5	3.9%	Repsol YPF	5.9x
11	PetroFina	Belgium	8.8	2.1%	11	Sinopec	China	97.8	3.0%	Imperial Oil	6.0x
12	Repsol	Spain	8.1	1.9%	12	Rosneft	Russian Federation	94.8	2.9%	Marathon	6.3x
13	TOTAL	France	7.8	1.8%	13	Lukoil	Russian Federation	67.8	2.1%		
14	Imperial Oil	Canada	7.4	1.7%	14	Statoil	Norway	64.8	2.0%		
15	Marathon	US	6.7	1.6%	15	BG Group	UK	54.0	1.7%		
16	Phillips Petroleum	US	6.3	1.5%	16	EnCana	Canada	49.4	1.5%		
17	Unocal	US	6.2	1.5%	17	CNOOC	China	50.6	1.6%		
18	Occidental	US	5.5	1.3%	18	Hydro	Norway	48.7	1.5%		
19	Hydro	Norway	5.3	1.3%	19	ONGC	India	48.1	1.5%		
20	Burlington	US	4.7	1.1%	20	Occidental	US	47.6	1.5%		
21	Amerada Hess	US	3.9	0.9%	21	Repsol YPF	Spain	47.3	1.5%		
22	Sasol	South Africa	3.8	0.9%	22	Imperial Oil	Canada	44.0	1.4%		
23	Enterprise Oil	UK	3.7	0.9%	23	Marathon	US	42.4	1.3%		
24	Cosmo Oil	Japan	3.6	0.9%	24	Surgutneftegas	Russian Federation	41.2	1.3%		
25	Sunoco	US	3.2	0.8%	25	Valero	US	41.1	1.3%		
26	Lasmo	UK	3.1	0.7%	26	Suncor	Canada	41.1	1.3%		
27	EnCana	Canada	2.6	0.6%	27	Husky En.	Canada	36.5	1.1%		
28	CEPSA	Spain	2.2	0.5%	28	Canadian NR	Canada	36.2	1.1%		
29	OMV	Austria	2.1	0.5%	29	Devon Energy	US	35.9	1.1%		
30	Woodside	Australia	2.0	0.5%	30	Apache	US	28.0	0.9%		
Top 30 oil and gas			426	100.0%	Top 30 oil and gas			3,225	100.0%	Top 30 oil	
US Market			2,046		US Market			13,934		US Market	
European Market			1,647		European Market			11,209		Euro Market	

Source: Datastream.

**Exhibit 65: Increasing political risk**

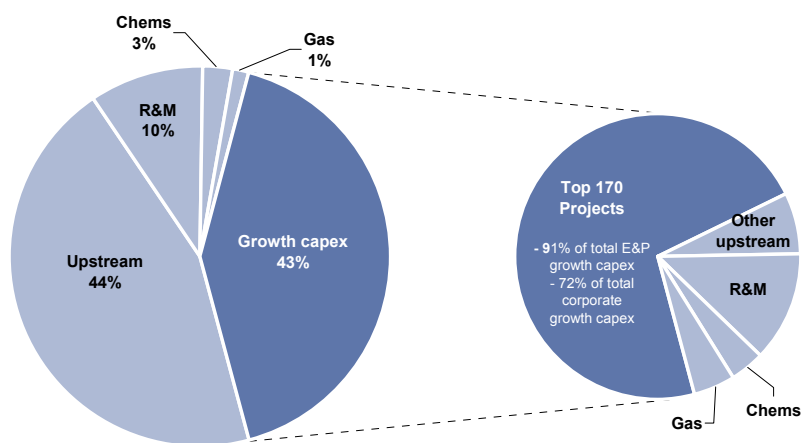


Source: National Science Foundation.

### ESG continues to link to legacy assets, the key to industry’s production growth and returns

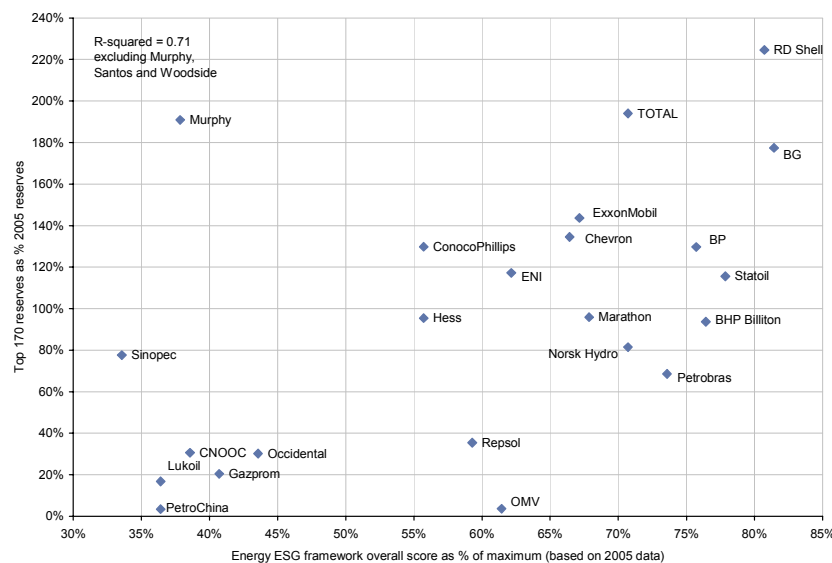
Legacy assets are those that we believe represent a material profit centre for the industry, with the potential to provide and expand long-term reserve and production growth. The sample set is now even more material for the companies: the US\$197 bn of planned Top 170 projects capex in the next five years represents 31% of overall capex, 72% of corporate growth capex and 91% of total upstream growth capex for the Majors. These projects represent the advantaged project slate for the industry as a whole and their delivery will likely be the key driver of corporate incremental returns, in our opinion. In general, companies demonstrating superior management quality (as measured by ESG) continue to lead on exposure to the industry’s new legacy assets. With increased competition from NOCs, and as political and technical risk rises, companies will need to remain successful in finding resources to cover the gap. We find that the correlation is now more than 70%, excluding Murphy, Santos and Woodside, which are single resource players.

**Exhibit 66: Top 170 capex as a percentage of total growth capex**



Source: Datastream.

**Exhibit 67: ESG and T170 exposure**



Source: National Science Foundation.

## Global energy in GS SUSTAIN: BG, ENI, Petrobras, and Statoil

We have selected stocks from the global energy sector based on:

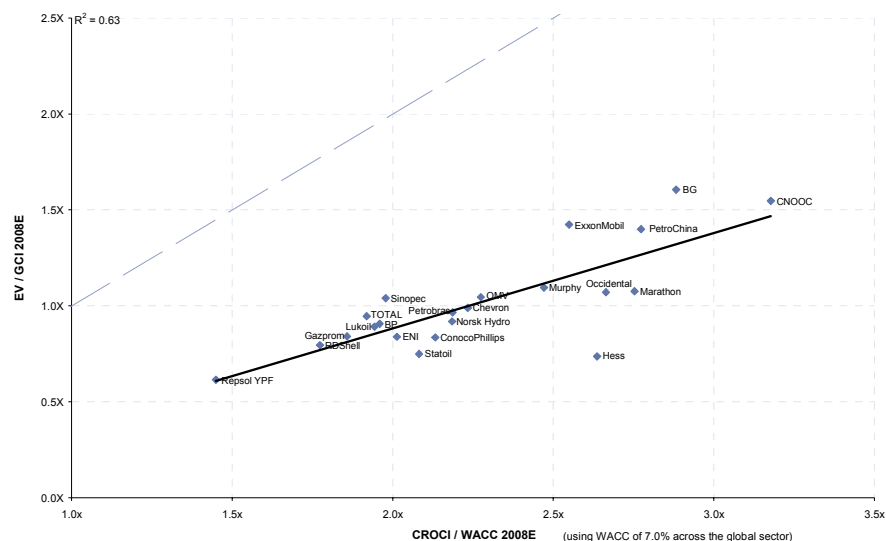
- **Management quality.** Our ESG framework built from the bottom up using objective and quantifiable indicators to measure company performance with respect to corporate governance, leadership, employees, stakeholders and the environment.
- **Industry structural themes.** We have worked with our global energy analysts to identify the drivers of competitive positioning across the global energy sector; the key determinant of success or failure in the industry is access to the next generation of legacy assets.
- **Sustained competitive advantage.** Economic returns (CROCI, or cash return on cash invested) above peer group average indicates the best measure of sustained competitive advantage, in our opinion.

**Exhibit 68: ESG, Top 170 and cash returns used to pick leaders and laggards**

Company	ESG			Top 170		Cash returns		EV/DACF*
	2005	Quartile	Momentum	Materiality	Category	07E-09E	Momentum	
<b>BG</b>	81%	1	—	177%	Winner	20.3%	—	125%
<b>RDSshell</b>	81%	1	▲	225%	Long term exposure	12.5%	▼	110%
<b>Statoil</b>	78%	1	▲	116%	Winner	14.4%	▲	78%
<b>BP</b>	76%	1	—	130%	Winner	13.3%	—	95%
<b>Norsk Hydro</b>	71%	1	—	81%	Excluded, now part of STL	15.1%	▲▲	97%
<b>TOTAL</b>	71%	1	—	194%	Long term exposure	13.4%	—	108%
<b>ENI</b>	64%	2	—	117%	Near term exposure	14.1%	—	95%
<b>OMV</b>	61%	3	▼	—	Limited Exposure	15.8%	▲▲	103%
<b>Repsol</b>	59%	3	▼	35%	Limited Exposure	10.1%	—	88%
<b>European integrated</b>	71%	—	—	134%	—	14%	—	100%
<b>Marathon</b>	68%	2	▲	96%	Long term exposure	19.2%	▲	99%
<b>ExxonMobil</b>	67%	2	▲	144%	Long term exposure	18.4%	—	139%
<b>Chevron</b>	66%	2	—	134%	Long term exposure	15.8%	—	106%
<b>Hess</b>	56%	3	▲	95%	Near term exposure	18.9%	▲▲	63%
<b>ConocoPhillips</b>	56%	3	—	130%	Long term exposure	15.7%	▼	106%
<b>Occidental</b>	44%	4	▼	30%	Limited Exposure	18.1%	▲▲	88%
<b>Murphy</b>	38%	4	—	191%	Winner	15.7%	▼	98%
<b>North American integrated</b>	56%	—	—	117%	—	17%	—	100%
<b>Petrobras</b>	74%	1	▲	69%	Winner	16.4%	—	95%
<b>Gazprom</b>	41%	4	—	20%	Limited Exposure	13.0%	▲▲	94%
<b>CNOOC</b>	39%	4	—	31%	Limited Exposure	21.6%	▼	104%
<b>PetroChina</b>	36%	4	—	3%	Limited Exposure	20.1%	▼	106%
<b>Lukoil</b>	36%	4	▼	17%	Limited Exposure	14.1%	—	95%
<b>Sinopec</b>	34%	4	▲	78%	Long term exposure	14.2%	—	106%
<b>Emerging market regionals</b>	43%	—	—	36%	—	17%	—	100%
<b>BHP Billiton</b>	76%	1	—	94%	Near term exposure	19.8%	▲	94%

Source: Company data, Goldman Sachs Research estimates, Goldman Sachs JBWere for estimates for Santos and Woodside.

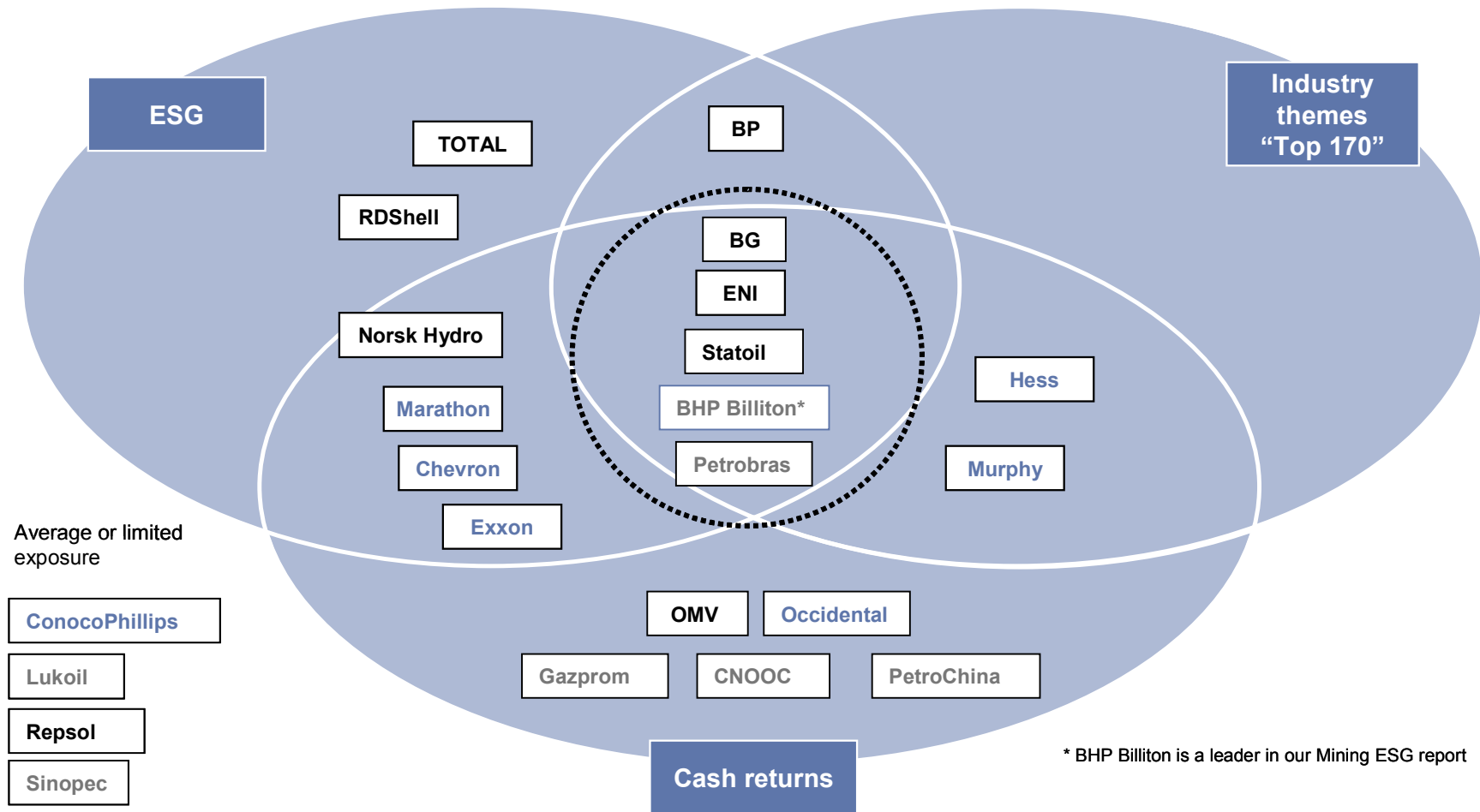
**Exhibit 69: Cash return spreads by company (EV/GCI vs. CROCI/WACC, 2008E)**



Source: Company data, Goldman Sachs Research estimates, Quantum database.

We have updated our Global Energy ESG framework, published in October 2006, to reflect the new Top 170 projects analysis and updated GS estimates over the past eight months. Our leaders now include ENI (second quartile on ESG with winning near-term exposure to the Top 170 projects). RDSshell has been removed from the sustainable investing leaders due to the delays in delivery on its Top 170 projects (on average 12 months) and deteriorating cash returns.

**Exhibit 70: GS SUSTAIN energy leaders based on ESG, cash returns and industry structural themes**



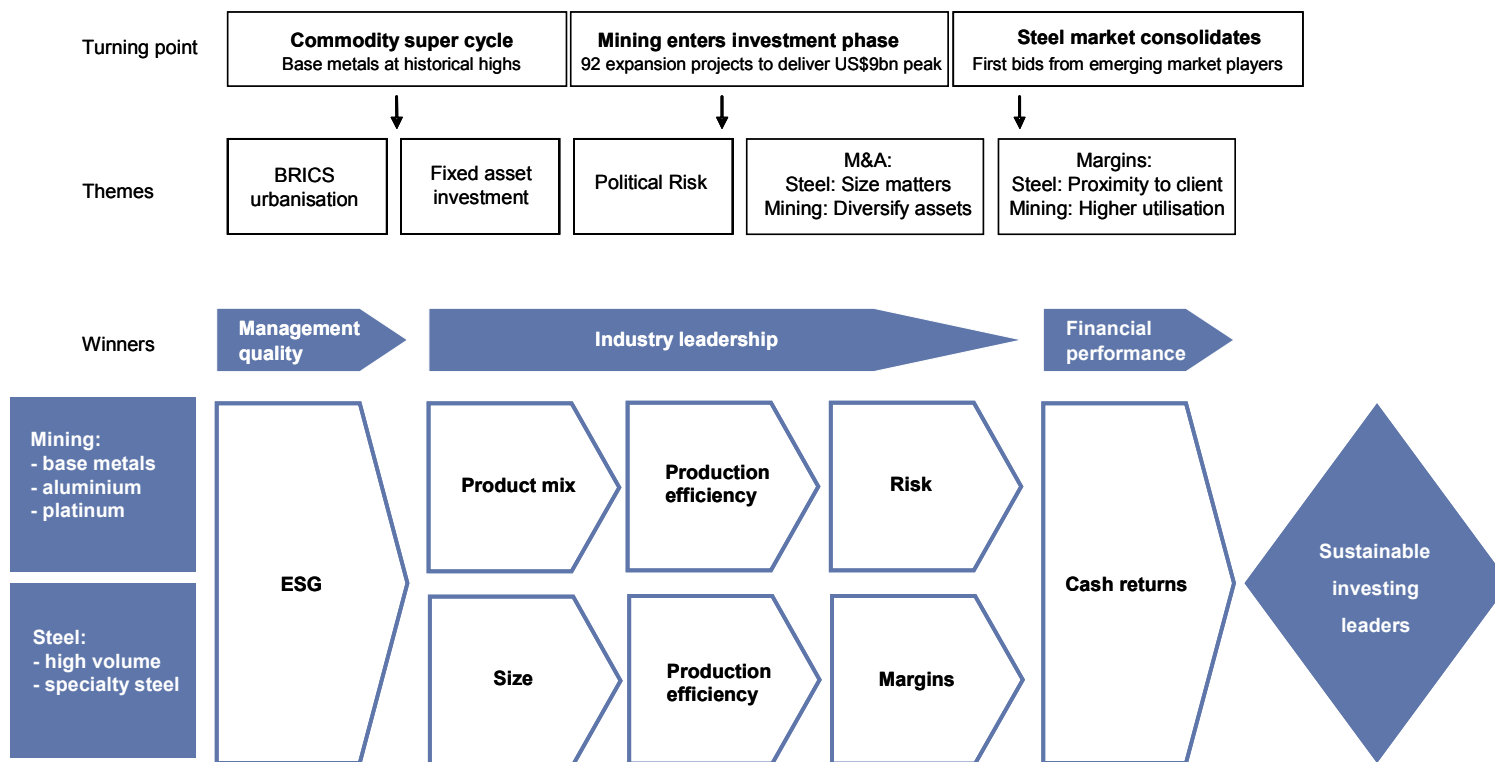
Sustainable investing company categorisation									
Leaders		Average					Laggards		
Europe	EM	Europe	North America		EM	Europe	North America	EM	
BG	Petrobras	BP	RDSshell	Chevron	ConocoPhillips	CNOOC	Repsol	Occidental	Lukoil
ENI		OMV	TOTAL	ExxonMobil	Hess	Gazprom			Sinopec
Statoil				Marathon	Murphy	PetroChina			

Source: Goldman Sachs Research.

# Global Mining and Steel responds to a step change in demand for metals and minerals

Between 1996 and 2006, the global mining sector outperformed the market by over 60%, while commodities prices, especially base metals, have increased by over 100% and prices remain at historical highs. In response to a sudden increase in demand due to global urbanization and BRICs growth, integrated and base mining companies are extending their global reach into new markets. The known resources are concentrated in Australia, South America and Africa, thus requiring global operations and a balanced portfolio to reduce political risk. At the same time the steel industry has moved from a largely government-owned, strategic industry to a public industry where size, efficiency and global reach will define success.

**Exhibit 71: Industry roadmap**



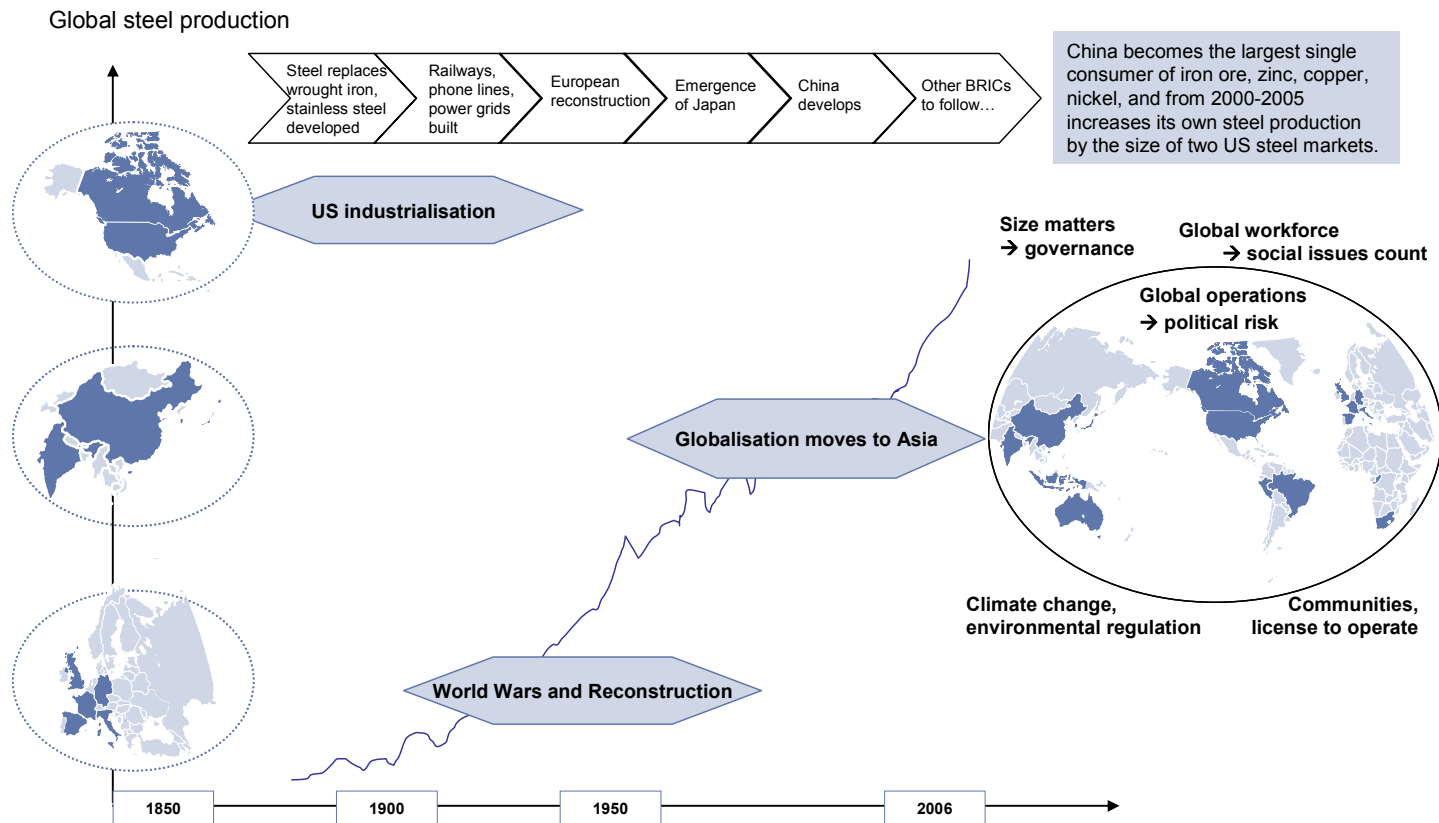
Source: Goldman Sachs Research.



## BRICs growth puts pressure on industry to deliver projects

The macroeconomic environment for mining and steel continues to be strong due to global urbanization, BRICs growth and fixed asset investment, particularly in China. Market capitalisation and balance sheet strength is needed to enable capital investment and flexibility to respond to demand fluctuations. Higher demand in China and other emerging markets has resulted in a tight global market, giving an advantage to those companies with global reach and proximity to markets. The known resources are concentrated in Australia, South America and Africa, thus requiring global operations. Currently the commodities in highest demand and shortest supply are iron ore, copper, nickel and zinc. The Arcelor-Mittal transaction has begun a host of transactions in the mining and steel space in which emerging market players have also made large acquisitions, such as CVRD-Inco and Tata-Corus.

**Exhibit 72: Mining companies need to manage all parts of their operations as China becomes the largest single consumer of iron ore, zinc, copper and nickel, and demand increases in the minerals and metals markets globally**

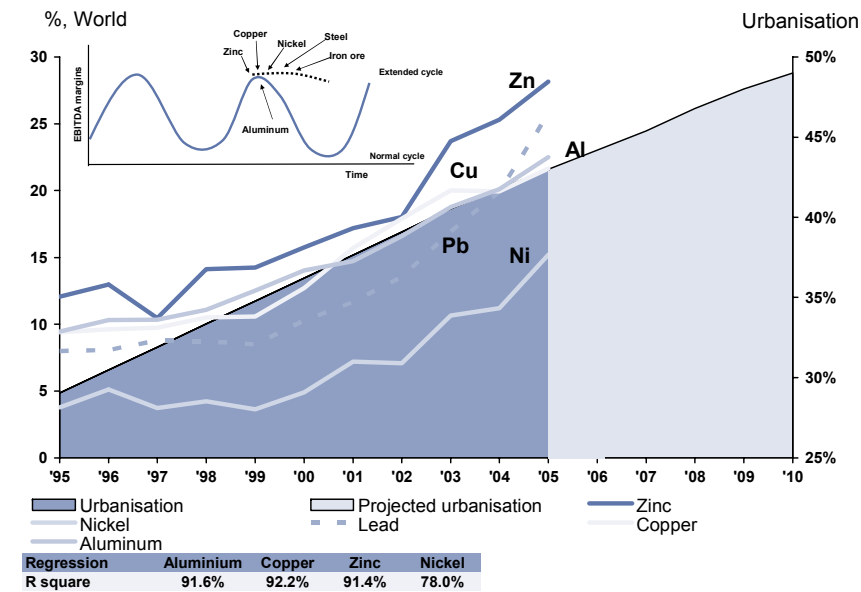


Source: Goldman Sachs Research.

### Mining expansion projects drive returns

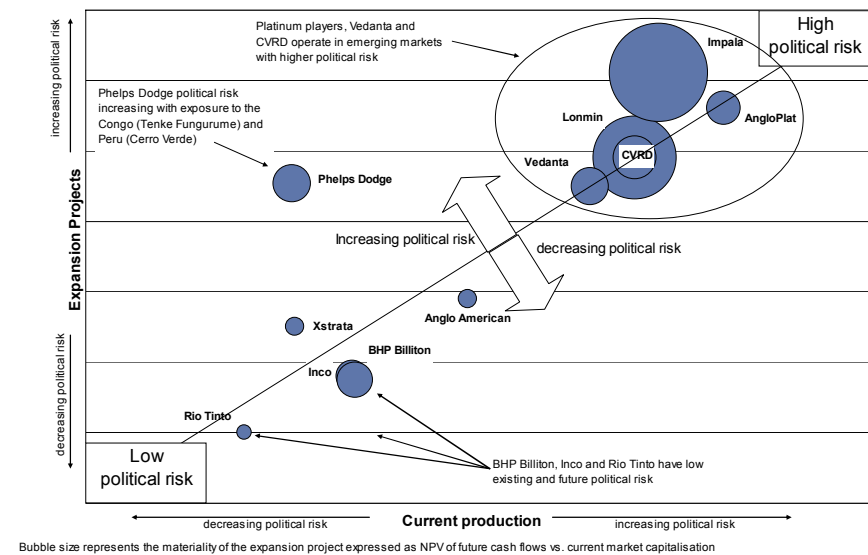
In the last ten years, global base metal demand has been driven by the rapid development of the Chinese economy. China is currently the largest single country consumer of iron ore (41%), zinc (27%), aluminium (22%), copper (23%), nickel (15%) and steel (33%) with its share of global consumption rising steadily. The future of the industry rests, in part, on the ability of mining companies to expand projects and enhance future cash flows and profitability. We have analysed 92 expansion projects of the global mining companies. The sudden increase in demand for metals and minerals has led companies to operate projects in regions where they have previously not operated.

**Exhibit 73: China drives global base metals demand; consumption is correlated with urbanization rate, extending cycle.**



Source: WBMS, National Bureau of Statistics, Goldman Sachs Economics Research.

**Exhibit 74: Ninety-two mining expansion projects are driving returns, at varying levels of risk**

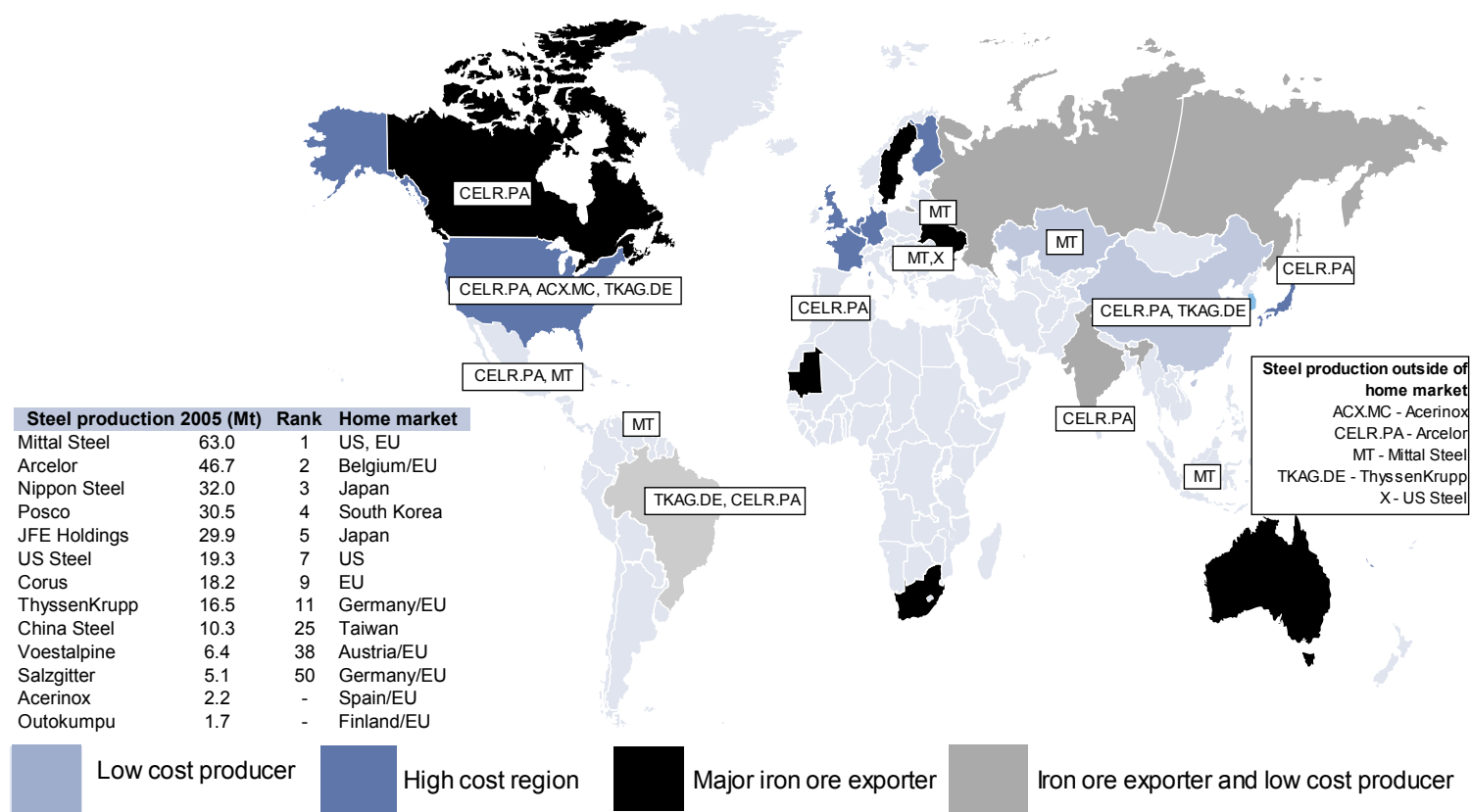


Source: Company data, Goldman Sachs Research estimates.

## Global reach and local differentiation drive returns of steel companies

The largest steel volume players are best positioned to benefit from economies of scale, such as long-term supply contracts for iron ore or better supply agreements for energy and raw materials, such as alloys. Increasingly, the larger players in the steel industry are purchasing iron ore assets to strengthen their global position and become independent of suppliers. To analyse future efficiency of production for steel we have calculated current and future cash flow per tonne of steel and compared that with revenue per tonne (measure of steel quality) and production volume. Proximity to markets and production of tailored, high quality steels are strategic differentiators for steel producers. Companies that produce close to their end-market benefit from low freight costs, quick delivery times and more favourable customer relationships. Steel companies that develop tailored products for niche markets will command high margins. In order for companies to operate globally while being in touch with local conditions they require a high level of integration across regions, talented employees and superior governance.

**Exhibit 75: Size and global reach of steel companies**



Source: Company data, Goldman Sachs Research.

## Global mining and steel in GS SUSTAIN: BHP Billiton, Posco, Rio Tinto, Voestalpine

We have selected stocks from the global energy sector based on:

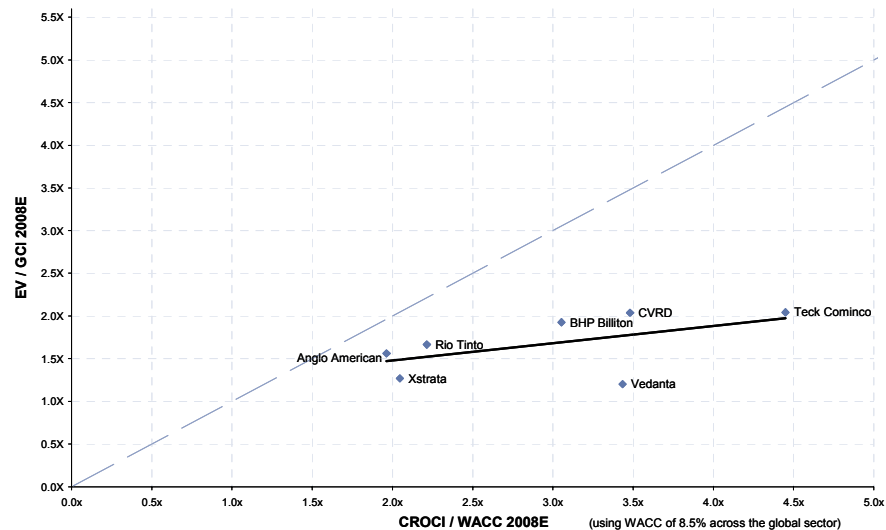
- **Management quality.** Our ESG framework built from the bottom up using objective and quantifiable indicators to measure company performance with respect to corporate governance, leadership, employees, stakeholders and the environment.
- **Industry structural themes.** We have worked with our global mining and steel analysts to identify the drivers of competitive positioning across the global mining and steel sectors; the key determinant of success or failure in the mining industry is access to new growth projects; in the steel industry it is size, global reach and efficient production.
- **Sustained competitive advantage.** Economic returns (CROCI, or cash return on cash invested) above peer group average indicates the best measure of sustained competitive advantage, in our opinion.

**Exhibit 76: ESG, industry themes and cash returns used to pick leaders**

Company	ESG			Industry themes	Cash returns	
	2004	Quartile	Momentum		Quartile	07E-09E
<b>Mining</b>						
Anglo American	76%	1	▲	3	16.2%	▲
<b>BHP Billiton</b>	<b>80%</b>	<b>1</b>	<b>▲</b>	<b>1</b>	<b>24.3%</b>	<b>▲</b>
<b>Rio Tinto</b>	<b>75%</b>	<b>1</b>	<b>▲</b>	<b>2</b>	<b>17.7%</b>	<b>▲</b>
<b>Global diversified</b>	<b>77%</b>				<b>19%</b>	
CVRD	47%	4	▲	1	29.6%	▲▲
Teck Cominco	58%	3	▲	2	35.5%	▲
Vedanta	55%	4	▲	1	29.6%	▲
Xstrata	73%	2	▲	2	16.8%	▼
<b>Base commodities</b>	<b>58%</b>				<b>28%</b>	
Anglo Platinum	66%	2	▲	3	25.0%	▲
Impala	60%	3	▲	3	34.2%	▲
Lonmin	63%	3	—	3	29.0%	▲
<b>Platinum</b>	<b>63%</b>				<b>29%</b>	
Alcan	67%	2	—	4	12.5%	▲
Alcoa	80%	1	—	4	10.5%	▲
Chalco	38%	4	—	4	14.4%	▼
<b>Aluminium</b>	<b>62%</b>				<b>12%</b>	
<b>Steel</b>	<b>2004</b>	<b>Quartile</b>	<b>Momentum</b>	<b>Quartile</b>	<b>07E-09E</b>	<b>Momentum</b>
China Steel	50%	4	▲	1	14.2%	—
<b>Posco</b>	<b>65%</b>	<b>2</b>	<b>▲</b>	<b>1</b>	<b>12.9%</b>	<b>—</b>
ThyssenKrupp	67%	2	▲	2	10.5%	—
US Steel	52%	4	▲	4	10.3%	▼
<b>High volume steel</b>	<b>58%</b>				<b>12%</b>	
Acerinox	37%	4	▲	4	10.7%	—
Outokumpu	69%	2	▲▲	2	10.3%	—
Salzgitter	56%	3	▼	2	10.9%	—
<b>Voestalpine</b>	<b>59%</b>	<b>2</b>	<b>▲</b>	<b>1</b>	<b>11.5%</b>	<b>—</b>
<b>High margin steel</b>	<b>55%</b>				<b>11%</b>	

Source: Company data, Goldman Sachs Research estimates, Goldman Sachs JBWere for estimates for Santos and Woodside.

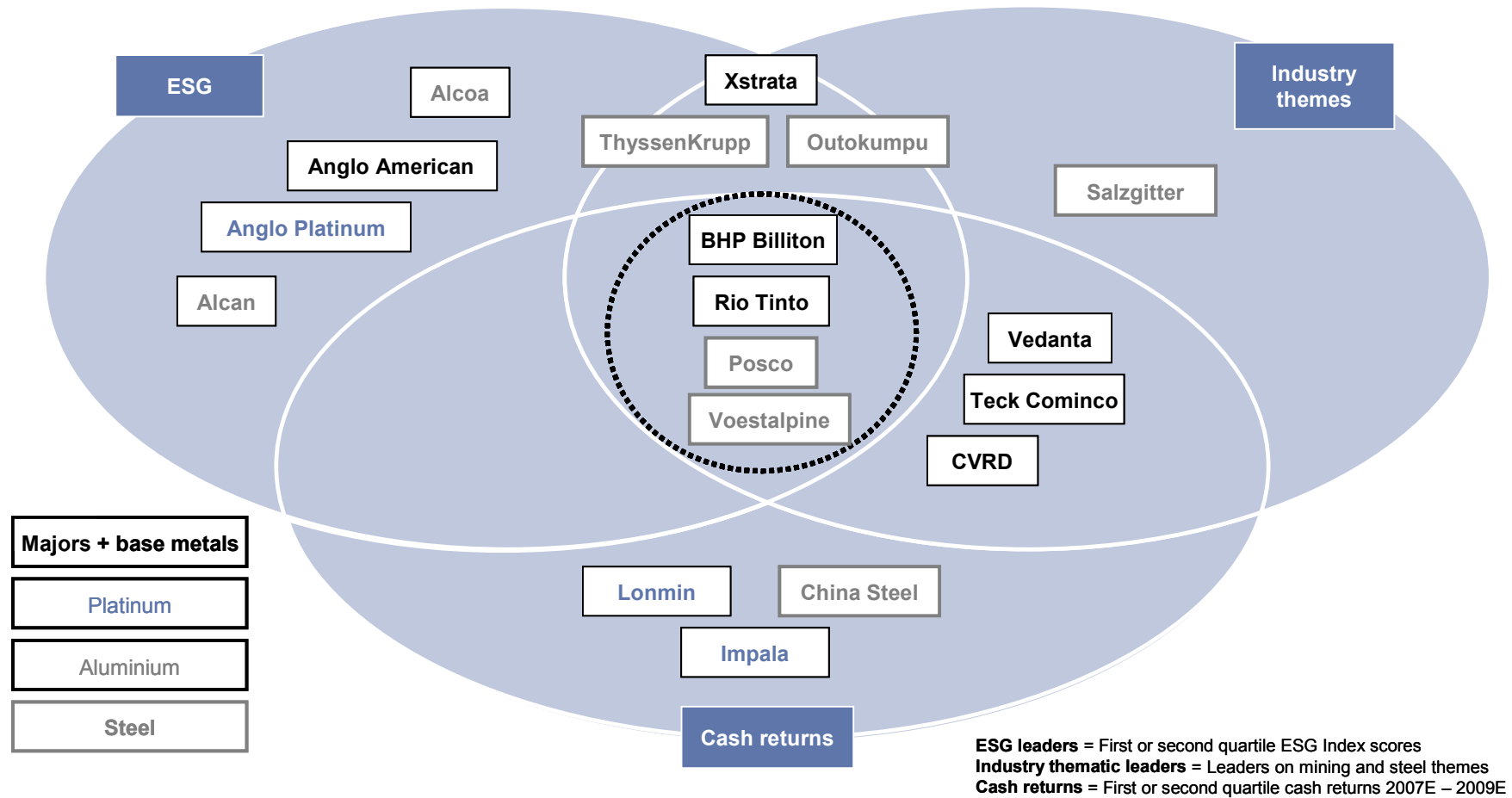
**Exhibit 77: Cash return spreads by company**  
(EV/GCI vs. CROCI/WACC, 2008E)



Source: Company data, Goldman Sachs Research estimates, Quantum database.

We have updated our Global Mining and Steel ESG framework, published in July 2006, to reflect corporate activity and updated GS estimates over the past 11 months. Our leaders now include Rio Tinto (first quartile on ESG with solid exposure to BRICs commodities and new projects). Xstrata has been removed from the sustainable investing leaders due to deterioration in cash returns.

**Exhibit 78: GS SUSTAIN leaders based on ESG, cash returns and industry structural themes**



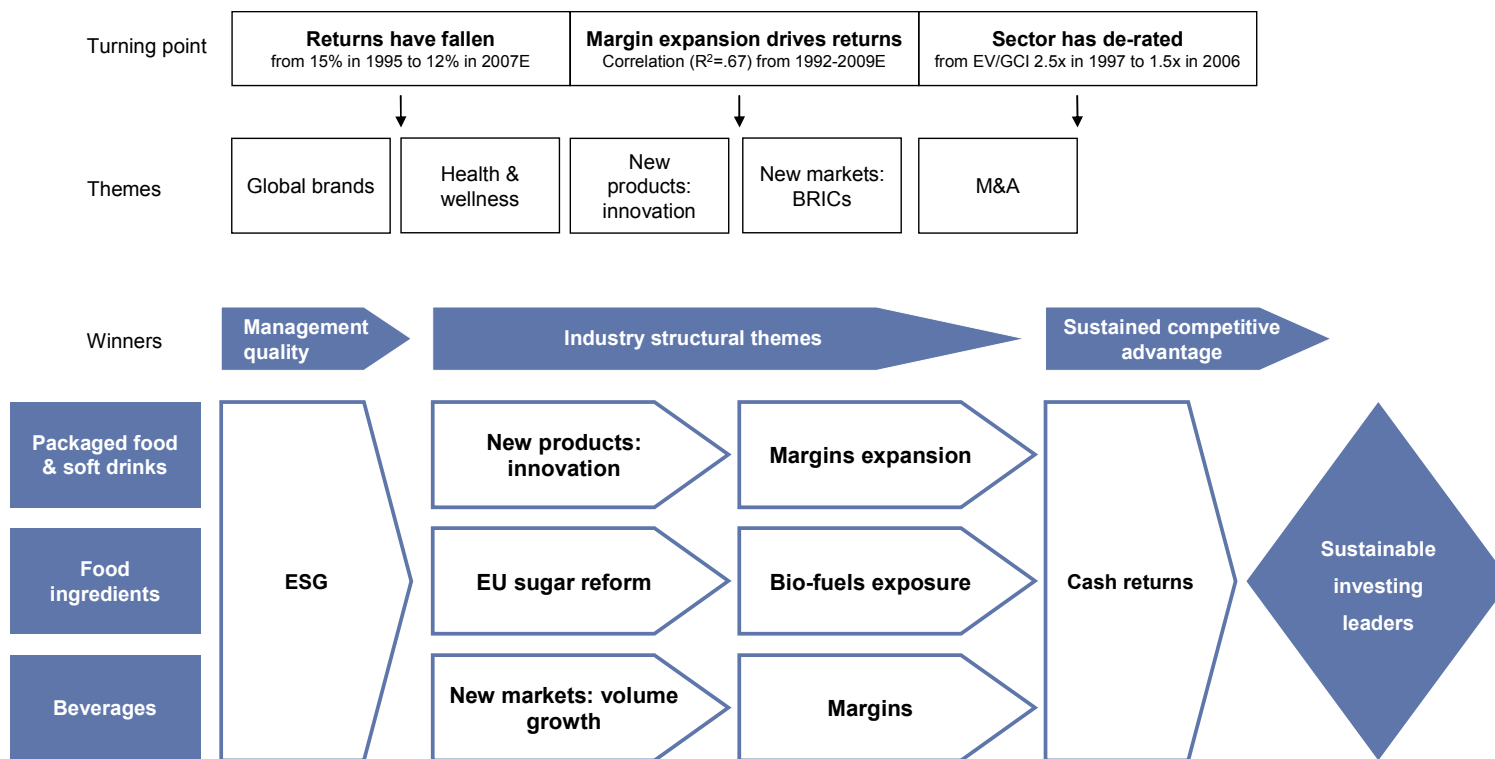
Sustainable investing company categorisation							
Leaders		Average				Laggards	
Mining	Steel	Mining		Steel		Mining	Steel
BHP Billiton	Posco	Alcan	Anglo Plat	Lonmin	China Steel	Salzgitter	Chalco
Rio Tinto	Voestalpine	Alcoa	CVRD	Teck Cominco	Outokumpu	ThyssenKrupp	Acerinox
		Anglo American	Impala	Vedanta			US Steel

Source: Goldman Sachs Research.

# Global Food & Beverages brands expand into healthy products and emerging markets

Food & beverage companies maintain and re-energize brand portfolios through product innovation and introduce and reformulate products to meet ever-changing consumer needs, most notably in developed markets. Health and wellness is key to brand strategy. Global players are increasingly focused on introducing their brands to new middle-income consumers in emerging markets; and M&A continues to help drive valuation.

**Exhibit 79: Industry roadmap: Management quality, industry structural themes and characteristics of sustainable investing winners**



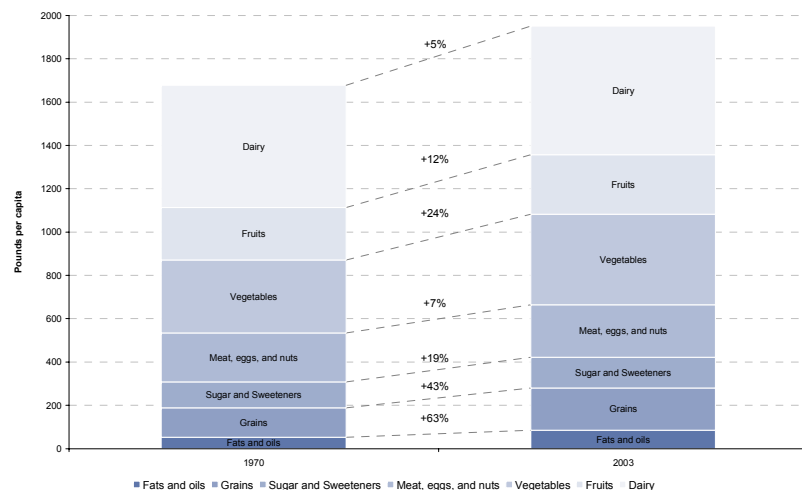
Source: Goldman Sachs Research.

## Innovation in response to obesity epidemic

2006 may have marked a turning point in the global food and beverages industry's transition from packaged goods to health and nutrition companies. Consumers, press, governments and regulators are increasingly focused on health, with reference to the role that food and beverage companies play. Whether we focus on the global obesity epidemic, initiatives to remove trans fatty acids, institute front-of-product consumer labeling, or amend policies with respect to marketing to children, global food and beverages companies must increasingly respond to external stakeholders. We believe that companies that perform well on our ESG framework are best placed to stay ahead of the curve by re-positioning themselves through health and nutrition strategies, marketing and labeling practices, introducing and reformulating 'healthy' products, and managing increasingly complex relationships with consumers, communities and other stakeholders.

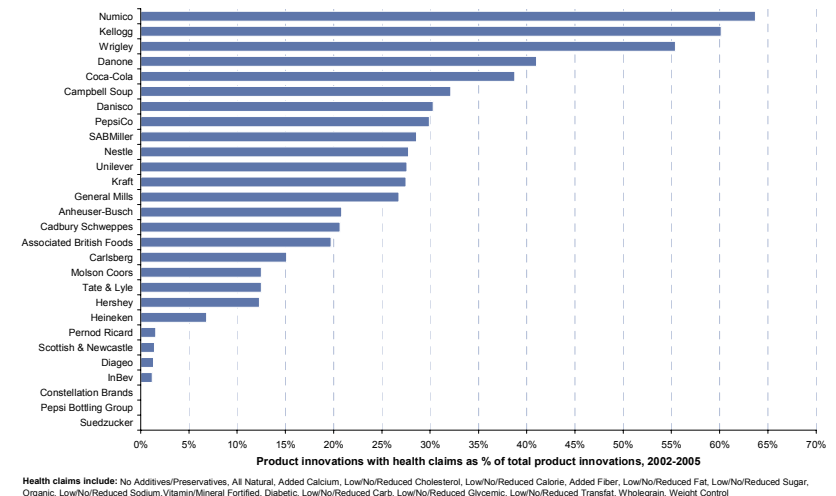
Obesity is a global epidemic affecting both adults and children. Obesity is measured by Body Mass Index (BMI) and affects nearly one-third of American adults and one-fifth of adults in the UK, Germany, Canada and Australia. While the obesity epidemic is not limited to the US, experience there illustrates the relationship between increased food consumption (especially of unhealthy foods), reduced exercise, the growing population of overweight/obese adults, and ultimately diabetes and heart disease. From 1980 to 2005 total calories consumed by adults per day has increased from 2,381 to 2,792 (+17%) while the lack of physical activity (e.g. sports, walking, gardening) among adults peaked in the late 1980s at 31% of adults participating in no physical activity in their leisure time. Food and beverage companies are responding to the shift in consumption habits and changes in global category growth through innovation - by actively introducing and reformulating food and beverage products to meet consumers changing needs. The growing demand for perceived health benefits, whether it be for products with reduced fat, salt, sugar, calories, cholesterol, or carbohydrate content, or nutritional enhancements such as vitamin and mineral fortified products, is reflected by the proportion of industry product innovations with health claims as captured from individual product labels globally.

**Exhibit 80: US food consumption increased by 275 pounds per capita from 1970 to 2003, with the highest growth from fats and oils (63%) and grains (43%)**



Source: National Center for Health Statistics (NCHS), Center for Disease Control and Prevention (CDC).

**Exhibit 81: Companies are responding through innovation by introducing healthy products**



Health claims include: No Additives/Preservatives, All Natural, Added Calcium, Low/No/Reduced Cholesterol, Low/No/Reduced Calorie, Added Fiber, Low/No/Reduced Fat, Low/No/Reduced Sugar, Organic, Low/No/Reduced Sodium, Vitamin/Mineral Fortified, Diabetic, Low/No/Reduced Carb, Low/No/Reduced Glycemic, Low/No/Reduced Transfat, Wholegrain, Weight Control

Source: GNPD, Goldman Sachs Research estimates.

## New products, new markets key to returns

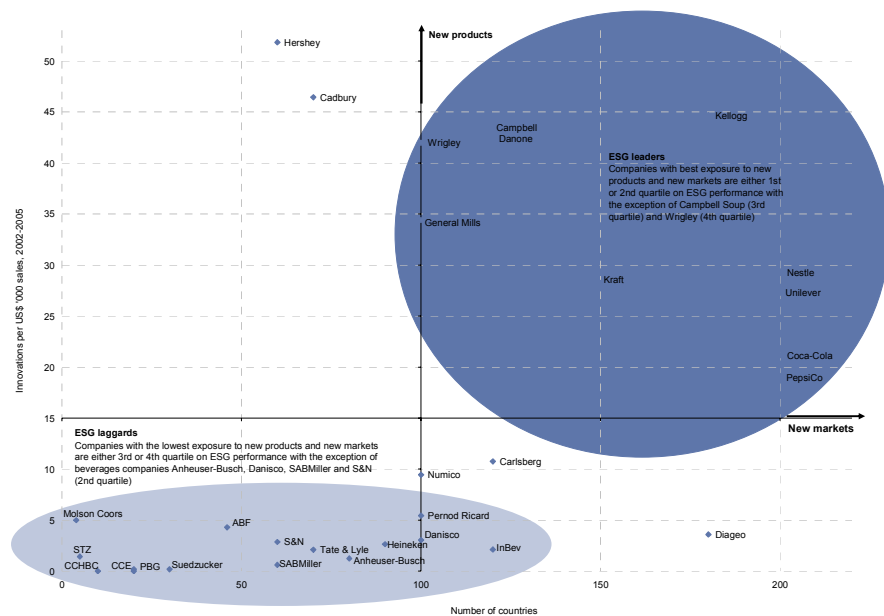
Brands play an integral role in the dynamics of competitive positioning, with a strategic focus on capitalizing on the strengths of consumer brands through product innovation and expansion into emerging markets.

**New products.** Companies maintain and re-energize brand portfolios through constant innovation, and introduce and reformulate products to meet changing consumer needs, most notably in developed markets. We analyze product innovation with a particular emphasis on ‘healthy’ innovation (for example, low-fat, organic or no trans fats) to assess global innovation leaders.

**New markets.** As developed markets mature, global players are increasingly focused on introducing their brand portfolios to new middle-income consumers in emerging markets to recharge revenue and earnings growth. We assess the globalization of food and beverage sub-sectors with a focus on emerging markets exposure, category growth and the importance of global efficiency (financial, social and environmental) as keys to success.

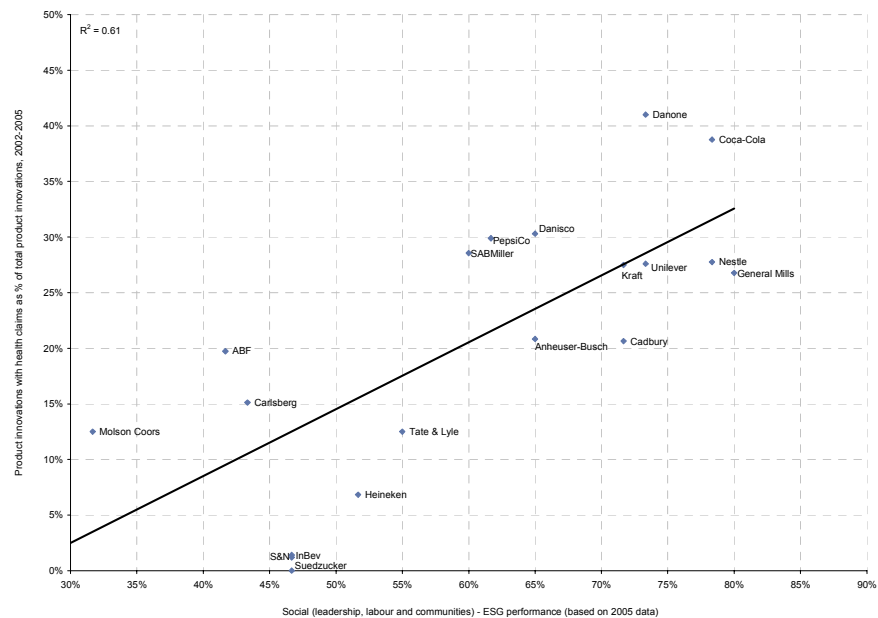
We find leaders on social performance (based on our ESG framework) are driving product innovation across the industry, both overall and ‘healthy’ innovations. This is no surprise, as companies engaged with stakeholders (employees, communities and regulators) should, in theory, be more in tune with the changing dynamics of their markets. We believe companies that lead peers on social performance will lead on innovation, introducing and reformulating products to adapt to consumers’ changing needs.

**Exhibit 82: ESG leaders dominate new products and new markets**  
 Number of product innovations per US\$ '000 sales versus number of countries where brands are marketed and sold



Source: Company data, GNPD database, Goldman Sachs Research estimates.

**Exhibit 83: Health innovations led by social performers** (innovations with health claims as % of total innovations, 2002-2005)



Source: Goldman Sachs Research, Quantum database.

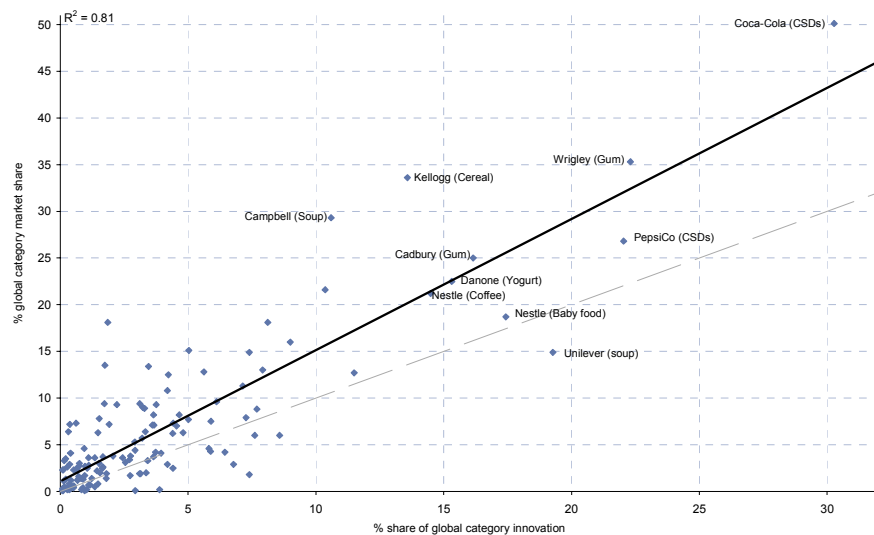


### Innovation, market share and margin expansion drive returns

Innovation, the introduction and reformulation of products, re-energizes brand portfolios and ultimately sales of products. Global food and beverage companies produce and market thousands of products across the globe each year as they constantly strive to adapt to the changing needs of consumers, whether it be attributes such as taste, convenience and packaging or nutrition. We have compared product innovation share to market share data for product categories on a global basis. We find a strong correlation ( $R^2=.81$ ) between companies' share of global category innovation and market share. On a global basis, market share commands higher margins due to efficiencies of scale, sourcing, distribution and brand awareness.

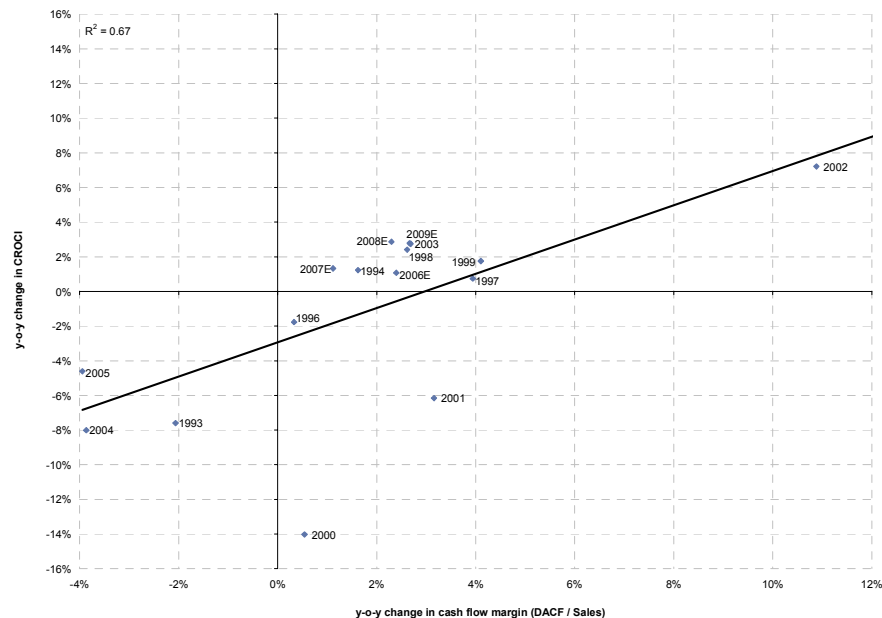
We observe a strong correlation ( $R^2=.67$ ) between the ability of the food and beverages industry to expand cash flow margins (debt-adjusted cash flow divided by sales) and improvement (or deterioration) in economic returns (CROCI). This emphasizes that the success or failure of global food and beverages companies to create economic value is determined by the ability to expand cash flow margins.

**Exhibit 84: Innovation increases market share**



Source: Euromonitor, GNPD data base, Goldman Sachs Research estimates.

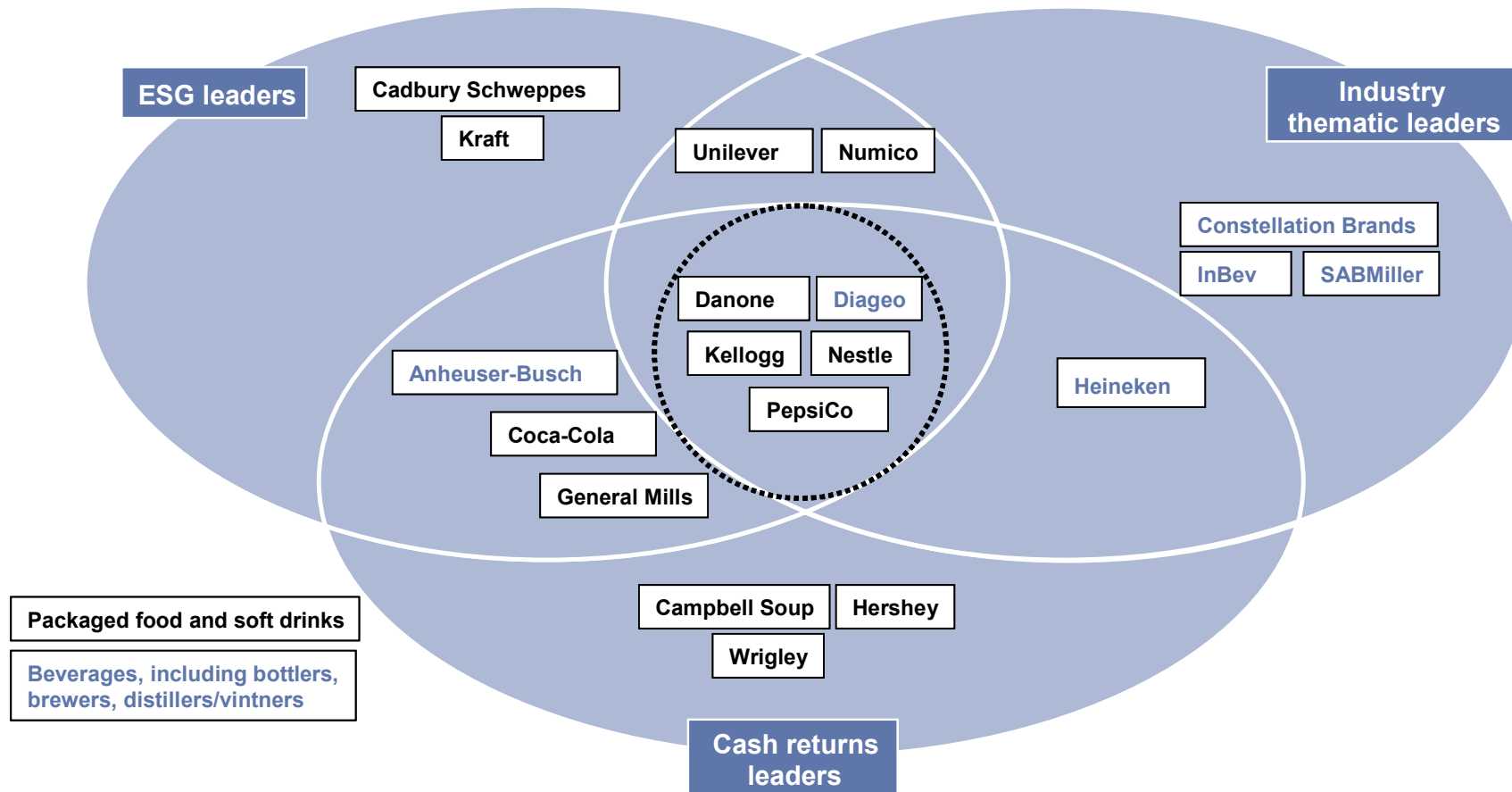
**Exhibit 85: Industry margin expansion drives cash returns** change in cash flow margins versus change in CROCI, 1992-2009E ( $R^2=.67$ )



Source: Company data, Goldman Sachs Research estimates, Quantum database.



**Exhibit 88: GS SUSTAIN leaders based on ESG, cash returns and industry structural themes**



Sustainable investing company categorisation									
Leader board		Average performers				1st quartile CROCI		Laggards	
		Watch list							
Danone	Nestle	Anheuser-Busch	Numico	Cadbury Schweppes	Kraft	Campbell Soup	Hershey	ABF	Molson Coors
Diageo	PepsiCo	Coca-Cola	Unilever	Coca-Cola Enterprises	Pepsi Bottling Group	Heineken	Wrigley	Carlsberg	Suedzucker
Kellogg		General Mills		Coca-Cola HBC	Pernod Ricard				
				Constellation Brands	SABMiller				
				Danisco	Scottish & Newcastle				
				InBev	Tate & Lyle				

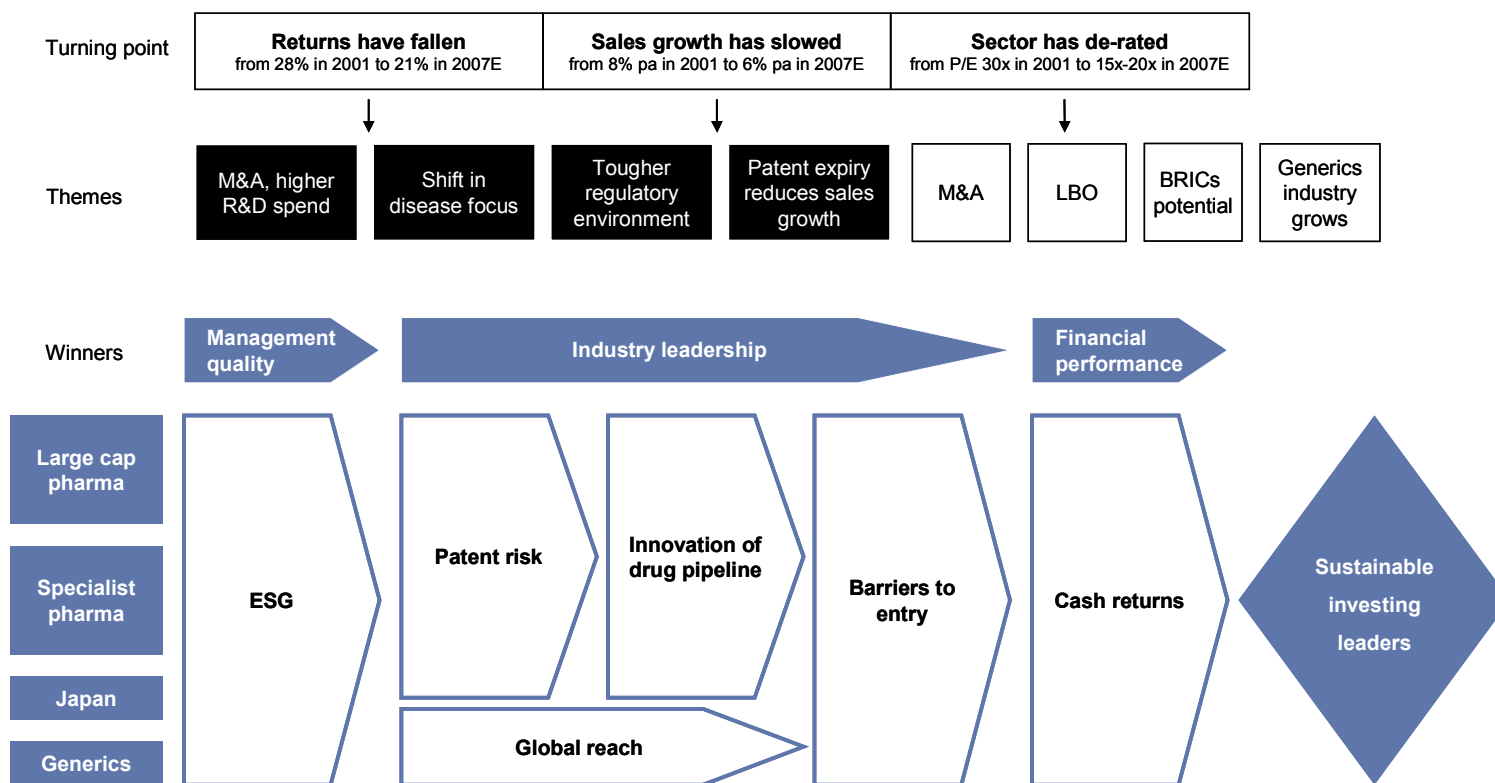
Source: Goldman Sachs Research.

# Global Pharmaceuticals at a turning point: Innovate or restructure

Over the last six years, cash returns in the sector have fallen from 28% to 21% for a group of 24 global, specialist and Japan pharmaceuticals and generics stocks due to M&A activity and R&D spending. Sales growth in the sector has slowed from around 8% pa to around 6% pa and the valuation of the stocks has fallen from a P/E of 30x and EV/GCI of 5x in 2001 to under 20x and 2.8x, respectively. We believe the sector is at a turning point and that companies have two strategic options:

- **Innovate:** Replace revenues from lost patent protection through innovation and research and development (R&D) expenditure.
- **Restructure:** M&A to optimise portfolio and control costs or increase gearing and release value, by restructuring the business into different operating units, as suggested by our LBO analysis.

**Exhibit 89: Industry roadmap: Current turning point, structural industry themes and sustainable investing framework**



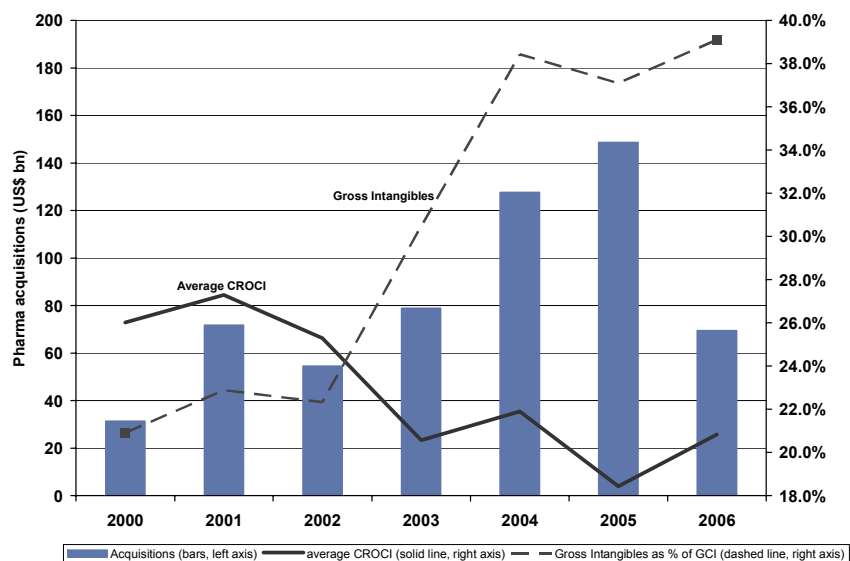
Source: Goldman Sachs Research.

### Pharma in crisis: M&A has diluted returns, 2012E watershed year for pipeline delivery

A wave of consolidation in the pharmaceutical sector, such as GlaxoSmithKline, Pfizer-Pharmacia and sanofi-aventis, has resulted in a substantial increase in gross intangibles as companies place large amounts of goodwill on their balance sheets. The share of gross intangibles as a percentage of gross cash invested (GCI) has almost doubled from 21% in 2000 to 39% in 2006 for the companies analysed in our report. We expect the companies' R&D expenditure to exceed US\$60 bn in 2007E, over double the level of 2001. R&D spend relative to sales will increase from 14.5% in 2001 to over 16% in 2007, based on our estimates. This highlights the need to ensure acquisitions meet the cost of capital and that R&D spending creates a return, a key function of corporate boards.

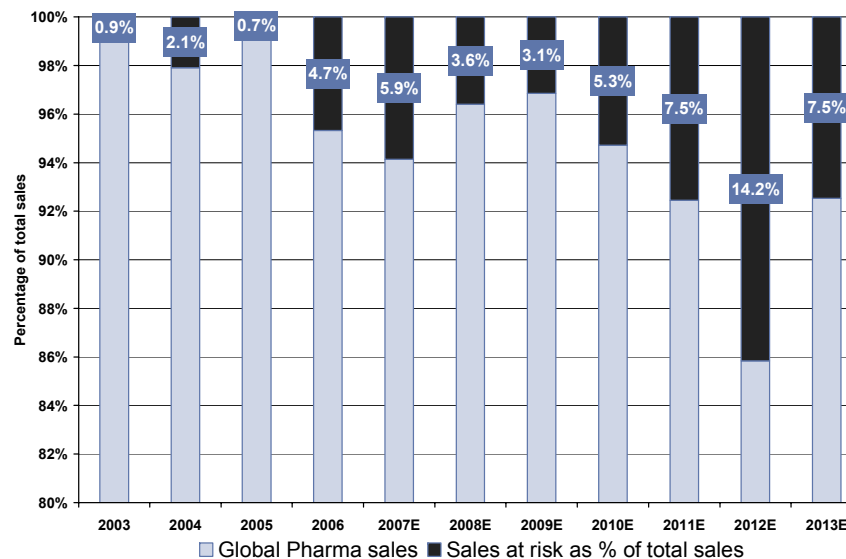
Drugs lose their patent protection on average eight to ten years after launch, at which time there is significant loss of revenue as competitors and generics in particular take market share. From 2003 to 2005, less than 2% of sales were lost due to patents expiring for the companies covered in our report. In 2006, 5% was lost and we expect that the figure will be between 3% and 8% from 2007 to 2011. 2012 is likely to be a critical year for the industry, as up to 14% of sales, or just over US\$50 bn, could be lost due to patent expiry.

**Exhibit 90: Absolute value of pharma acquisitions (US\$ bn), growth in intangibles as a percentage of asset base and cash returns, 2000-2006**



Source: Goldman Sachs Research, Quantum database.

**Exhibit 91: Total sales at risk to patent expiry to reach 14.2% in 2012E**



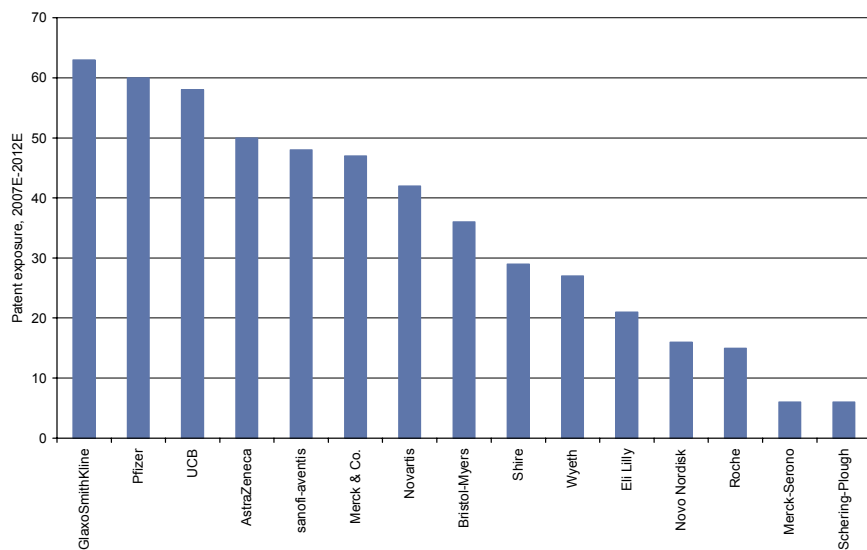
Note: Global pharma sales consists of Bristol-Myers Squibb, Eli Lilly, Merck & Co, Pfizer, Wyeth, AstraZeneca, GlaxoSmithKline, Novartis, Roche and sanofi-aventis.

Source: Goldman Sachs Research, Quantum database.

### Pipeline innovation is the key to returns and overcoming sales at risk from patents

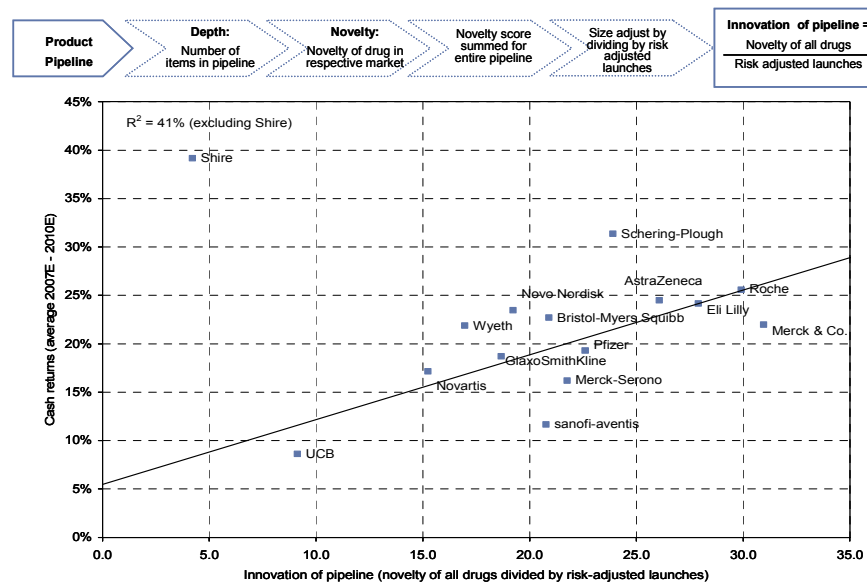
Patent expiry significantly impacts sales growth for a number of companies, including GlaxoSmithKline, Pfizer and UCB. We measure the value of sales at risk from drugs that are coming off patent for each company over 2007E-2012E. This gives us an indication of the loss in sales that will need to be replaced by innovative R&D or M&A activity. In order for R&D spend to be effective it must have an innovative result. We measure the breadth of innovation in each company's pipeline by assessing the novelty of each drug based on whether it is likely to be an early market entrant or whether it will be a less differentiated 'me-too' drug (based on the number of products already on the market). While not a one-for-one relationship, companies that lead peers on innovation of pipeline tend to enjoy superior returns, although high innovation is also synonymous with increased development risk.

**Exhibit 92: Peak sales of drugs coming off patent in the period 2007E-2012E, by company (% of total sales)**



Source: Company data, Goldman Sachs Research estimates.

**Exhibit 93: Cash returns in the future (1007E-2010E) versus innovation of pipeline, definition and schematic (inset)**

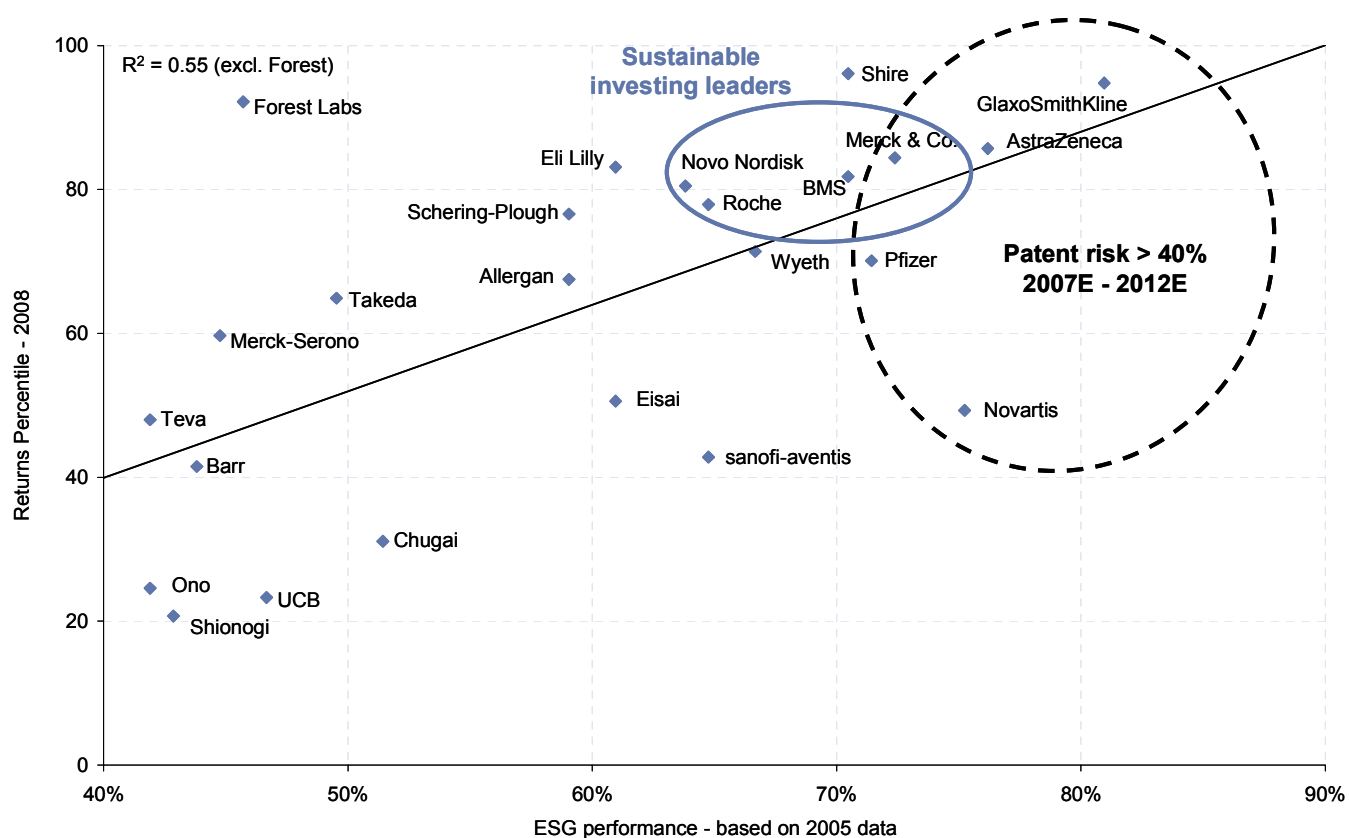


Source: Company data, Quantum database, Goldman Sachs Research estimates.

### Management quality needed to steer through period of risk

A relationship exists between ESG performance, our proxy for management quality, and cash returns, and our ESG leaders fall into two distinct groups based on these metrics. The five companies with the highest ESG scores overall (GlaxoSmithKline, AstraZeneca, Novartis, Merck & Co and Pfizer) have the greatest patent risk in 2007E-2012E, at levels more than 40% of sales. It is essential for these companies to be well-managed to avoid continued declining returns and sales and subsequent de-rating. The second tier of ESG leaders, well positioned on a combination of ESG and cash returns, are BMS, Novo Nordisk, Roche, Shire and Wyeth. Of these, BMS, Merck, Novo Nordisk and Roche also have first or second quartile performance on industry metrics, and we believe they are well positioned to improve returns, expand the business and receive a higher valuation premium as a result.

**Exhibit 94: Innovative drug pipelines drive cash returns and ESG leaders correlate to high absolute returns, as well as high patent risk**



Source: Company data, Quantum database, Goldman Sachs Research estimates.

## Global pharmaceuticals in GS SUSTAIN: BMS, Merck & Co, Novo Nordisk, Roche

We have selected stocks from the global pharmaceuticals sector based on:

- **Management quality.** Our ESG framework is built from the bottom up using objective and quantifiable indicators to measure company performance with respect to corporate governance, leadership, employees, stakeholders and the environment.
- **Industry structural themes.** We have worked with our global pharmaceuticals analysts to identify the drivers of competitive positioning across the sector; the key determinants of success or failure are innovation, barriers to entry and patent exposure.
- **Sustained competitive advantage.** Economic returns (CROCI, or cash return on cash invested) above peer group average indicate the best measure of sustained competitive advantage, in our opinion.

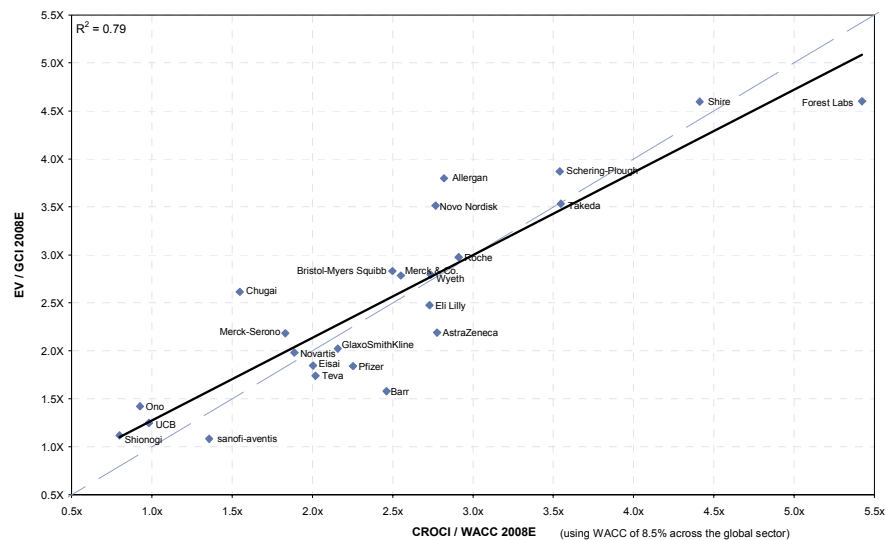
**Exhibit 95: Sustainable investing leaders based on ESG, cash returns and industry structural themes**

Company	Management quality	Industry structure	Sustained competitive advantage		Sustainable investing leaders
	ESG score		Cash returns		
	2005		2007E - 2010E	vs 2004 - 2006	
<b>Large cap pharma</b>					
GlaxoSmithKline	81%	4	19%	-	
Astrazeneca	76%	3	24%	▼	
Novartis	75%	2	17%	-	
Merck & Co.	72%	2	22%	-	Merck & Co.
Pfizer	71%	4	19%	-	
Bristol-Myers Squibb	70%	2	23%	▲	Bristol-Myers Squibb
Wyeth	67%	2	21%	▼	
Roche	65%	1	26%	▲	Roche
sanofi-aventis	65%	3	12%	▲	
Eli Lilly	61%	1	24%	-	
Schering-Plough	59%	1	31%	▲	
<b>Specialist pharma</b>					
Shire	70%	3	39%	▼	
Novo Nordisk	64%	2	23%	-	Novo Nordisk
Allergan	59%	1	22%	▼	
UCB	47%	4	9%	-	
Forest	46%	3	45%	-	
Merck-Serono	45%	1	16%	-	
<b>Japan</b>					
Eisai	61%	2	16%	▲	
Chugai	51%	3	15%	-	
Takeda	50%	1	30%	▲	
Shionogi	43%	4	7%	-	
Ono	42%	4	8%	-	
<b>Generic</b>					
Barr	44%	2	26%	▼	
Teva	42%	1	19%	▼	

Note: 1 = 1st quartile (best), 2 = 2nd quartile, 3 = 3rd quartile, 4 = 4th quartile (worst)

Source: Company data, Goldman Sachs Research estimates, Quantum database.

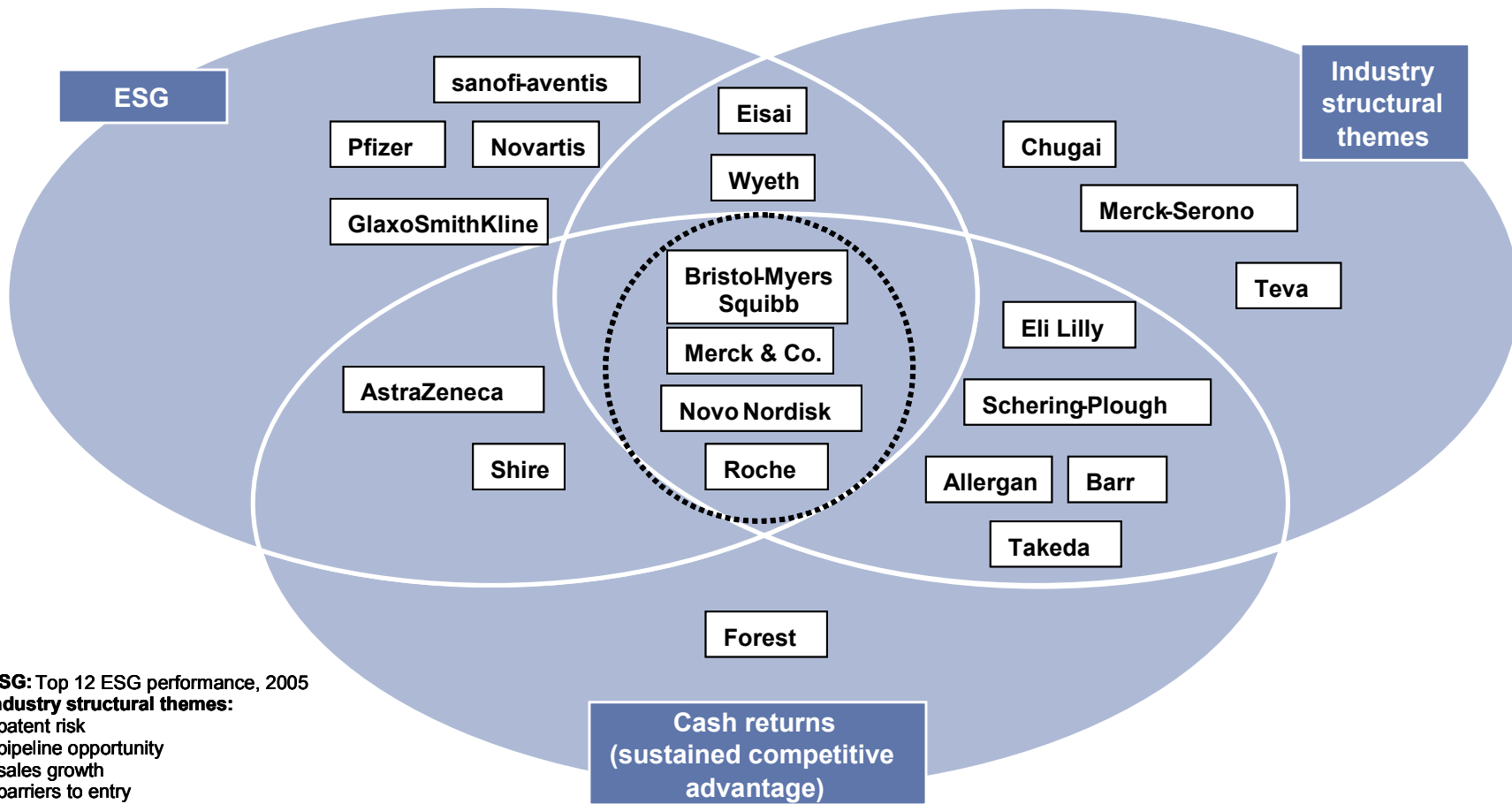
**Exhibit 96: Cash return spreads by company, 2008E (EV/GCI versus CROCI/WACC)**



Source: Company data, Goldman Sachs Research estimates, Quantum database.



**Exhibit 97: GS SUSTAIN leaders based on ESG, cash returns and industry structural themes**



**ESG:** Top 12 ESG performance, 2005  
**Industry structural themes:**  
 • patent risk  
 • pipeline opportunity  
 • sales growth  
 • barriers to entry  
**Cash returns:** Top 12 average CROCI, 2007-2010E

Sustainable investing company categorisation								
Leaders		Watch list		Average performers		High growth, Low ESG		Laggards
Bristol-Myers Squibb	Roche	AstraZeneca	Shire	Allergan	Pfizer	Barr	Merck-Serono	Ono
Merck & Co	Novo Nordisk	Eli Lilly	Takeda	Chugai	Novartis	Forest	Teva	Shionogi
		Schering-Plough	Wyeth	Eisai	Pfizer			UCB
				GlaxoSmithKline	sanofi-aventis			

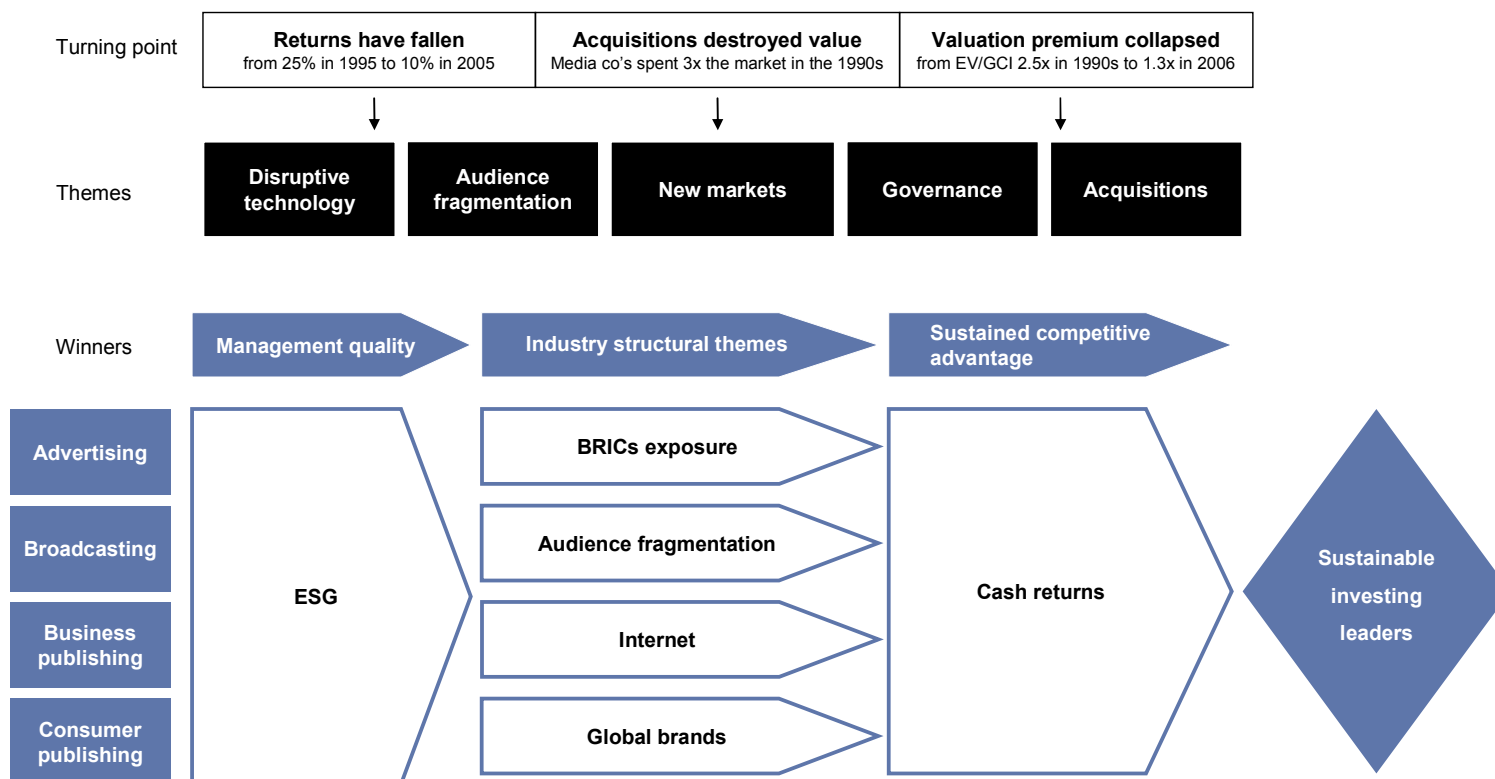
Source: Goldman Sachs Research.

# European media in a race to keep up with dynamic change

**The diverse nature of media.** The media industry is a diverse collection of companies encompassing disparate business models involved in the creation and/or distribution of various media content and marketing communications. Our February 2006 report evaluated 23 companies in the European media sector operating in four distinct sub-sectors: advertising, broadcasting & entertainment, business publishing and consumer publishing.

**Valuation premium of media has collapsed.** Our analysis shows that the market has historically assigned a valuation premium to the media sector in periods of superior economic return spreads ( $R^2=70\%$  from 1991-2006). In the 1990s, the market assigned a valuation premium to the sector in recognition of media's superior cash returns (~25% versus ~10% for the market). As returns fell post-2000, the premium collapsed. The sector now delivers returns in line with the market and is valued accordingly.

**Exhibit 98: Industry roadmap**

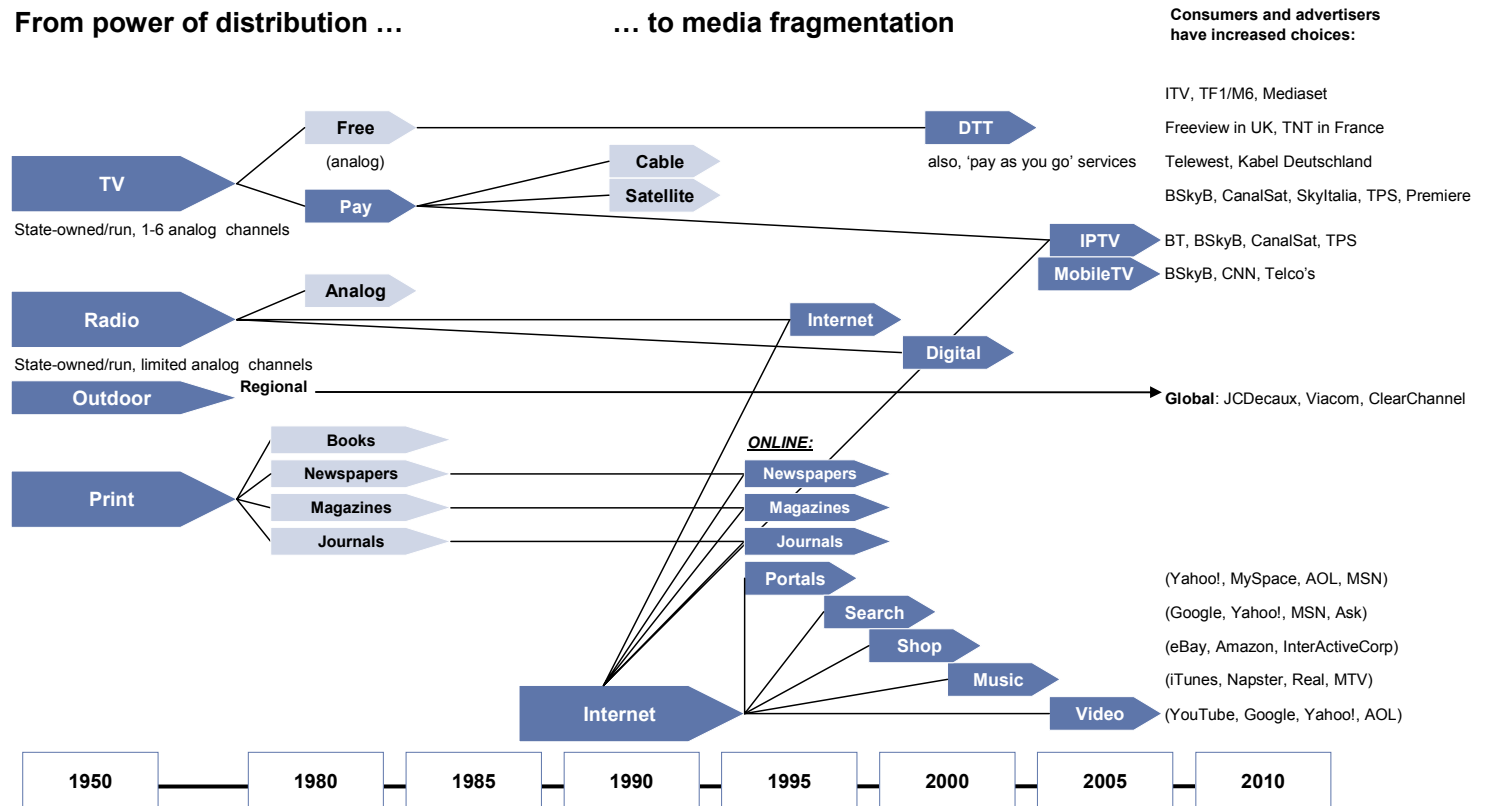


Source: Goldman Sachs Research.

## Disruptive technology forces dynamic change

The relentless pace of technological innovation introduces new players to the market and increases competition. The resulting fragmentation of media distribution channels has eroded the audience share of incumbent broadcasters and publishers, threatening the long-term sustainability of business models across the sector.

**Exhibit 99: Industry roadmap**



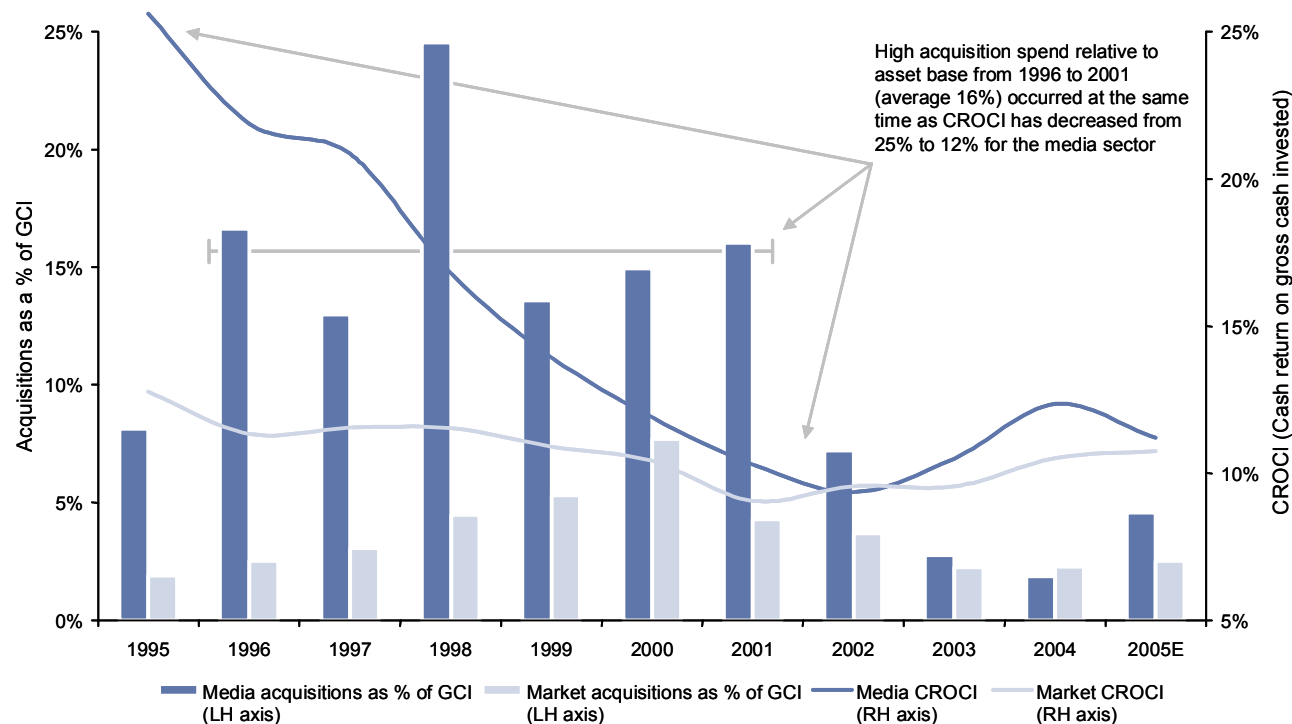
Source: Goldman Sachs Research.

### Media spent 3x the market on acquisitions, cash returns decreased from 25% to 10%

**Media companies respond to change by making acquisitions.** Media companies have historically spent more on acquisitions than the broader market. We expect this trend to continue as media companies have two choices to grow their businesses in an environment of rapid change: (1) to invest in people and ideas over time to develop media content, services and distribution, or (2) to acquire others. For an industry facing constant, dynamic change and where human and intellectual capital is critical, it is not surprising that acquisitions are an ongoing feature. Media cash returns deteriorated from a peak of 25% in the mid-1990s to less than 10% in 2002. At the same time, media companies destroyed value by spending more than 3x on acquisitions (16% of GCI) than the broader European market (5%). Given the profound technological changes affecting the industry, we expect the media sector's high acquisition spend to continue.

We believe that the tendency of media companies to seek growth through acquisitions in response to rapidly changing industry dynamics highlights a key long-term management risk in the sector. As acquisitions are subject to the approval of corporate boards, this underscores the fundamental importance of corporate governance and a renewed focus on the risk of overpaying for acquisitions and making deals that do not meet the cost of capital, a principal area of focus for corporate boards.

**Exhibit 100: Media spent 3x the market on acquisitions, cash returns decreased from 25% to 10%**



Source: Company data, Goldman Sachs Research estimates, Quantum database.

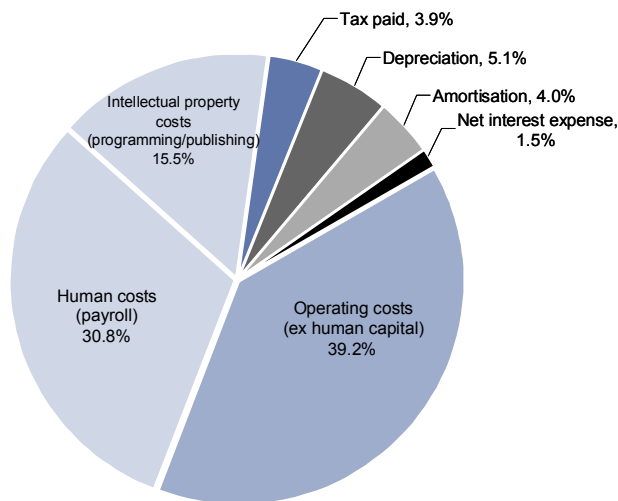
## Media companies invest in people and ideas

**High level of investment in people and ideas.** Media companies rely on their workforce to tackle the challenges of an ever-changing business environment through innovation, or opting to purchase the creative output of others, as evidenced by the two-thirds of industry assets made up of intangibles, and almost half of the cost structure related to expenditure on human and intellectual capital.

**The media industry is defined by investments in human and intellectual capital.** We define expenditure on human and intellectual capital as payroll plus expenditure to acquire broadcast programming, publishing rights, and bookplate spending. However, there is a wide spread between the cost structures of media companies by sub-sector. For instance, advertising agencies are reliant on the creativity of employees to succeed and have the highest proportion of human costs, at 60%, whereas broadcasters are lowest, at less than 20%, as programming costs constitute over 50% of total costs.

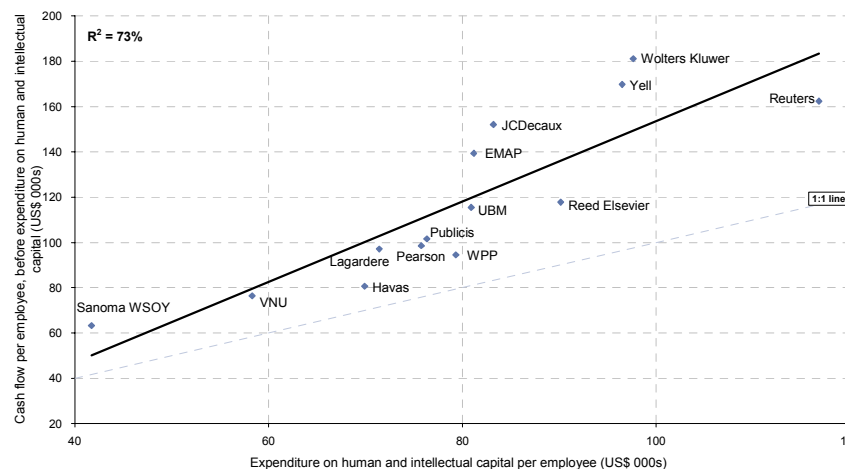
**The more spent per employee, the greater the cash flow.** We observe that as the cost structure of media companies varies by sub-sector, so too does the cash flow return on expenditure related to human and intellectual capital per employee. The ratio of cash flow per employee to the expenditure on human and intellectual capital represents an initial attempt to measure the ability of companies to generate cash by investing in people and ideas. Broadcasters, have the lowest labour-to-capital ratios, spend the most and have the highest cash flow return on expenditure related to human and intellectual capital per employee, while advertising agencies have the lowest. In general, the more media companies invest in people and ideas, the more cash flow they are able to generate. This reinforces our view that management quality, human resource management, and leadership on social issues are vital to maximizing value out of the workforce.

**Exhibit 101: Costs for European Media companies split by component**



Source: Company data, Goldman Sachs Research estimates.

**Exhibit 102: Ratio of cash flow per employee to expenditure on human and intellectual capital**



Source: Company data, Goldman Sachs Research estimates.

## European media in GS SUSTAIN: BSKyB, Reed Elsevier, Vivendi, WPP

We have selected stocks from the European media sector based on:

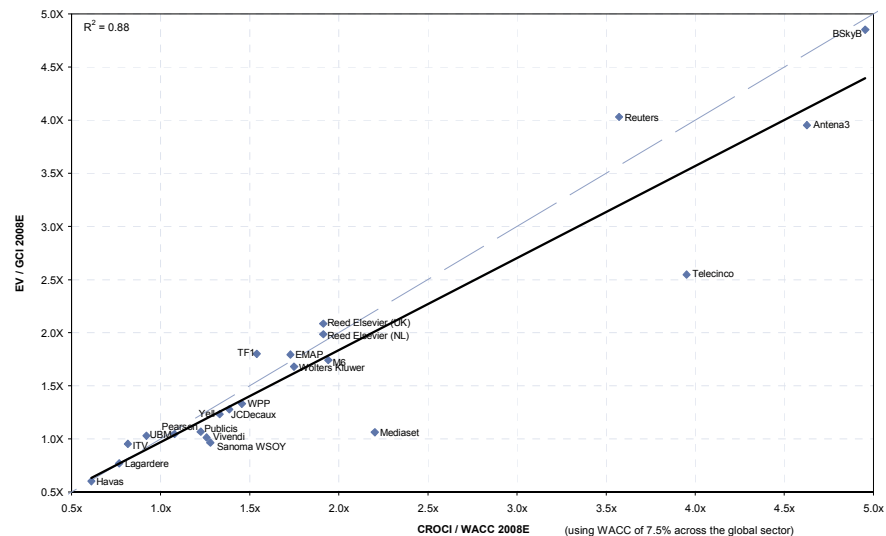
- Management quality. Our ESG framework is built from the bottom up using objective and quantifiable indicators to measure company performance with respect to corporate governance, leadership, employees, stakeholders and the environment.
- Industry structural themes. We have worked with our European Media analysts to identify the drivers of competitive positioning across the sector. Emerging markets growth is a key driver in advertising & outdoor. Disruptive technologies have fragmented audiences and accelerated multi-channel penetration in broadcasting & entertainment. Managing the transition from print to online is vital in business publishing; and global brands will be crucial to long-term success in consumer publishing.
- Sustained competitive advantage. Economic returns (CROCI, or cash return on cash invested) above peer group average indicate the best measure of sustained competitive advantage, in our opinion.

**Exhibit 103: ESG and cash returns used to pick leaders and laggards**

Company	Management quality		Industry structure		Sustained competitive advantage			Sustainable investing leaders
	ESG 2004	2004	Thematic leadership		Cash returns			
			Technology / markets	Description	2004 - 2006	2007E - 2009E	vs 2004 - 2006	
<b>Advertising &amp; Outdoor</b>								
WPP	77%			21%	9%	11%	▲	<b>WPP</b>
JCDecaux	62%		BRICs exposure	14%	10%	11%	▲	
Publicis	58%			18%	9%	9%	▲	
Havas	58%			9%	4%	5%	▲	
<b>Broadcasting &amp; Entertainment</b>								
ITV	76%		Multi-channel penetration	78%	7%	6%	-	
Vivendi	74%		Convergence	Music, TV/Film, Telecom	5%	10%	▲	<b>Vivendi</b>
BSkyB	71%		Disruptive technology	33% UK homes	43%	38%	▼	<b>BSkyB</b>
TF1	68%		Multi-channel penetration	43%	11%	12%	▲	
Mediaset	57%			41%	17%	16%	▼	
M6	54%			43%	24%	15%	▼	
Antena3	43%			30%	41%	35%	▼	
Telecinco	43%			30%	34%	28%	▼	
<b>Business Publishing</b>								
Pearson	79%		Online sales	17-20%	5%	7%	▲	
Reed Elsevier	77%			30-35%	13%	15%	▲	<b>Reed Elsevier</b>
Yell	76%			8-10%	13%	10%	▼	
Wolters Kluwer	67%			20-25%	10%	13%	▲	
UBM	54%		5-8%	6%	7%	▲		
<b>Consumer publishing</b>								
EMAP	72%		Global brands: international magazine sales	< 5%	17%	13%	▼	
Lagardere	68%			55%	8%	6%	▼	
Sanoma WSOY	64%			20%	9%	10%	▲	

Source: Source: Company data, Goldman Sachs Research estimates.

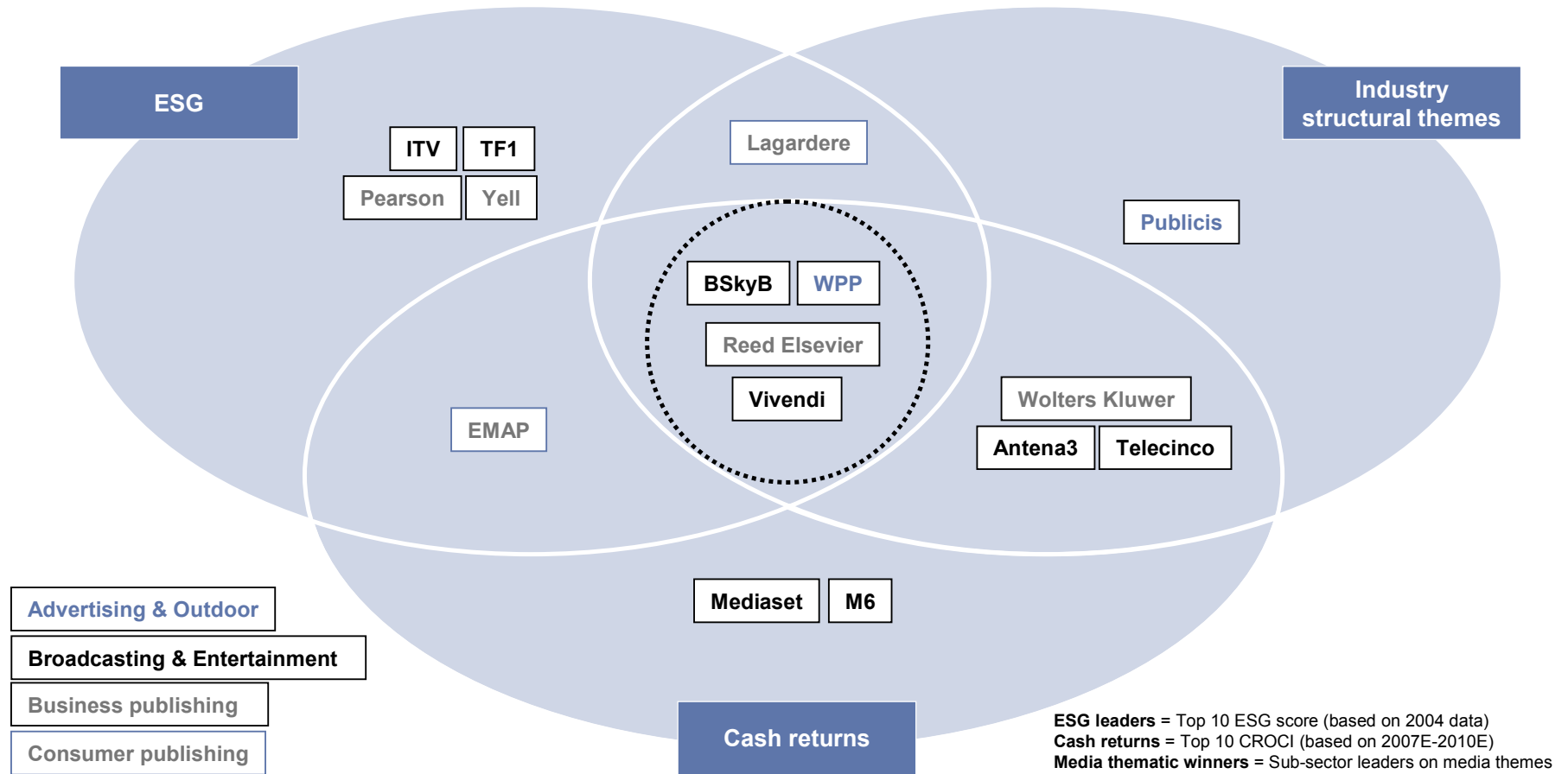
**Exhibit 104: Cash return spreads by company (EV/GCI vs. CROCI/WACC, 2008E)**



Source: Company data, Goldman Sachs Research estimates, Quantum database.

We have updated our European Media ESG framework, published in February 2006, to reflect corporate activity and updated GS estimates over the past 16 months. Our leaders now include Reed Elsevier (first quartile on ESG with online exposure and CROCI leading all business publishers) and Vivendi (second quartile on ESG, well-positioned for the convergence of media content and distribution with music, TV/film, and telecom assets, and with significant improvement in CROCI). Sustainable investing leaders removed include Reuters (due to the pending Thomson-Reuters deal and subsequent European de-listing) and Yell (due to significant deterioration in cash returns and online exposure below the peer group).

**Exhibit 105: GS SUSTAIN leaders based on ESG, cash returns and industry structural themes**



Source: Goldman Sachs Research.

**Exhibit 106: Stocks covered in ESG framework reports with sustainable investing company categorization (leaders, average and laggards)**

GS ESG report	Date of publication	Sustainable investing company categorization		
		GS SUSTAIN focus list	Average	Laggards
Pharmaceuticals ESG	29 May 2007	Bristol-Myers Squibb, Merck & Co., Novo Nordisk and Roche	Allergan, AstraZeneca, Barr, Chugai, Eisai, Eli Lilly, Forest, GlaxoSmithKline, Merck-Serono, Novartis, Pfizer, sanofi-aventis, Schering-Plough, Shire, Takeda, Teva, Wyeth	Ono, Shionogi, UCB
Food & Beverages ESG	08 Feb 2007	Danone, Diageo, Kellogg, Nestle and PepsiCo	Anheuser-Busch, Cadbury Schweppes, Campbell Soup, Coca-Cola, Coca-Cola Enterprises, Coca-Cola HBC, Constellation Brands, Danisco, General Mills, Heineken, Hershey, InBev, Kraft, Numico, Pepsi Bottling Group, Pernod Ricard, SABMiller, Scottish & Newcastle, Tate & Lyle, Unilever, Wrigley	Associated British Foods, Carlsberg, Molson Coors, Suedzucker
Energy ESG	09 Oct 2006	BG, ENI, Petrobras and Statoil	BP, Cairn, Chevron, CNOOC, ConocoPhillips, ExxonMobil, Gazprom, Hess, Marathon, Murphy, OMV, PetroChina, Santos, TOTAL, Woodside	Lukoil, Occidental, Repsol, Sinopec
Mining & Steel ESG	18 Jul 2006	BHP Billiton, Posco, Rio Tinto and Voestalpine	Alcan, Alcoa, AngloAmerican, AngloPlat, Chalco, CVRD, Impala Plat, Inco, Lonmin, Phelps Dodge, Teck Cominco, Vedanta, Xstrata, Acerinox, Arcelor, China Steel, Corus, JFE Holdings, Mittal Steel, Nippon Steel, Outokumpu, Salzgitter, ThyssenKrupp, US Steel	N/A
Media ESG	21 Feb 2006	BSkyB, Reed Elsevier, WPP and Vivendi	EMAP, ITV, JCDecaux, Lagardere, Pearson, Publicis, Sanoma WSOY, TF1, Wolters Kluwer, Yell	Antena3, Havas, M6, Mediaset, Telecinco, UBM

Note: Arcelor was also one of the average performers in our Mining and Steel report but is excluded here as it is no longer trading.

Source: Goldman Sachs Research.



## Growth industries with sustainable investing themes

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In the course of exploring how the world is changing, industry-by-industry, we gain insight into emerging growth opportunities. We highlight three industries with 2007E-2009E CAGR of earnings above 20%, which also contribute to solving demographic or environmental challenges: alternative energy (wind, solar, biofuels, geothermal); environmental technology (water, waste, recycling); and biotechnology (oncology, HIV/AIDS, diabetes). Our analysis shows a strong relationship ( $R^2 > .70$  for each group) between growth (percentile rank of forecast Sales growth, EBITDA growth and EPS growth) and valuation multiples (percentile rank of forecast P/E, P/B, Dividend yield, EV/EBITDA and EV/FCF), evidence that emergent industries such as alternative energy, environmental technology and biotechnology trade on multiples of growth.

### Alternative energy

The main issues driving energy policy are high energy costs, carbon emissions and security of supply. The last 50 years have seen a much more diversified energy mix, with oil around 40% of consumption, coal 25%, natural gas at 25% and nuclear, hydroelectric and renewable energy making up the remaining 10%. To solve the energy problems, we believe national governments will continue to diversify the mix with an increase in nuclear energy, the globalizing gas industry, carbon sequestration and clean coal, and continued growth in renewable sources from wind, solar and biofuels, among others. The renewable energy industry is growing at 20%-30% per annum, demand exceeds supply, and companies are profitable and generating returns in excess of the cost of capital.

### Environmental technology

This is a diverse group of companies that are not new industries, as such, but have exposure to markets created by the additional demand for natural resources from growing populations and urbanization, such as water/filtration/sanitation, waste collection/treatment and recycling. While stock-specific drivers tend to be diverse, there are three universal drivers for environmental technology stocks: (1) environmental legislation, e.g. national and regional laws for waste collection and disposal; (2) state-sponsored infrastructure expansion and maintenance, e.g. water supply and waste water treatment; and (3) cost savings from reduced material consumption and operating efficiency, e.g. recycling markets.

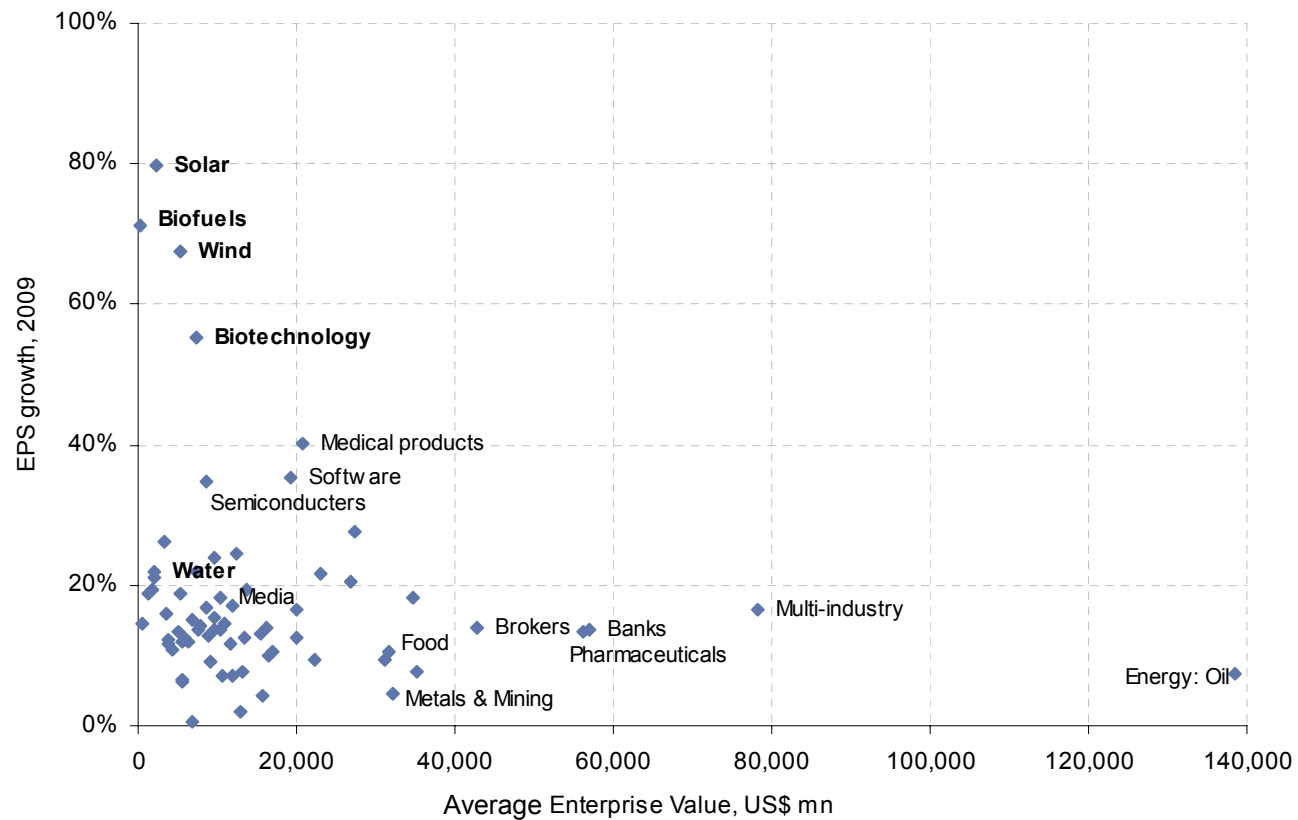
### Biotechnology

The emergent biotechnology sector has grown in importance with a total global sector market capitalization of over US\$250 bn in June 2007, mainly in response to discovering, developing and commercializing innovative drugs which focus on therapeutic areas not currently being served by large pharmaceutical or generic drugs companies. There are two key trends driving the growth of biotechnology. Firstly, the world's population is aging with people generally living longer, which means increasing number of elderly people needing various treatments often in disease areas of unmet medical need; secondly, the increasing global trend of obesity in particular amongst younger generations, have shifted disease focus to chronic areas, where biotechnology hopes to address.

### Emergent growth industries

While large, incumbent industries comprise the bulk of the global capital markets, emergent growth industries capitalize on fast-paced technological innovation and offer global investors an opportunity to complement large-cap, high-return companies with small- and mid-cap, high growth plays. Alternative energy, born from the energy and utilities industries, offers a dramatically higher growth profile (2008E EPS growth of 75% for wind, 72% for solar, 32% for biofuels) versus sub-10% growth for energy and utilities. Water and waste/recycling companies are forecast to grow at 18% and 24%, respectively, in line with global machinery & electrical equipment at 24%. Finally, biotechnology companies are growing earnings at twice the rate of large-cap pharmaceuticals (28% versus 13%).

**Exhibit 107: Average earnings growth (2008-2009E) versus average Enterprise Value (Goldman Sachs global coverage universe)**

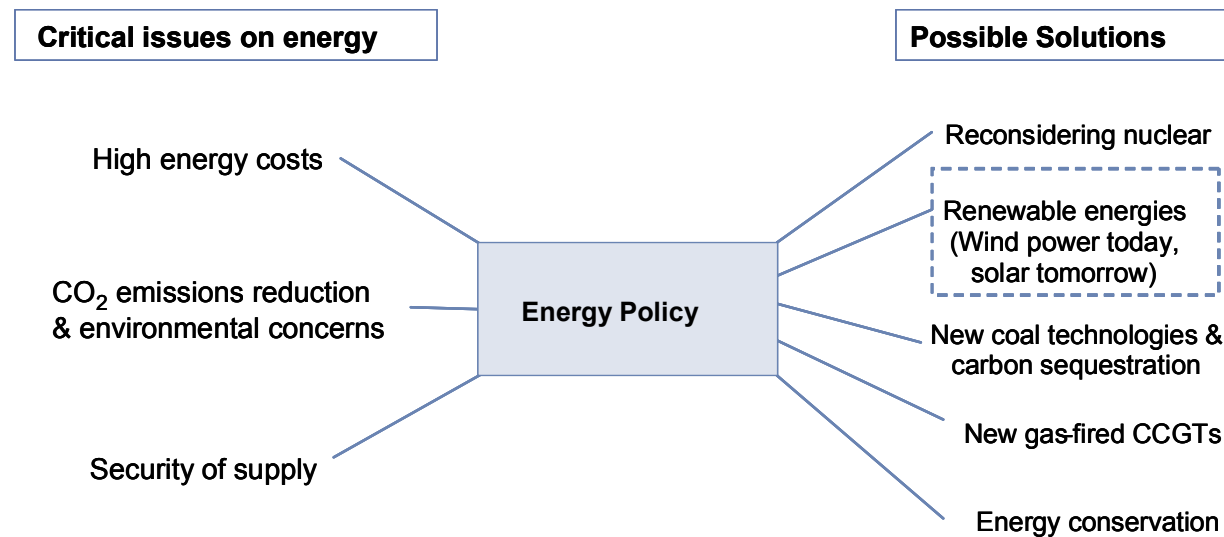


Source: Company data, Goldman Sachs Research estimates, Quantum database.

## Alternative energy is a key solution to critical issues in energy policy

High energy costs, security of supply and the environment are the main issues facing national governments as they explore future energy policy solutions. As traditional fuels gradually become scarcer, costs to source increase, and as global energy demand continues to increase, prices seem likely to rise rather than fall over the medium to long term. Alongside this, a desire for greater energy diversity and security, and a greater focus on environmental issues, in particular global warming, has created the political and social will to use more renewable energy sources. International declarations such as the Kyoto Protocol, the IPCC report and the G8 agreement have coincided with an increased breadth and depth of incentive schemes and subsidies to encourage investment in renewable energy. Although currently still negligible in the overall energy mix, we expect the market share of cleaner fuels to increase significantly as they are clean, domestic and cost competitive.

**Exhibit 108: Main issues in energy versus possible solutions through energy policies**

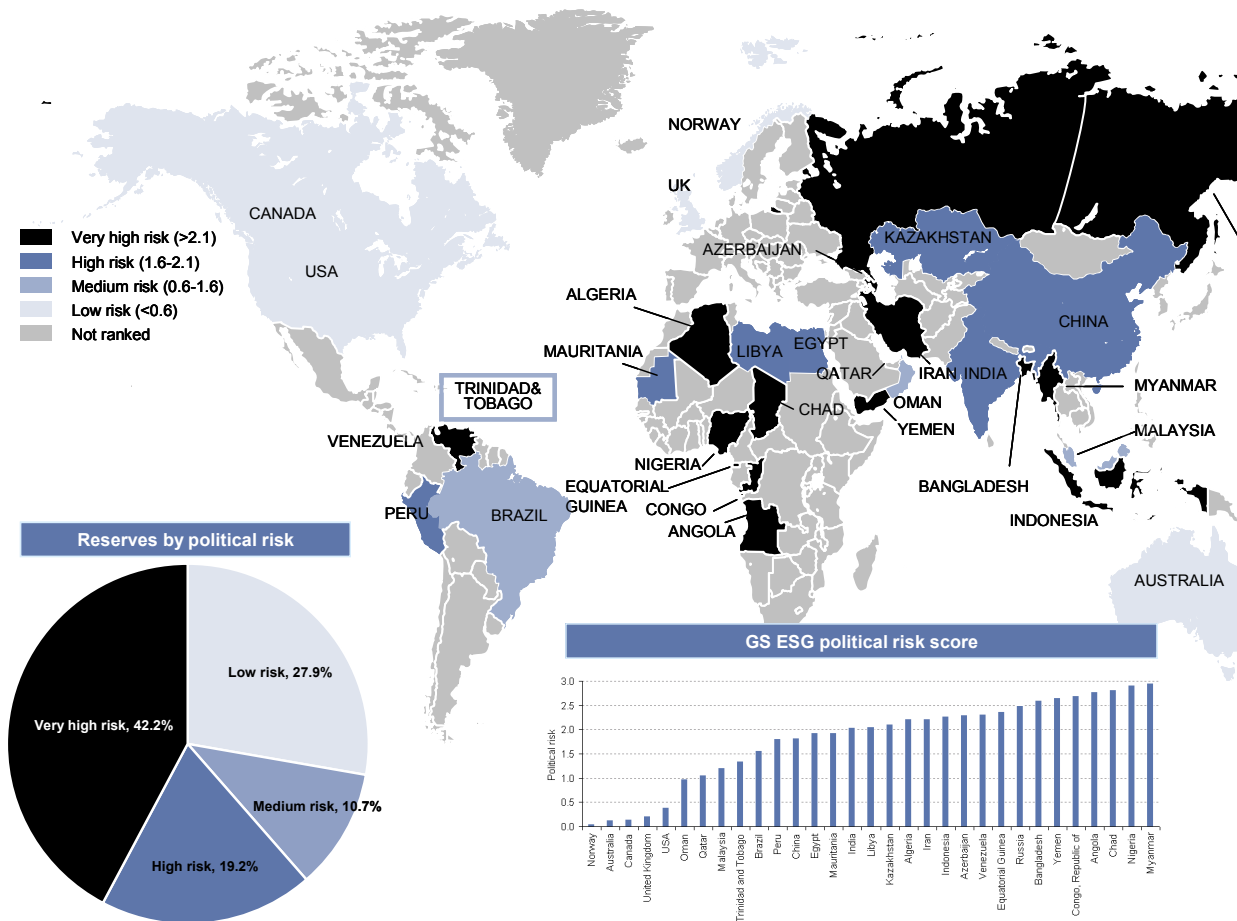


Source: US Department of Energy, IEA.

## Oil and gas production is moving to riskier countries; costs and delays are increasing

The addition of new legacy asset projects into the oil industry's production profile will lead to a sharp increase in risk. The political risk of existing production for our coverage universe had been gradually declining until the middle of the 1990s, but the addition of the Top 170 projects, with 25% higher political risk on average based on the Goldman Sachs ESG political risk scores, will take the industry back to levels not seen since the 1970s. At the same time, we have seen delays, cost increases and fiscal pressures reducing oil supply and keeping oil prices high.

**Exhibit 109: Over 40% of the oil & gas industry's new legacy assets are located in very high-risk countries.**

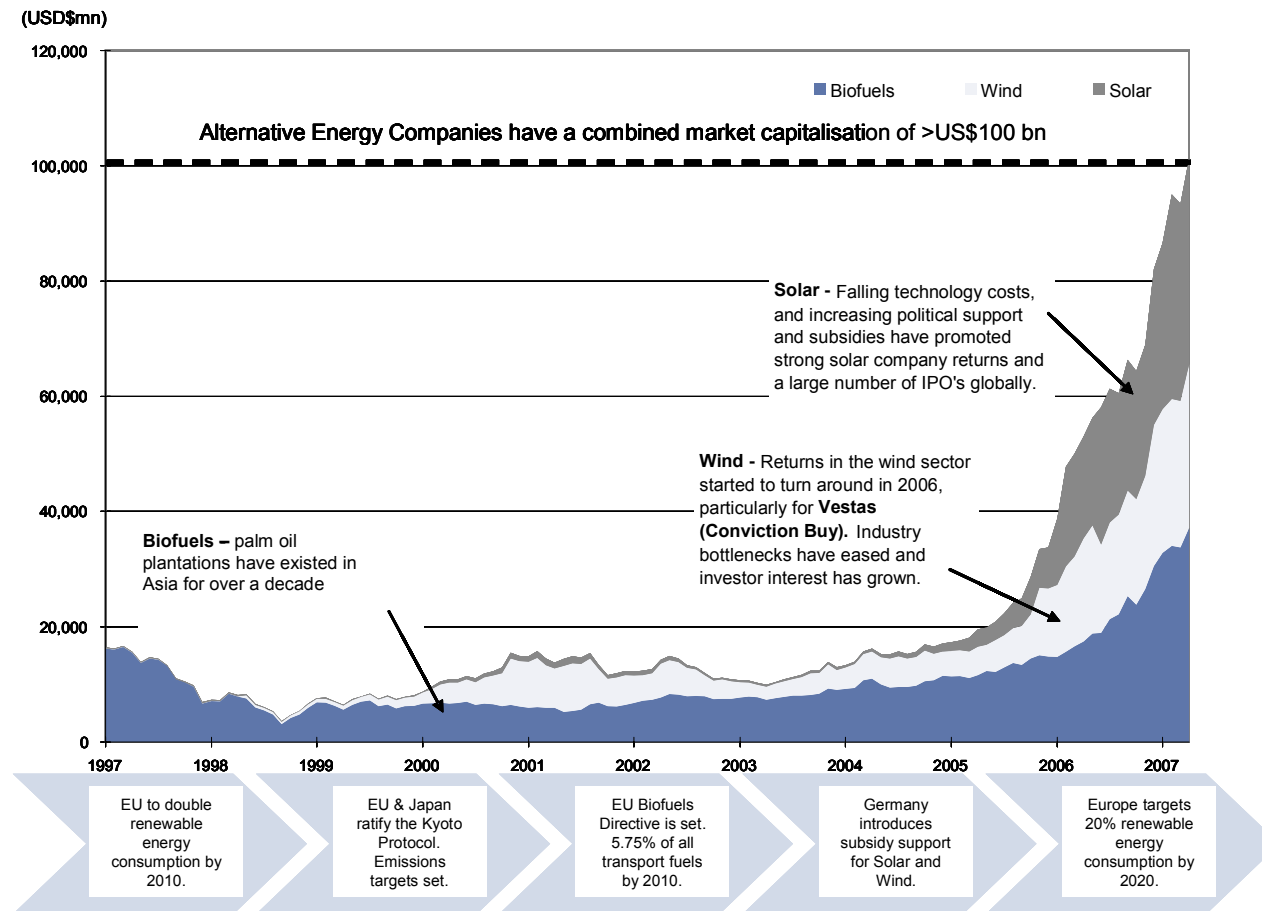


Source: World Bank, UNDP, Goldman Sachs Research estimates.

## A new era of energy supply incorporates alternative energy

The last ten years have seen a spectacular growth of the alternative energy industry, driven by a number of alternative energy policies such as EU targets on biofuels, wind and solar. The biofuel industry has grown due to the growth of upstream plantations businesses in Asia and the listing of downstream players in Europe. The wind industry is the most mature and has seen rising investor interest as industry bottlenecks have been overcome and returns began to turn around in 2006. The solar industry is the youngest industry and has the highest expected growth rates (around 20% CAGR over the next eight years), especially as silicon bottlenecks are expected to ease in the near future. The solar, wind and biofuels sub-sectors combined collectively breached the US\$100 bn mark earlier this year and we expect growth to continue over the foreseeable future.

**Exhibit 110: Alternative energy: A global mega trend that has grown to a US\$100 bn industry**

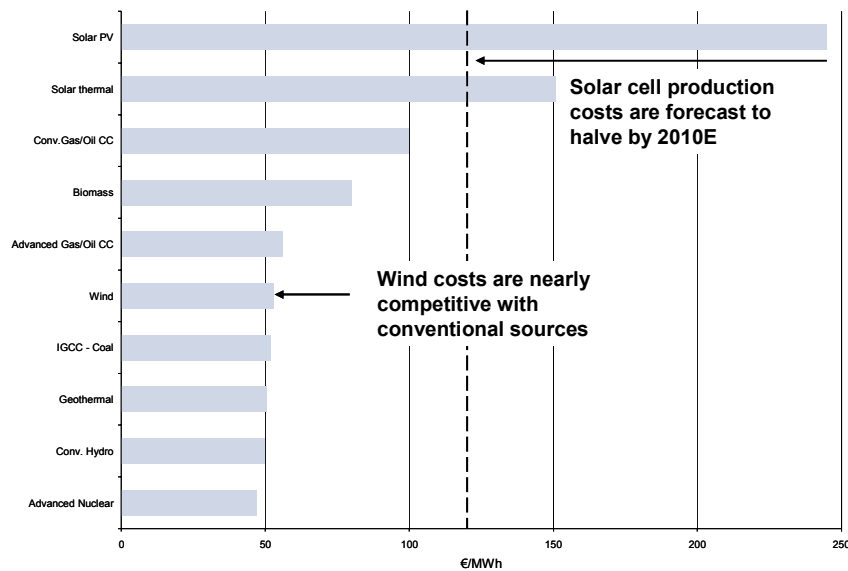


Source: Datastream, Goldman Sachs Research estimates.

### Costs are falling

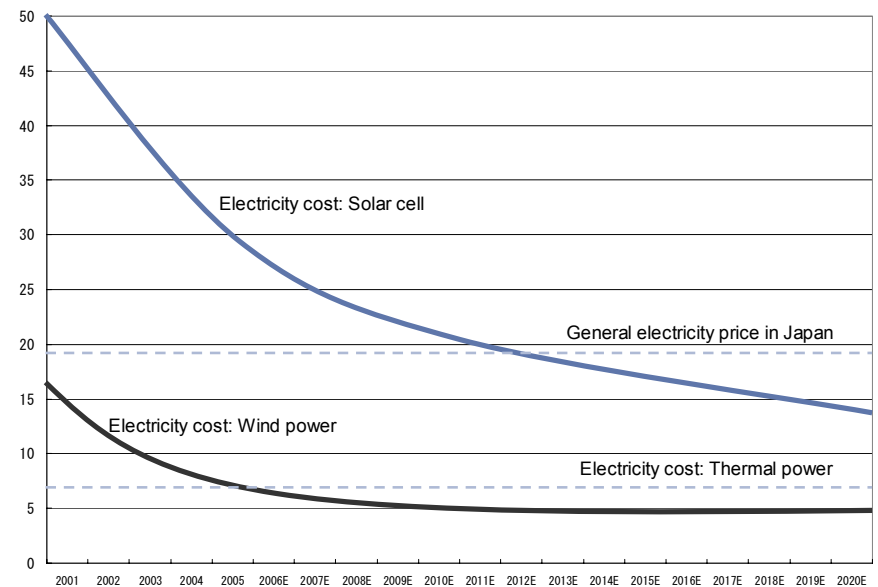
Costs for renewable energy technologies vary widely. Solar photovoltaic (PV) typically has the highest cost per megawatt (MW) of output, although this differs by geographic region and available sunshine hours (e.g. 50% greater sunshine hours in Spain vs. Germany). This greatly affects the economics of individual solar projects. The same applies to wind technology, currently one of the most economic and scalable technologies, where individual site factors drive the end electricity output cost (e.g. coastal vs. inland developments). In general, wind technology is the cheapest source of alternative energy electricity. However, production costs are falling rapidly in solar PV through lower silicon production costs, thin wafer slicing, increased cell efficiency levels and falling installation costs. Solar thermal costs are also forecast to fall rapidly towards the conventional electricity price. Solar PV is nearing the conventional electricity cost in Japan.

**Exhibit 111: Relative alternative energy technology costs**



Source: Company data, Goldman Sachs Research estimates.

**Exhibit 112: Japanese example of decreasing costs in solar and wind versus general electricity and thermal power prices**

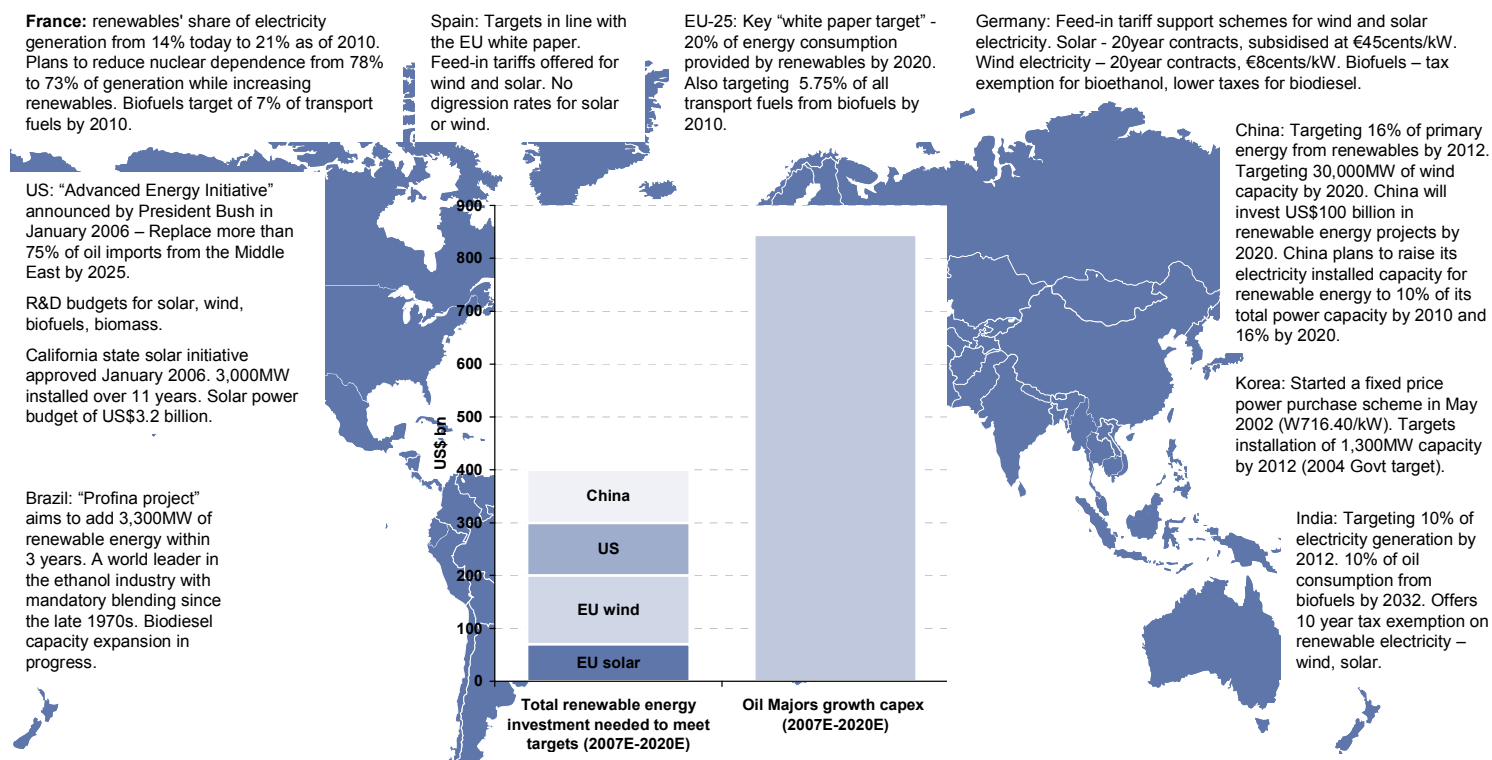


Source: Company data, Goldman Sachs Research estimates.

## Government-sponsored capex drives alternative energy investment

The past seven years have seen the rapid development of government incentive and support schemes for alternative energy, including the EEG in Germany (2004), the EU's target of 20% renewable energy by 2020, California's solar initiative to install 3 GW over 11 years or China's target of 30 GW of wind capacity by 2020. We estimate an additional potential investment requirement of up to US\$400 bn until 2020, given current and proposed renewable energy targets. We estimate that the European Union will account for up half of this total requirement, with the United States and China accounting for roughly US\$100 bn each. To place these potential investment figures into context, we highlight the Goldman Sachs oil team's estimate of US\$850 bn to be spent on Top 170 projects by the oil Majors over the same period.

**Exhibit 113: Global policy targets for alternative energy**



**US\$ 400 bn potential investment required to meet current/proposed renewable energy capacity targets by 2020:**

Note: These figures assume investment costs of US\$1 mn per MW of wind capacity and significant cost decreases to a long-term average price of US\$1 mn per MW of solar capacity by 2015-2020. The full investment costs including grid connection, installation and maintenance would be at a multiple of the figures above.

Source: Renewable Energy Global Status Report 2006.

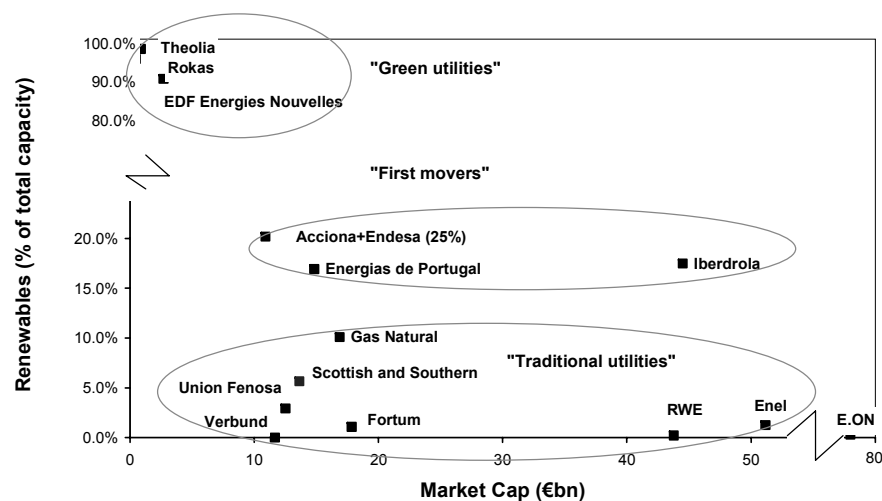
## Global energy supply is in transition

So far, the emergence of alternative energy companies has happened with relatively little involvement by the traditional power utilities. While three pure-plays exist in Europe so far (Theolia, Rokas, EDF Energies Nouvelles), they lack the scale of the traditional utilities. While EDP, Iberdrola, and Acciona/Endesa are 'first movers', renewables still only account for less than a quarter of total generation capacity. Here we define 'new renewables' as wind, solar, biomass and similar new technologies, yet exclude large-scale hydro, which can be considered legacy assets due to the low growth opportunities, as most of the opportunities in Europe have already been exploited.

The oil and gas industry has historically been further involved in alternative energy, but has not aggressively pursued renewable energies in a large scale, as seen in the sale of Shell Solar to Solarworld. BP leads its peers through its investment plans of US\$8 bn until 2015E into wind, solar and biofuels while TOTAL, Norsk Hydro, RShell and Chevron are also involved in renewables outside of biofuels.

It remains to be seen whether the development of carbon sequestration technology or the maturing of alternative energies will lead to wider involvement of the global energy or utility sectors as selected players from both sectors develop further alternative capabilities.

**Exhibit 114: Power generation from renewable technologies versus market capitalization**



Source: Company data, Goldman Sachs Research estimates.

**Exhibit 115: European and North American Integrated Oil Companies' exposure to renewable energy and carbon sequestration**

Company	Gas reserves as % of total reserves	Renewable energy investments	Renewable energy activities			Carbon sequestration
			Wind	Solar	Biofuels	
BG	74%	x	x	x	x	x
BP	54%	US\$800 mn pa (US\$8 bn 2006E-2015E)	✓	✓	✓	✓
ENI	44%	x	x	x	x	✓
Norsk Hydro	57%	US\$20 mn pa in technology venture funds (US\$120 mn 2001-2005)	✓	x	x	✓
OMV	43%	(US\$128 mn in future energy fund)	x	x	✓	✓
Repsol	63%	x	x	x	✓	✓
RShell	55%	US\$200 mn pa (US\$1 bn 2001-2005)	✓	x	✓	✓
Statoil	57%	x	x	x	✓	✓
TOTAL	38%	x	✓	✓	✓	✓
Chevron	33%	US\$300 mn in 2005	✓	x	✓	✓
ConocoPhillips	34%	x	x	x	✓	✓
ExxonMobil	50%	US\$20 mn pa (US\$100 mn 2002-2006E)	x	x	x	✓
Hess	37%	x	x	x	x	✓
Marathon	46%	x	x	x	x	x
Murphy	11%	x	x	x	x	x
Occidental	21%	x	x	x	x	x

Source: Company data, Goldman Sachs Research estimates.

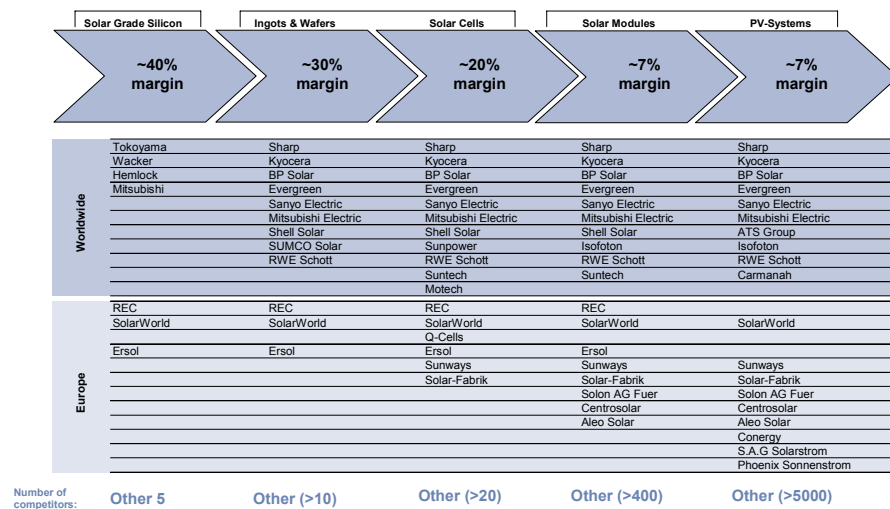


## Solar value chain and growth prospects

The solar industry value chain consists of five processes, namely the production of polysilicon, ingots and wafers, cells, modules and systems. Production of polysilicon for the PV industry is dominated by five players globally, but capacity is expanding rapidly and new entrants are joining the market. The PV cell segment is more fragmented than the polysilicon segment, given the lower technical entry barriers. Japanese and German companies such as Sharp, Q-Cells and Kyocera are the largest players in the solar cell space, although Chinese companies are rapidly building production capacity and challenge the position of the incumbents.

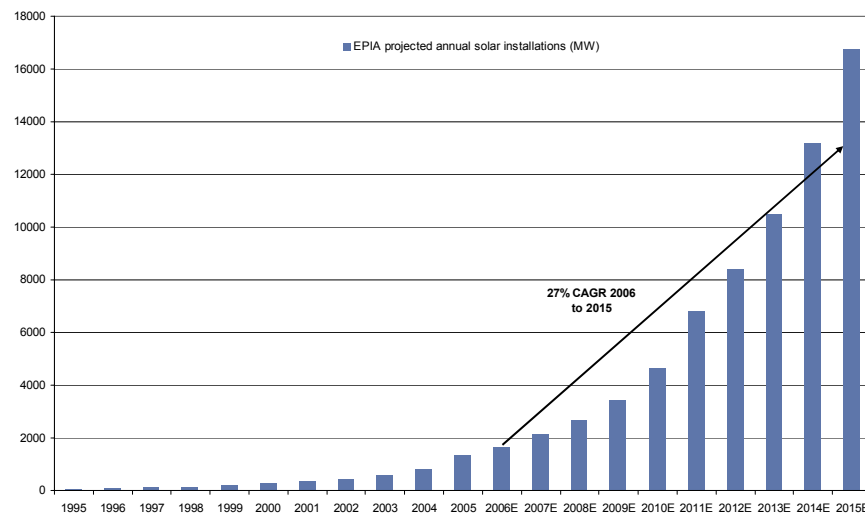
Major expansion in the solar cell market started around 2004 with the introduction of the German EEG support scheme. Global growth in solar cell use should continue due to the spread of electric power purchasing systems in Europe and efforts to expand use in southern Europe, Japan and the US. We expect global solar cell demand to be just over 6GW in 2010, three times the 2005 capacity of 1.5GW. Estimates for 2010 solar production vary considerably from 4GW to over 15GW. It is difficult to foresee how the GW of demand will develop. As solar costs and cell performance improve, the outlook will only become more attractive.

**Exhibit 116: Solar value chain**



Source: Company data, Goldman Sachs Research estimates.

**Exhibit 117: Solar cell growth**



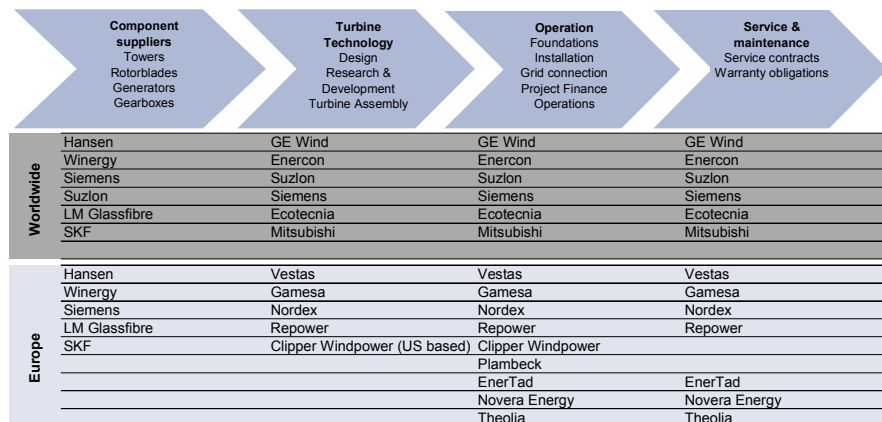
Source: Company data, Goldman Sachs Research estimates.

## Wind value chain and growth

Developing and building wind turbines is only part of the wind value chain. Today's wind projects can include a scope of work from simple supply and commissioning projects to turnkey projects involving the supply, installation and commissioning of turbines, access roads, foundations, cabling, electrical substations, communications systems and more. There are four main stages in the wind-energy value chain: component suppliers, turbine technology, operations and service.

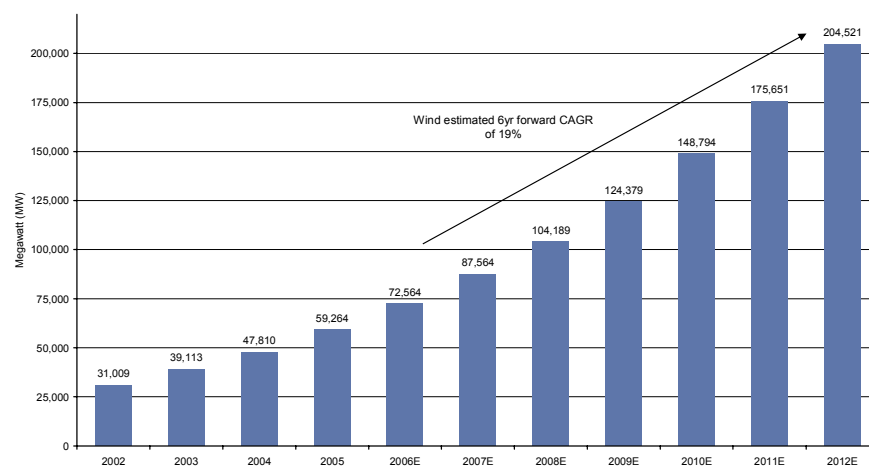
We expect the use of alternative energy in general and wind power in particular to increase significantly over the next decade. Wind technology has progressed significantly over the past years in terms of size and power as seen in the development of the new 5MW offshore turbines. Wind is one of the most competitive renewable energy sources, especially in good site locations with high wind speeds, and Europe is home to a number of the world's largest wind turbine manufacturers. In 2005, the US overtook Europe as the country with the fastest annual installed capacity growth and we expect the American and Chinese markets to continue their rapid growth going forward. Onshore technology will dominate most regions in the next five years, while offshore costs remain double those of onshore, and turbine failure risks remain.

**Exhibit 118: Wind value chain**



Source: Company data, Goldman Sachs Research estimates.

**Exhibit 119: Wind growth**



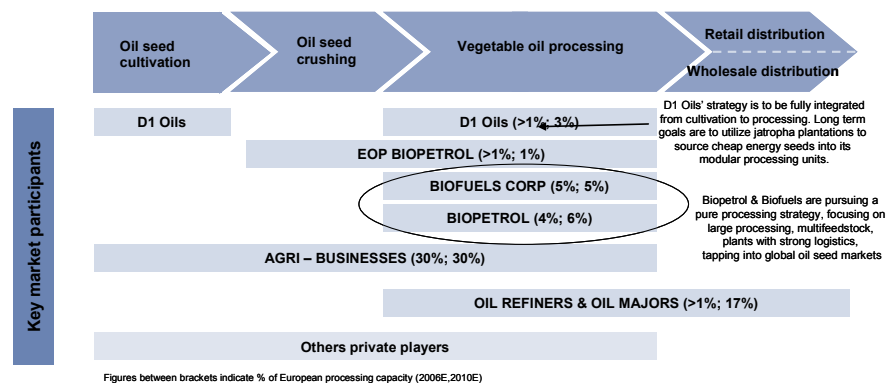
Source: Company data, Goldman Sachs Research estimates.

## Biofuels value chain and growth

Biofuels are mineral transport fuel substitutes derived from biological, renewable sources mainly comprising ethanol (derived from sugar or starch crops) and biodiesel (converted from vegetable oils). We believe the blending markets will be the main source of growth for biofuels in the future, as government incentives for the industry move from the current fiscal-based programmes (tax rebates on biofuels versus mineral oil) towards obligation structures mandating minimum biofuels blends. Blending obligations should also encourage the industry to develop pricing structures based on their underlying vegetable oil costs and we expect a 'de-linkage' from the mineral oil price over the medium term. In the short term, however, margin volatility will likely be driven by uncorrelated costs and revenues as biofuel producers manage rising feed-in costs and depressed processing margins in an industry with low barriers to entry, a fragmented industry structure relative to the consolidated customer base and low pricing power.

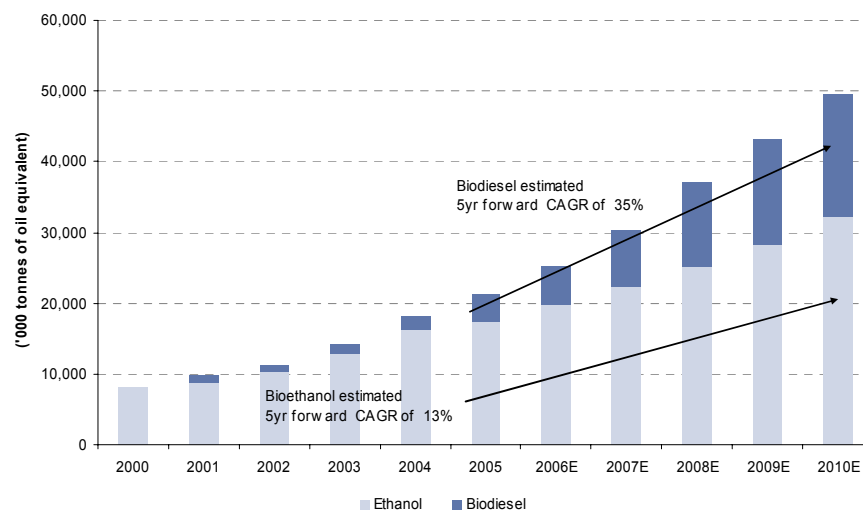
We believe Europe will continue to be the primary market for biodiesel, with the US and Brazil remaining the major markets for ethanol. European capacity growth is supported by the EU's non-binding target for 5.75% use of biofuels in transport by 2010 (on an energy basis) which has encouraged member states to support the industry by a combination of tax breaks and blending requirements. US ethanol production is a beneficiary of the tight US gasoline markets and national targets. Brazil has long been the leader in biofuels, with a 20%-25% ethanol obligation for gasoline: we continue to expect strong growth in the Brazilian market, driven by continued government support, low ethanol production costs and the rapid uptake of flexi-fuel vehicles.

**Exhibit 120: Biofuels value chain**



Source: Company data, Goldman Sachs Research estimates.

**Exhibit 121: Biofuels growth**



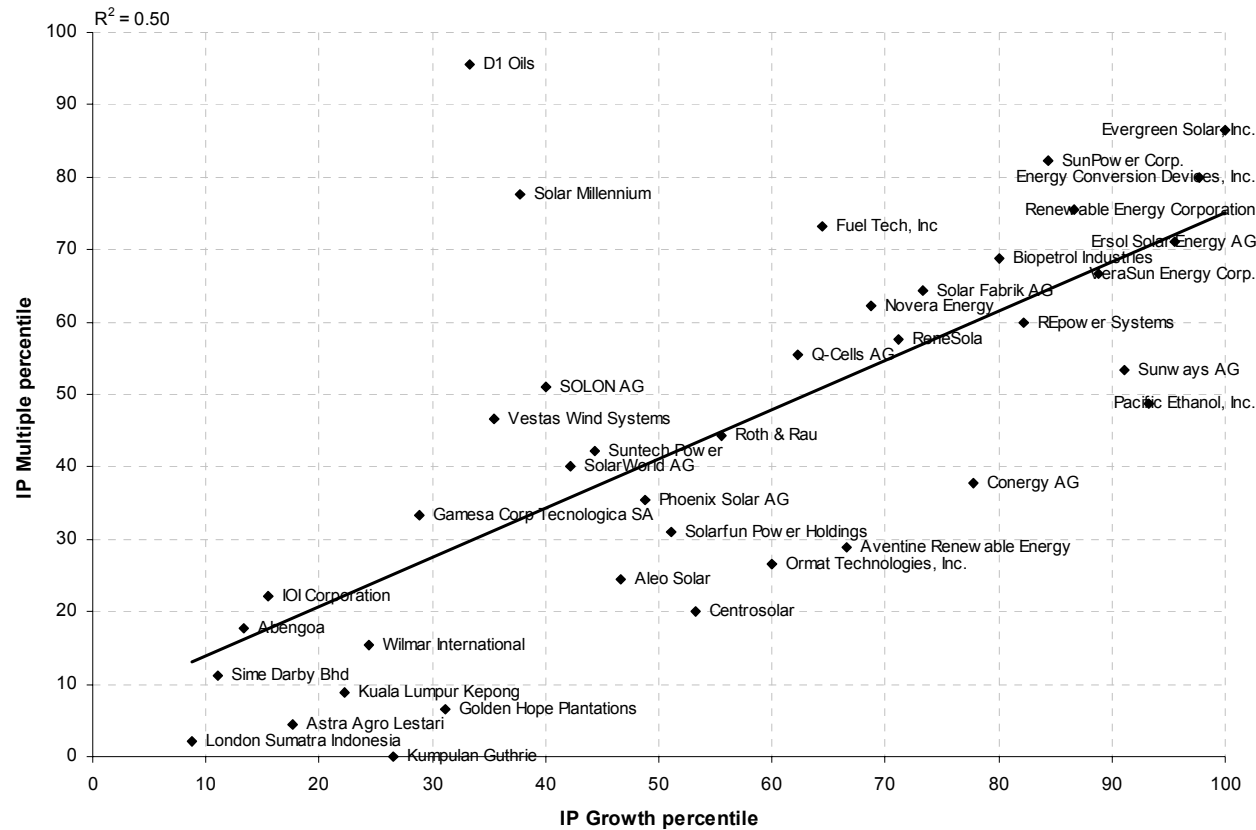
Source: Company data, Goldman Sachs Research estimates.

## Global alternative energy in GS SUSTAIN

Goldman Sachs covers 46 solar, wind, biofuels and other alternative energy technology stocks across the globe.

Our analysis shows a strong relationship ( $R^2=.53$ ) between growth (percentile rank of forecast Sales growth, EBITDA growth and EPS growth) and valuation multiples (percentile rank of forecast P/E, P/B, Dividend yield, EV/EBITDA and EV/FCF), evidence that emergent industries such as alternative energy trade on a multiple of growth. There is a wide range of growth profiles across our global alternative energy coverage, from unprofitable fuel cell and biofuels companies to low-growth palm oil plantation stocks to high growth solar and wind technology manufacturers.

**Exhibit 122: Alternative energy investment profiles: Valuation multiple versus growth**



Source: Goldman Sachs Research estimates.

We have selected leaders for our GS SUSTAIN list by screening our global alternative energy universe using quantitative portfolio techniques developed by our Tactical Research Group (TRG). We have highlighted companies that screen as attractive based on low valuation multiples relative to growth and our analysts' target price upsides relative to peers. We have also screened stocks on a thematic basis to include a selection of solar, wind, and other alternative energy technologies:

- Centrosolar: A niche solar player focused on household installations;
- D1 Oils: A differentiated biofuels strategy, backwards integrated to grow non-edible oil seed;
- Ersol Solar Energy AG: Vertically integrated solar player (produces modules and wafers);
- Ormat Technologies, Inc.: Geothermal power generation and recovered energy, based in the US;
- Phoenix Solar AG: German solar company focused on thin-film technology and downstream services;
- Solar Millennium: Solar thermal technology company with ~60% market share (of low installed capacity);
- SunPower Corp.: US-based low-cost, high-efficiency solar PV producer with strong management team;
- Suntech Power: Established China-based solar manufacturer with strong management team;
- Sunways AG: Niche solar manufacturer with products for car sun-roofs and buildings; and
- Vestas Wind Systems: Global leader in wind turbine manufacturing at ~30% market share.

## **Environmental technologies address challenges from resource constraints**

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### **Water, water everywhere and not a drop to drink**

In developed markets the water sector is being driven by water infrastructure replacement and upgrades while in developing markets new infrastructure is driving growth. The long-term global demand drivers for the sector are supply and demand imbalances, infrastructure challenges, pollution control, conservation, regulatory compliance, water quality and safety, and systemic under-pricing. Water is a natural resource without substitute and demand continues to escalate globally from population growth, industrial expansion and urbanization. At the same time, the world's fresh water supply is shrinking due to pollution, draining of underground aquifers and climate change.

### **Waste and recycling are regional, fragmented industries**

Increased waste generation is a by-product of global economic development and urbanization. We expect the current 2 bn tonnes of global municipal waste to grow steadily as the BRICs and the world as a whole become richer and more urbanized. The waste market is subject to increasingly strict environmental regulation, where recycling and recovery of waste is becoming a significant part of the sector. This, together with increased scarcity of landfill resources, has led to increasing pressure for additional recycling and alternative treatment infrastructure.

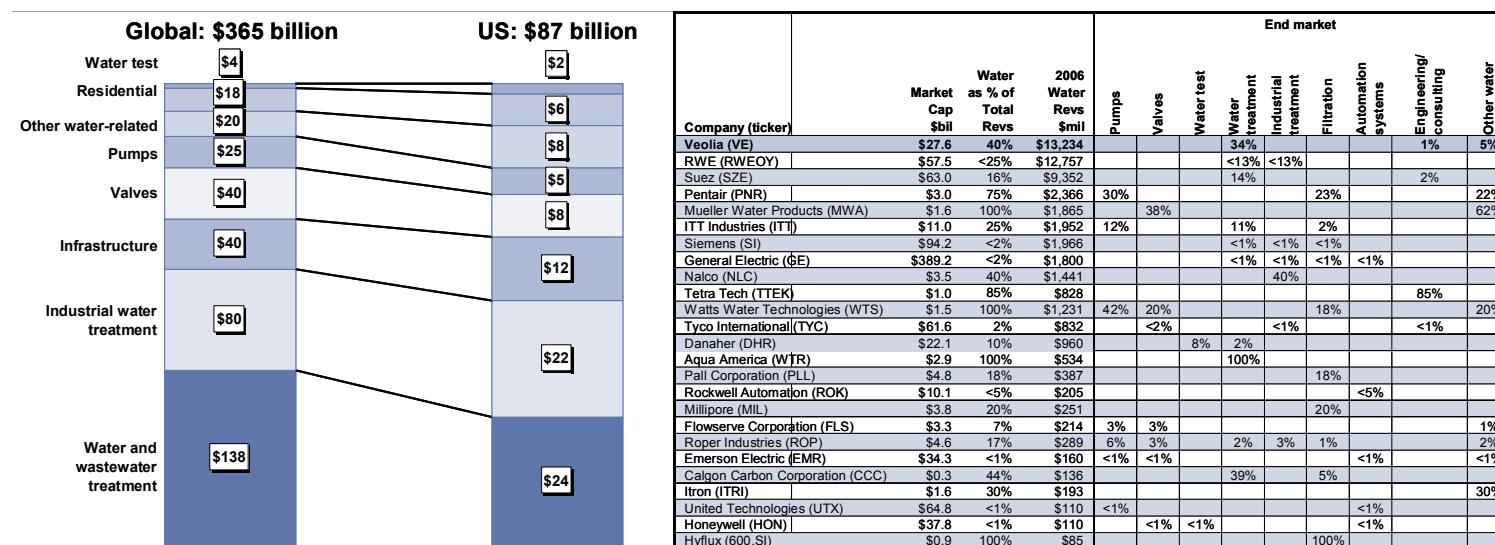
Recycling markets tend to be regional and fragmented, as they are often driven by specialized legislation. More broadly, we believe that environmental standards, rising commodity costs and higher environmental awareness on behalf of consumers will support the further growth of these markets and the success of specialized players.

## Water: A mature global market

The global water sector consists of many different sub-sectors from high-tech players to established utilities exhibiting a defensive profile with sustainable growth rates of 4%-6%. The US water market is estimated at US\$87bn, the global sector at US\$365bn and currently see four global themes driving investment in that sector:

- Ageing water infrastructure requires maintenance, replacement and expansion;
- China and other developing market demand for water;
- Increase in advanced treatment need and opportunity for novel treatment technologies; and
- Regulatory drivers: Environmentally conscious regulation requires high level of water quality.

**Exhibit 123: Market composition of the water sector and Top 25 global water companies**



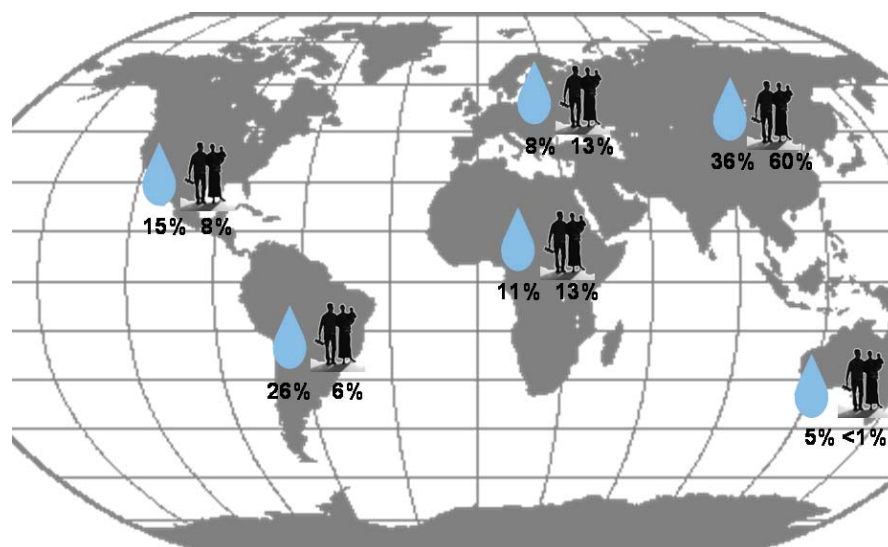
Source: US Department of Energy, IEA.

## Inequalities in water distribution create the need for novel technology solutions

Global water assets are not equally distributed in relation to global population or land mass. The WHO estimates that one in six or 1.1 bn people lack access to safe drinking water and large parts of Northern Africa, the Middle East and Asia exhibit high water stress (high withdrawal-to-availability ratio). For example, 400 of 660 Chinese cities lack sufficient water supply, with 110 of them suffering severe shortages, which highlights the potential for innovative water technologies.

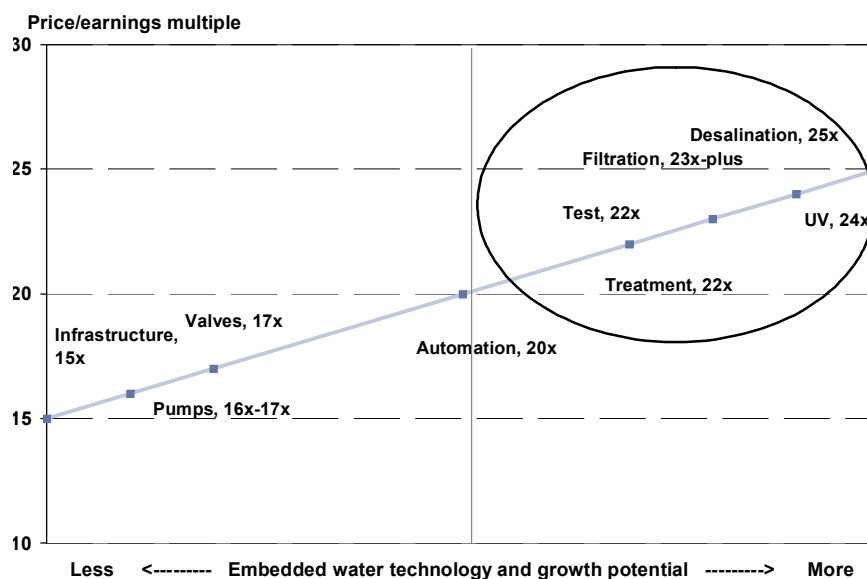
The market has become increasingly more discriminating, awarding higher multiples to businesses with more proprietary, highly embedded technology and higher-growth opportunities. For example, pumps and pool and spa are important water markets but do not warrant the same multiple as filtration, industrial, test, UV disinfection, reverse osmosis, or desalination.

**Exhibit 124: Global water supply versus production**



Source: Company data, Goldman Sachs Research estimates.

**Exhibit 125: Implied spectrum of P/Es for water technologies**



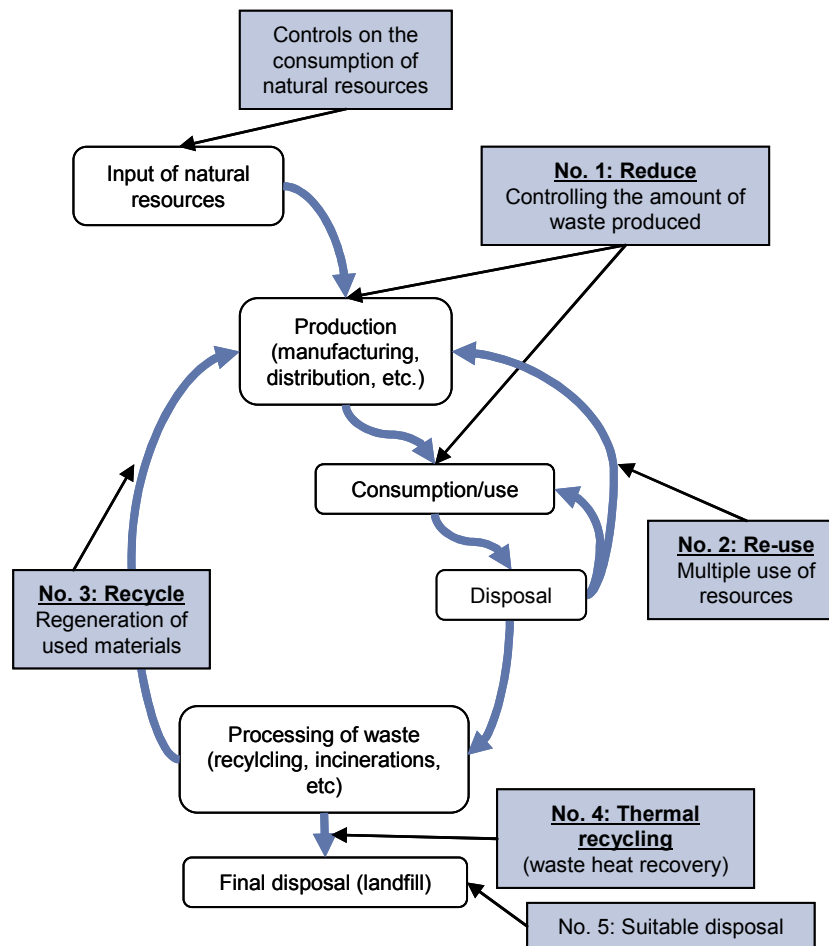
Source: Company data, Goldman Sachs Research estimates.



### Waste and recycling are regional, fragmented industries

Waste and recycling markets are often driven by national legislation and can be highly fragmented due to the specialised markets they service. However, rising commodity prices, higher environmental standards and rising environmental awareness have led companies to examine their manufacturing processes in more detail. Waste reduction and recycling can save resources at multiple stages of the manufacturing value chain, reducing the material inflow, reusing resources during the production stage, recycling used materials and collecting waste as well as suitably disposing of them. Environmental regulation has led recycling markets to expand globally providing opportunities to companies that effectively reduce material costs through the use of recycled materials.

**Exhibit 126: Diagram of waste management and recycling options before final disposal in landfill**

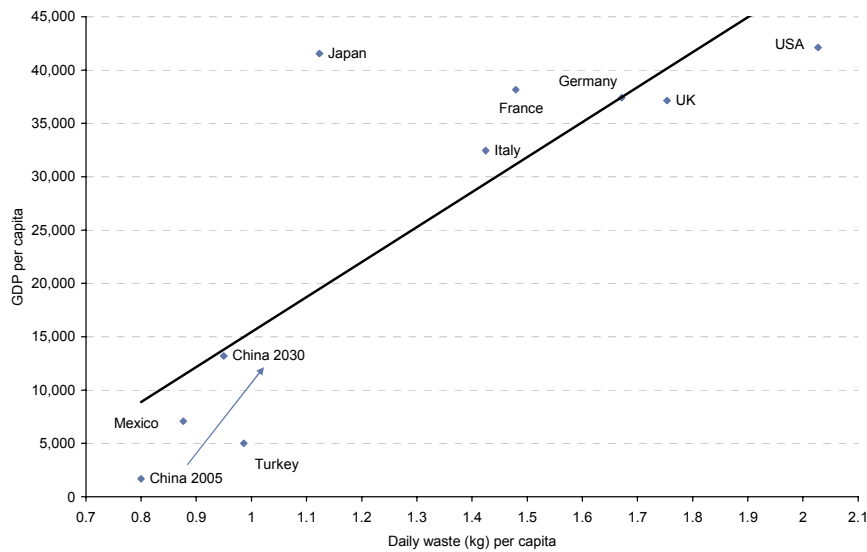


Source: Japanese Ministry of Environment, ISO, Goldman Sachs Research.

### Cleaning up after wealthy, urban populations

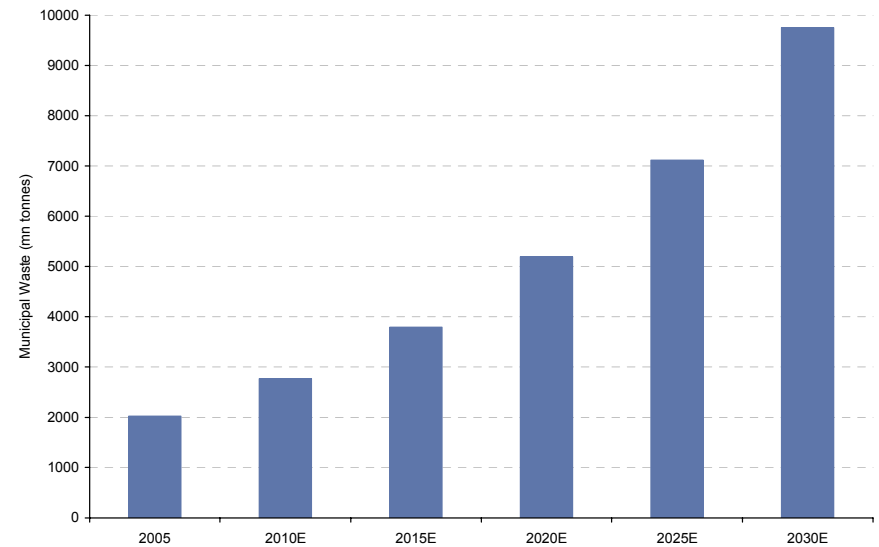
The increase in global GDP and the continuing urbanization are both driving an increase in waste production. Economic development is correlated with the per capita amount of waste generated. Rapid economic development increases the amount of municipal waste produced, and China, for example, is expected to more than double its annual waste production from a current 190 Mtpa to 480 Mtpa in 2030. Analysis by the World Bank reveals that urbanization and higher relative income progressively lead to higher waste per capita, from 0.25-0.45 kg per day in low-income rural areas to 0.75-2.2 kg per day in high-income urban zones. Given our favourable outlook for the major economies and the BRICs, we currently expect the global municipal waste markets to grow at an annual rate of 8%.

**Exhibit 127: GDP per capita and daily waste per capita by country**



Source: World Bank, Key Note, Goldman Sachs Research estimates

**Exhibit 128: Growth of global municipal solid waste**



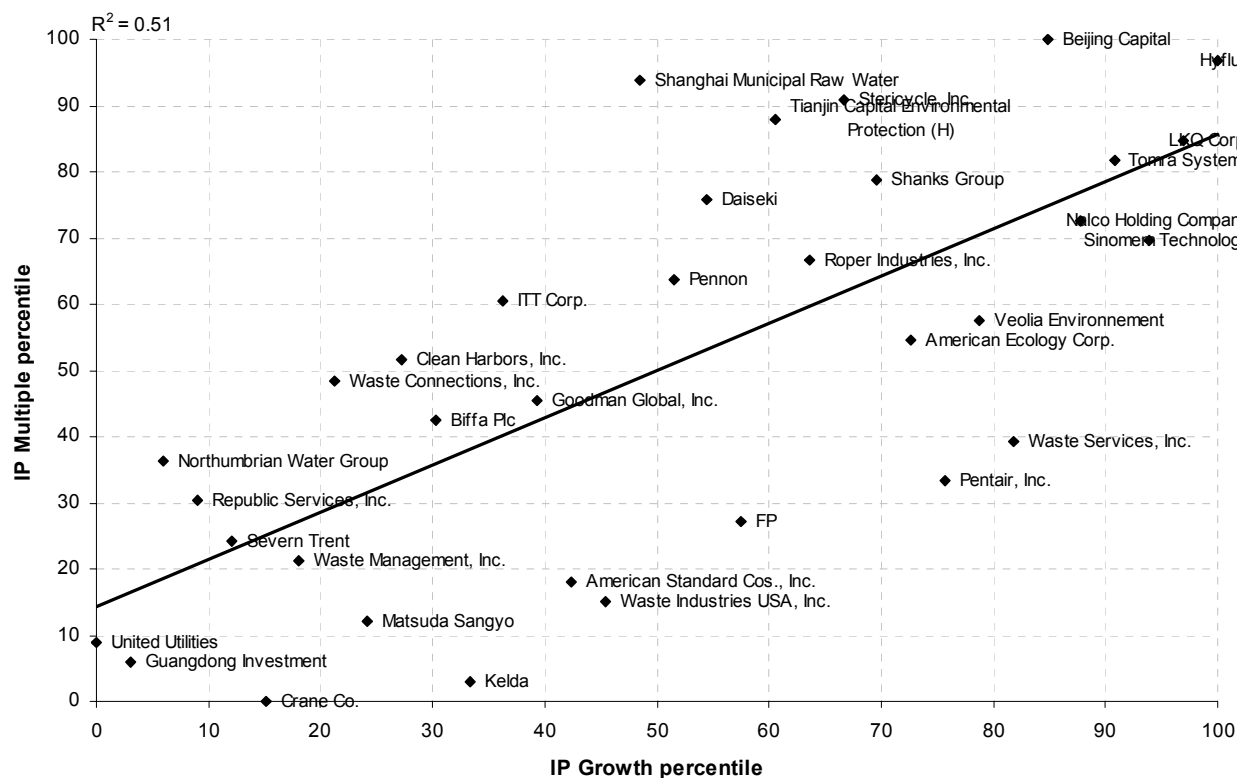
Source: World Bank, Key Note, Goldman Sachs Research estimates.

## Global environmental technology in GS SUSTAIN

We screened the Goldman Sachs global coverage universe for companies across sectors focused on environmental technology and services including waste services, water utilities and technology and recycling companies to create a list of 40 stocks globally.

Our analysis shows a strong relationship ( $R^2=0.49$ ) between growth (percentile rank of forecast Sales growth, EBITDA growth and EPS growth) and valuation multiples (percentile rank of forecast P/E, P/B, Dividend yield, EV/EBITDA and EV/FCF), evidence that small companies in emergent industries such as environmental technologies trade on a multiple of growth. There is a wide range of growth profiles across our environmental technology coverage, from unprofitable waste & recycling companies (excluded from the chart below), to low-growth water utilities to high growth water and recycling technology focused firms.

**Exhibit 129: Environmental technology investment profiles: valuation multiple versus growth**



Source: Goldman Sachs Research estimates.

We have selected leaders for our GS SUSTAIN list by screening our global environmental technology universe using quantitative portfolio techniques developed by our Tactical Research Group (TRG). We have highlighted companies that screen as attractive based on low valuation multiples relative to growth and our analysts' target price upsides relative to peers. We have also screened stocks on a thematic basis to include a selection of water, waste and recycling technologies:

- FP: The largest producer of food containers in Japan; makes lightweight food trays from polystyrene paper and PET;
- LKQ Corp.: US recycler and reseller of auto parts;
- Pentair, Inc.: 75% water revenues with new management team;
- Shanks Group: A diversified waste management services company in the UK, Belgium and the Netherlands;
- Sinomem Technology: a China-based filtration company that manufactures, designs and installs membrane-based systems for water treatment, as well as for higher-yielding and cleaner production processes in various industries; and
- Tomra Systems: A beverage can recycling through core 'reverse-vending machine' (RVM) business, currently trialing recycling equipment with major food retailers.

## **Biotechnology: Focus on pipeline innovation**

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### **Addressing unmet medical need drives R&D and pipeline development**

Cancer, diabetes, cardiovascular, and certain infectious diseases, as well as a broad spectrum of other diseases and conditions, represent significant unmet medical need, and growing global problems. Biotech companies have often been the first to apply new technologies or to address new disease targets. While these approaches typically engender higher risk than known targets, they can result in novel approaches to disease, with the goal of improving outcomes. A significant portion of the biotech pipeline is geared toward cancer, but biotech is aiming its focus across the disease spectrum.

### **Pharma sector at a turning point; this drives consolidation in the biotech sector**

The pace of consolidation among biotechnology companies has increased in the past few years, especially for private companies. In 2006 and year-to-date in 2007, we have seen steady interest in pharma-to-biotech acquisitions as well as biotech-to-biotech acquisitions. Interest has been fuelled by relatively poor R&D productivity at most pharmaceutical companies, thinning pipelines, and generally strong cash positions. Among biotech companies, opportunities for pipeline expansion, as well as earlier-stage platforms, have been in demand.

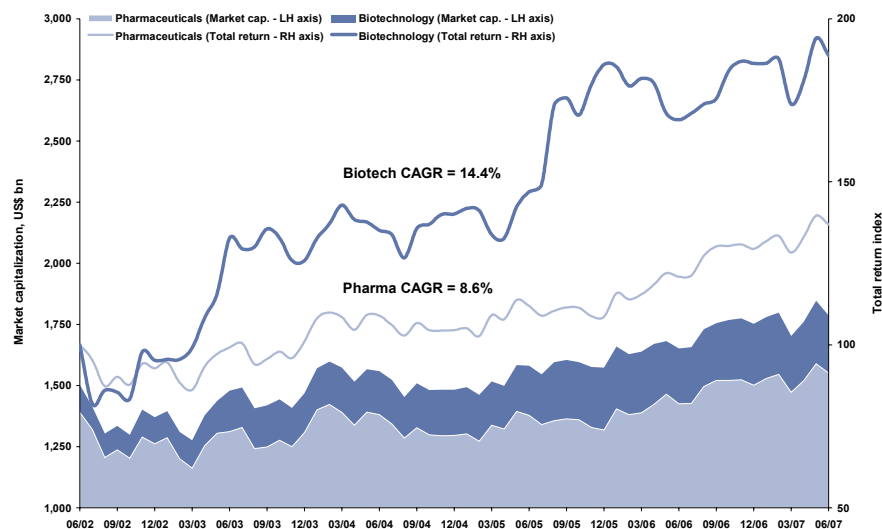
The pace of consolidation should continue to accelerate in 2007, driven by the desire of pharmaceutical companies and large biotech companies to boost their pipelines. In our view, the focus on R&D productivity at the larger biotech companies and at all pharma companies is unlikely to abate; as a result, the trend of licensing products from biotech companies looks likely to continue. Similarly, so does the acquisition of biotech companies that either have very promising products for which there is significant interest from several companies, or those that have strategically useful technologies for drug development, such as antibody technologies.

### Biotech vs. Pharma: More candidates in the pipeline and better stock performance

Over the last five years, biotechnology stocks have grown by 14.4% each year, as measured by the MSCI World Total Return Index, compared with a cumulative annual growth rate of just 8.6% for pharmaceutical stocks. By mid-2007, the biotechnology sector has reached a total market capitalization of approximately US\$250 bn, around 15% of the total market capitalization value for pharmaceutical stocks. This suggests the growing importance of the emergent biotechnology sector to the healthcare supply chain with the market for biotech and biological drugs growing at a stronger rate than the more mature and established pharmaceutical industry, stimulated by a robust pipeline and the slower-than-usual build-up of any significant generic competition.

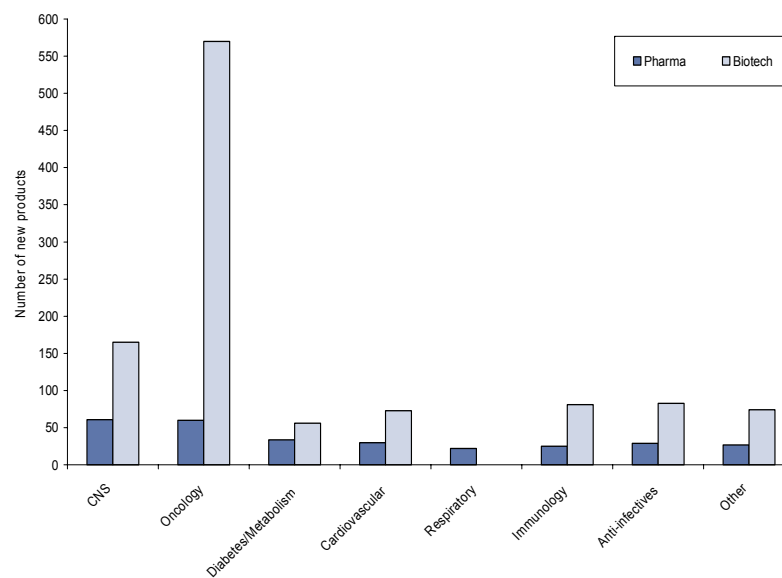
We analyze the pipeline of the global pharma and global biotech industries, using drugs in Phase II and Phase III development. While many of the candidates listed as biotech candidates may also be in development with a pharmaceutical partner, on the whole, it appears that there are more compounds in development across the biotech industry, reflecting in part, the significantly broader number of companies.

**Exhibit 130: MSCI World Biotechnology has outperformed MSCI World Pharmaceuticals by a wide margin over the past five years**



Source: MSCI, Datastream.

**Exhibit 131: Number of new products in disease areas for global pharma and biotech companies**



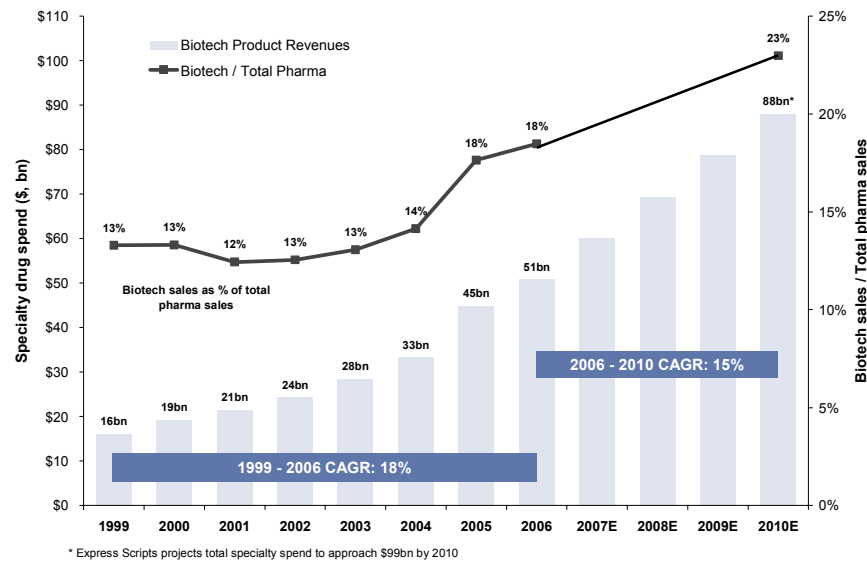
Source: Source: Japanese Ministry of Environment, ISO and Goldman Sachs Research estimates.

## Biotech sales growth strong, pipeline appears robust

In sharp contrast to the 6%-9% growth forecast by IMS Health for the US pharmaceutical industry, through 2010 biotechnology revenues are expected to grow 14%-18% per year. The primary reason for such acceleration appears to be a very robust pipeline of potential drugs.

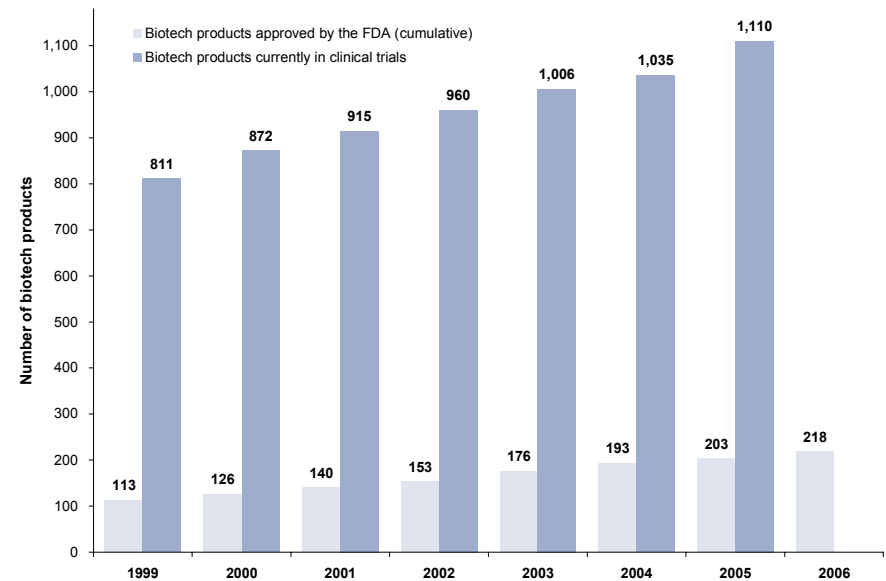
Our Biotechnology research team estimates that there are over 218 biotech drugs currently out in the market, while a further 1,110 are currently undergoing clinical trials. Not surprisingly, companies in the healthcare industry have been attempting to best position themselves to capture some of this growth.

**Exhibit 132: Strong growth profile of biotechnology: US biotech revenues expected to grow at 14%-18% CAGR, in sharp contrast to 6%-9% growth for US pharmaceuticals**



Source: Biotechnology Industry Organization, Express Scripts, IMS Health.

**Exhibit 133: As of Dec 31, 2006, there were over 218 biotech drugs out in the market, while a further 1,154 are undergoing clinical trials (not shown)**



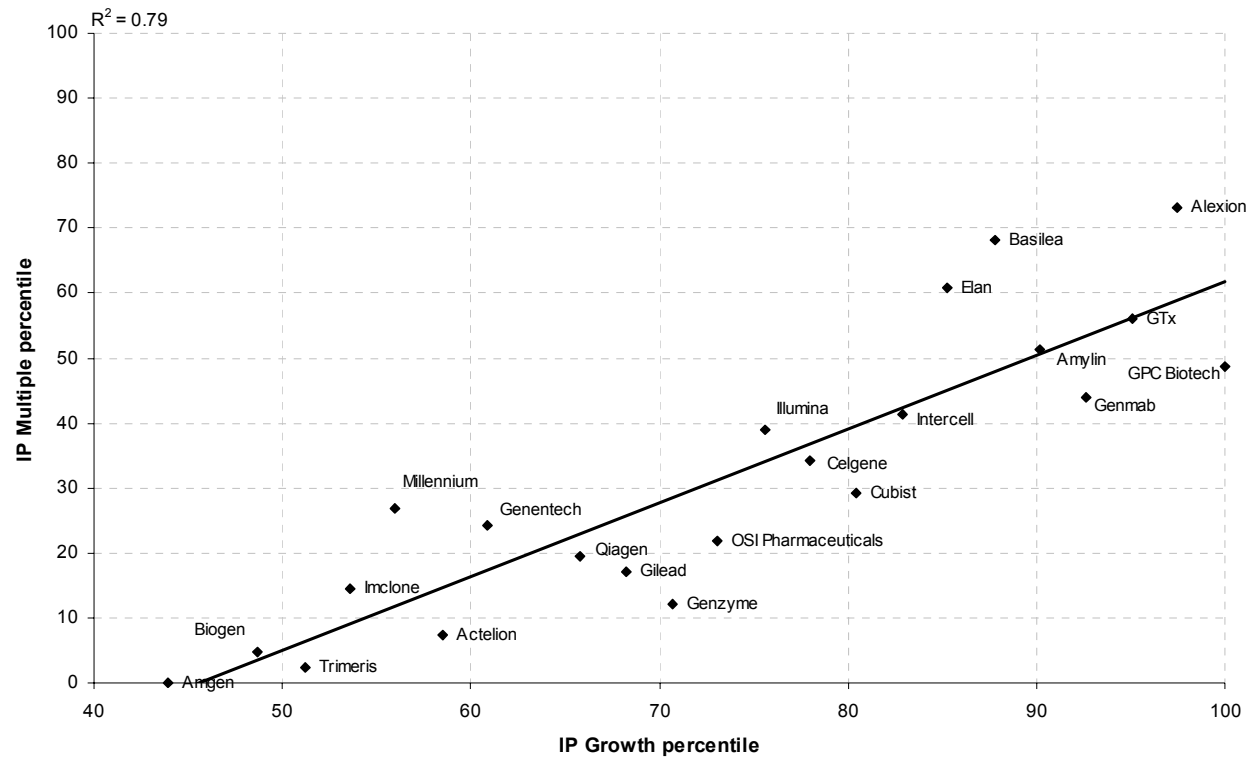
Source: Goldman Sachs Biotechnology Research team.

### Global biotechnology in GS SUSTAIN

Goldman Sachs covers 42 biotechnology stocks globally, located primarily in the US and Europe, almost half of which are forecast by our analysts to remain unprofitable to 2009.

Our analysis shows a strong relationship ( $R^2=0.76$ ) between growth (percentile rank of forecast Sales growth, EBITDA growth and EPS growth) and valuation multiples (percentile rank of forecast P/E, P/B, Dividend yield, EV/EBITDA and EV/FCF), evidence that small companies in emergent industries such as biotechnology trade on a multiples of expected growth. We observe two distinct groups of companies based on profitability and development stage across our global biotechnology coverage, (1) unprofitable small-cap companies in early-stage development (excluded from the chart below), and (2) high-growth biotechnology pioneers with a number already commercialized products or candidates expected to be commercialized (see Exhibit 134).

**Exhibit 134: Biotechnology investment profiles: valuation multiple versus growth**



Source: Goldman Sachs Research estimates.



While we have applied the same methodologies across sectors in this report, several unique features of biotech should be mentioned here. First, this is a very high-risk sector. The failure rate in late stage trials has approximated 55% over the last several years. Consequently, the stocks are highly volatile. This is particularly true in cases where data are expected for the first commercial candidate, or for the candidate with the highest expected returns. Second, the EPS growth rates for companies that are just emerging into profits are very difficult to predict and are not typically sustainable over the long term. Thus, a snapshot growth rate in one year may not be the best methodology for stock selection. Furthermore, this lack of earnings visibility puts emerging companies in a different risk bracket vs. more mature biotech companies that are also developing new treatments. Given the inherent clinical risks in drug development, the average company's high dependence on single lead candidates, the high variance in forecasting revenues and higher variance in forecasting EPS, we believe that a probability-adjusted risk/reward analysis is a useful framework for stock selection among the emerging biotech companies, and we prefer a basket or portfolio approach.

We have selected leaders for our GS SUSTAIN list by screening our global biotechnology universe using quantitative portfolio techniques developed by our Tactical Research Group (TRG). We have highlighted companies that screen as attractive based on low valuation multiples relative to growth and our analysts' target price upsides relative to peers. We have also screened stocks on a thematic basis to include a diversified set of disease focuses:

- Actelion: One of only a few profitable, cash generative biotech companies within Europe with three products in the market for Gaucher disease and pulmonary arterial hypertension (PAH);
- Amylin Pharmaceuticals, Inc.: Commercialized two first-in-class drugs for the treatment of diabetes, Byetta and Symlin, which address over a US\$1 bn U.S. opportunity, based on GS Research estimates;
- Elan Corporation (ADR): Focused on neurology with a potential Alzheimer's blockbuster in 2010E in addition to a commercial multiple sclerosis therapy;
- Genentech: The US market leader for cancer therapies and a developer of treatments for other serious medical conditions is expected to sustain about 20% earnings growth in the coming years;
- Genmab: Danish-based developer of human antibodies for the treatment of cancer and autoimmune diseases with a low-risk, high-potential pipeline over the next 3-5 years;
- Gilead Sciences Inc.: an established global leader in the treatment of HIV and infectious diseases with nine commercialized products and a robust pipeline;
- Intercell: A developer of novel vaccines for infectious diseases, well-placed to meet the growing need for vaccines globally and benefit from increased focus on vaccination programmes.

# Appendix: Profiles of all companies in our GS SUSTAIN focus list

GS SUSTAIN focus list	Country	Ticker	Mkt cap US\$ mn	GS analyst	Rating	Price	P/E			ESG (quartile)	Industry structure (quartile)	CROCI	
							2007E	2008E	2009E			04-06	07-09E
<b>Mature industries</b>													
<b>Energy</b>													
BG Group	United Kingdom	BG.L	\$ 55,320	Jonathan Waghorn	Sell	799p	14.8x	14.2x	13.9x	1	Top 170 winner; 177% materiality	20%	20%
ENI	Italy	ENI.MI	\$ 133,349	Michele della Vigna, CFA	Buy	€26.97	10.2x	10.0x	9.9x	2	Top 170 near-term winner; 117% materiality	15%	14%
Petroleo Brasileiro S.A. (ADR)	Brazil	PBR	\$ 98,406	Brian Singer, CFA		\$120.83				1	Top 170 winner; 69% materiality		
Statoil	Norway	STL.OL	\$ 63,659	Michele della Vigna, CFA	Not Rated	Nkr177.25	11.1x	10.1x	9.4x	1	Top 170 winner; 116% materiality	12%	14%
<b>Mining &amp; Steel</b>													
BHP Billiton Plc	United Kingdom	BLT.L	\$ 174,252	Peter Mallin-Jones	Buy	1384p	10.9x	9.9x	11.5x	1	1st Q; 70% BRICs exposure	21%	25%
POSCO	South Korea	005490.KS	\$ 44,416	Rajeev Das	Neutral	W472500.00	11.7x	8.9x		2	2nd Q; 30.5 Mt pa; high-quality; close to markets	14%	13%
Rio Tinto plc	United Kingdom	RIO.L	\$ 106,239	Peter Mallin-Jones	Neutral	3838p	12.3x	10.6x	11.8x	1	2nd Q; 58% BRICs exposure	15%	19%
Voestalpine	Austria	VOES.VI	\$ 13,209	Peter Mallin-Jones	Neutral	€62.62	10.4x	10.9x	12.9x	2	2nd Q; 6.4 Mt pa; niche; close to markets	11%	11%
<b>European Media</b>													
British Sky Broadcasting	United Kingdom	BSY.L	\$ 24,244	Laurie Davison	Neutral	644p	22.5x	18.3x	14.6x	2	Disruptive technology; 1/3 UK TV homes	46%	37%
Reed Elsevier (UK)	United Kingdom	RELL.L	\$ 16,238	Veronika Pechlaner, CFA	Neutral	644p	18.0x	16.4x	14.8x	1	Print to online; 30-35% sales online	14%	14%
WPP Group plc	United Kingdom	WPP.L	\$ 18,098	Jean-Michel Bonamy	Not Rated	732p	16.4x	14.3x	12.5x	1	Emerging markets; 21% BRICs exposure	9%	11%
Vivendi	France	VIV.PA	\$ 49,312	Jean-Michel Bonamy	Buy	€31.80	14.1x	13.1x	12.0x	2	Convergence; Music, TV/Film, Telecom	6%	10%
<b>Food &amp; Beverages</b>													
Danone	France	DANO.PA	\$ 39,056	Mark Lynch	Buy	€58.06	20.7x	18.3x	16.3x	1	Innovation and +51 bps margin expansion	13%	17%
Diageo	United Kingdom	DGE.L	\$ 58,954	Mike Gibbs	Neutral	1073p	18.3x	16.6x	15.2x	1	Volume growth, emerging markets	17%	17%
Kellogg Company	United States	K	\$ 20,861	Steven T. Kron, CFA	Buy	\$51.60	18.6x	16.9x	15.3x	2	Innovation and +176 bps margin expansion	14%	17%
Nestle	Switzerland	NESN.VX	\$ 144,617	Mark Lynch	Neutral	SFr460.75	17.8x	16.1x	14.6x	1	Innovation and +103 bps margin expansion	12%	13%
PepsiCo, Inc.	United States	PEP	\$ 109,815	Judy E. Hong	Buy	\$65.52	20.1x	17.9x	16.0x	2	Innovation and +44 bps margin expansion	21%	21%
<b>Pharmaceuticals</b>													
Bristol-Myers Squibb Company	United States	BMJ	\$ 61,429	James Kelly	Neutral	\$31.23	21.0x	19.3x	16.8x	1	2nd Q; growth; chronic disease focus	18%	22%
Merck & Co., Inc.	United States	MRK	\$ 107,196	James Kelly	Neutral	\$49.26	18.0x	16.6x	14.2x	1	2nd Q; innovation; vaccines focus	21%	22%
Novo Nordisk	Denmark	NOVOB.CO	\$ 32,393	John Murphy	Sell	Dkr565.00	19.1x	20.2x	18.2x	2	2nd Q; growth; diabetes focus	22%	24%
Roche	Switzerland	ROG.VX	\$ 154,262	John Murphy	Buy	SFr216.40	18.4x	15.7x	13.6x	2	1st Q; innovation; growth; oncology focus	17%	25%
	<b>Country</b>	<b>Ticker</b>	<b>Mkt cap US\$ mn</b>	<b>GS analyst</b>	<b>Rating</b>	<b>Price</b>	<b>P/E</b>			<b>Theme</b>	<b>Description</b>	<b>EPS growth</b>	
							2007E	2008E	2009E			2008E	2009E
<b>Emerging industries</b>													
<b>Alternative energy</b>													
Centrosolar	Germany	C3OG.DE	\$ 181	Jason Channell	Buy	€10.14	12.3x	9.3x	7.9x	Alternative Energy: Solar	Niche player focused on residential installations	33%	17%
D1 Oils	United Kingdom	DOO.L	\$ 150	Mariano Alarco	Buy	239p			15.2x	Alternative Energy: Biofuels	Differentiated strategy using non-food crops	74%	410%
Ersol Solar Energy AG	Germany	ES6G.DE	\$ 785	Jason Channell	Neutral	€59.70	37.1x	13.4x	8.8x	Alternative Energy: Solar	Integrated solar cell and wafer manufacturer	176%	52%
Ormat Technologies, Inc.	United States	ORA	\$ 1,302	Michael Lapidés	Neutral	\$36.56	37.3x	22.6x	19.4x	Alternative Energy: Geothermal	Geothermal technology pure play	65%	16%
Phoenix Solar AG	Germany	PS4G.DE	\$ 158	Jason Channell	Buy	€19.40	17.2x	13.0x	9.7x	Alternative Energy: Solar	Large scale solar power project developer	33%	33%
Solar Millennium	Germany	SZMG.DE	\$ 519	Jason Channell	Neutral	€38.99	23.9x	20.7x	18.0x	Alternative Energy: Solar	Leading solar thermal project developer	15%	15%
SunPower Corp.	United States	SPWR	\$ 4,383	Chris Hussey	Neutral	\$59.45		63.3x	25.6x	Alternative Energy: Solar	Low-cost, high-efficiency producer	147%	
Suntech Power	China	STP	\$ 4,928	Cheryl Tang	Neutral	\$33.14	31.1x	21.9x	17.0x	Alternative Energy: Solar	Established track record of execution	42%	29%
Sunways AG	Germany	SWWG.DE	\$ 135	Jason Channell	Buy	€9.23	51.3x	15.6x	11.0x	Alternative Energy: Solar	Niche solar products for buildings/windows	230%	41%
Vestas Wind Systems	Denmark	VWS.CO	\$ 12,902	Jason Channell	Buy	Dkr386.50	39.2x	22.0x	17.5x	Alternative Energy: Wind	World's largest wind turbine manufacturer (~30%)	78%	26%
<b>Environmental technology</b>													
FP	Japan	7947.OS	\$ 708	Yasuo Kono	Buy	¥4010.00	16.5x	14.1x	12.6x	Environmental technology: Recycling	Niche focus on recycled food containers	17%	11%
LKQ Corp.	United States	LKQX	\$ 1,284	Chris Hussey	Buy	\$24.08	23.6x	18.3x	15.3x	Environmental technology: Recycling	Niche focus on recycling autoparts	29%	20%
Pentair, Inc.	United States	PNR	\$ 3,760	Deane M. Dray, CFA	Neutral	\$37.99	19.2x	17.3x	15.2x	Environmental technology: Water	75% water revenues, new management focus	11%	14%
Shanks Group	United Kingdom	SKS.L	\$ 1,256	Jenny Ping	Buy	268p	20.3x	17.1x	14.9x	Environmental technology: Waste	UK growth opportunity in waste services	19%	14%
Sinomem Technology	Singapore	SINO.SI	\$ 385	Christina Hee, CFA	Buy	S\$1.28	19.4x	14.6x	12.4x	Environmental technology: Water	Desalination technology leaders	33%	18%
Tomra Systems	Norway	TOM.OL	\$ 1,392	Jonathan Rodgers, CFA	Neutral	Nkr53.90	27.9x	22.8x	18.9x	Environmental technology: Recycling	Recycles beverage cans through RVM	23%	20%
<b>Biotechnology</b>													
Actelion	Switzerland	ATLN.S	\$ 5,825	Stephen McGarry	Buy	SFr58.85	20.5x	16.8x	14.3x	Biotechnology	Pulmonary arterial hypertension (PAH)	22%	18%
Amylin Pharmaceuticals, Inc.	United States	AMLN	\$ 5,379	Meg Malloy, CFA	Buy	\$41.30			103.3x	Biotechnology	Obesity and diabetes	71%	183%
Elan Corporation (ADR)	Ireland	ELN	\$ 9,379	Stephen McGarry	Buy	\$21.13			92.8x	Biotechnology	Neurology and Alzheimer's	58%	182%
Intercell	Austria	ICEL.VI	\$ 1,257	Stephen McGarry	Neutral	€23.70		95.7x	38.2x	Biotechnology	Vaccines for infectious diseases	237%	150%
Genentech Inc.	United States	DNA	\$ 79,472	May-Kin Ho, Ph.D.	Buy	\$75.40	29.0x	23.6x	19.7x	Biotechnology	Biotherapeutics for cancer and other conditions	23%	20%
Genmab	Denmark	GEN.CO	\$ 3,002	Stephen McGarry	Buy	Dkr379.00		156.9x	37.0x	Biotechnology	Antibodies, oncology	137%	324%
Gilead Sciences Inc.	United States	GILD	\$ 36,755	Meg Malloy, CFA	Buy	\$79.10	27.3x	23.6x	20.0x	Biotechnology	HIV/AIDS, infectious diseases	15%	18%

Prices based on the market close of June 20, 2007.

Source: Goldman Sachs Research estimates.

# BG

## European Integrated

ESG framework	2004	2005
ESG score	79%	81%
Peer group average	61%	63%

### ESG analysis

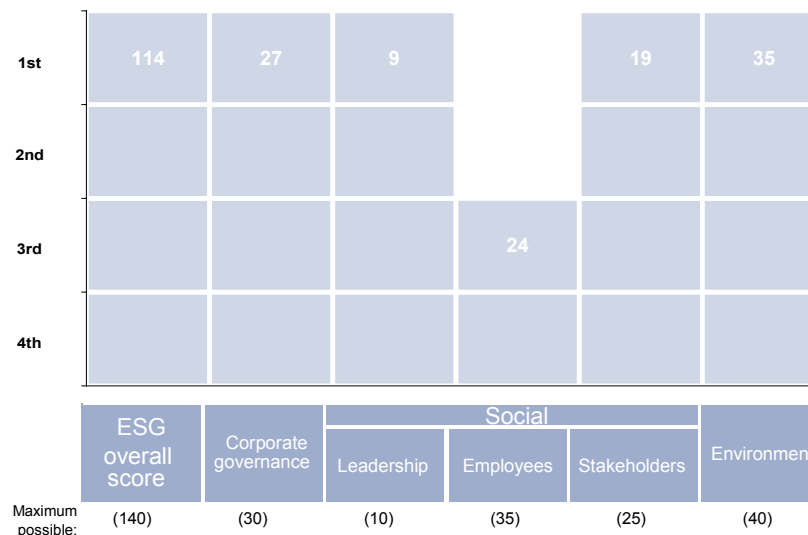
BG is a leader on ESG issues, both from a strategic and operational perspective. The company leadership takes responsibility for CR issues, reflected in the formation of a CR committee of the Board in February 2005. As BG is mainly focused on gas production, it has a lower environmental impact, both directly and indirectly, than its peers with a combination of oil and gas. Despite an unusually high number of contractor fatalities in 2005, BG continues to improve its record on LTI rates through a behaviour-based safety programme called STEP UP. The company offers employees above-average compensation, and training and development through the flexible and international management programmes (FMP, IMP). The challenge for BG is to overcome its environmental and social growing pains, such as the increase of energy use and emissions, attracting a skilled workforce and establishing positive community relationships, as it develops new projects. BG's gas-oriented new legacy asset portfolio has high returns and is likely to help maintain corporate returns. We note that BG has been in the top quartile of cash returns for over three years, which tends to attract a valuation premium.

### First quartile ESG performance

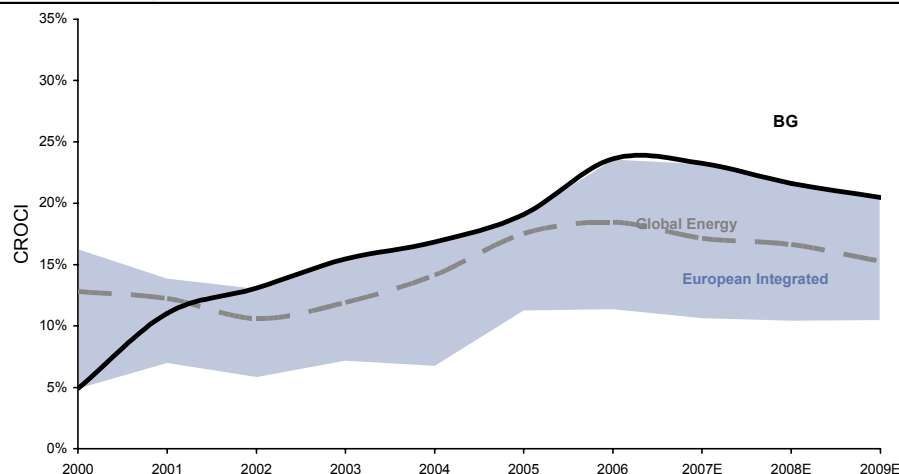
### First quartile cash returns

Director's Cut	2004-2006	2007E-2009E
Cash returns	17.6%	21.8%
Peer group average	12.5%	14.0%

### ESG scores by quartile

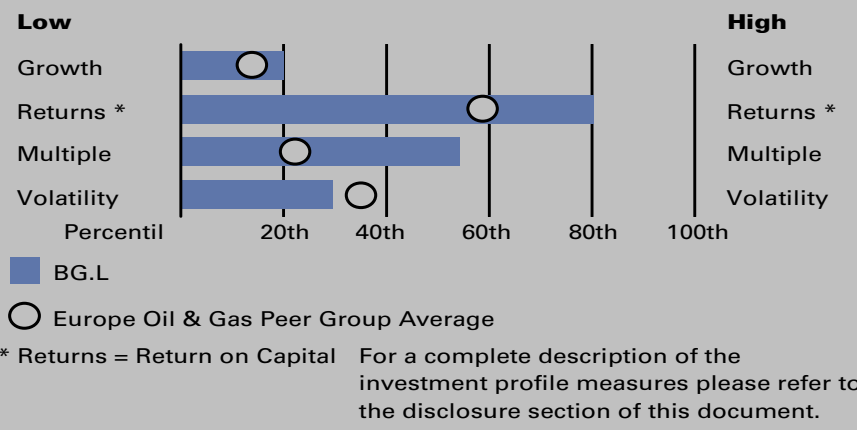


### Cash returns vs. peers



### Investment profile

#### Investment Profile: BG Group



Source: Company data, Goldman Sachs Research estimates, Quantum database.

# ENI

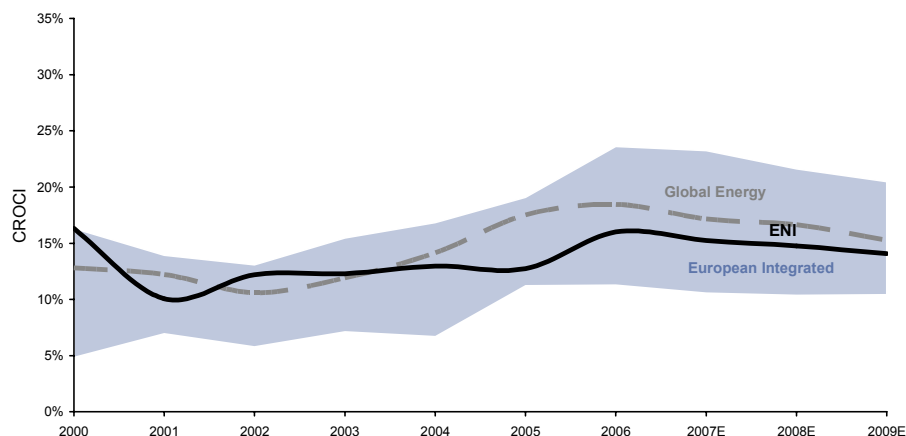
## European Integrated

ESG framework	2004	2005
ESG score	63%	64%
Peer group average	61%	63%

### ESG analysis

ENI has second quartile ESG performance among the global integrated oil and gas companies due to scores in leadership, employees and the environment with increasing momentum. The company has a long history of ES reporting and has begun to demonstrate strategic leadership on environmental and social issues, in our opinion, but compensation of Board directors and senior executives is still not linked to performance. The main corporate governance issue is a 30% block holding by the Italian government with a golden share provision, reducing the rights of minority shareholders. ENI has numerous policies in place to recruit and retain employees, demonstrated through superior pay and training programmes. ENI is below average on a number of environmental metrics, including gas flaring relative to production and renewable energy activities. However, a recent deal with the Nigerian government to eliminate gas flaring will likely improve this performance. We believe ENI is able to work with stakeholders during development and operation new projects in Kazakhstan, Algeria and Nigeria as competition in the industry increases. The profitability, exposure and near-term value uplift of its legacy assets make ENI a near-term winner on our Top 170 analysis but there is still a high level of risk with a concentration in Kazakhstan.

### Cash returns vs. peers

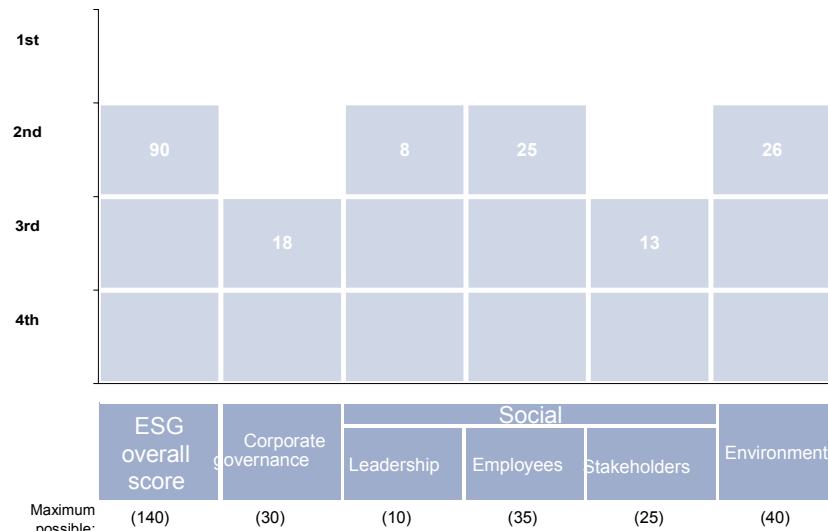


### Second quartile ESG performance

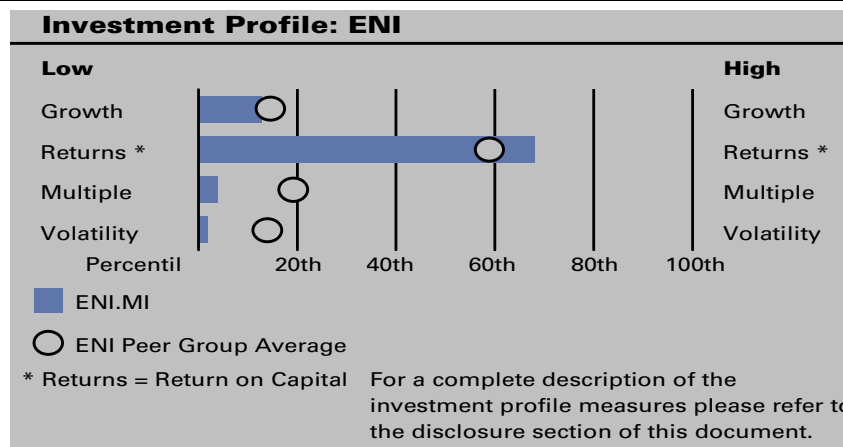
### Second quartile cash returns

Director's Cut	2004-2006	2007E-2009E
Cash returns	13.2%	14.7%
Peer group average	12.5%	14.0%

### ESG scores by quartile



### Investment profile



Source: Company data, Goldman Sachs Research estimates, Quantum database.

# Petrobras

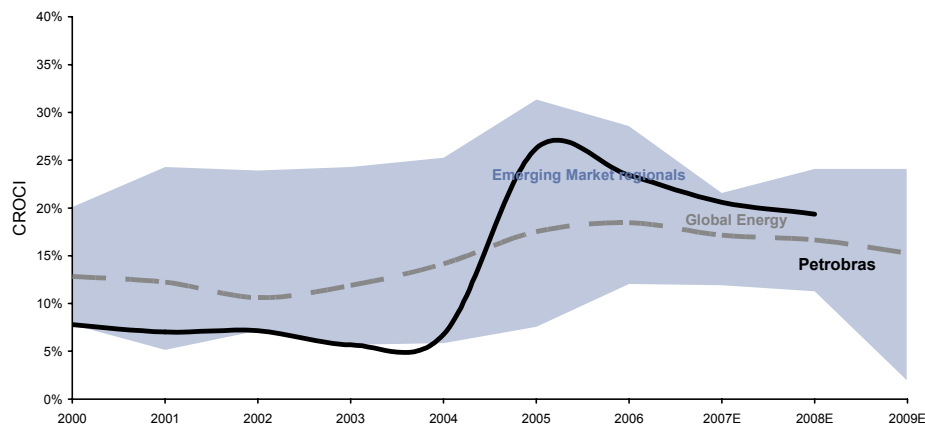
## Emerging Market regionals

ESG framework	2004	2005
ESG score	70%	74%
Peer group average	61%	63%

### ESG analysis

Petrobras stands apart from its emerging market peers in the first quartile of ESG performance. The company has above-average corporate governance, with an independent chairman and wholly independent board committees, and a low ratio of CEO compensation to TSR in relation to the industry. However, the government maintains control of the company with a 51% stake, which limits the rights of minority shareholders. We view the improvement in reporting over the past two years and assurance by Ernst and Young as evidence of the strategic focus on environmental and social issues, which we believe are important for the internationalisation of the company. Petrobras has above-average workforce management systems but could improve on safety metrics and average compensation per employee, two key indicators in relation to employees. In Brazil, the company is focused on local community projects and R&D, both important to demonstrating good government relationships in other countries. Petrobras discloses all the environmental indicators within the scope of this report, is a leader in developing biofuels infrastructure and technology, and has above-average performance on gas flaring, water use and oil spills. Petrobras is an overall winner on our T170 projects analysis, with high leverage to the oil price from projects in deepwater Brazil and the largest potential uplift to cash flows.

### Cash returns vs. peers



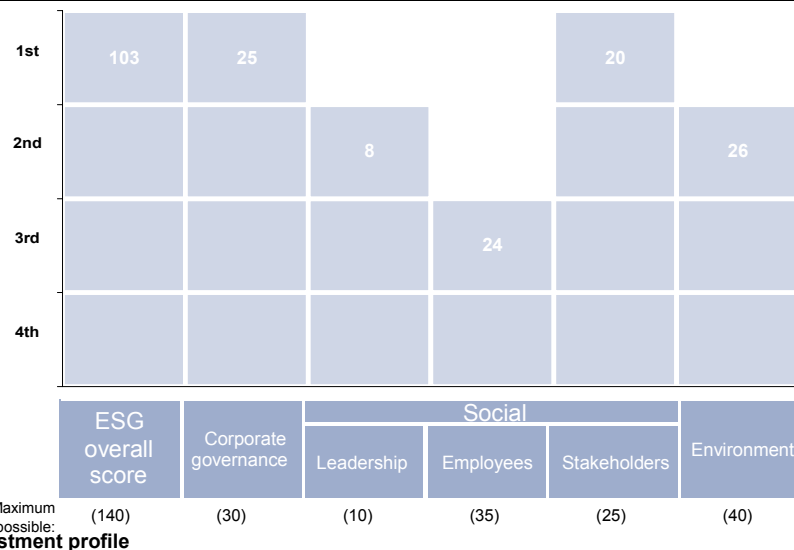
Source: Company data, Goldman Sachs Research estimates, Quantum database.

### First quartile ESG performance

### Second quartile cash returns

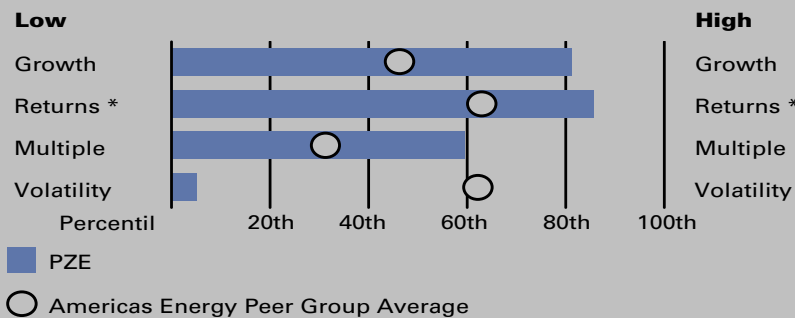
Director's Cut	2002-2006	2007E-2009E
Cash returns	13.8%	14.0%
Peer group average	15.8%	14.0%

### ESG scores by quartile



### Investment profile

#### Investment Profile: Petrobras Energia Particip. S.A.



\* Returns = Return on Capital For a complete description of the investment profile measures please refer to the disclosure section of this document.

# Statoil

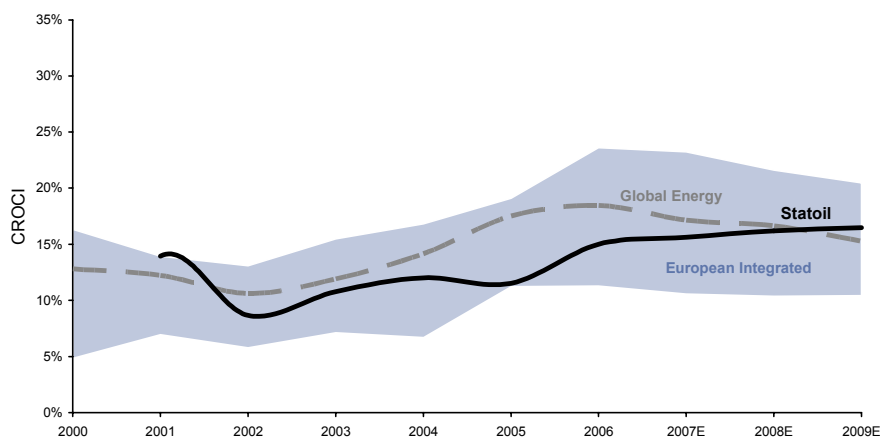
## European Integrated

ESG framework	2004	2005
ESG score	69%	78%
Peer group average	61%	63%

### ESG analysis

Statoil maintains a leadership position in ESG performance. We highlight the company's strategic focus on environmental solutions. For example, the carbon dioxide storage project at Tjeldbergodden shows Statoil's approach of using technical skills to find solutions to environmental challenges. Performance on operational environmental and social issues, such as health, safety, compensation, energy use and water use, is also strong across the company. Statoil maintains good stakeholder relationships by being one of the few companies to publish the tax it pays to all governments, involvement with the Voluntary Principles on Security and Human Rights and promoting local business development in the regions in which it operates. The main corporate governance concern is a 70% block holding by the Norwegian government, reducing the rights of minority shareholders. Statoil has an attractive new legacy asset portfolio, but we believe it needs to remain focused on new reserve additions and project execution to ensure strong cash flows from 2006 to 2009.

### Cash returns vs. peers



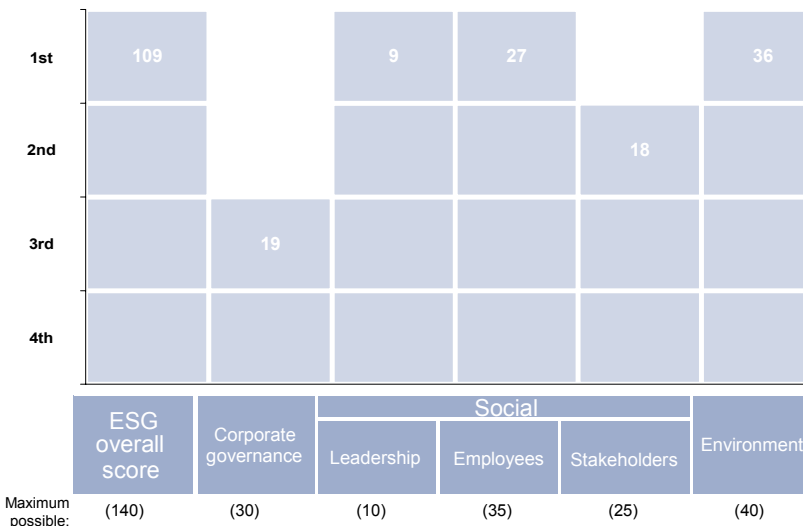
Source: Company data, Goldman Sachs Research estimates, Quantum database.

### First quartile ESG performance

### Second quartile cash returns

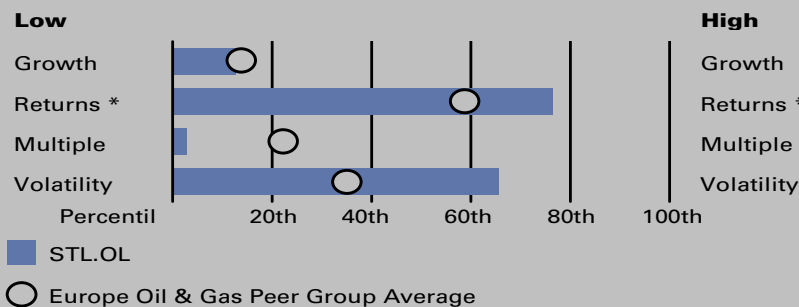
Director's Cut	2002-2006	2007E-2009E
Cash returns	11.6%	16.1%
Peer group average	12.5%	14.0%

### ESG scores by quartile



### Investment profile

#### Investment Profile: Statoil



\* Returns = Return on Capital For a complete description of the investment profile measures please refer to the disclosure section of this document.

# BHP Billiton

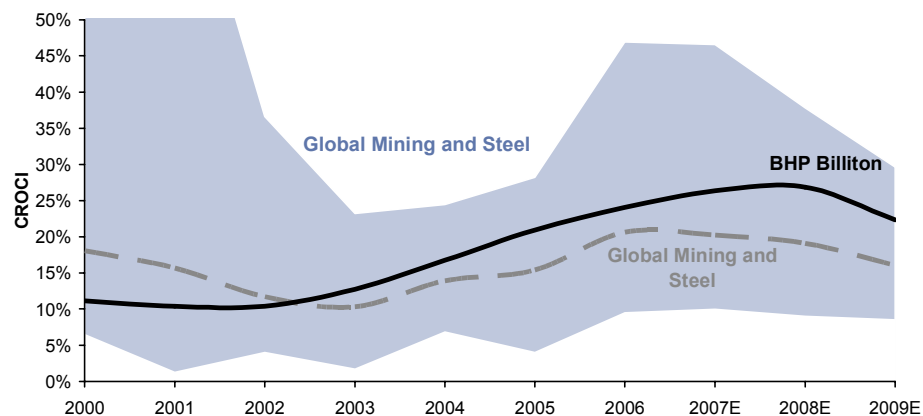
Global mining

ESG framework	2003	2004
ESG performance	77%	80%
Global average	56%	60%

## ESG analysis

<b>Key theme</b>	- expansion projects- material, profitable, low risk expansion projects leading to high cash returns, ESG leader
<b>Governance</b>	- best in class in almost all indicators - board leader, board committees are fully independent - no block ownership - almost best in class for CEO compensation, average compared to direct - staggered board
<b>Social</b>	- high employee compensation - external assurance of data - both board and senior executive ES responsibility and compensation link - good human rights and security, stakeholder dialogue and business ethics - high fatalities and fatality rate
<b>Environment</b>	- low water consumption, average energy and carbon resource use - good environmental provisions - low environmental cost - below average score for land disturbance and remediation

## Cash returns vs. peers



Source: Company data, Goldman Sachs Research estimates, Quantum database.

## First Quartile ESG Performance

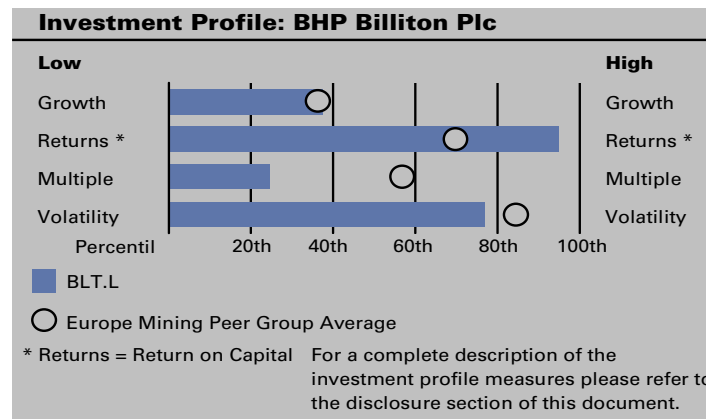
## First Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	20.5%	24.3%	▲
Global average	20.1%	24.7%	

## ESG performance by quartile

1st	183	40	22	58	26	37
2nd						
3rd						
4th						
ESG overall score	(230)	(45)	(24)	(80)	(34)	(47)
	Corporate governance	Social			Environment	
		Leadership	Employees	Stakeholders		
Maximum possible:		(24)	(80)	(34)	(47)	

## Investment profile



# Posco

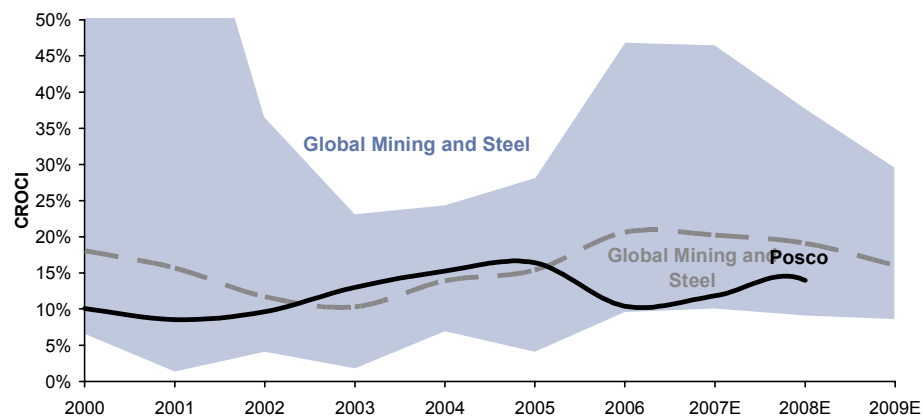
Global steel

ESG framework	2003	2004
ESG performance	62%	65%
Global average	56%	60%

## ESG analysis

<b>Key theme</b>	- efficient, high quality, technology driven production, highest cash returns versus peers, leader on ESG
<b>Governance</b>	- Audit and Compensation committees fully independent - no major block holdings - no reporting of management compensation
<b>Social</b>	- industry leader on communities and investment - external assurance of non-financial data - low lost time injury rate, low fatalities - highest employee training of all companies analysed - high community investment
<b>Environment</b>	- low water consumption, high energy consumption - no environmental provisions or rehabilitation costs reported - low dust pollution per tonne of steel produced

## Cash returns vs. peers

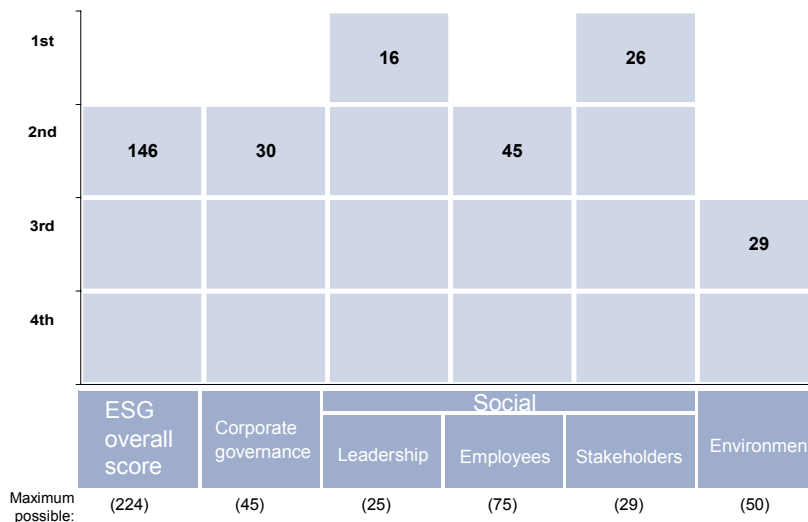


## Second Quartile ESG Performance

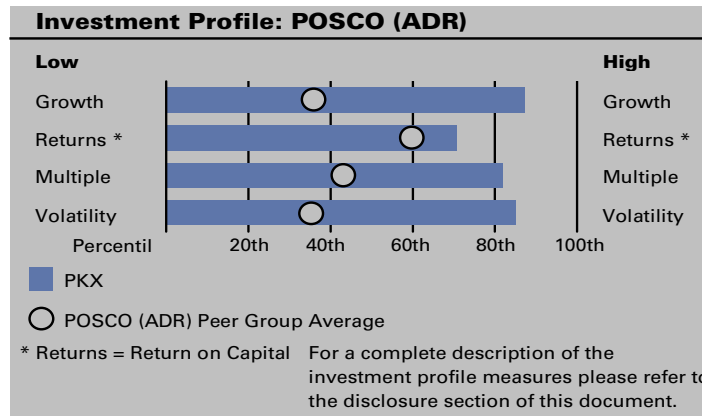
## First Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	14.0%	12.9%	-
Global average	12.4%	11.4%	

## ESG performance by quartile



## Investment profile



Source: Company data, Goldman Sachs Research estimates, Quantum database.



# Rio Tinto

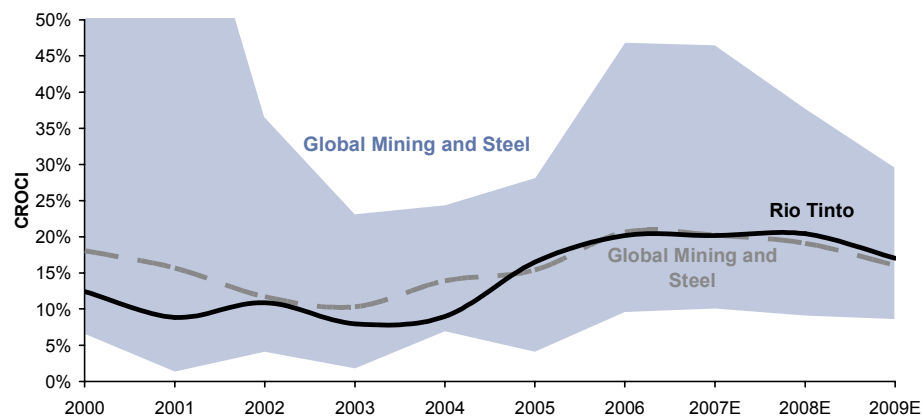
Global mining

ESG framework	2003	2004
ESG performance	70%	75%
Global average	56%	60%

## ESG analysis

<b>Key theme</b>	- expansion projects- limited materiality, but decreasing risk- low cash returns
<b>Governance</b>	- independent board leadership - audit and nomination committees not fully independent - no block holdings - small options holding below industry average - staggered board
<b>Social</b>	- above average employee safety performance - good employee health management - high community investment - external assurance of ES reporting - full board, senior executive ES responsibility, but no compensation link
<b>Environment</b>	- lower than average energy use, GHG emissions - good environmental provisions - high environmental costs

## Cash returns vs. peers



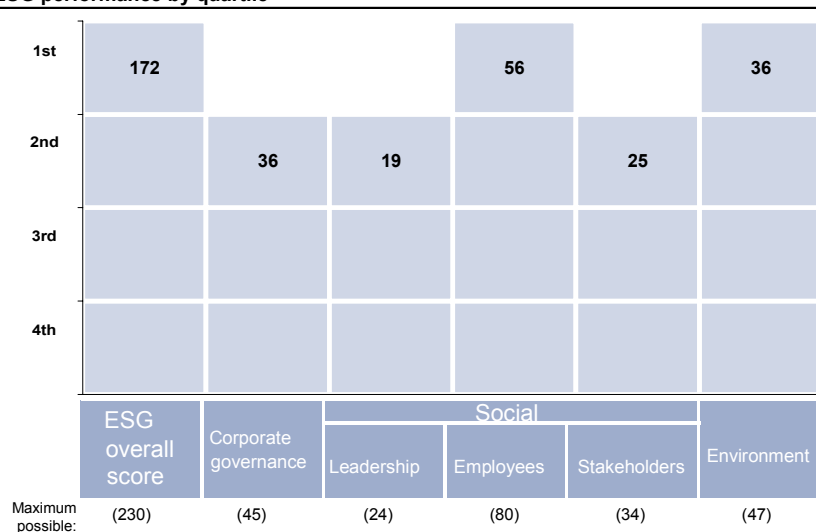
Source: Company data, Goldman Sachs Research estimates, Quantum database.

## First Quartile ESG Performance

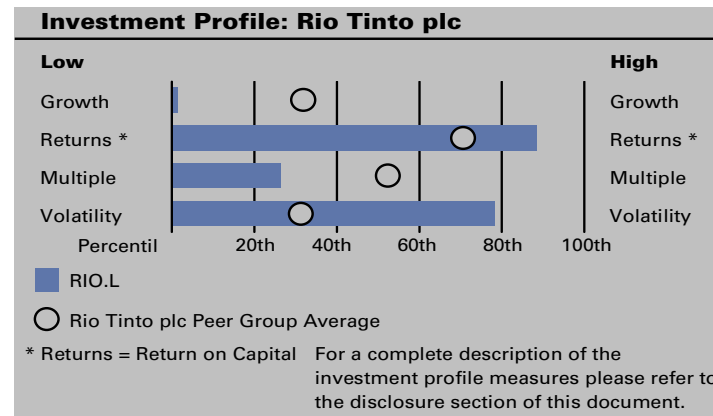
## Second Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	15.2%	17.7%	▲
Global average	20.1%	24.7%	

## ESG performance by quartile



## Investment profile



# Voestalpine

Global steel

ESG framework	2003	2004
ESG performance	54%	59%
Global average	56%	60%

## ESG analysis

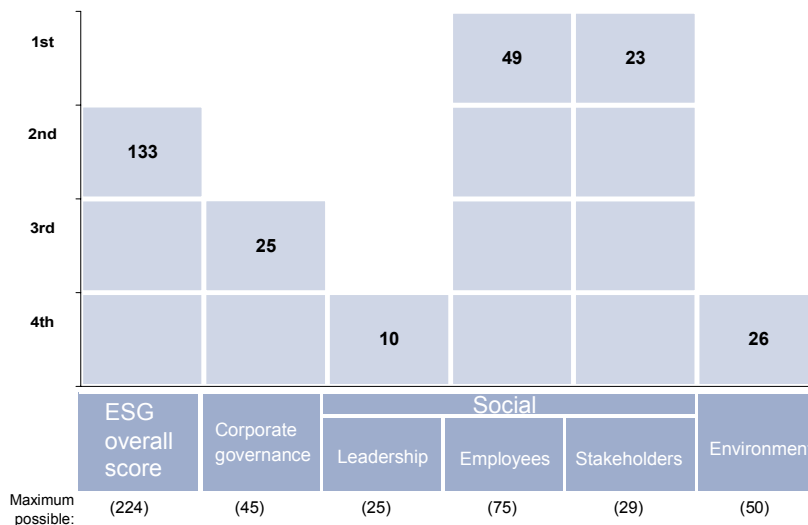
<b>Key theme</b>	- high cash flow per tonne, high quality steel producer, above average cash returns, good overall ESG performance
<b>Governance</b>	- Board committees follow Austrian corporate governance code with subcommittees consisting of independent members of supervisory board - 8% block ownership of Austrian government in 2004 reduced to 0% - management compensation not disclosed
<b>Social</b>	- senior executive with ES responsibility, no compensation link - low fatalities and fatality rate - lost time injuries not reported, high total injury rate
<b>Environment</b>	- no disclosure on emission and rehabilitation indicators - low carbon, dust, energy intensities per tonne of crude steel

## Second Quartile ESG Performance

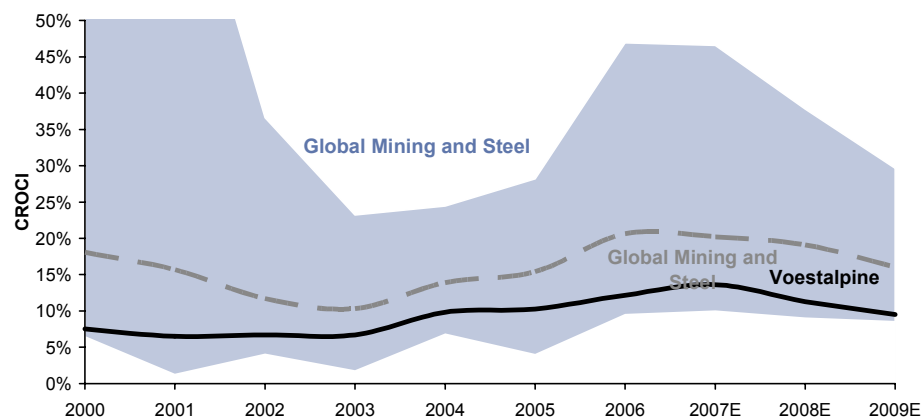
## Second Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	10.7%	11.5%	-
Global average	12.4%	11.4%	

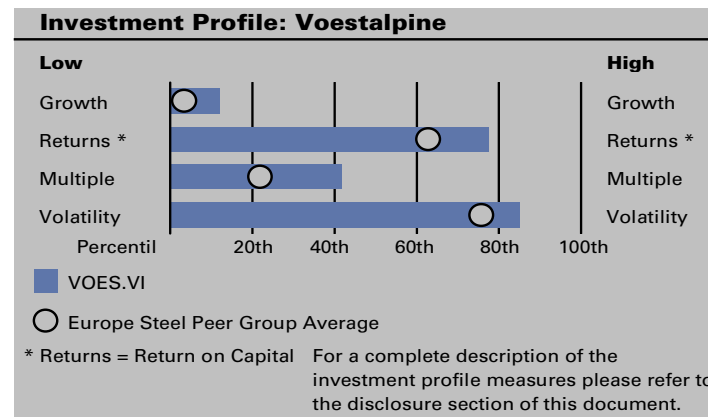
## ESG performance by quartile



## Cash returns vs. peers



## Investment profile



Source: Company data, Goldman Sachs Research estimates, Quantum database.

# Danone

Global food

ESG framework	2004	2005
ESG performance	66%	71%
Global average	58%	59%

## ESG analysis

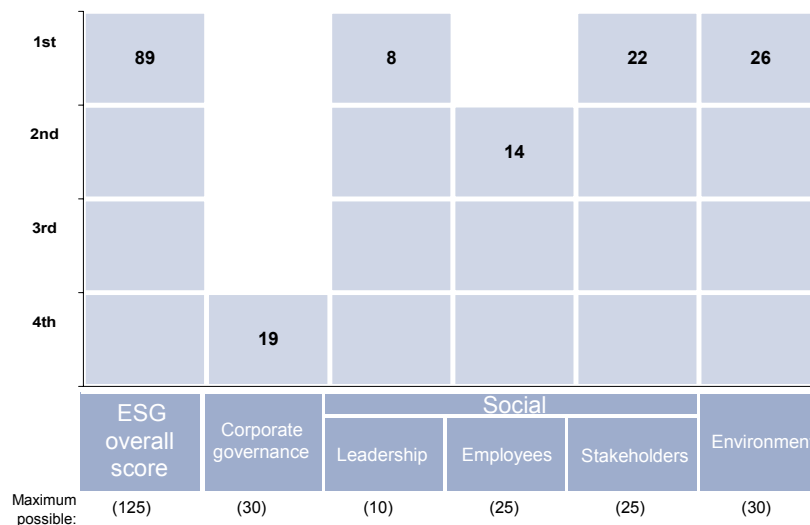
Danone's first quartile ESG performance is based on industry leadership on sustainability, communities and investment and the environment, despite fourth quartile corporate governance. Danone's corporate governance performance reflects the lack of an independent Board leader, low proportion of independent Board directors (54%) and wholly independent committees (none), and restrictions to minority shareholder rights. However, the company earns top scores on CEO compensation relative to TSR. Danone is an industry leader on sustainability based on reporting and assurance, with Board and senior executive responsibility. Danone's labour score primarily reflects operations in emerging markets, with bottom quartile compensation and cash flow per employee, gender diversity (0% of Board and senior executives), one fatality in 2005, and a steadily improving lost time injury rate. Danone is a leader on community and investment with top scores on health and nutrition strategy, healthy product innovation (41% of new products) and consistent performance for R&D, community investments and marketing practices. Danone's first quartile environmental performance reflects top scores for resource conservation (Green Plant energy efficiency program) and greenhouse gas emissions intensity and consistent performance on sustainable sourcing (SAI founding member), packaging and water consumption.

## First Quartile ESG Performance

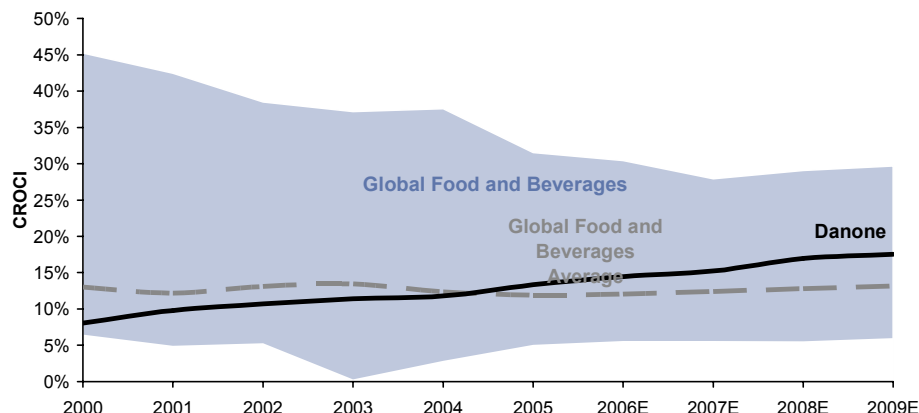
## First Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	13.2%	16.6%	▲
Global average	12.1%	12.8%	

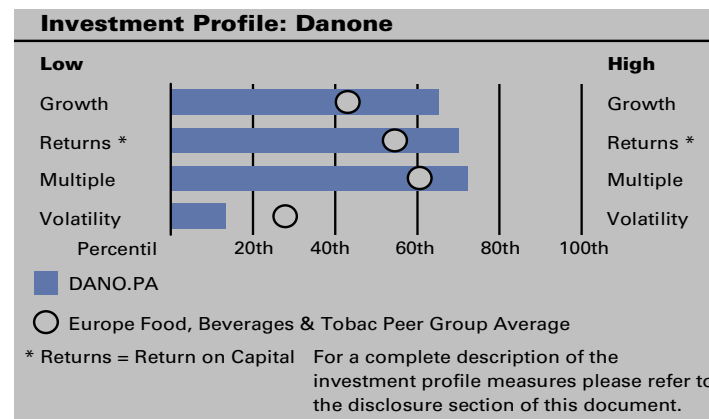
## ESG performance by quartile



## Cash returns vs. peers



## Investment profile



Source: Company data, Goldman Sachs Research estimates, Quantum database.

# Diageo

## Global beverages

ESG framework	2004	2005
ESG performance	70%	78%
Global average	58%	59%

### ESG analysis

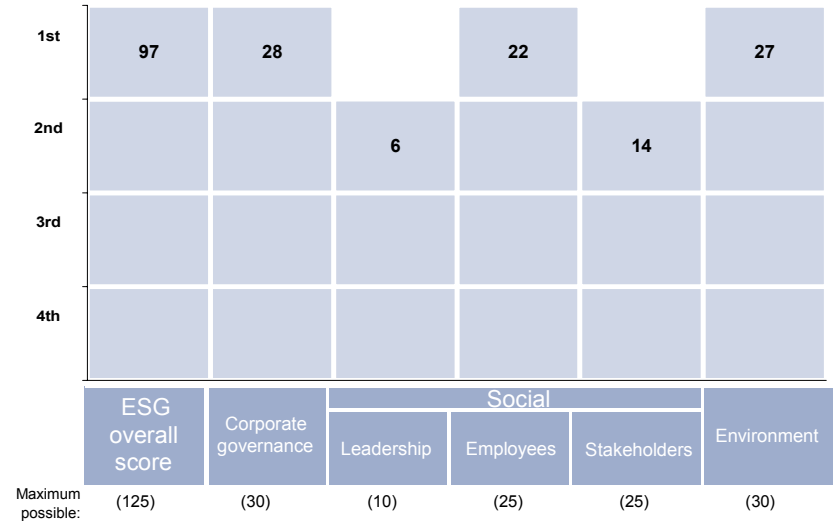
Diageo stands out from the alcoholic beverage producers in our ESG framework, with first quartile ESG performance and leadership in our labour and environmental categories. Diageo scores in the first quartile on corporate governance, earning top scores for the independence of Board leader and absence of block shareholdings. Leadership on sustainability is demonstrated by responsibility at the Board audit committee and at the executive level by Paul Walsh on the company's Corporate Citizenship Committee, with assurance of sustainability data provided in reporting. Diageo scores in the first quartile on labour metrics, with zero fatalities in 2005, top scores for employee compensation and industry-leading cash flow per employee. Diageo also leads its peers in alcoholic beverages on communities and investment, with top scores for marketing self-regulation, labelling initiatives and community investment. Diageo's top quartile environmental performance reflects its considerable initiatives with respect to sustainable sourcing, packaging and resource conservation, earning top scores for water consumption and greenhouse gas emissions intensity relative to asset base.

### First Quartile ESG Performance

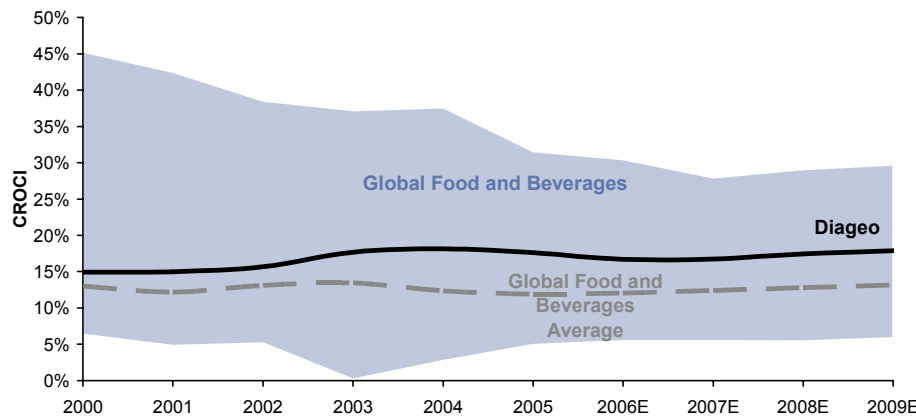
### First Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	17.5%	17.4%	-
Global average	12.1%	12.8%	

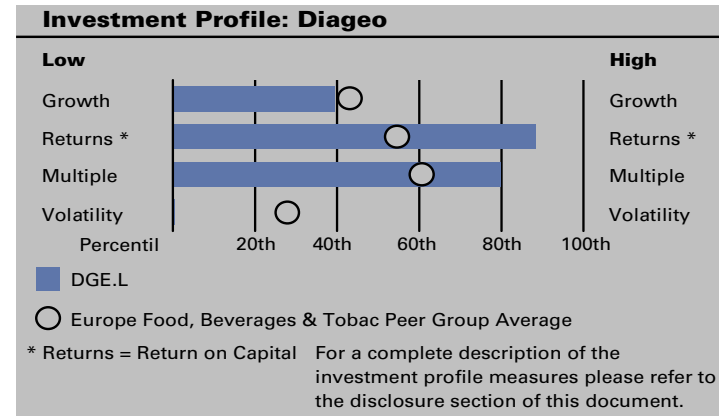
### ESG performance by quartile



### Cash returns vs. peers



### Investment profile



Source: Company data, Goldman Sachs Research estimates, Quantum database.

# Kellogg

Global food

ESG framework	2004	2005
ESG performance	66%	66%
Global average	58%	59%

## ESG analysis

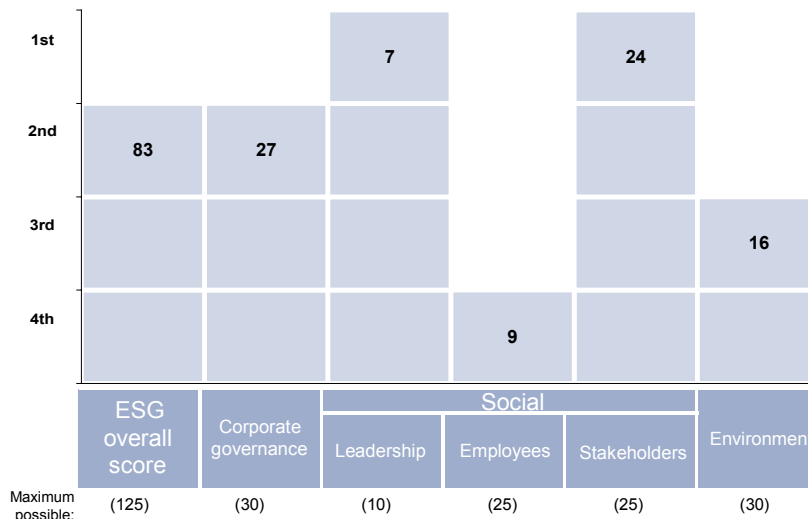
Kellogg scores in the second quartile on ESG with leadership on communities and investment. The company scores in the second quartile on corporate governance, reflecting top scores for independence of Board directors and committees and share-based compensation. The company scores in the second quartile on social leadership, led by Benjamin S. Carson, Sr., M.D., chair of the Social Responsibility Committee on the Board responsible for ES performance, overshadowing Kellogg's lack of comprehensive ES reporting. Kellogg scores in the fourth quartile on labour performance due to non-disclosure, preventing analysis of performance with respect to employee safety (fatalities, lost time injuries) and employee compensation. Kellogg leads the global sector on communities and investment indicators with a comprehensive health strategy, 'Commitment to Nutrition', the Kellogg Institute for Food and Nutrition Research, an industry-leading 60% of new product innovations promoting health and wellness, and above average R&D and community investment. Kellogg's third quartile performance on the environment reflects lack of environmental reporting with respect to energy and water consumption. However, the company earned a top score for packaging with recycled cartons, and disclosed greenhouse gas emissions via the Carbon Disclosure Project for the first time.

## Second Quartile ESG Performance

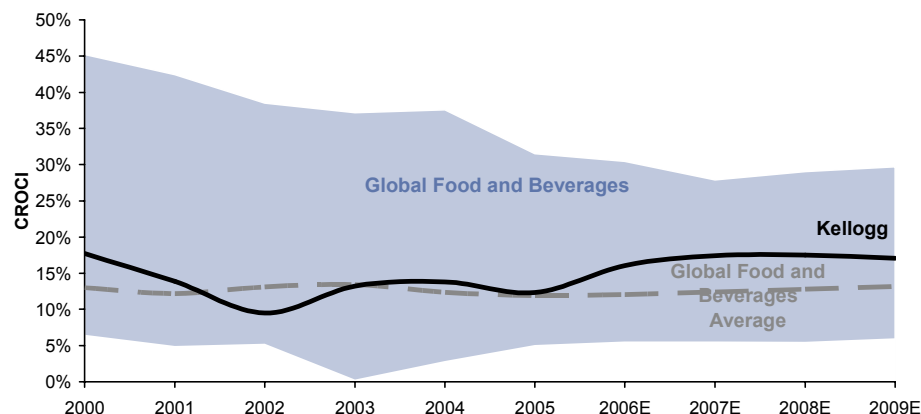
## Second Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	14.1%	17.3%	▲
Global average	12.1%	12.8%	

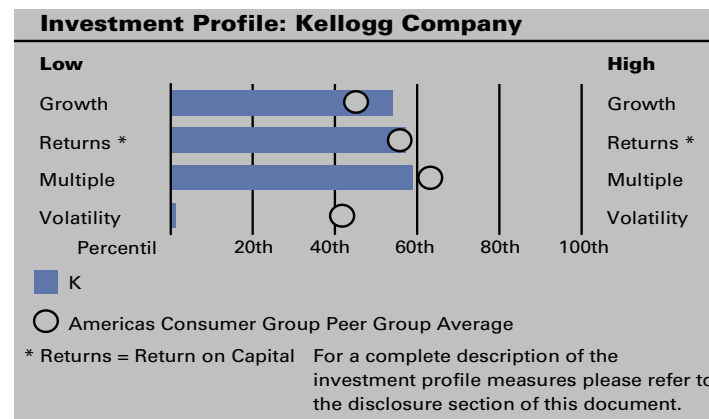
## ESG performance by quartile



## Cash returns vs. peers



## Investment profile



Source: Company data, Goldman Sachs Research estimates, Quantum database.

# Nestle

Global food

ESG framework	2004	2005
ESG performance	79%	79%
Global average	58%	59%

## ESG analysis

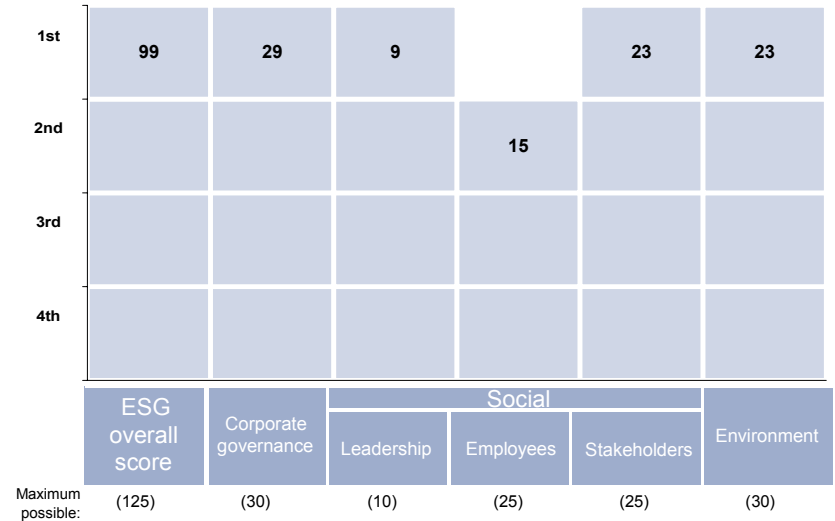
Nestle leads the global food and beverage industry on ESG with consistent performance across all categories. The company scores in the first quartile on corporate governance with top scores for independence of audit, CEO compensation relative to cash flow, share-based compensation relative to cash flow, and no block shareholdings. Nestle has demonstrated leadership on sustainability having published environmental and social data for over a decade and provided stakeholders assurance of ESG data. Board and senior executive responsibility for ES issues is led by CEO/Chairman Peter Brabecks who has positioned ESG at the forefront of Nestle's transition to a health/wellness leader. Nestle scores in the second quartile on our labour category primarily due to the number of fatalities (albeit with an industry average rate per mn hours worked) despite improving lost time injury performance. Nestle performs in the top quartile on communities and investment with top scores for health and wellness strategy, marketing and labelling practices, and R&D expenditure, also placing well on our metrics for healthy product innovation (31% of new products in 2005) and community investments (1% of EBIT). Nestle scores in the first quartile on environmental performance with water consumption and greenhouse gas emissions intensity below peer average and considerable initiatives relating to sustainable sourcing, packaging and resource consumption.

## First Quartile ESG Performance

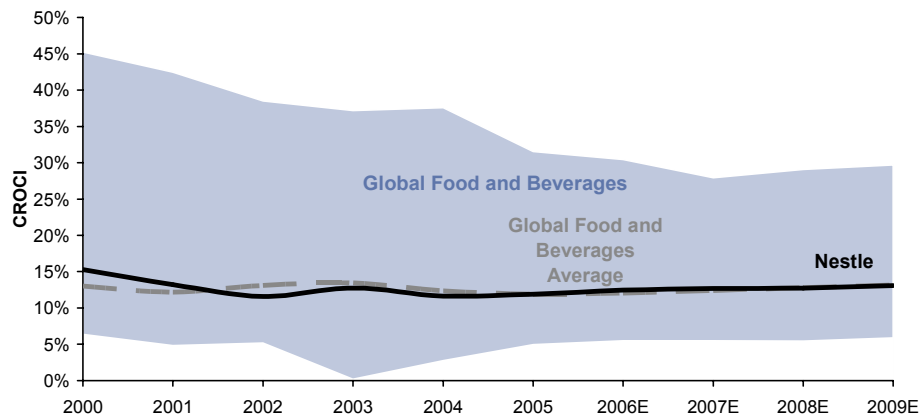
## Second Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	12.0%	12.8%	▲
Global average	12.1%	12.8%	

## ESG performance by quartile

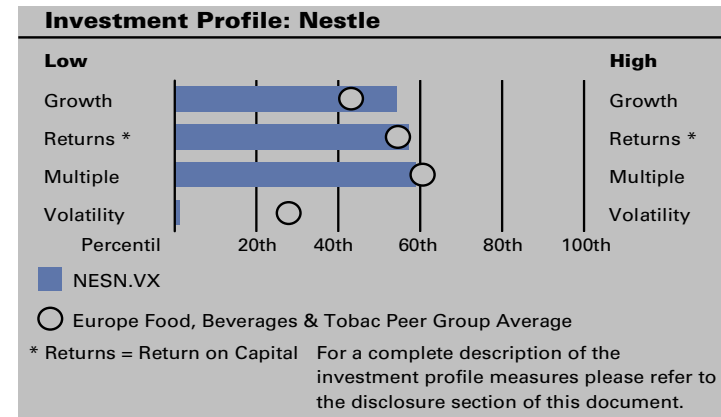


## Cash returns vs. peers



Source: Company data, Goldman Sachs Research estimates, Quantum database.

## Investment profile



# PepsiCo

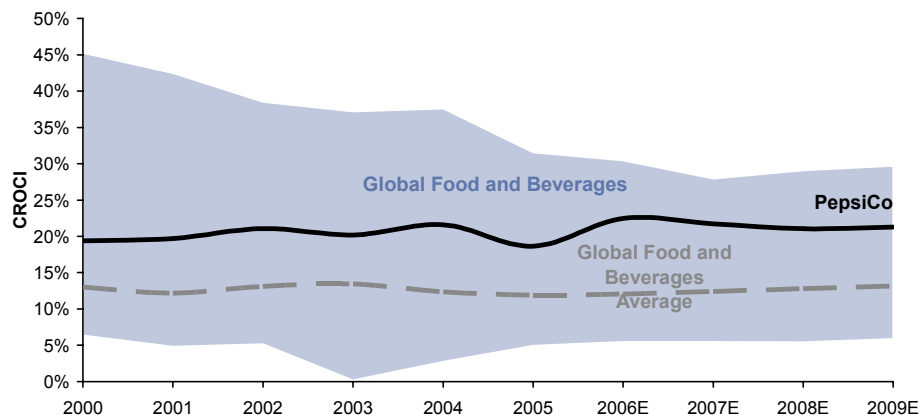
Global beverages

ESG framework	2004	2005
ESG performance	67%	66%
Global average	58%	59%

## ESG analysis

PepsiCo scores in the second quartile on our ESG framework, with first quartile corporate governance, social leadership and communities and investment and third quartile labour and environment performance based on non-disclosure of key performance indicators. PepsiCo earns the top overall score in the global sector for corporate governance based on top scores for Board independence (86% independent directors with wholly independent committees), audit independence, CEO compensation, no block shareholdings and protection of minority shareholders' rights. PepsiCo's track record of environmental and social reporting according to GRI standards and Board and senior executive responsibility for ES performance via the PepsiCo Executive Risk Council (overseen by Audit Committee and Sustainability Task Force) demonstrate social leadership. PepsiCo scores in the third quartile on labour despite a top score for gender diversity across all levels, illustrated by the appointment of Indra Nooyi as CEO in October 2006; however, the company does not disclose employee fatalities, injuries and compensation data. PepsiCo is a leader on communities and investment issues, earning top scores for health and nutrition strategy based on governance via the Blue Ribbon Health & Wellness Advisory Board, elimination of trans fatty acids from Frito-Lay snacks in 2003, and top scores for marketing and labeling practices (SMART labeling). PepsiCo's third quartile environment performance is based on the lack of disclosure of KPIs such as energy, water and greenhouse gas emissions. However, PepsiCo has implemented initiatives with respect to packaging and resource conservation including the Sustainable Packaging Coalition, a 2002 commitment to 10% recycled content in soft drinks packaging met in 2005, and energy efficiency initiatives at plants in the US such as LEED certified distribution centers and solar projects.

## Cash returns vs. peers



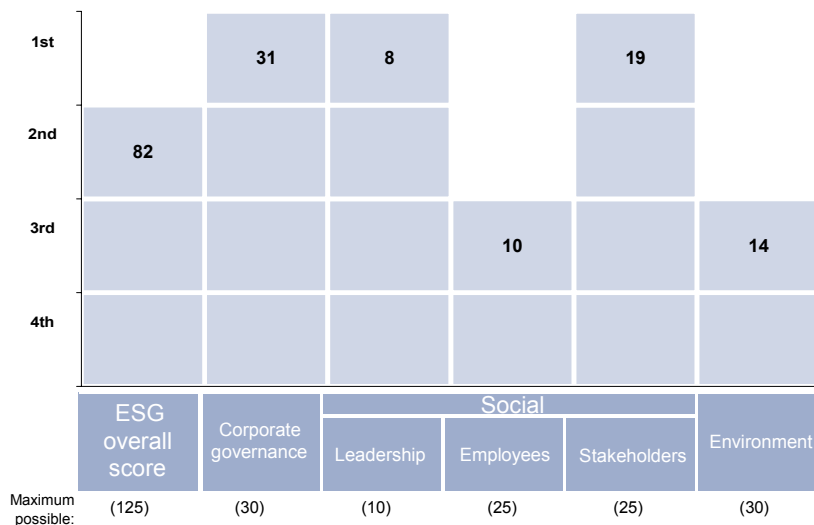
Source: Company data, Goldman Sachs Research estimates, Quantum database.

## Second Quartile ESG Performance

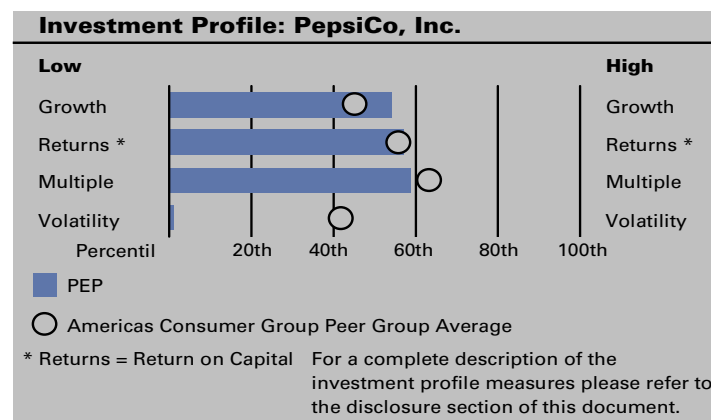
## First Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	Momentum
Cash returns	20.9%	21.3%	▲
Global average	12.1%	12.8%	

## ESG performance by quartile



## Investment profile



# Bristol-Myers Squibb

Large Cap Pharma

ESG framework	2004	2005
ESG performance	70%	70%
Global average	59%	59%

## ESG analysis

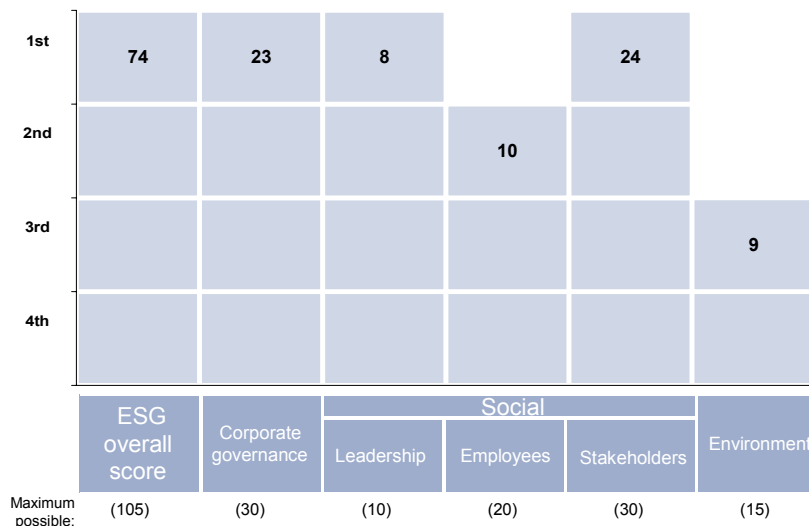
Bristol-Myers Squibb's first quartile ESG score is based on the company leading its peers on social leadership and scoring within the first quartile on corporate governance and communities and investment. BMS's corporate governance performance, although in the first quartile, slightly lags industry leaders due to the poison pill. In the social labour category, BMS's second quartile performance would be improved if total employee compensation were disclosed. BMS has a first quartile communities and investment performance, partly due to its wide-reaching access to drugs programmes, run through the Bristol-Myers Squibb Foundation and corporate philanthropy; the value of drugs donated exceed a quarter of debt adjusted discounted cash flow, the highest in the industry. The third quartile score in environment reflects higher energy intensity compared to peers, while greenhouse gas emission intensity is lower than its peers.

## First Quartile ESG Performance

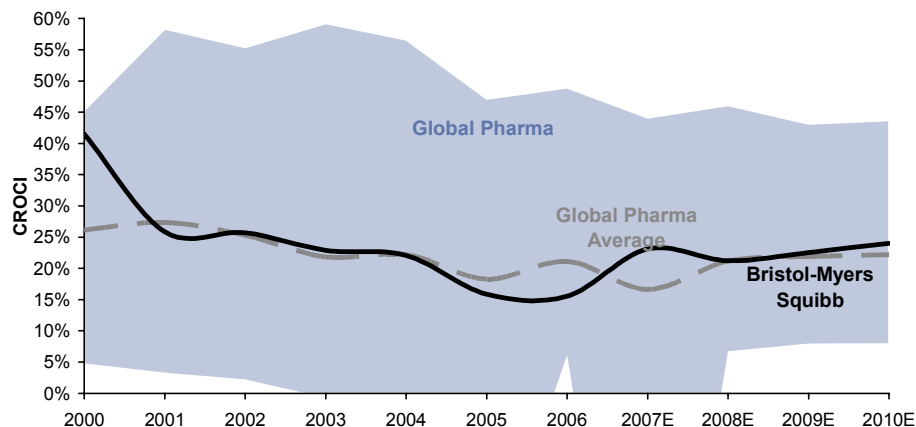
## Second Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	17.8%	22.3%	▲
Global average	21.2%	21.5%	

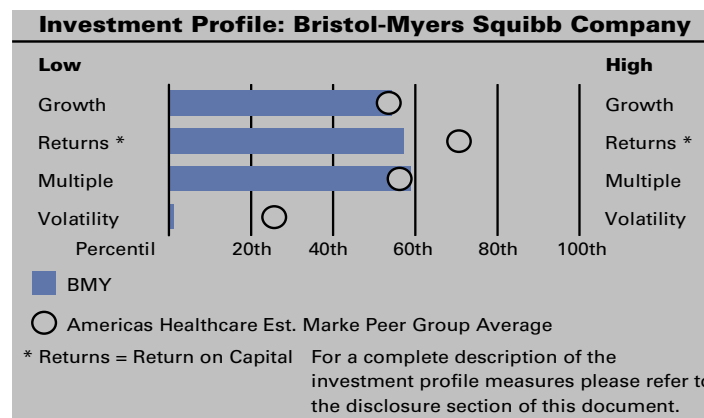
## ESG performance by quartile



## Cash returns vs. peers



## Investment profile



Source: Company data, Goldman Sachs Research estimates, Quantum database.



# Merck & Co.

Large Cap Pharma

ESG framework	2004	2005
ESG performance	72%	72%
Global average	59%	59%

## ESG analysis

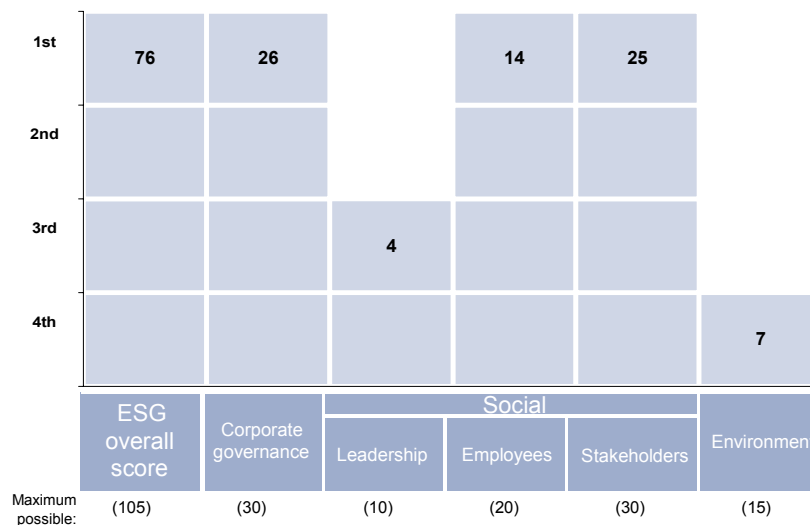
Merck & Co. has first quartile ESG performance, with the highest score on corporate governance. It has fully independent board committees and no block holdings or mechanisms that stand against minority shareholder interests such as a poison pill. In the social leadership category, Merck & Co. has recently begun to separately disclose environmental and social data but does not have independent external verification. It scores in the first quartile on social labour, with low lost time injuries but does not yet disclose total employee compensation. The company also scores in the first quartile on the community and investment category and has one of the most comprehensive donation and drug access programmes in the pharma industry, with schemes for specific diseases such as the Mectizan Donation or HIV/AIDS programmes, as well as various preferential pricing mechanisms for drugs in less and least developed countries. Merck & Co. fully discloses environmental indicators but has higher energy and carbon emissions intensities than its peers.

## First Quartile ESG Performance

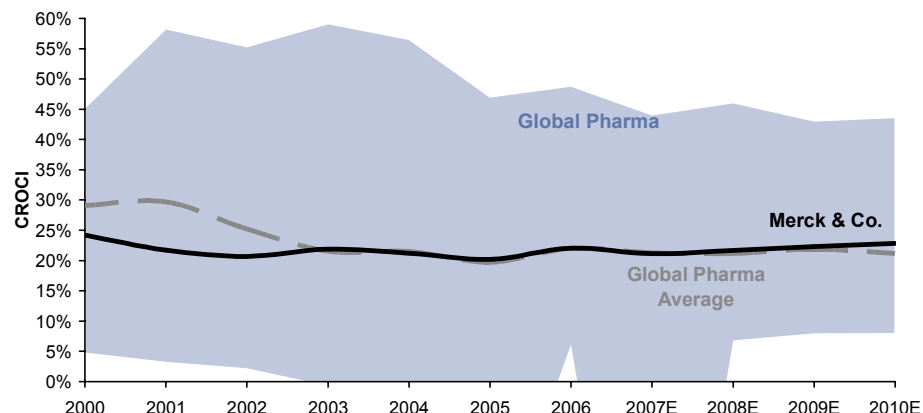
## Second Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	21.1%	21.7%	-
Global average	21.2%	21.5%	

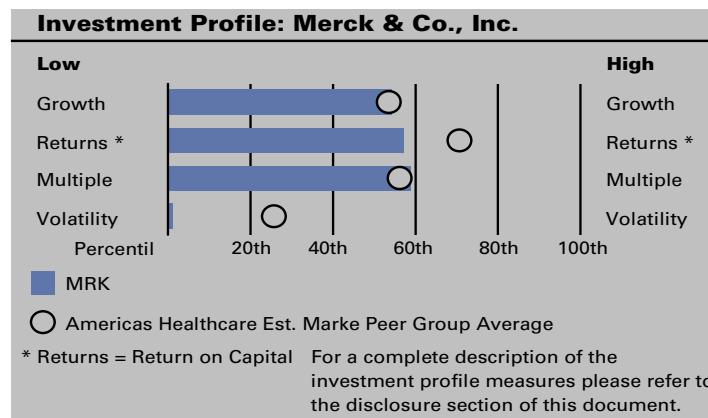
## ESG performance by quartile



## Cash returns vs. peers



## Investment profile



Source: Company data, Goldman Sachs Research estimates, Quantum database.

# Novo Nordisk

Specialist Pharma

ESG framework	2004	2005
ESG performance	64%	64%
Global average	59%	59%

## ESG analysis

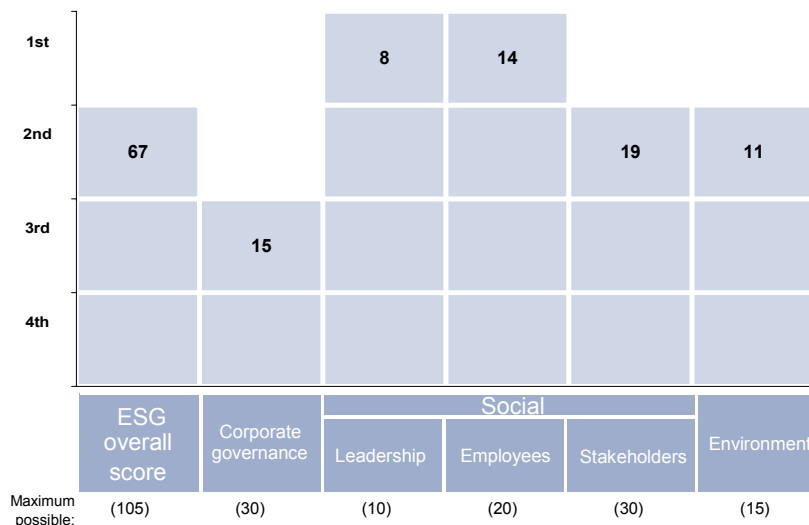
Novo Nordisk has second quartile overall ESG performance, leading its industry peers on social leadership. It has a third quartile corporate governance score as only the audit committee is fully independent, there is a block holding by Novo A/S and there are unequal voting rights between two share classes, which secure absolute control for Novo A/S. It has senior representatives from the board and senior executives responsible for environmental and social management and received independent outside assurance, which results in a first quartile score on social leadership. Novo Nordisk also scores in the first quartile on social labour, having above average total employee compensation and low lost time injuries. The company scores in the second quartile on communities and investment, with drug access and donations programmes such as "unite for diabetes" as it is a major insulin supplier globally. The company scores in the second quartile on the environment, with higher than average energy and carbon emissions intensities versus industry peers.

## Second Quartile ESG Performance

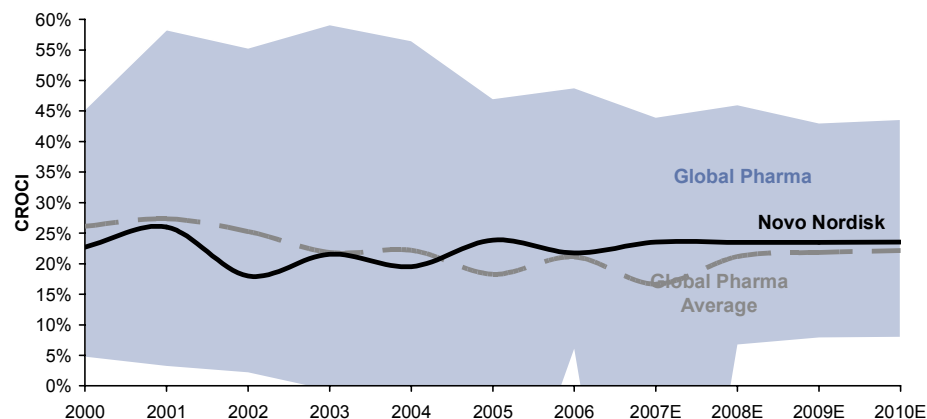
## Second Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	21.7%	23.4%	-
Global average	21.2%	21.5%	

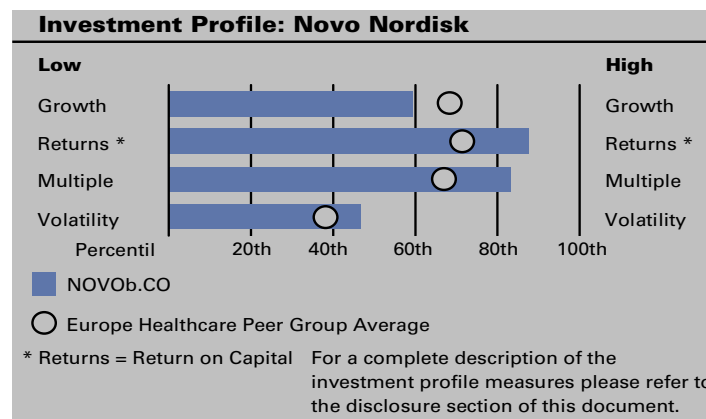
## ESG performance by quartile



## Cash returns vs. peers



## Investment profile



Source: Company data, Goldman Sachs Research estimates, Quantum database.

# Roche

Large Cap Pharma

ESG framework	2004	2005
ESG performance	65%	65%
Global average	59%	59%

## ESG analysis

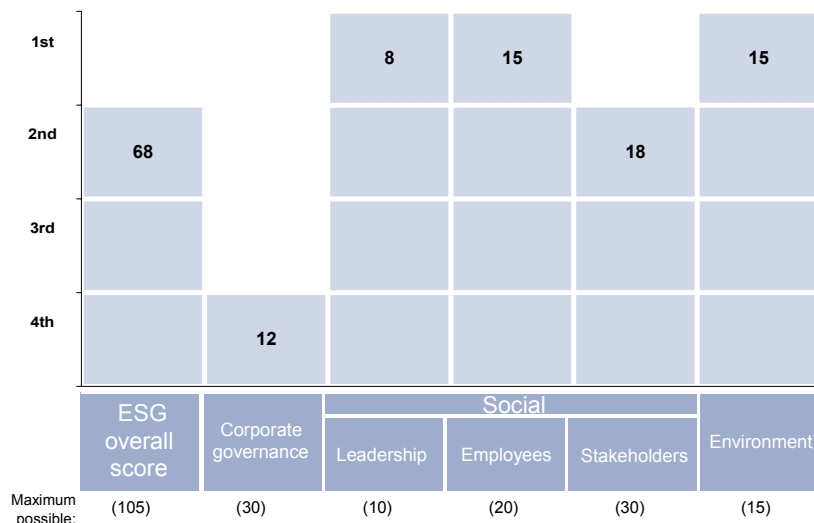
Roche scores in the second quartile of overall ESG scores and is the industry leader on social labour scores and the environment. The only area of weakness is Roche's corporate governance. None of the board committees are fully independent due to the presence of either executives or representatives of major shareholders on the committees. The Hoffman and Oeri families hold 50.01% and Novartis holds 33.3% of the company. Roche's first quartile social labour score is short of overall industry leadership, only due to the higher than average lost time injury rate. It attains a second quartile communities and investment score, with significant drug access and donation programmes as well as the sale of drugs at no profit in least developed countries. Roche is the only company to attain a full score in the environmental category, with full environmental management and supplier assurance as well as energy and greenhouse gas emission intensity below peers.

## Second Quartile ESG Performance

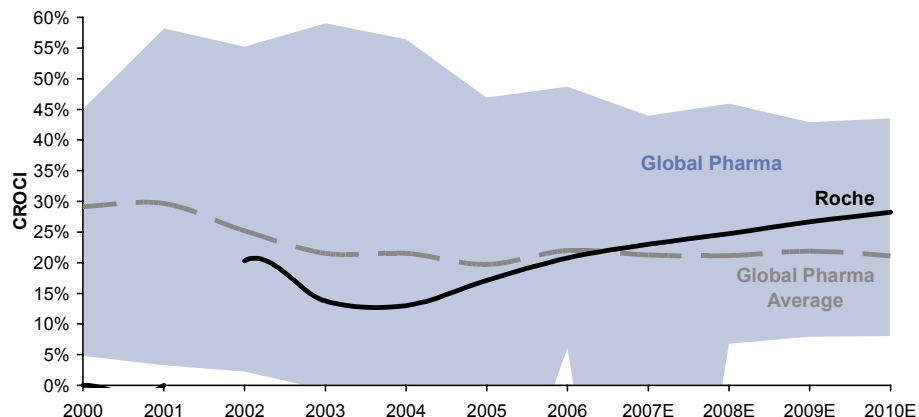
## First Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	17.0%	24.7%	▲
Global average	21.2%	21.5%	

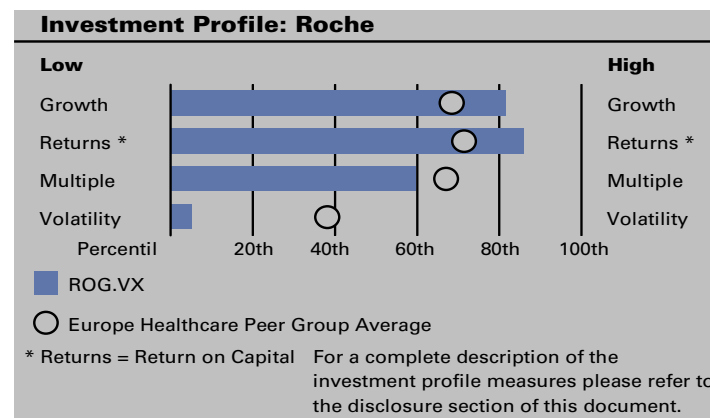
## ESG performance by quartile



## Cash returns vs. peers



## Investment profile



Source: Company data, Goldman Sachs Research estimates, Quantum database.

# BSkyB

## European Media

ESG framework	2003	2004
ESG performance	66%	71%
European average	62%	65%

### ESG analysis

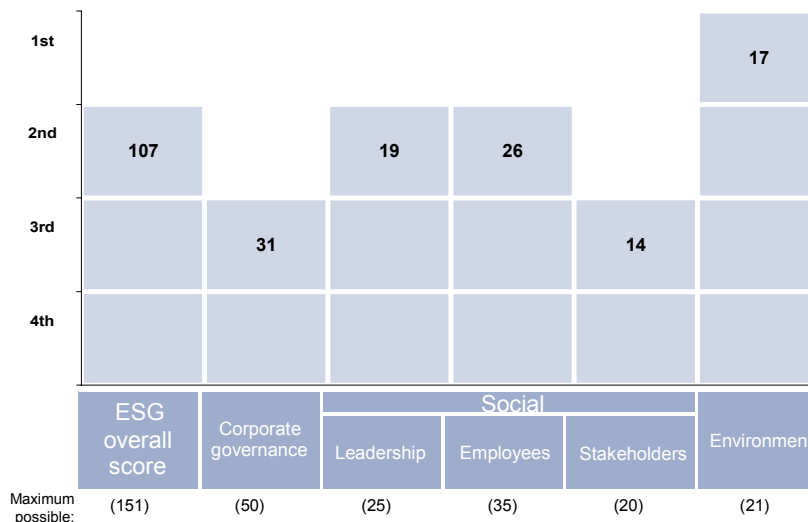
BSkyB leads the European broadcasting peer group based on ESG, technological leadership and presence in one of three UK TV households, and sustained competitive advantage with consistently highest cash returns in European media (38.5% CROCI 2007-2009E). BSKyB's third quartile governance score reflects concerns regarding News Corp's stake and resulting low independence of Board directors. BSKyB's first quartile leadership score reflects a track record of environmental and social reporting and high level of gender diversity in leadership. The company scores in the second quartile on employee metrics with the highest trainings hours per employee in the sector, high gender diversity of managers, and extensive initiatives to ensure self-regulation of marketing communications and independence of content. BSKyB, the first global media company to go carbon neutral, is a clear leader on the environment based on use of renewable energy, environmental assurance of suppliers, and greenhouse gas emissions, energy and water consumption intensity.

## Second Quartile ESG Performance

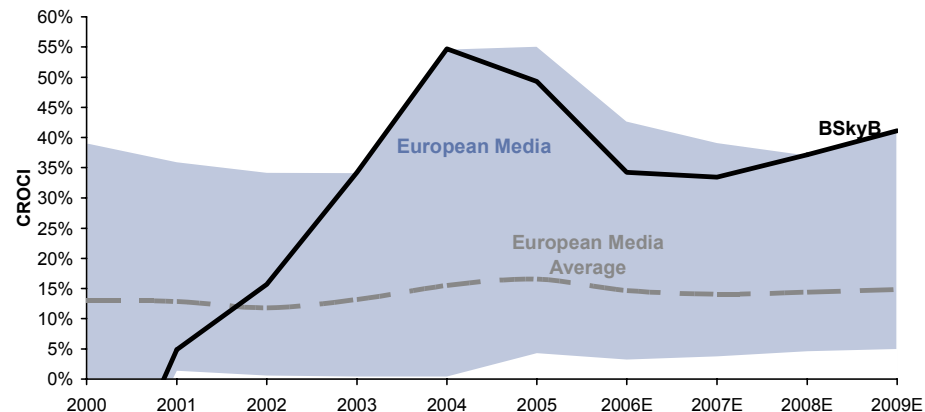
## First Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	43.0%	38.5%	▼
European average	14.7%	13.9%	

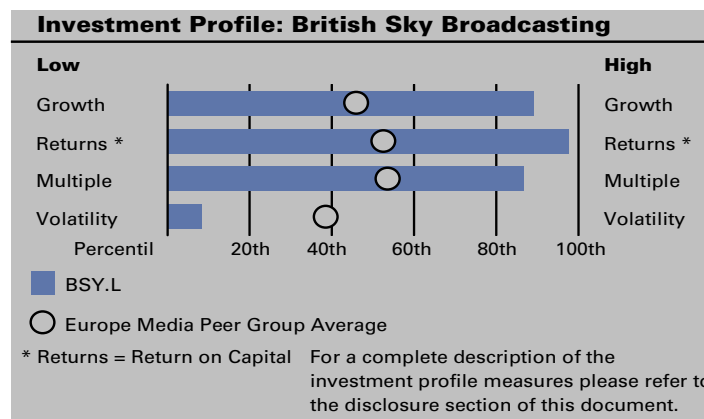
### ESG performance by quartile



### Cash returns vs. peers



### Investment profile



Source: Company data, Goldman Sachs Research estimates, Quantum database.

# Reed Elsevier

## European Media

ESG framework	2003	2004
ESG performance	75%	77%
European average	62%	65%

### ESG analysis

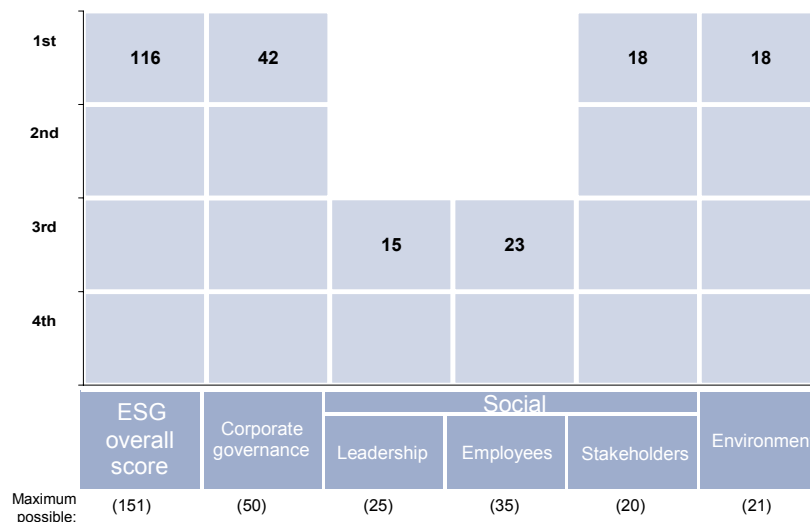
We have added Reed Elsevier to our GS SUSTAIN focus list to reflect corporate activity and updated GS estimates over the past 16 months since the publication of our Media ESG framework. Reed Elsevier is the clear leader versus its peer group in business publishing, based on first quartile ESG performance, the highest proportion of online sales (30-35%), and sustained competitive advantage (15% CROCI for 2007-2009E, the highest in business publishing). Reed Elsevier's first quartile corporate governance performance reflects independence of Board leadership and Board committees, low relative CEO compensation to cash flow, and widely dispersed ownership with no block shareholdings. The company scores in the third quartile on social leadership based on low gender diversity in leadership despite a track record of environmental and social reporting and Board and Senior executive responsibility for ES performance. Reed Elsevier's third quartile score with respect to employees reflects average employee compensation and distribution of cash flow paid to employees with no disclosure of employee training hours. Reed Elsevier's first quartile performance with respect to stakeholders is based on high level of community investment, self-regulation of marketing communications and extensive intellectual footprint related to environmental and social issues. The company's first quartile environment score reflects the implementation of environmental management systems while disclosure of greenhouse gas emissions, energy, paper and waste reveals low relative intensity of environmental impacts.

### First Quartile ESG Performance

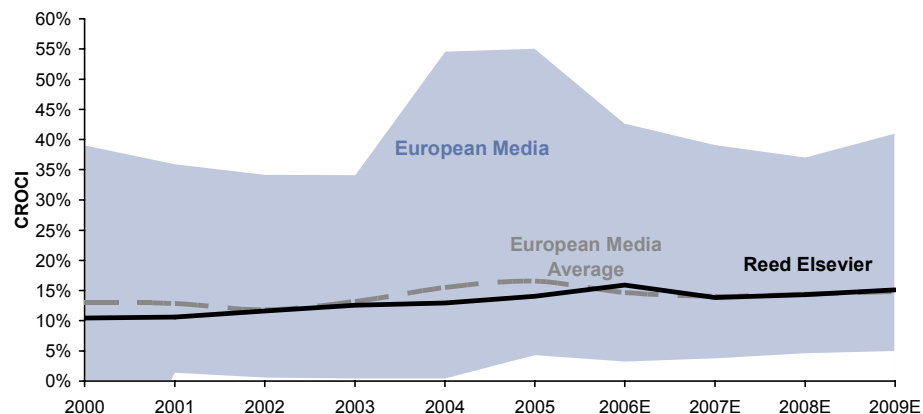
### Second Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	13.1%	14.8%	▲
European average	14.7%	13.9%	

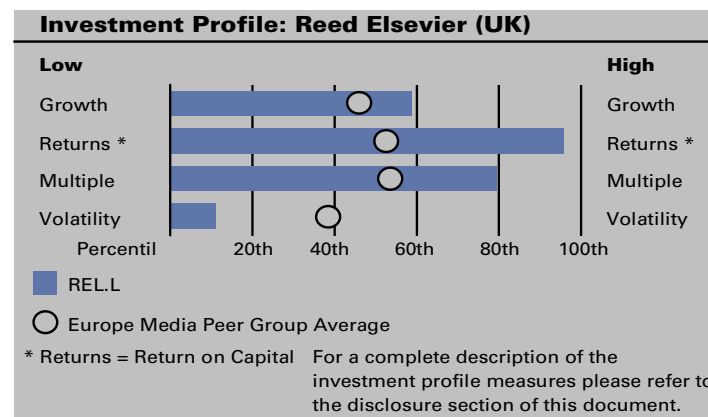
### ESG performance by quartile



### Cash returns vs. peers



### Investment profile



Source: Company data, Goldman Sachs Research estimates, Quantum database.

# Vivendi Universal

## European Media

ESG framework	2003	2004
ESG performance	74%	74%
European average	62%	65%

### ESG analysis

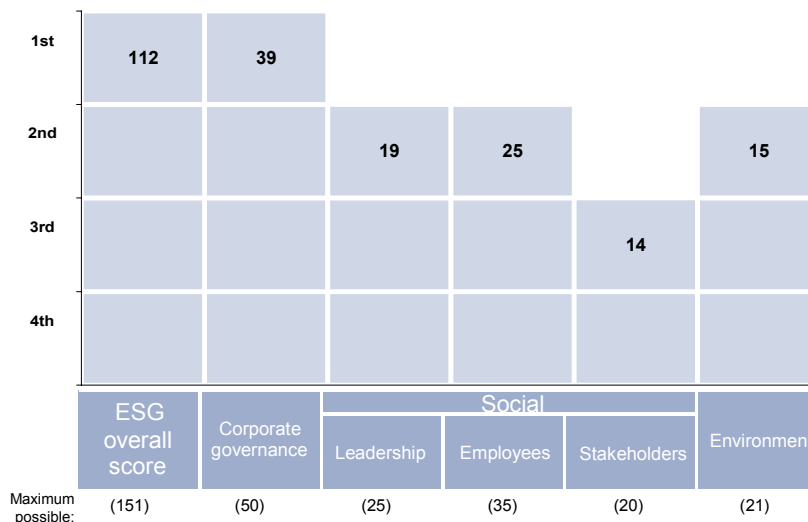
We have added Vivendi to our GS SUSTAIN focus list to reflect corporate activity and updated GS estimates over the past 16 months since the publication of our Media ESG framework. Vivendi scores in the first quartile on ESG performance and is uniquely positioned for the convergence of content and technology among European media companies with diversified businesses include music, TV, film, games and telecommunications. Vivendi has improved cash returns considerably, from 5% in the trailing 2004-2006 period to 10% in 2007-2009E - the largest CROCI improvement in European media. Vivendi demonstrates clear leadership on ESG performance, ranking in the first quartile versus European media companies. Vivendi scores in the first quartile on corporate governance based on independence of Board directors, committees, auditors and absence of block shareholdings. Vivendi's track record of reporting environmental and social issues to stakeholders with assurance of sustainability reporting procedures and Board and Senior Executive responsibility for sustainability performance earn the company a first quartile score on social leadership. Vivendi has demonstrated a commitment to managing its intellectual footprint through the creation and distribution of content that promotes awareness of environmental, human rights and public health issues. We also note that Vivendi has demonstrated a commitment to reducing its environmental footprint with energy consumption and greenhouse gas emissions intensity below industry peers.

### First Quartile ESG Performance

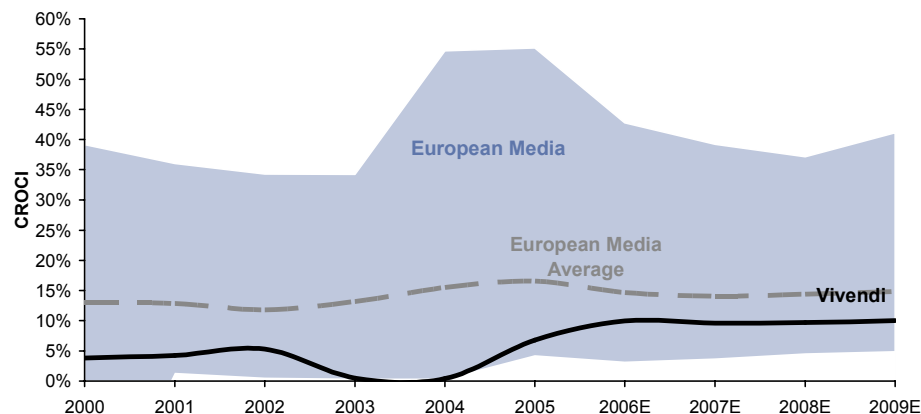
### Second Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	5.2%	10.0%	▲
European average	14.7%	13.9%	

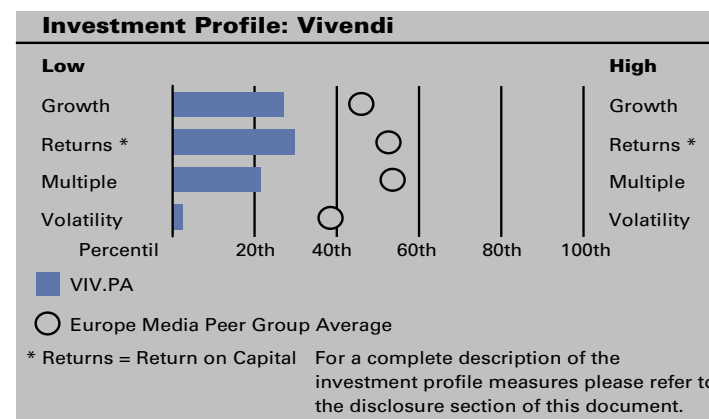
### ESG performance by quartile



### Cash returns vs. peers



### Investment profile



Source: Company data, Goldman Sachs Research estimates, Quantum database.

# WPP

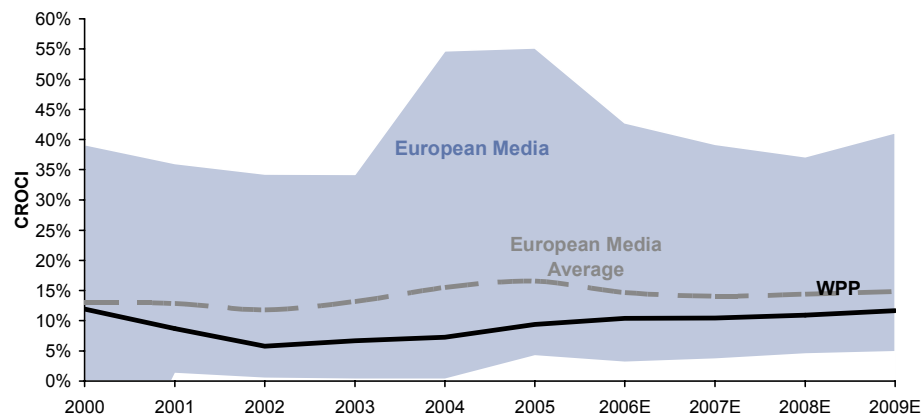
## European Media

ESG framework	2003	2004
ESG performance	77%	77%
European average	62%	65%

### ESG analysis

WPP is a clear leader versus its advertising agency peers based on its first quartile ESG performance, exposure to emerging markets (21%) and sustained competitive advantage as measured by cash returns (11% CROCI 2007-2009E vs. 9% for Publicis and 5% for Havas). WPP scores in the second quartile on corporate governance due to the separation of CEO/Chairman roles, above average independence of Board and committees, and widely-dispersed ownership with no block shareholdings. WPP scores in the first quartile on social leadership with high gender diversity and compensation linked to environmental and social performance. The company's first quartile performance with respect to employees reflects high distribution of cash flow paid to employees and high gender diversity across the workforce. The company has extensive employee policies with respect to development, training and health management as well as business ethics. WPP also scores in the first quartile with respect to stakeholders based on high relative value of social investments and policies in place to ensure self-regulation of marketing communications. The company's intellectual footprint includes environmental and socially focused campaigns for BP plc, Marks & Spencer and several charities. We note that WPP scores in the second quartile on the environment, however, we note that WPP is the only advertising agency to publicly disclose environmental performance indicators (based on top ten offices worldwide) revealing low relative impact.

### Cash returns vs. peers



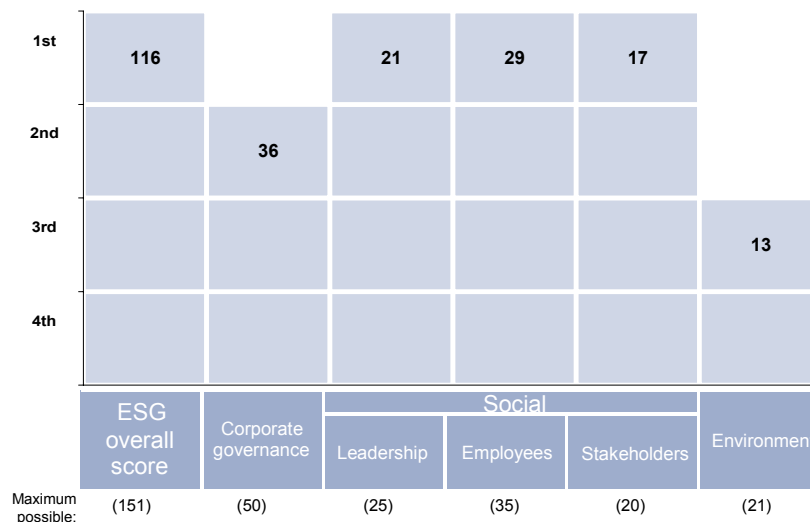
Source: Company data, Goldman Sachs Research estimates, Quantum database.

### First Quartile ESG Performance

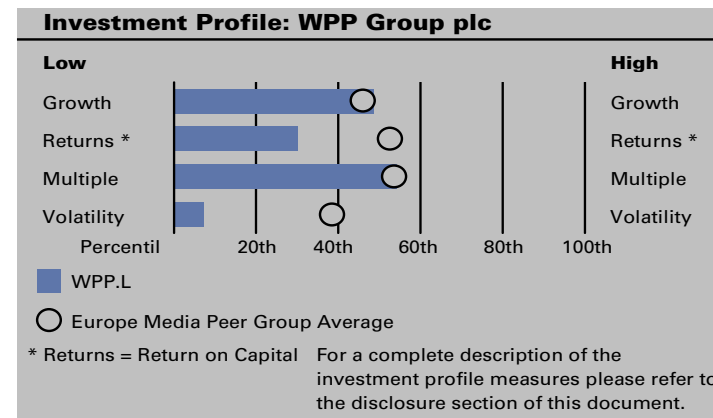
### Second Quartile Cash Returns

Director's Cut	2004-2006	2007E-2009E	momentum
Cash returns	9.1%	11.4%	▲
European average	14.7%	13.9%	

### ESG performance by quartile



### Investment profile



# Centrosolar

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## GS Sustain

Centrosolar is a diversified solar player with significant revenues coming from the sale of solar component technologies and residential systems. Demand for niche component products such as mounting brackets and anti-reflective glass is high. Centrosolar trades at a significant discount to its peers on 2008E P/E at 9x versus an industry average of 15x.

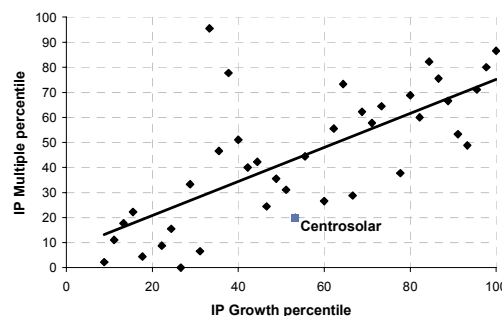
## Description

Centrosolar (a subsidiary of Centrotec Sustainable) is a German company founded in 2005, focusing on the production of solar modules, mounting systems and complete solar energy systems. Centrosolar AG comprises Solara (European market leader for stand-alone photovoltaic systems and the biggest supplier of grid-connected solar power systems), Solarstoc (system integrator), Ubbink (module manufacturer), Centrosolar Glas (non-reflective glass for solar), Ubbink Econergy (plastic mounting systems), Biohaus (integrates solar systems into building shells) and Solarsquare (a cell and module trader).

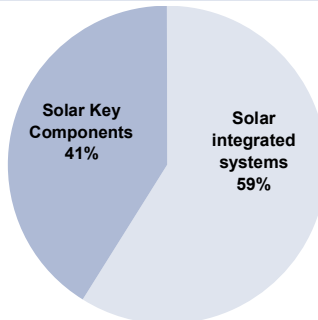
## Analyst view and risks

Our 12-month, DCF-driven price target is at €18.5. Taking market closing prices of June 15, 2007 this implies an upside to price target of 103%. The key risk to our view and price target remains that silicon shortages persist beyond FY08, leading to continuing high cell prices which leave Centrosolar's 'short' situation on purchase contracts looking exposed. In addition, slower growth from existing and new markets may lead to further downgrades to profit expectations. Our current recommendation on this stock is Buy.

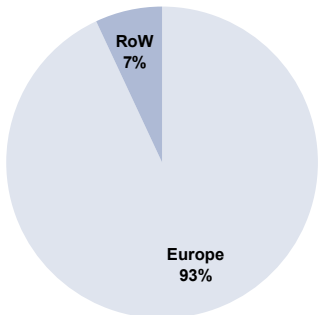
## Global IP multiple vs IP growth



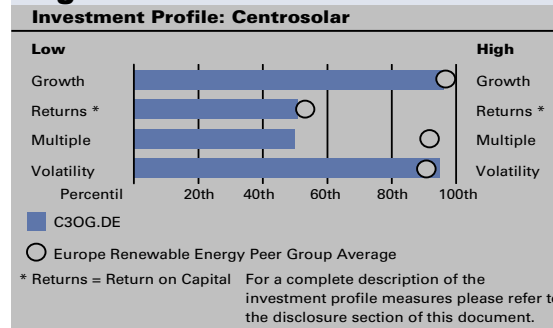
## Sales by division



## Sales by region



## Regional IP Chart

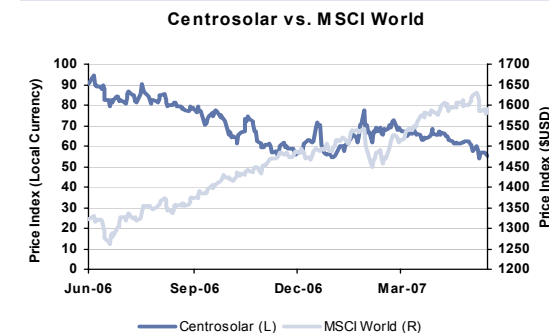


## Key financials

	2006	2007E	2008E	2009E
Revenue	217	303	394	473
EBIT	6	17	27	31
EPS	0.74	1.11	1.47	1.71
EV/EBITDA	19.4x	7.5x	5.5x	4.6x
P/E	18.1x	12.1x	9.1x	7.8x
Dividend Yield (%)				
FCF yield (%)	7.5%	5.6%	1.5%	3.5%
CROCI (%)	13.3%	17.8%	19.3%	19.0%
CROCI/WACC (X)	1.4x	1.2x	1.2x	1.1x
EV/GCI (X)	2.6x	1.9x	1.6x	1.3x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.



# D1 Oils

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## GS Sustain

D1 Oils offers exposure to the most valuable part of the biodiesel chain - agricultural feedstocks - which we believe will be the main beneficiary of governments' supportive legislation. D1 Oil operates a differentiated business model of vegetable oil processing with backwards integration into low-cost, non-edible oil seed cultivation of jatropha from India, South East Asia and Africa. We believe the biofuels industry is here to stay in the long term, driven by government blending targets as a way to reduce transport greenhouse gas emissions, increase fuel security of supply and support agricultural communities. We also see a secular bull trend in agricultural commodity prices - akin to that in energy and metal - driven by strong demand.

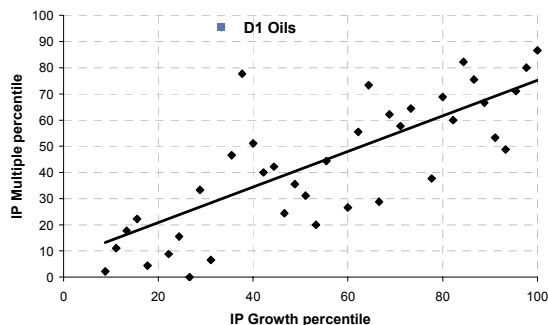
## Description

D1 Oils aims to become one of the world's leading biodiesel producers by processing vegetable oil into biodiesel through its proprietary modular refining technology. It's pursuing an integrated business strategy through cultivation of jatropha - a non-edible oil seed bearing tree - in India, Africa and South East Asia. Jatropha oil is expected to be substantially cheaper than competing vegetable oils meeting international biodiesel standards after processing. D1 will also be engaged in trading of biodiesel, jatropha oil and seedlings and processing technology

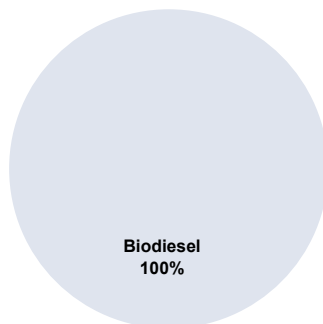
## Analyst view and risks

Our 18-month DCF-derived price target is 250p. Taking market closing prices of June 15, 2007 this implies an upside to price target of 15%. Key risks are continuing commodity price pressure and a failure in achieving the expected jatropha oil yields. Our current recommendation on this stock is Buy.

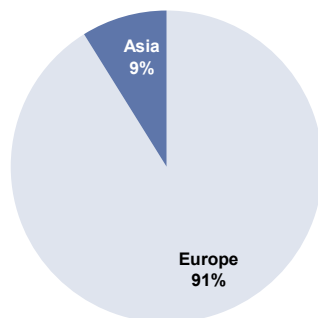
## Global IP multiple vs IP growth



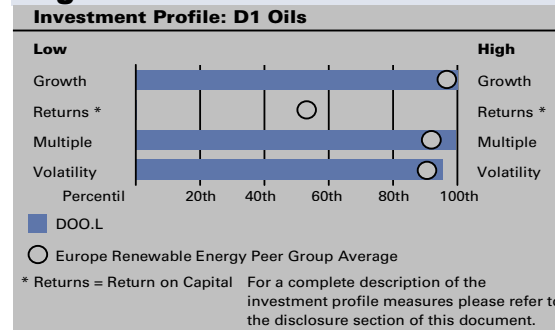
## Sales by division



## Sales by region



## Regional IP Chart

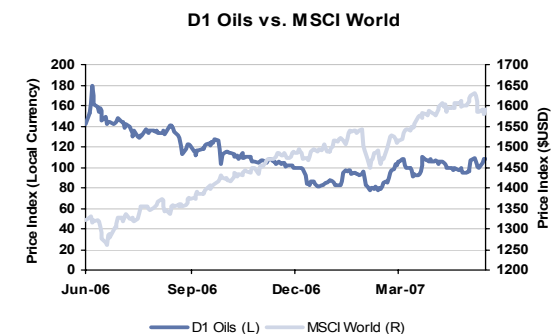


## Key financials

	2006	2007E	2008E	2009E
Revenue	5	25	161	293
EBIT	-23	-26	-7	23
EPS	-0.75	-0.39	-0.10	0.31
EV/EBITDA				10.2x
P/E				14.7x
Dividend Yield (%)				
FCF yield (%)	-33.8%	-16.6%	-13.5%	2.3%
CROCI (%)	-107.9%	-48.9%	-3.8%	22.3%
CROCI/WACC (X)				1.7x
EV/GCI (X)	1.3x	4.0x	2.9x	2.4x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

# Ersol Solar Energy AG

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## GS Sustain

Ersol Solar Energy is one of Europe's largest integrated solar wafer and cell manufacturers. The company offers good exposure to the current high margin, high growth wafer and cell manufacturing segments of the solar value chain in Germany, the world's largest solar market. The company has undertaken a rapid expansion and re-branding program and is well placed to capture increasing market share in the high growth North American and southern European markets. Vertical integration and technology development are providing growth opportunities to Ersol.

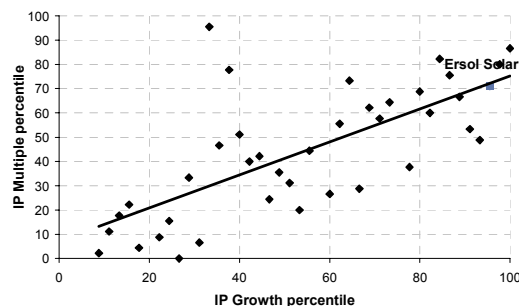
## Description

Founded in Germany in 1997, Ersol is a producer of solar cells and solar modules. Following the acquisition of ASI Industries GmbH, the company is also now involved in the production of ingots and wafers (ASI GmbH) and the fabrication of solar cells (ErSol AG). The ErSol Group also distributes solar modules via its subsidiary, Aimex-solar GmbH, and is involved in the production of photovoltaic modules in a joint venture with SESE Co. Ltd.

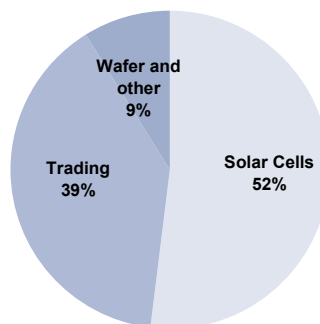
## Analyst view and risks

Our 12-month DCF-driven target price is €62.9. Taking market closing prices of June 15, 2007 this implies an upside to price target of 8%. Upside risks to our view are that guidance for FY2007 could prove too conservative if silicon prices fall sooner than expected, whereas on the downside higher ongoing silicon prices could keep pressure on margins, and lower demand could reduce capacity utilisation following expansion. Our current recommendation on this stock is Neutral.

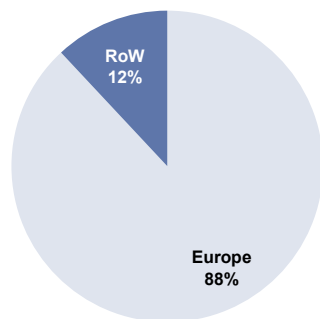
## Global IP multiple vs IP growth



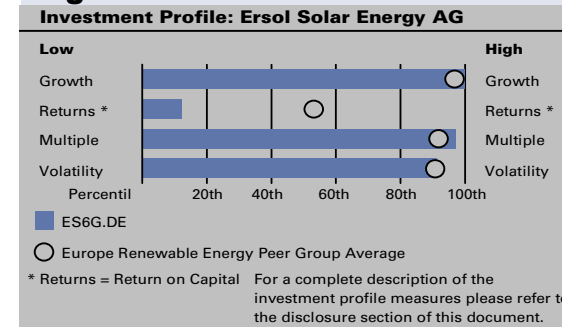
## Sales by division



## Sales by region



## Regional IP Chart

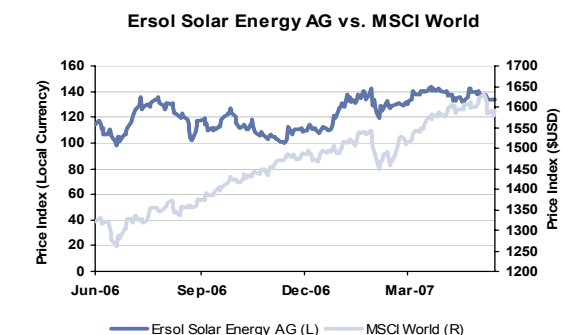


## Key financials

	2006	2007E	2008E	2009E
Revenue	160	199	403	619
EBIT	25	29	94	143
EPS	1.89	2.16	5.97	9.09
EV/EBITDA	17.0x	19.0x	8.3x	5.8x
P/E	42.6x	37.3x	13.5x	8.9x
Dividend Yield (%)				
FCF yield (%)	-15.9%	-17.2%	-13.9%	-2.8%
CROCI (%)	17.1%	11.6%	17.2%	18.4%
CROCI/WACC (X)	1.5x	0.7x	1.0x	1.0x
EV/GCI (X)	2.7x	2.3x	1.7x	1.4x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

# Ormat Technologies, Inc.

Michael Lapides

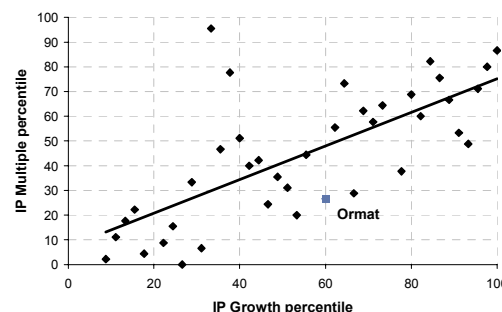
michael.lapides@gs.com

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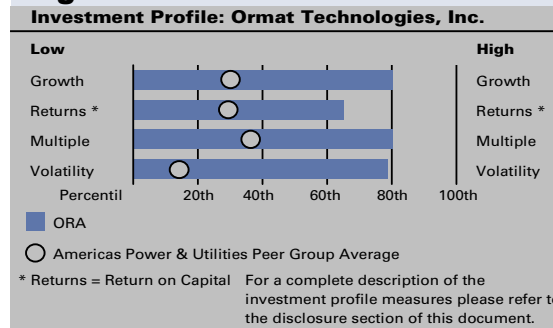
## GS Sustain

Ormat Technologies supplies and installs geothermal or recovered energy generation plants for power generators, benefiting from the increasing demand for renewable resources driven by favourable tax legislation and US state renewable mandates. We believe Ormat will be a leader in the development of renewable power generation and expect the company will grow installed MW capacity by 75% between now and 2011. Specifically, we expect Ormat to increase its capacity from roughly 412 MW in 2006 to 720 MW by 2011.

## Global IP multiple vs IP growth



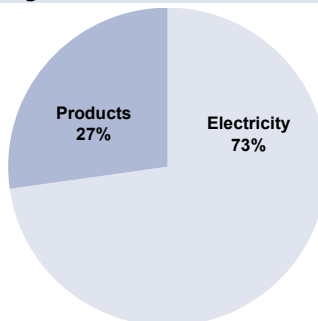
## Regional IP Chart



## Description

Ormat is a vertically-integrated company whose primary business is to develop, build, own and operate geothermal and recovered energy generation (REG) power plants utilizing in-house designed and manufactured equipment. In addition, Ormat supplies geothermal and recovered energy power generating equipment of its own design and manufacture, and complete power plants incorporating its equipment on a turnkey basis, as well as small size power units for remote continuous unattended operation. Ormat currently has operations in the United States, Israel, the Philippines, Guatemala, Kenya, and Nicaragua.

## Sales by division



## Key financials

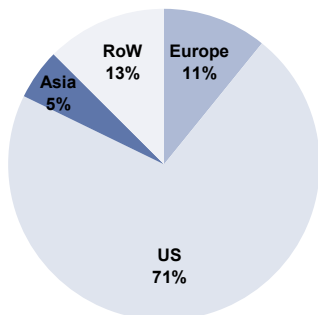
	2006	2007E	2008E	2009E
Revenue	270	296	416	462
EBIT	77	80	133	150
EPS	1.21	0.98	1.62	1.89
EV/EBITDA	13.3x	12.8x	8.6x	7.3x
P/E	30.3x	37.3x	22.6x	19.4x
Dividend Yield (%)	0.4%	0.4%	0.5%	0.7%
FCF yield (%)	-7.6%	-4.7%	-3.6%	-4.1%
CROCI (%)	11.1%	11.3%	13.4%	14.4%
CROCI/WACC (X)	1.3x	1.3x	1.5x	1.6x
EV/GCI (X)	1.6x	1.5x	1.3x	1.1x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

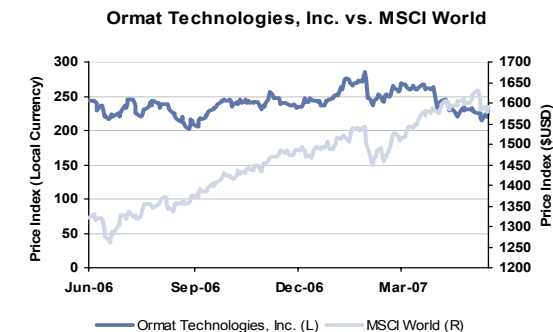
## Analyst view and risks

Our 12-month DCF-based target price of \$40/share implies the shares are fairly valued; we note Ormat trades at roughly the midpoint of our renewables peer panel P/E multiple comparison. Taking market closing prices of June 15, 2007 this implies an upside to price target of 8%. Key risks to Ormat's business model include (1) elimination or reduction of the production tax credits, (2) decreased capacity factors at existing generation plants, (3) lower long-term commodity prices and (4) increased capital costs for new projects. Our current recommendation on this stock is Neutral.

## Sales by region



## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

# Phoenix Solar AG

Jason Channell

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## GS Sustain

Phoenix Solar is one of the world's leading large scale solar power project developers in the multi-megawatt class. Phoenix has been a dominant player in the German market for a number of years and is now embarking on an international expansion plan predominantly in Southern European markets (Spain and Italy) and Asia (Korea), with its new Singapore subsidiary. Phoenix also uses thin-film solar modules for its developments which contain only a fraction of the high cost silicon raw material, giving its large scale power projects a cost advantage over high priced crystalline solar projects.

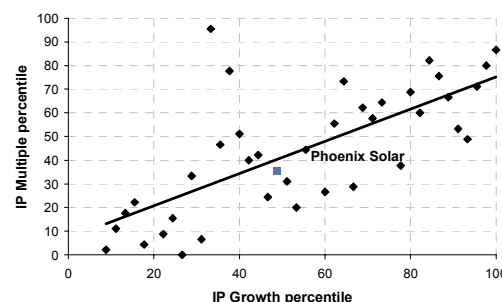
## Description

Phoenix Solar AG is a specialist wholesaler of complete solar power systems, solar modules and inverters. It plans and constructs large PV power plants. It also offers an internet-based yield evaluation service for solar plants. Its subsidiary, Phoenix Projekt & Service, is engaged in the realization, financing and sale of large-scale PV systems.

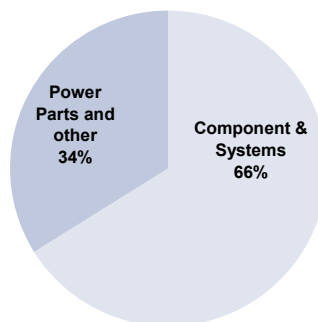
## Analyst view and risks

The stock still looks undervalued versus its solar peer group on a forward P/E basis. Our 12-month, DCF-driven price target is €32.3. Taking market closing prices of June 15, 2007 this implies an upside to price target of 69%. Risks to our view are that project delays and higher input costs cause guidance to be missed. Our current recommendation on this stock is Buy.

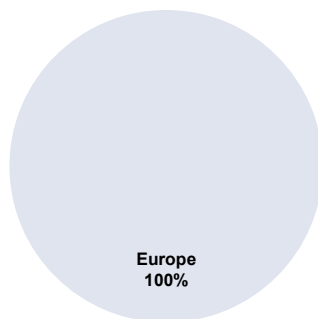
## Global IP multiple vs IP growth



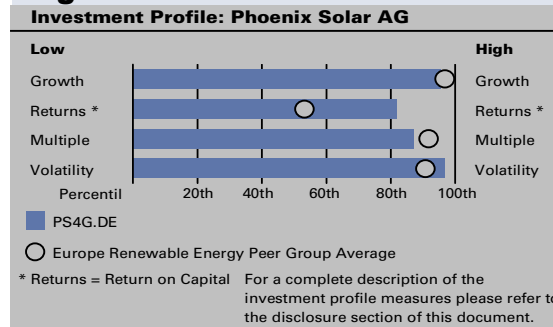
## Sales by division



## Sales by region



## Regional IP Chart

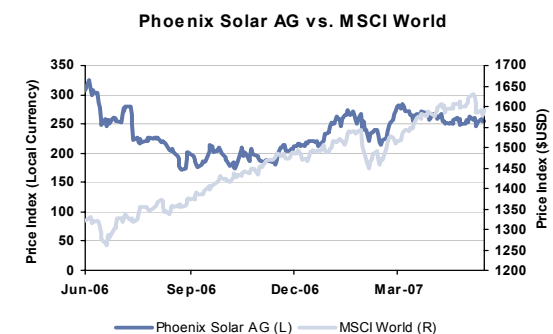


## Key financials

	2006	2007E	2008E	2009E
Revenue	149	265	365	495
EBIT	6	13	18	24
EPS	0.76	1.51	2.01	2.68
EV/EBITDA	16.6x	9.8x	7.2x	5.5x
P/E	33.9x	17.1x	12.9x	9.7x
Dividend Yield (%)				
FCF yield (%)	-5.6%	-3.9%	-1.9%	-2.9%
CROCI (%)	50.4%	38.5%	31.3%	28.5%
CROCI/WACC (X)				
EV/GCI (X)	7.3x	4.3x	2.9x	2.1x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

# Solar Millennium

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## GS Sustain

Solar Millennium is one of the world's leading solar thermal project developers and is fast becoming a dominant global player. Solar thermal is potentially one of the most scalable renewable energy technologies in current production with plants of between 50MW and 700MW possible. Solar thermal energy costs of around 12 cents per kWh make it also relatively economic, and projections of 7 cents per kWh make these developments an exciting prospect when compared to conventional power. Governments worldwide are more than ever recognizing the potential of this new technology in renewable energy policies and plans.

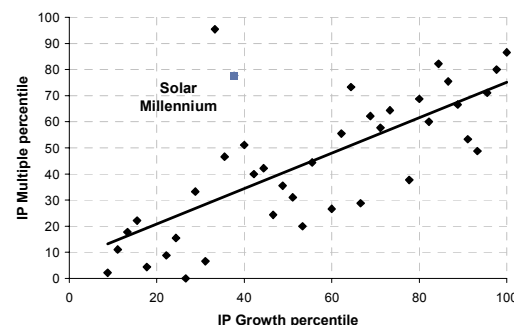
## Description

Solar Millennium provides services for the construction and operation of large scale solar thermal power plants. They have specialised in parabolic trough and solar chimney power plants. The core areas of business are in project development, technical planning and engineering as well as partnerships in power plant operating companies.

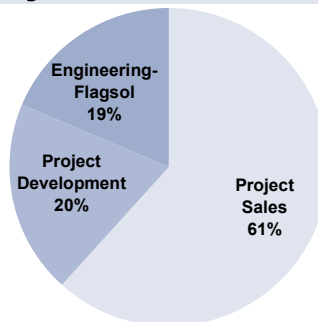
## Analyst view and risks

Our price targets within the renewable energy space are derived using a DCF methodology with ratio analysis used as a reality check. Using a WACC of 9%, discrete forecasts to 2015, followed by a five-year middle period of 5% growth, and a terminal growth rate of 1.5%, in line with global energy demand growth, we achieve a 12-month target price of €44. Taking market closing prices of June 15, 2007 this implies an upside to price target of 15%. Key risks include rising interest rates or changes to German tax regulations regarding share sales. Our current recommendation on this stock is Neutral.

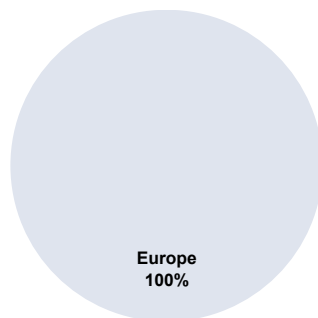
## Global IP multiple vs IP growth



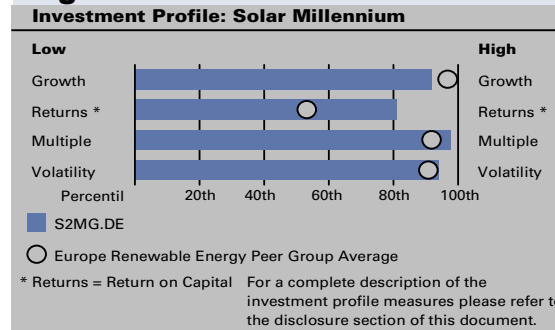
## Sales by division



## Sales by region



## Regional IP Chart

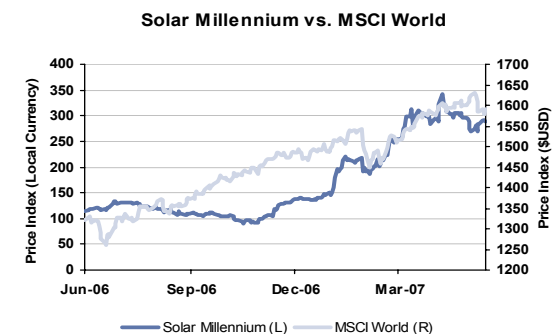


## Key financials

	2006	2007E	2008E	2009E
Revenue	22	77	97	109
EBIT	16	28	40	49
EPS	1.47	2.13	2.46	2.84
EV/EBITDA	15.5x	22.0x	16.4x	13.8x
P/E	35.6x	24.6x	21.3x	18.4x
Dividend Yield (%)				
FCF yield (%)	-25.6%	-10.9%	-5.4%	-2.5%
CROCI (%)	19.2%	17.4%	16.1%	16.0%
CROCI/WACC (X)	2.1x	1.2x	1.1x	1.0x
EV/GCI (X)	2.4x	3.5x	2.8x	2.4x

Note: Financial year end is October 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

# SunPower Corp.

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## GS Sustain

SunPower is a low-cost, high-efficiency traditional crystalline solar cell manufacturer based in the US. SunPower is poised to benefit from strides in the US and abroad for solar products. We expect SunPower's market leading efficiency and low-cost structure to support longer term profitability. While various other solar cell manufacturers have efficiencies ranging from 8-15%, SunPower claims to have efficiencies of 20.0%-21.5%. SunPower has an aggressive capacity expansion planned. Key stated goals are having a capacity of 372mw by 2008. With 20%+ efficiency, SunPower is the efficiency leader in the industry. The company has stated that its next generation solar cell will have efficiency in the 22% range thereby keeping it ahead of the competition. All else equal, this gives SunPower an advantage in selling its product as customers are able to generate more electricity per square foot.

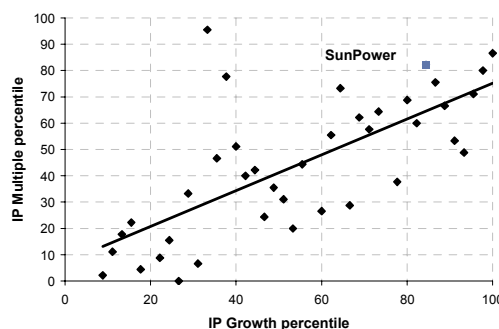
## Description

SunPower Corporation designs, manufactures and markets high-performance solar electric technology worldwide. SunPower's high-efficiency solar cells and modules generate up to 50 percent more power per unit area than conventional solar technologies.

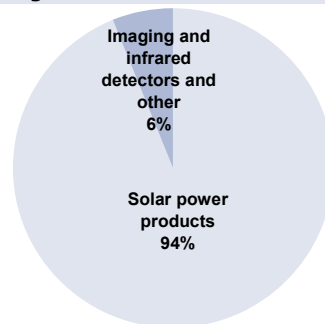
## Analyst view and risks

Our 6-month target price of \$55 is based on a P/E multiple on 2011 discounted to today. Taking market closing prices of June 15, 2007 this implies an upside to price target of -5%. The key risk to our target price and EPS estimates is the potential for an oversupply of solar driving pricing down faster than costs can be reduced. This could impact fundamentals more than we currently forecast. Our current recommendation on this stock is Neutral.

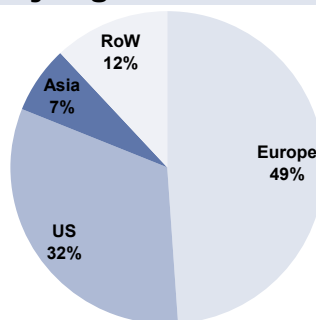
## Global IP multiple vs IP growth



## Sales by division

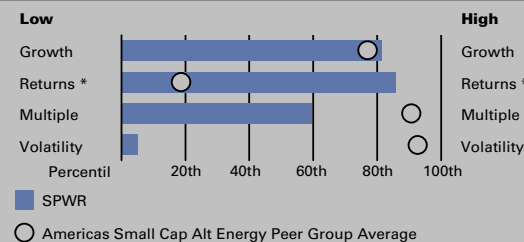


## Sales by region



## Regional IP Chart

### Investment Profile: SunPower Corp.



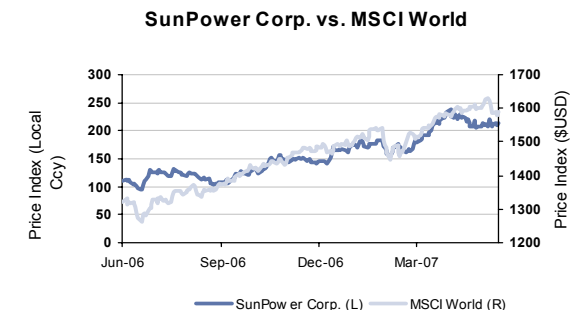
\* Returns = Return on Capital For a complete description of the investment profile measures please refer to the disclosure section of this document.

## Key financials

	2006	2007E	2008E	2009E
Revenue	237	703	1,238	2,061
EBIT	19	-5	102	266
EPS	0.37	-0.09	0.94	2.32
EV/EBITDA	51.5x	99.3x	27.6x	13.7x
P/E	159.4x		63.3x	25.6x
Dividend Yield (%)				
FCF yield (%)	-5.5%	-3.9%	-2.6%	-0.3%
CROCI (%)	2.3%	12.7%	22.7%	31.7%
CROCI/WACC (X)			4.7x	3.5x
EV/GCI (X)	6.9x	8.6x	6.0x	4.5x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

# Suntech Power

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## GS Sustain

Suntech Power is China's largest PV module producer with 100% in-house supply of PV cells. The company sells its products overseas with Europe and the US as major markets. We expect Suntech to increase capacity to 480MW in 2007 from 270MW in 2006. We believe the management's upward revision in 2007 shipments highlights the strength of the order book.

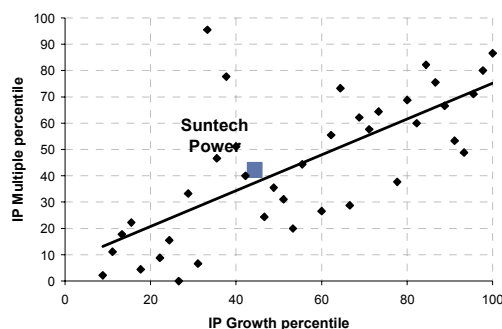
## Description

Suntech is a China-based solar energy companies which designs, develops, manufactures and markets a variety of PV cells and modules.

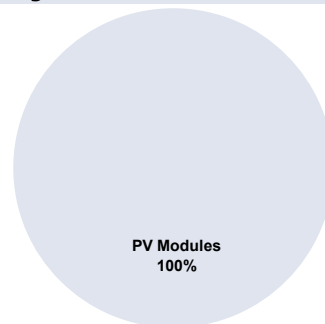
## Analyst view and risks

Our DCF-based 12-month target price is US\$39. Taking market closing prices of June 15, 2007 this implies an upside to price target of 14%. Key risks are margin pressures from potential reliance on the spot market to meet incremental sales. Our current recommendation on this stock is Neutral.

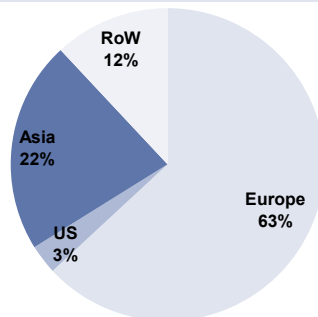
## Global IP multiple vs IP growth



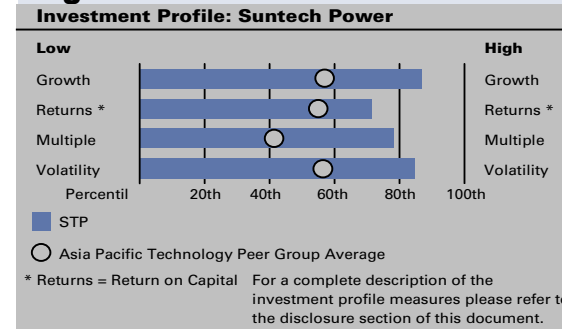
## Sales by division



## Sales by region



## Regional IP Chart

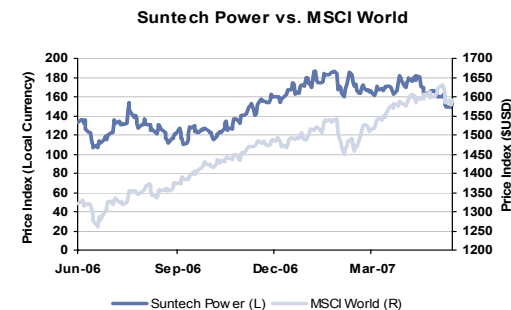


## Key financials

	2006	2007E	2008E	2009E
Revenue	598	1,037	1,497	1,899
EBIT	103	175	253	331
EPS	0.71	1.06	1.52	1.95
EV/EBITDA	40.5x	21.4x	14.5x	10.2x
P/E	46.5x	31.1x	21.9x	17.0x
Dividend Yield (%)				
FCF yield (%)	-6.6%	4.1%	3.5%	8.1%
CROCI (%)	42.0%	39.8%	50.5%	71.3%
CROCI/WACC (X)				
EV/GCI (X)	10.1x	8.9x	8.3x	9.8x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.



# Sunways AG

Jason Channell

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## GS Sustain

Sunways offers exciting and differentiated end use applications for solar particularly in building integrated applications with coloured and transparent solar cells that can be directly integrated into buildings as windows for example. This type of niche product is increasingly popular with companies looking to improve building efficiency levels and often receives a higher level of subsidy support in countries such as France. Sunways continues to expand and ramp up production in order to provide growth and increasing market shares in solar cell production.

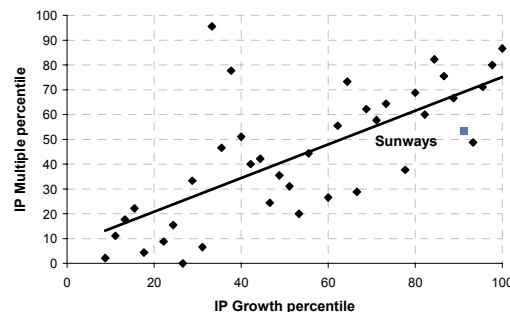
## Description

Sunways is involved in the production of solar cells, modules and the distribution of systems. It has a growing market share and has recently tripled its production capacity from 16MW to 46MW at the start of 2006. Its core strategy is expansion and technology improvement. Sunways is regarded as one of the market leaders in terms of solar efficiency rates. It is also a specialised producer of coloured cells for niche markets which differentiates it from other cell producers. Sunways has entered the thin-film technology research area via an association with Unaxis.

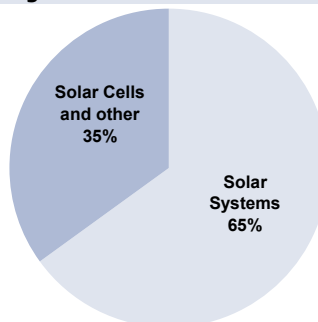
## Analyst view and risks

Our new 12-month DCF-driven price target is €11.9. Taking market closing prices of June 15, 2007 this implies an upside to price target of 34%. Downside risks are that silicon shortages continue, putting short-term forecasts under even more pressure, and also that management takes out longer-term silicon purchase contracts at current high prices that prove to be out-of-the-money in later years if silicon prices fall due to overcapacity. Our current recommendation on this stock is Buy.

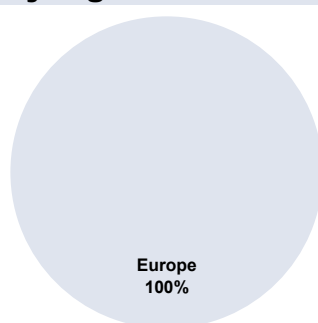
## Global IP multiple vs IP growth



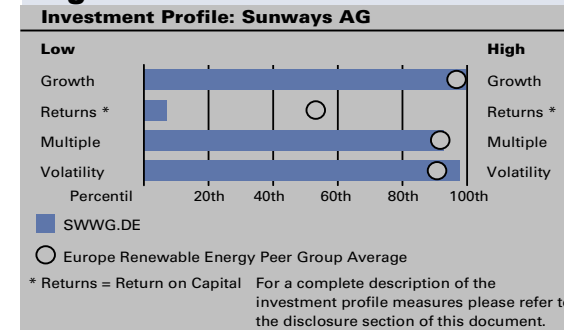
## Sales by division



## Sales by region



## Regional IP Chart



## Key financials

	2006	2007E	2008E	2009E
Revenue	191	210	332	336
EBIT	1	5	16	24
EPS	0.31	0.24	0.80	1.12
EV/EBITDA	28.1x	14.4x	8.2x	5.5x
P/E	40.2x	51.0x	15.5x	11.0x
Dividend Yield (%)				
FCF yield (%)	2.7%	1.4%	-32.0%	9.6%
CROCI (%)	8.3%	10.4%	15.2%	15.5%
CROCI/WACC (X)	0.7x	0.6x	0.9x	0.8x
EV/GCI (X)	2.4x	1.8x	1.3x	1.2x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.



# Vestas Wind Systems

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## GS Sustain

Vestas is the world's largest wind turbine manufacturer (~30% market share) with the widest spread of geographic sales for turbine sales. In the larger MW class, Vestas has an even larger >85% market share. The wind sector is forecast to grow in the region of 20% CAGR for the next 5 years and offers a significant opportunity for Vestas given its experience in different regions. Vestas has worked closely with its supply chain to turn the business around from the difficult 2004/05 years and we believe it is best placed out of the turbine manufacturers to capture increasing market share and EBIT margin improvements.

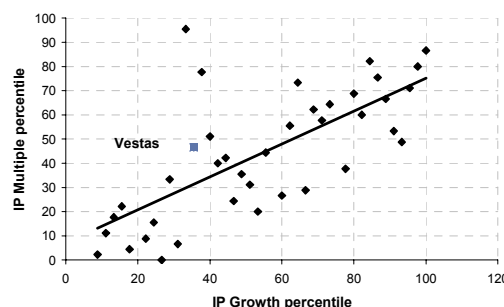
## Description

Vestas Wind Systems A/S is a Denmark-based company engaged primarily in the development, manufacture, sale, marketing and maintenance of wind power. The company is operational internationally through 13 wholly owned subsidiaries, which are active in Scandinavia, the US, Germany, the Netherlands, Italy, France, Spain, Greece, the UK and India. It is also establishing an R&D centre in Singapore.

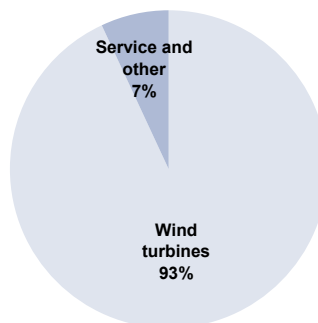
## Analyst view and risks

We have adopted a two-year timeframe for our price target, believing that the market may take longer to reflect longer-term multiples (FY2009 represents the end of our price target timeframe). We would also observe that P/Es of over 50x are not unheard of in the renewable energy space, with REC, the largest solar player currently trading at over 50x on our estimates. Our two-year DCF-driven target price is Dkr486. Taking market closing prices of June 15, 2007 this implies an upside to price target of 25%. Key risks to our view and price target include supply chain bottlenecks, loss of market share, quality or increased competition causing targets to be missed. Our current recommendation on this stock is Buy.

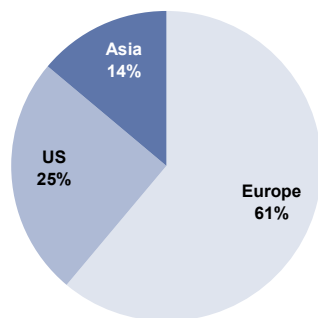
## Global IP multiple vs IP growth



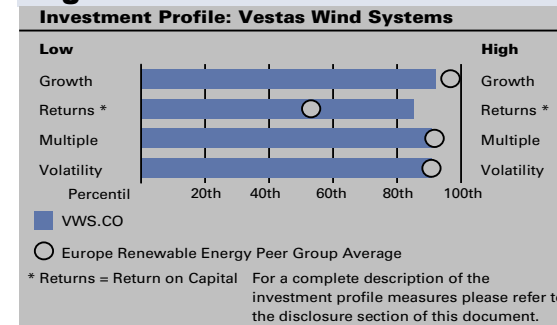
## Sales by division



## Sales by region



## Regional IP Chart

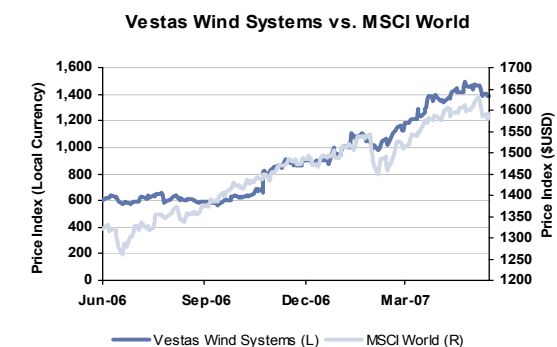


## Key financials

	2006	2007E	2008E	2009E
Revenue	4,834	6,170	7,494	8,992
EBIT	252	494	824	989
EPS	0.88	1.78	3.17	3.98
EV/EBITDA	11.2x	18.7x	12.0x	9.9x
P/E	78.9x	39.2x	22.0x	17.5x
Dividend Yield (%)				
FCF yield (%)	1156.9%	-194.4%	134.1%	110.0%
CROCI (%)	-883.1%	2155.7%	2474.2%	2394.7%
CROCI/WACC (X)		1.2x	1.3x	1.1x
EV/GCI (X)	2.2x	4.3x	3.5x	2.8x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

**GS Sustain**

FP is the largest producer of food containers in Japan and makes thin-design, light-weight food trays from polystyrene paper and PET. FP's long-term earnings growth is driven by increased market share in the food tray market. FP's 40% reduction in materials allows it to offer lower prices than competitors. Despite the low price, FP's thinner products have fatter margins, and we think it should be able to absorb the impact from high raw material prices and continue to post profit growth.

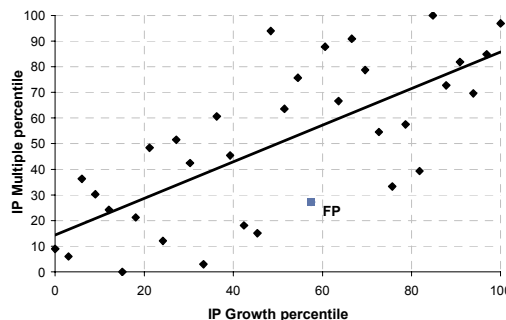
**Description**

FP is specialised in the manufacture and sale of foamed polystyrene and other synthetic resin containers for foodservice packaging, as well as the sale of related packaging material.

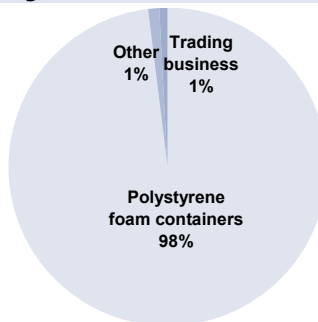
**Analyst view and risks**

We maintain our 12-month target price of ¥6,000, based on a two-stage DCF model assuming medium-term profit growth. We use a discount rate of 7.5% and a long-term discount rate of 5.0%. Taking market closing prices of June 15, 2007 this implies an upside to price target of 50%. The impact from material price hikes in FY2007 remains unknown, but they could put greater-than-expected downside pressure on the stock. Our current recommendation on this stock is Buy.

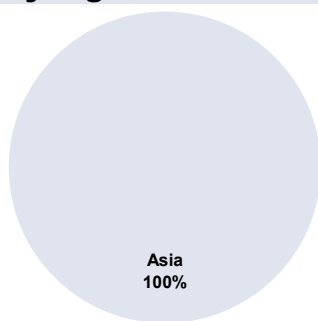
**Global IP multiple vs IP growth**



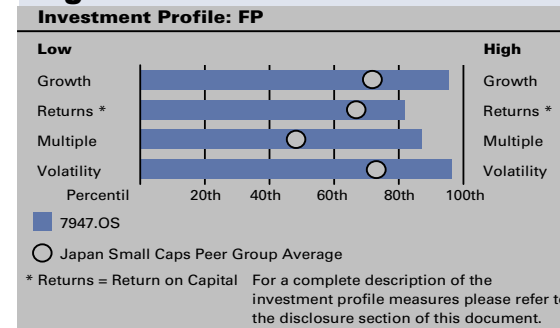
**Sales by division**



**Sales by region**



**Regional IP Chart**

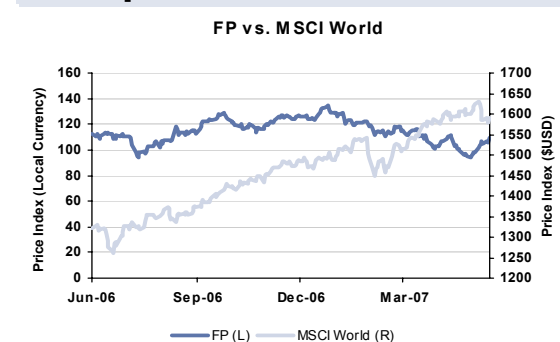


**Key financials**

	2006	2007E	2008E	2009E
Revenue	1,120	1,087	1,077	1,075
EBIT	54	70	76	85
EPS	1.34	1.67	2.07	2.37
EV/EBITDA	9.0x	9.8x	8.3x	7.2x
P/E	24.3x	19.4x	15.6x	13.7x
Dividend Yield (%)	1.2%	1.5%	1.9%	2.1%
FCF yield (%)	14.0%	1.9%	2.7%	9.6%
CROCI (%)	8.0%	7.9%	7.6%	8.1%
CROCI/WACC (X)	0.4x	0.4x	0.5x	0.4x
EV/GCI (X)	0.8x	0.9x	0.8x	0.8x

Note: Financial year end is March 31 and all figures are reported in US\$ mn.

**Stock performance**



Source: Company data, Datastream, Goldman Sachs Research estimates.

# LKQ Corp.

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## GS Sustain

LKQ is a US seller of recycled and after market auto parts. LKQ is currently expanding its product offering and distribution channels and has most recently moved into the Canadian market. With its strong M&A track record, we expect the both the organic and inorganic growth story to continue longer term.

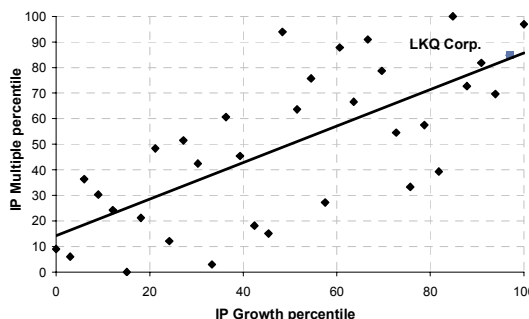
## Description

LKQ is a “managed care” provider for the US auto industry—offering auto insurance companies the ability to control the cost of auto repairs while providing the disparate network of US auto body shops a reliable source of parts. In particular, the company sells recycled, aftermarket, or refurbished auto parts. Recycled auto parts are primarily mechanical auto parts sourced from wrecked cars purchased at auctions. Aftermarket products are replicated OEM auto body parts used for collision repairs. Refurbished auto parts primarily relate to alloy aluminum wheels and bumpers.

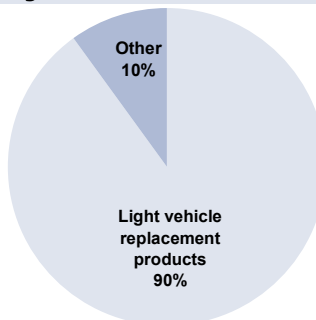
## Analyst view and risks

Our six-month price target on LKQ is \$29 based on a 1.4 PEG ratio (roughly inline with Consumer Discretionary stocks) applied to our forward five-year EPS growth rate. Taking market closing prices of June 15, 2007 this implies an upside to price target of 22%. Downside risk to our price target could come from a material US slowdown in 2007 (economic) or weak inorganic growth due to a lack of M&A activity (company specific). Our current recommendation on this stock is Buy.

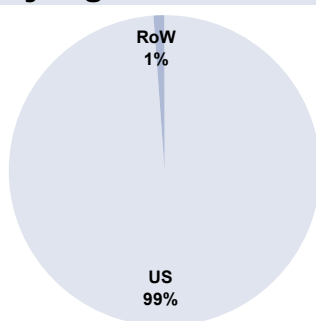
## Global IP multiple vs IP growth



## Sales by division

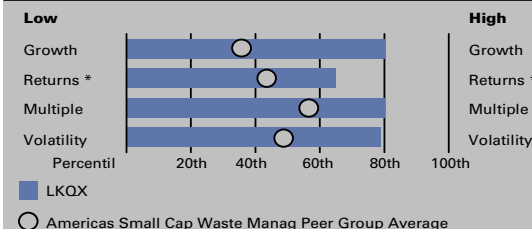


## Sales by region



## Regional IP Chart

### Investment Profile: LKQ Corp.



\* Returns = Return on Capital For a complete description of the investment profile measures please refer to the disclosure section of this document.

## Key financials

	2006	2007E	2008E	2009E
Revenue	789	951	1,118	1,280
EBIT	77	103	135	166
EPS	0.80	1.02	1.32	1.58
EV/EBITDA	13.8x	12.2x	10.1x	8.7x
P/E	30.3x	23.6x	18.3x	15.3x
Dividend Yield (%)				
FCF yield (%)	-5.3%	2.5%	1.6%	2.1%
CROCI (%)	15.1%	12.7%	13.4%	14.0%
CROCI/WACC (X)				
EV/GCI (X)	2.1x	2.1x	2.0x	1.8x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

# Pentair, Inc.

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## GS Sustain

Pentair is a water-focused multi-industry poised to benefit from recent trends in the US water infrastructure sector, which has experienced years of chronic underinvestment. Pentair derives 75% of revenues from water and water-related technologies (30% water pumps, 23% water filtration, 23% pool and spa equipment). With a new management team and a renewed focus on driving organic growth in the water business, we view Pentair as well-positioned to capitalize on the growth of the global water sector.

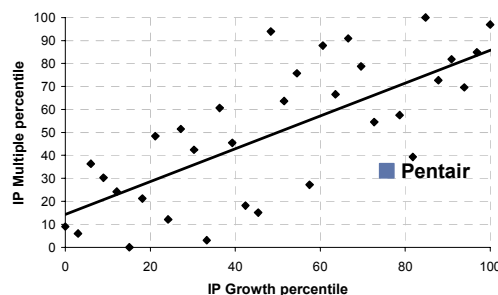
## Description

Pentair is a diversified company with water and technical products as the two chief business areas. The water group supplies pumping, treatment and water storage products while the technical products group offers products for electrical, electronic and thermal management.

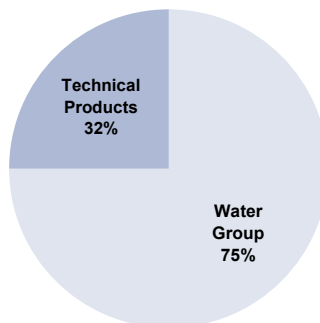
## Analyst view and risks

Our 12-month price target of US\$35 is based on SOTP. Taking market closing prices of June 15, 2007 this implies an upside to price target of -8%. The risks in the PNR story include management's ability to restore the company back on track to achieving its targeted 5%-8% organic revenue target in water. In addition, the ongoing weakness in North American new housing has impacted the pool business equipment business and parts of the residential pump business. Our current recommendation on this stock is Neutral.

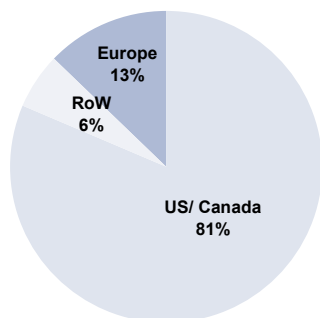
## Global IP multiple vs IP growth



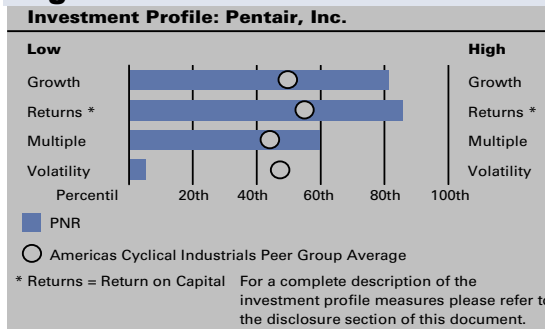
## Sales by division



## Sales by region



## Regional IP Chart

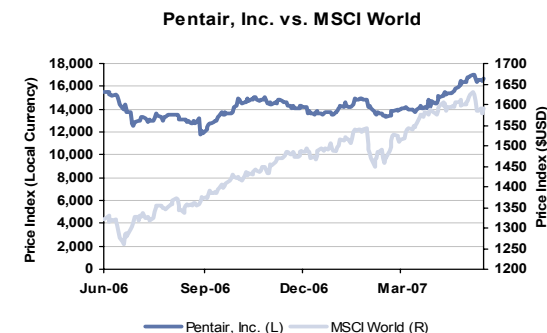


## Key financials

	2006	2007E	2008E	2009E
Revenue	3,154	3,343	3,535	3,725
EBIT	324	376	405	450
EPS	1.91	1.98	2.20	2.50
EV/EBITDA	10.2x	9.8x	9.0x	8.0x
P/E	19.8x	19.2x	17.3x	15.2x
Dividend Yield (%)	1.5%	1.6%	1.7%	2.0%
FCF yield (%)	2.8%	-7.1%	1.6%	2.5%
CROCI (%)	11.2%	10.1%	11.9%	10.0%
CROCI/WACC (X)	1.0x	0.8x	1.0x	0.9x
EV/GCI (X)	1.3x	1.3x	1.2x	1.1x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

# Shanks Group

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## GS Sustain

Shanks Group is a diversified waste company, offering waste management services in the UK, Belgium and The Netherlands. In our view, there are significant need for additional waste recycling and disposal infrastructures in the UK. Through private financed initiatives, we believe that Shanks will be able to utilise its experience in the more developed European waste markets to take advantage of growth opportunities in the UK waste industry, which we believe will require at least £15.8 bn of investment over the next 13 years to comply with European legislations.

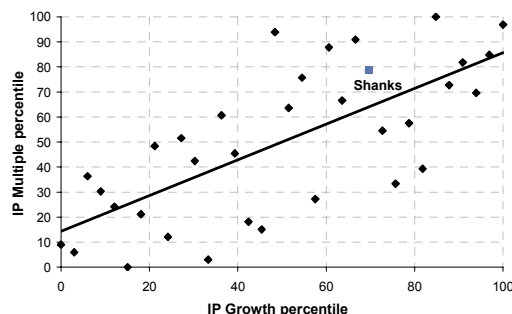
## Description

Shanks Group plc is a modern waste and resource management company serving customers in the UK, Belgium and The Netherlands. Shanks offers a wide and often innovative range of waste management solutions within its various collection, transport, recycling, treatment and disposal services.

## Analyst view and risks

Our 12-month, SOTP-based price target of 323p is based on our valuation of Shanks' existing assets, the estimated NPV value of two additional PFI contracts and a value for potential sector consolidation. Taking market closing prices of June 15, 2007 this implies an upside to price target of 16%. The key risks to our price target and rating are operational (PFIs and European divisions), a deterioration of performance in its European operations and a lack of sector consolidation. Our current recommendation on this stock is Buy.

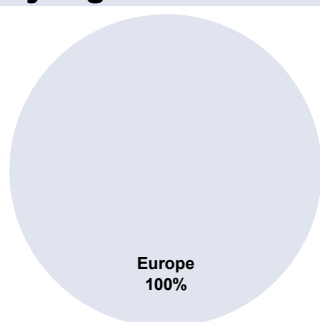
## Global IP multiple vs IP growth



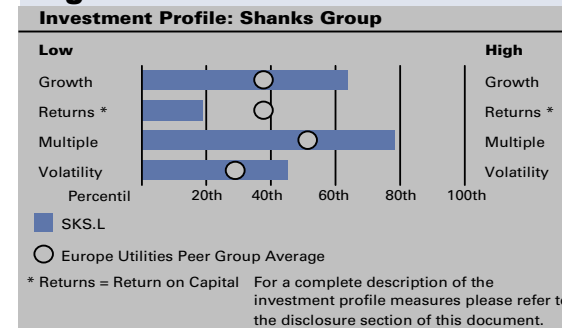
## Sales by division



## Sales by region



## Regional IP Chart



## Key financials

	2006	2007E	2008E	2009E
Revenue	789	962	1,095	1,144
EBIT	69	87	106	124
EPS	0.19	0.24	0.27	0.33
EV/EBITDA	8.3x	9.6x	9.9x	8.9x
P/E	26.8x	21.3x	19.2x	15.9x
Dividend Yield (%)	2.0%	2.1%	2.4%	2.7%
FCF yield (%)	-7.7%	-16.6%	-1.2%	3.3%
CROCI (%)	8.5%	8.8%	7.8%	8.2%
CROCI/WACC (X)	0.7x	0.7x	0.6x	0.7x
EV/GCI (X)	0.9x	0.9x	1.0x	1.0x

Note: Financial year end is March 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

# Sinomem Technology

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## GS Sustain

Sinomem Technology is a China-based filtration company that manufactures, designs and installs membrane-based systems for water treatment as well as for higher yielding and cleaner production processes in various industries. We believe demand for Sinomem's technology will continue to grow given: strong, long-term demand for water and wastewater treatment in China; more stringent water quality standards over time; and tighter pollution controls over time.

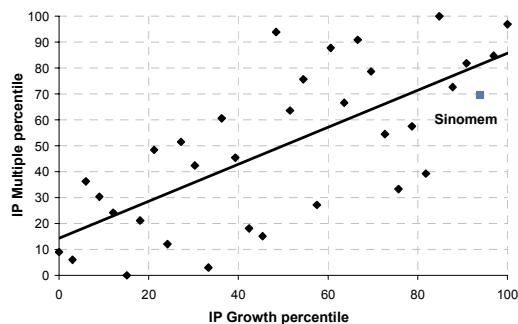
## Description

Sinomem Technology Limited is a leading integrated membrane technology company based in Singapore. Its business covers entire membrane industry value chain, namely membrane material manufacturing, membrane process & engineering, and downstream nutraceuticals production that employs membrane-based separation and purification technologies.

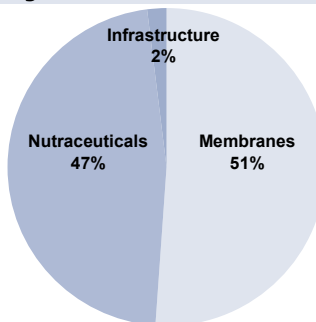
## Analyst view and risks

Our 12-month SOTP-based target price is S\$1.45. Taking market closing prices of June 15, 2007 this implies an upside to price target of 15%. Failure to execute its upstream and downstream strategy is a risk to our view. Our current recommendation on this stock is Buy.

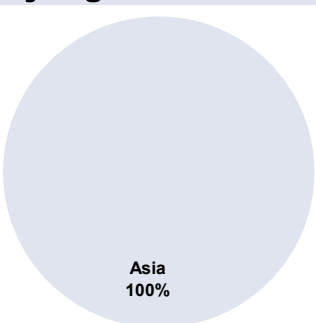
## Global IP multiple vs IP growth



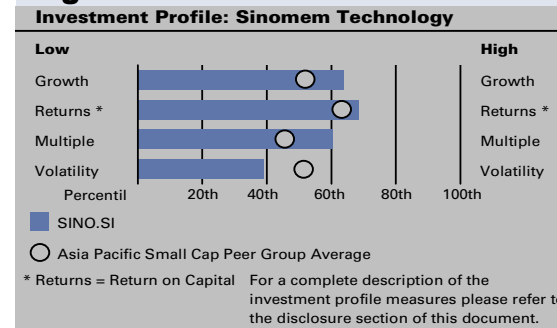
## Sales by division



## Sales by region



## Regional IP Chart

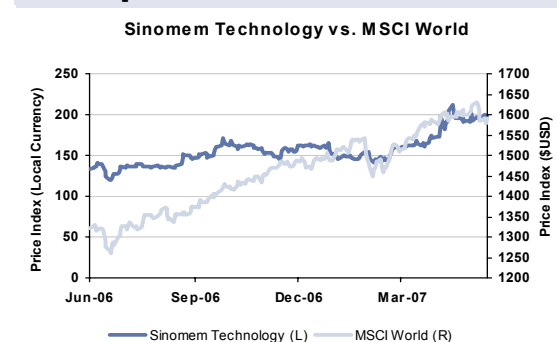


## Key financials

	2006	2007E	2008E	2009E
Revenue	69	91	144	167
EBIT	15	23	35	41
EPS	0.03	0.04	0.06	0.07
EV/EBITDA	12.6x	14.7x	9.9x	8.1x
P/E	25.5x	19.6x	14.7x	12.5x
Dividend Yield (%)	0.7%	0.8%	1.0%	1.4%
FCF yield (%)	-9.2%	-4.3%	-1.4%	5.5%
CROCI (%)	31.6%	27.1%	28.3%	25.5%
CROCI/WACC (X)				
EV/GCI (X)	3.0x	3.4x	2.5x	2.2x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

# Tomra Systems

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## GS Sustain

Tomra Systems is a manufacturer of machinery used in the recycling industry for both front-end collection of materials as well as back-end sorting and processing in material recovery facilities. We believe Tomra is well-positioned for growth based on its market leading position in optical recognition and sorting technology. It is an innovative company and working to exploit its technology leadership to develop new business opportunities, particularly in markets which do not have a deposit systems on drinks containers. Risks include limited visibility on future contracts which will likely only contribute revenues from 2009/2010 onwards and execution risk on bringing new products to market. On a long-term view, we are positive on Tomra as the company offers pure-play exposure to increasing mechanisation in the waste business.

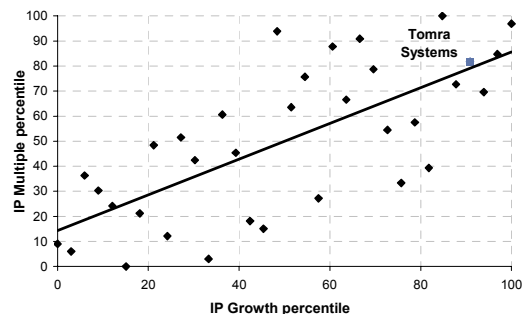
## Description

Recycling company operating in the areas of collection technology, handling, non-deposit solutions and industrial processing

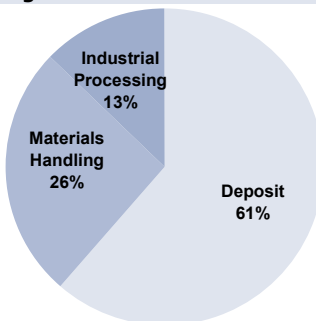
## Analyst view and risks

Our 12-month price target of Nkr53.80 is based on our DCF valuation. Taking market closing prices of June 15, 2007 this implies an upside to price target of -2%. Risks to our price target primarily surround the timing of progress in non-deposit markets. Our current recommendation on this stock is Neutral.

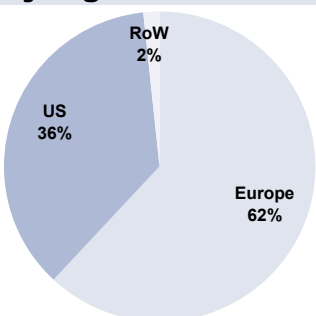
## Global IP multiple vs IP growth



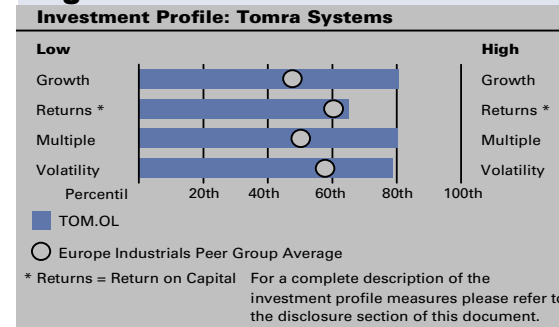
## Sales by division



## Sales by region



## Regional IP Chart

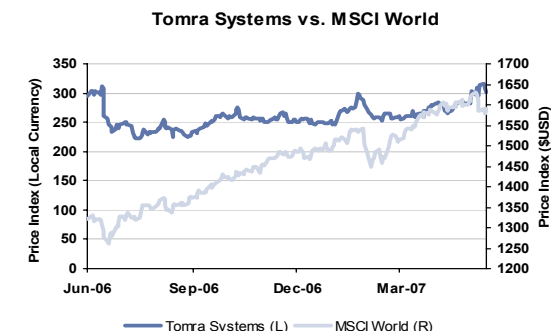


## Key financials

	2006	2007E	2008E	2009E
Revenue	618	608	664	715
EBIT	102	80	96	113
EPS	0.41	0.32	0.40	0.48
EV/EBITDA	10.4x	13.5x	10.6x	8.9x
P/E	21.4x	27.5x	22.4x	18.7x
Dividend Yield (%)	0.7%	0.8%	0.9%	1.1%
FCF yield (%)	1.2%	5.5%	5.3%	5.4%
CROCI (%)	25.8%	15.5%	16.4%	17.5%
CROCI/WACC (X)	1.7x	1.0x	1.0x	1.1x
EV/GCI (X)	2.5x	2.5x	2.3x	2.1x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

# Actelion

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## GS Sustain

Actelion is one of only a few profitable, cash generative biotech companies within Europe with three products in the market for Gaucher disease and pulmonary arterial hypertension (PAH).

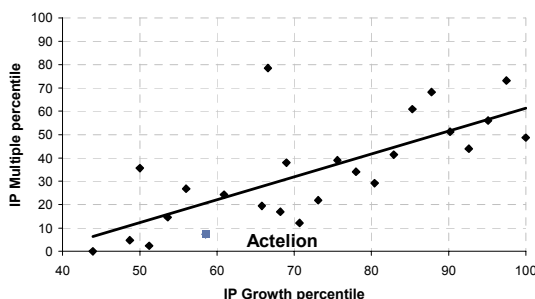
## Description

Founded in December 1997, Actelion is a biopharmaceutical company which focuses on the discovery, development and commercialization of innovative treatments to serve high unmet medical needs targeted to the treatment of pulmonary arterial hypertension (PAH) area. As at February 2007, Actelion has nine main products in its development pipeline, including the evaluation of Tracleer in other endothelin-related diseases.

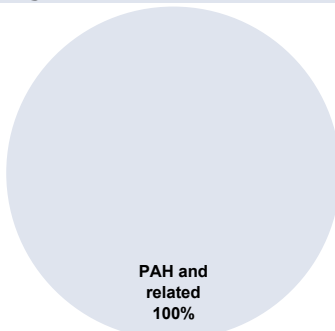
## Analyst view and risks

Our 12-month, risk-adjusted DCF-based price target is SFr102. Taking market closing prices of June 15, 2007 this implies an upside to price target of 70%. Risks to the shares include an approval for Ambrisentan with a label that is significantly better than expected, further risks to our forecasts and target price include sales of Ambrisentan that significantly exceed expectations at the expense of Tracleer's sales. Our current recommendation on this stock is Buy.

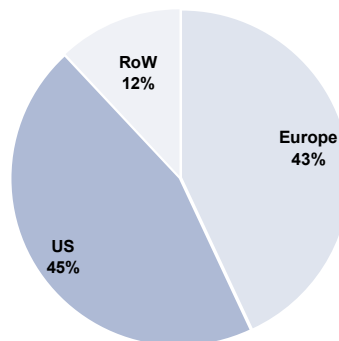
## Global IP multiple vs IP growth



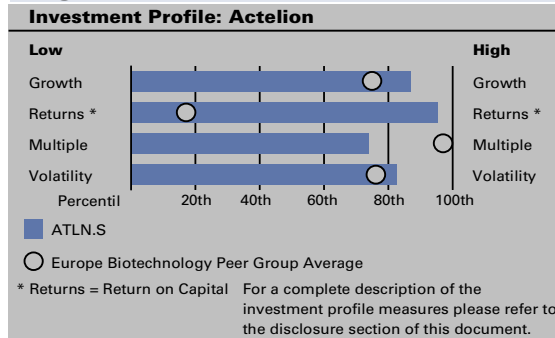
## Sales by division



## Sales by region



## Regional IP Chart

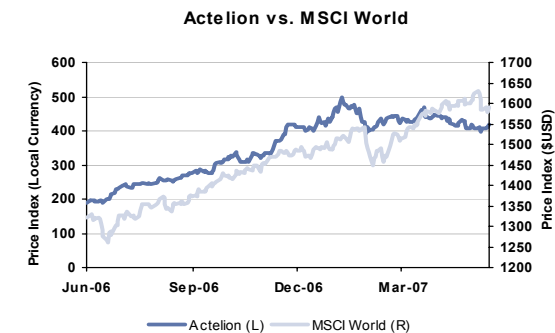


## Key financials

	2006	2007E	2008E	2009E
Revenue	754	1,097	1,300	1,485
EBIT	214	316	379	448
EPS	1.66	2.32	2.83	3.33
EV/EBITDA	10.9x	15.7x	12.2x	9.5x
P/E	27.9x	19.9x	16.3x	13.9x
Dividend Yield (%)				
FCF yield (%)	17.4%	-3.3%	5.8%	6.7%
CROCI (%)	182.7%	69.2%	53.7%	61.5%
CROCI/WACC (X)		3.9x	2.7x	
EV/GCI (X)	13.1x	8.0x	7.3x	6.5x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.



# Amylin Pharmaceuticals, Inc.

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## GS Sustain

Amylin Pharmaceuticals has commercialized two first-in-class drugs for the treatment of diabetes, Byetta and Symlin, which address over a \$1 billion U.S. opportunity, based on GS Research estimates.

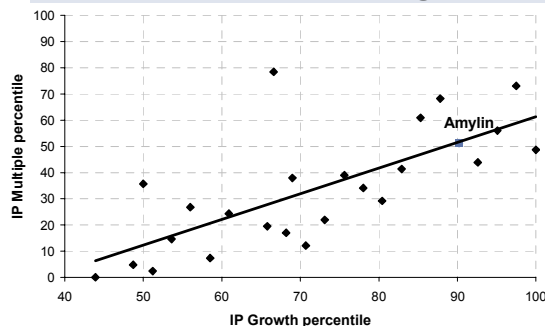
## Description

Amylin Pharmaceuticals, Inc. is focused on the development of novel drugs to treat diabetes, obesity and potentially cardiovascular disease. The company's commercialized products, Byetta, which was developed through a collaboration with Eli Lilly, and Symlin, represent first in class compounds for diabetes.

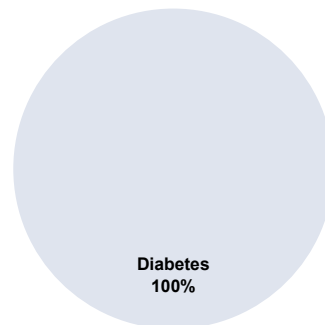
## Analyst view and risks

GS Research estimates that Byetta in its current twice daily injection form may address a \$1 billion U.S. opportunity, and if the once weekly formulation, exenatide LAR, is successful, it could address a U.S. \$2-3 billion opportunity. Symlin, which is used in insulin-using diabetes patients may currently address a \$200-\$300 million niche, but GS research believes the opportunity could double over time with label expansion and a more user friendly delivery system. Our 12-month, risk-adjusted DCF-based price target is US\$59. Taking market closing prices of June 15, 2007 this implies an upside to price target of 40%. Key risks include potential for pipeline setbacks or delays, particularly with respect to exenatide LAR, where pivotal data is expected in 4Q2007, and slower than expected commercial growth, particularly for Byetta. Our current recommendation on this stock is Buy.

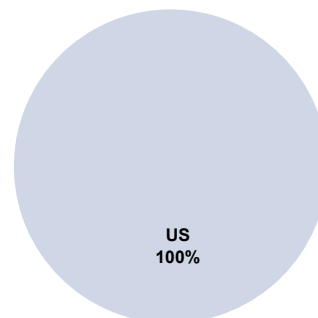
## Global IP multiple vs IP growth



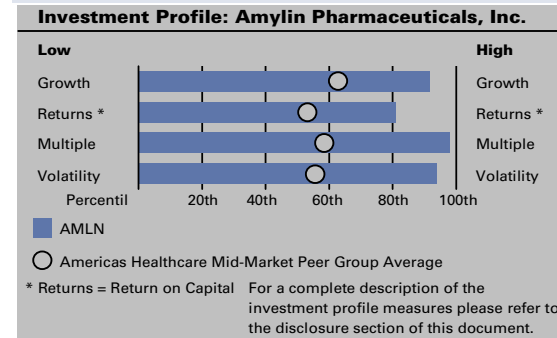
## Sales by division



## Sales by region



## Regional IP Chart

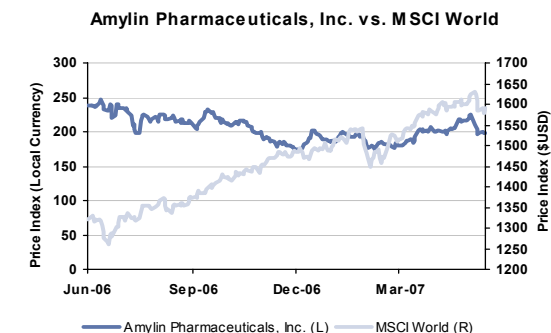


## Key financials

	2006	2007E	2008E	2009E
Revenue	511	804	1,208	1,564
EBIT	-237	-239	-69	49
EPS	-1.78	-1.66	-0.48	0.40
EV/EBITDA				81.3x
P/E				103.3x
Dividend Yield (%)				
FCF yield (%)	-3.7%	-6.5%	-3.3%	-1.3%
CROCI (%)	-214.3%	-103.7%	-12.7%	13.1%
CROCI/WACC (X)				0.7x
EV/GCI (X)	40.2x	17.6x	12.3x	9.4x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

# Elan Corporation (ADR)

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## GS Sustain

Elan Corporation is focused on neurology with a potential Alzheimer's blockbuster in 2010E in addition to a commercial multiple sclerosis therapy.

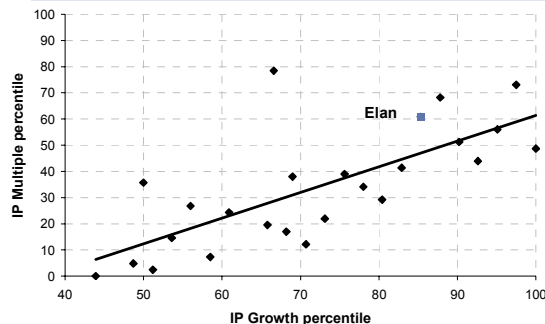
## Description

Elan Corporation plc is a neuroscience based biotechnology company that is focused on discovering, developing, manufacturing and marketing advanced therapies in neurology, autoimmune diseases and severe pain.

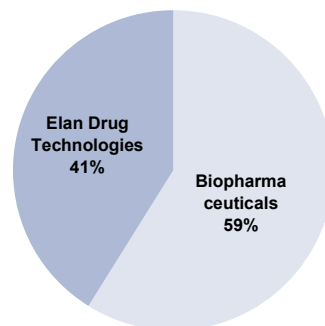
## Analyst view and risks

Our 12-month risk-adjusted DCF target price is \$25/ADR. Taking market closing prices of June 15, 2007 this implies an upside to price target of 15%. Risks include incidences of serious Tysabri side effects and the failure of the development pipeline to produce another commercial product. Our current recommendation on this stock is Buy.

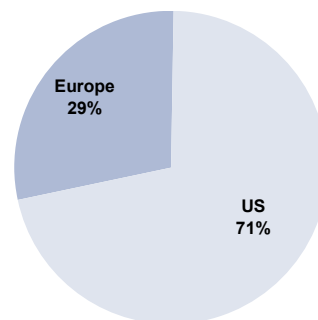
## Global IP multiple vs IP growth



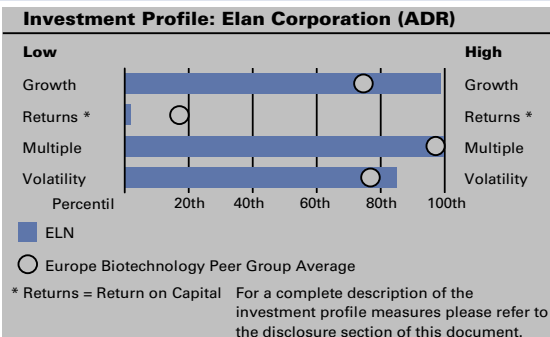
## Sales by division



## Sales by region



## Regional IP Chart

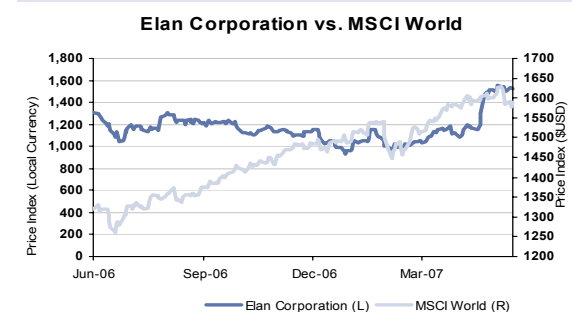


## Key financials

	2006	2007E	2008E	2009E
Revenue	560	778	1,129	1,424
EBIT	-166	-160	0	232
EPS	-0.62	-0.66	-0.28	0.23
EV/EBITDA	N/A	N/A	N/A	N/A
P/E	N/A	N/A	N/A	92.8x
Dividend Yield (%)	N/A	N/A	N/A	N/A
FCF yield (%)	N/A	N/A	N/A	N/A
CROCI (%)	N/A	N/A	N/A	N/A
CROCI/WACC (X)	N/A	N/A	N/A	N/A
EV/GCI (X)	N/A	N/A	N/A	N/A

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

# Genentech Inc.

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## GS Sustain

Genentech, the US market leader for cancer therapies and a developer of treatments for other serious medical conditions. We expect it to sustain about 20% earnings growth in the coming years.

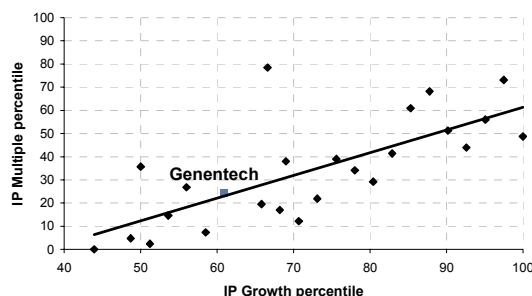
## Description

Genentech is focused on the discovery, development, manufacture, and commercialization of biotherapeutics in the United States. The company is marketing products in cancer, asthma, age-related macular degeneration, cystic fibrosis and other serious medical conditions. It is the market leader in therapies for cancer in the United States. Roche owns 56% of Genentech.

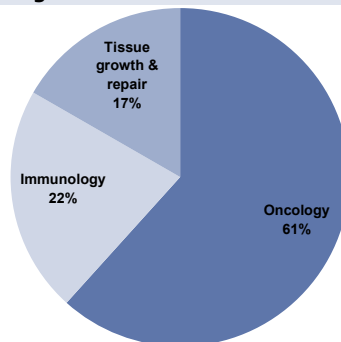
## Analyst view and risks

We view Genentech as attractive based on >20% annual EPS growth in the next few years, a robust pipeline and attractive valuation. Our 12 month target price of \$102 is based on our 2008 EPS (incl. ESO) estimate of \$3.20, 3-year growth rate of 23%, and historic median PEG of 1.4. Taking market closing prices of June 15, 2007 this implies an upside to price target of 32%. Risks to our view include lower sales, unforeseen safety issues with marketed products, development failures, FDA delays, reimbursement and manufacturing constraints, patent disputes and potential acquisitions. Our current recommendation on this stock is Buy.

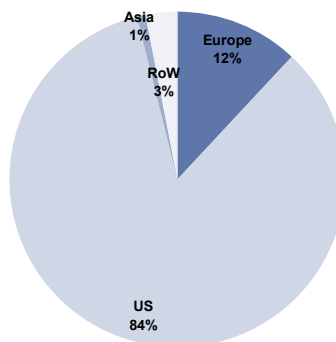
## Global IP multiple vs IP growth



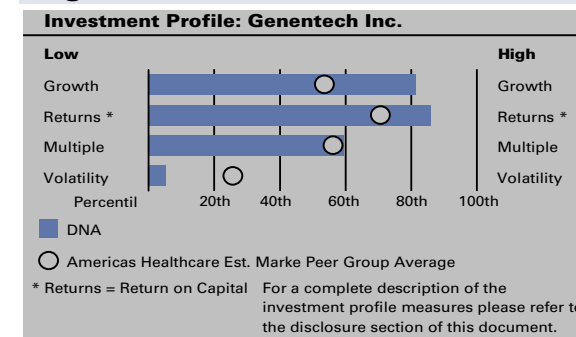
## Sales by division



## Sales by region



## Regional IP Chart

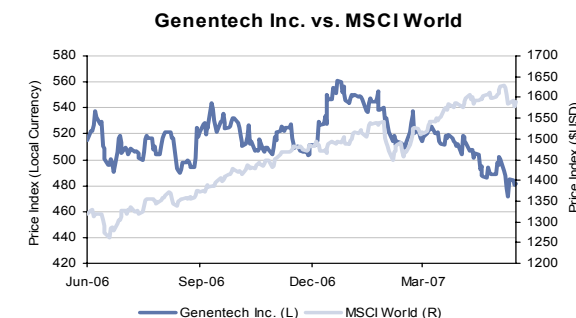


## Key financials

	2006	2007E	2008E	2009E
Revenue	9,283	11,402	12,845	14,252
EBIT	3,311	4,212	5,211	6,259
EPS	2.06	2.60	3.20	3.83
EV/EBITDA	N/A	N/A	13.3x	10.9x
P/E	N/A	N/A	23.6x	19.7x
Dividend Yield (%)	N/A	N/A	N/A	N/A
FCF yield (%)	1.2%	2.3%	3.6%	4.9%
CROCI (%)	22.9%	23.9%	26.8%	30.6%
CROCI/WACC (X)	N/A	N/A	2.2x	2.4x
EV/GCI (X)	7.0x	5.7x	5.2x	4.8x

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

# Genmab

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+44-20-7774-1134

## GS Sustain

Genmab is a Danish-based developer of human antibodies for the treatment of cancer and autoimmune diseases with a low-risk, high-potential pipeline over the next 3-5 years.

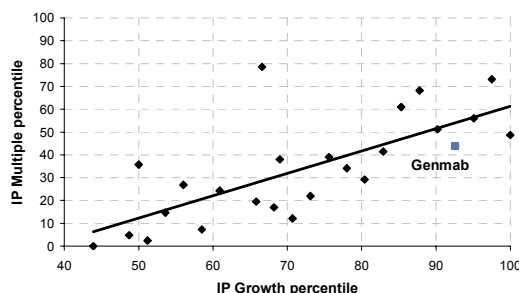
## Description

Genmab is a biotechnology company that creates and develops human antibodies for the treatment of life-threatening and debilitating diseases. Genmab has numerous products in development to treat cancer, infectious disease, rheumatoid arthritis and other inflammatory conditions, and intends to continue assembling a broad portfolio of new therapeutic products. Currently Genmab has six products in clinical trials.

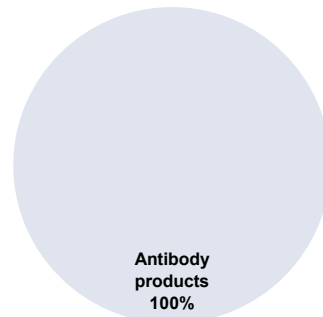
## Analyst view and risks

Our 12-month risk-adjusted DCF-based price target is Dkr535. Taking market closing prices of June 15, 2007 this implies an upside to price target of 34%. Failing to partner HuMax-EGFr would remove a key potential catalyst. R&D pipeline delays/failures, particularly for HuMax-CD20 also present risks. Our current recommendation on this stock is Buy.

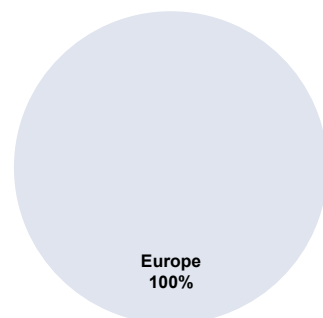
## Global IP multiple vs IP growth



## Sales by division

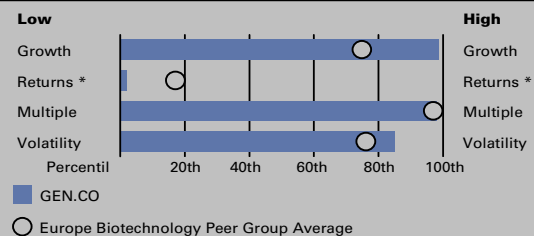


## Sales by region



## Regional IP Chart

### Investment Profile: Genmab



\* Returns = Return on Capital For a complete description of the investment profile measures please refer to the disclosure section of this document.

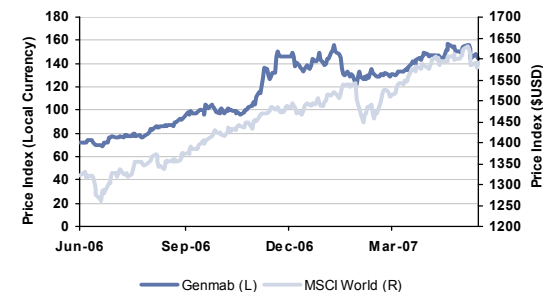
## Key financials

	2006	2007E	2008E	2009E
Revenue	23	79	167	199
EBIT	-79	-74	1	60
EPS	-2.03	-1.17	0.44	1.85
EV/EBITDA				36.0x
P/E			154.0x	36.3x
Dividend Yield (%)				
FCF yield (%)	-5.3%	3.4%	-0.5%	1.5%
CROCI (%)	-324.2%	632.7%	-33.3%	-233.5%
CROCI/WACC (X)				
EV/GCI (X)	221.0x			

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance

### Genmab vs. MSCI World



Source: Company data, Datastream, Goldman Sachs Research estimates.

# Gilead Sciences Inc.

Meg Malloy, CFA

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+1-202-902-7839

## GS Sustain

Gilead is an established global leader in the treatment of HIV and infectious diseases with 9 commercialized products and a robust pipeline.

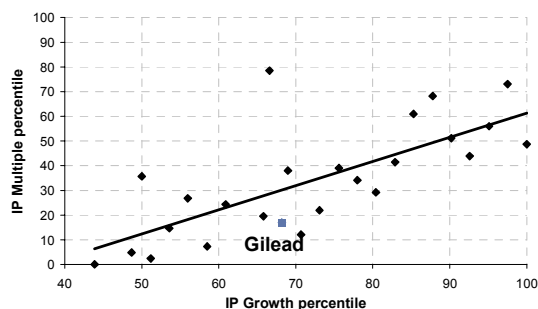
## Description

Gilead Sciences is a biopharmaceutical company that discovers, develops and commercializes innovative therapeutics in areas of unmet medical need of HIV and AIDS. Gilead has nine products in its pipeline with the key ones focusing on areas of pulmonary arterial hypertension, cystic fibrosis, chronic hepatitis B, resistant hypertension and HIV/AIDS.

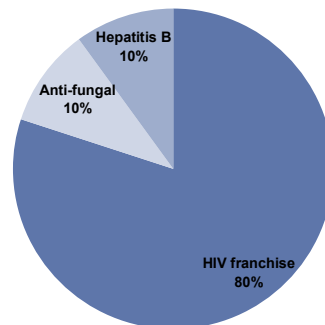
## Analyst view and risks

While GS Research expects HIV franchise expansion to be a core growth driver, a number of late-stage candidates may also contribute meaningfully to growth, including Letairis for pulmonary arterial hypertension (PAH), which was approved in the U.S. in June 2007, aztreonam lysine for cystic fibrosis and tenofovir (Viread) for hepatitis B, where regulatory filings may be submitted in the U.S. by year end 2007. Our 12-month risk-adjusted DCF-based price target is US\$92. Taking market closing prices of June 15, 2007 this implies an upside to price target of 14%. Key risks include slower than expected HIV franchise growth and pipeline setbacks or delays. Our current recommendation on this stock is Buy.

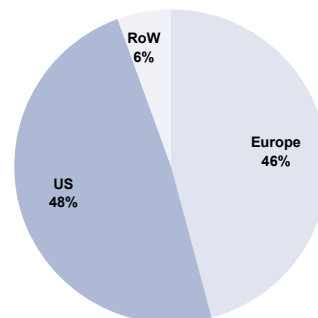
## Global IP multiple vs IP growth



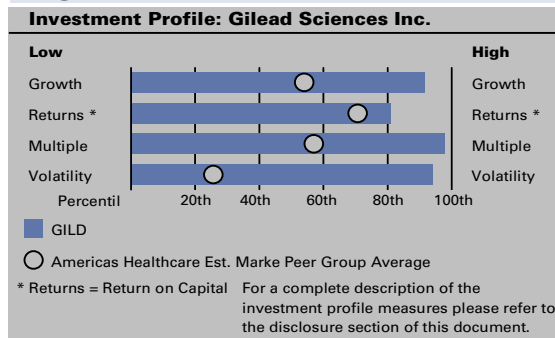
## Sales by division



## Sales by region



## Regional IP Chart

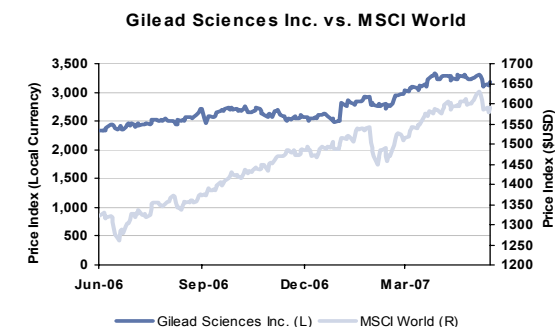


## Key financials

	2006	2007E	2008E	2009E
Revenue	3,026	4,030	4,812	5,621
EBIT	1,635	1,939	2,218	2,598
EPS	2.52	2.90	3.35	3.95
EV/EBITDA	17.2x	18.1x	14.9x	12.1x
P/E	31.4x	27.3x	23.6x	20.0x
Dividend Yield (%)				
FCF yield (%)	-1.8%	3.4%	7.5%	5.0%
CROCI (%)	142.8%	100.8%	219.7%	-2203.7%
CROCI/WACC (X)	8.9x	6.4x		
EV/GCI (X)	22.8x	27.2x		

Note: Financial year end is December 31 and all figures are reported in US\$ mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

# Intercell

Stephen McGarry

stephen.mcgarry@gs.com

+44-207-7774-1134

## GS Sustain

Intercell is a developer of novel vaccines for infectious diseases. It is well-placed to meet the growing need for vaccines globally and benefit from increased focus on vaccination programmes.

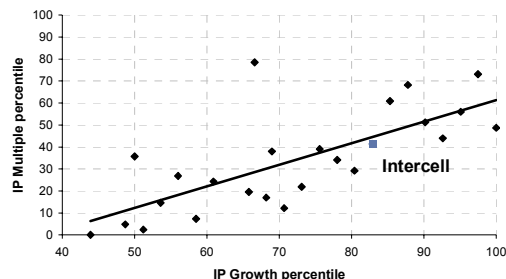
## Description

Intercell AG is a growing biotechnology company which focuses on the design and development of novel vaccines for prevention and treatment of infectious diseases with substantial unmet medical need. The company develops antigens and immunizers (adjuvants) which are derived from its proprietary technology platforms, and has in-house GMP manufacturing capability.

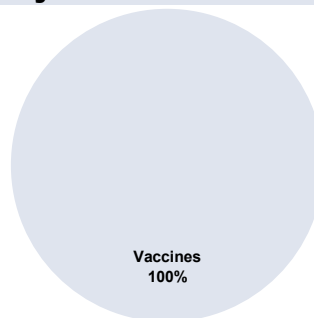
## Analyst view and risks

Our 12-month risk-adjusted DCF target price is €18.9. Taking market closing prices of June 15, 2007 this implies an upside to price target of -22%. Downside risks include any delays to Intercell's development programmes. Upside risks include the signing of further partnering deals and the lack of trading liquidity. Our current recommendation on this stock is Neutral.

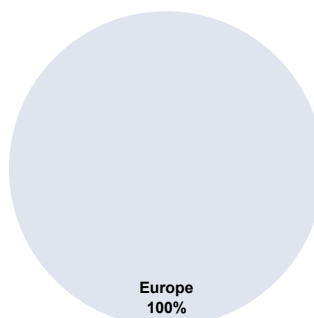
## Global IP multiple vs IP growth



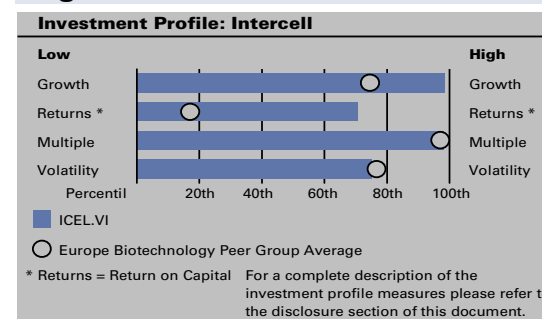
## Sales by division



## Sales by region



## Regional IP Chart

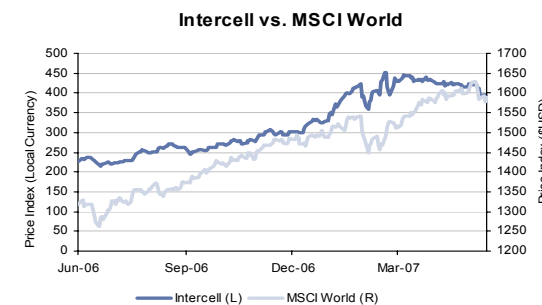


## Key financials

	2006	2007E	2008E	2009E
Revenue	29	48	82	110
EBIT	-20	-10	13	32
EPS	-0.61	-0.24	0.33	0.83
EV/EBITDA	N/A	N/A	79.3x	32.7x
P/E	N/A	N/A	93.7x	37.4x
Dividend Yield (%)	N/A	N/A	N/A	N/A
FCF yield (%)	-3.3%	-0.7%	0.9%	2.5%
CROCI (%)	-203.3%	-111.5%	101.2%	185.9%
CROCI/WACC (X)	N/A	N/A	7.3x	8.2x
EV/GCI (X)	59.2x	109.5x	75.7x	54.9x

Note: Financial year end is 31 December and all figures are reported in USD mn.

## Stock performance



Source: Company data, Datastream, Goldman Sachs Research estimates.

## Appendix: List of select publications

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Jim O'Neill, Global Economic Research

Sandra Lawson, Global Economic Research

- BRICs Monthly – 07/02: Why the BRICs Dream Should Be Green (February 13, 2007)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=3070727&fn=/document.pdf>
- BRICs Monthly – 06/06: Why the BRICs Dream Won't Be Green (October 18, 2006)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=2550275&fn=/document.pdf>
- The World and the BRICs Dream (February 14, 2006)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=1938617&fn=/document.pdf>

Abby Joseph Cohen, Portfolio Strategy, US

Michael A. Moran, Portfolio Strategy, US

- United States: Portfolio Strategy: The growing interest in environmental issues is important to both socially responsible and fundamental investors (August 26, 2005)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=1461119&fn=/document.pdf>
- United States: Portfolio Strategy/Accounting: 2006 accounting agenda – 7 projects to monitors (March 21, 2006)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=2036019&fn=/document.pdf>

Kevin Daly, European Economic Research

Dirk Schumacher, European Economic Research

- European Weekly Analyst: Issue 07/07 Europe's Green Comparative Advantage (February 22, 2007)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=3114055&fn=/document.pdf>
- Gender Inequality, Growth and Global Ageing (December 2006)  
<http://home.gs.com/gsweb/gsr?nodeID=36747>

Kathy Matsui, Portfolio Strategy, Japan

- Japan Quants Focus: Corporate Governance and Enterprise Value (September 15, 2006)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=2467943&fn=/document.pdf>

Jason Channell, Alternative Energy, Europe

Mariano Alarco, Alternative Energy, Europe

Stephen Benson, Alternative Energy, Europe

Daiki Takayama, Alternative Energy, Japan

- Global: Energy: Alternative Energy: Takeaways from our 2<sup>nd</sup> Annual Alternative Energy Conference (May 11, 2007)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=3503463&fn=/document.pdf>
- Global Energy: Alternative Energy: Initiating on three solar companies; Adding Roth & Rau to our Conviction Buy List (April 24, 2007)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=3408855&fn=/document.pdf>
- Alternative Energy: Environmental policy series presentation (March 2007)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=3278414&fn=/document.pdf>
- Europe: Energy: Alternative Energy: A road to cleaner transport: European biofuels (October 23, 2006)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=2561018&fn=/document.pdf>
- Europe: Energy: Alternative Energy: European Renewable Energy – sun, wind and grain (October 16, 2006)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=2541572&fn=/document.pdf>
- Global Technology: Solar Cell Industry Looks Attractive Toward 2010 (March 31, 2006)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=2064581&fn=/document.pdf>
- Asia Pacific: Alternative Energy: A breath of fresh air (April 27, 2006)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=2126616&fn=/document.pdf>

Chris Hussey, Small and Mid Cap, US, Solar and Waste

Michael Molnar, Small and Mid Cap, US, Solar

David Feinberg, CFA, Small and Mid Cap, US, Waste

- Americas: Environmental Services: Waste Management: Garbage getting pricier but where's it going? (May 7, 2007)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=3473475&fn=/document.pdf>
- Americas: Environmental Services: Waste Management: Waste: Price/volume balance beam shakes on Dec. qtr. results (February 21, 2007)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=3107808&fn=/document.pdf>
- Americas: Energy: Alternative Energy: Initiating on Alternative Energy: Searching for renewable profits (October 23, 2006)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=2559330&fn=/document.pdf>



Deane M Dray, CFA, Multi-Industry, US, Global Water

Franklin Chow, CFA, Utilities, China, Water

- United States: Multi-Industry: Takeaways from our UN presentation at World Water Week (August 27, 2006)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=2423565&fn=/document.pdf>
- China: Utilities: Water: Quenching investment thirst (July 25, 2006)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=2340784&fn=/document.pdf>
- US Multi-Industry: Independent Insight: Water utility survey: Growth flows steady (June 19, 2006)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=2260898&fn=/document.pdf>
- Americas: Multi-Industry: Not all water created equal; takeaways from our investment panel (February 12, 2006)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=1933667&fn=/document.pdf>
- Sector Primer: "Water: pure, refreshing defensive growth" presentation (June 2005)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=1301851&fn=/document.pdf>

Jenny Ping, Utilities, Europe, Water and Waste

- United Kingdom: Utilities: Waste in, value out; Biffa and Shanks onto the Conviction Buy List (April 16, 2007)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=3365394&fn=/document.pdf>

Stephen McGarry, European Biotechnology

- Europe: Healthcare: Biotechnology: 2007 sector outlook: Focus on later-stage companies (January 25, 2007)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=2972566&fn=/document.pdf>

May-Kin Ho, US Biotechnology

Meg Malloy, US Biotechnology

- Americas: Healthcare Investment Strategy: Healthcare Intelligence: 2H2007 outlook (June 5, 2007)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=3626743&fn=/document.pdf>
- United States: Healthcare: Biotechnology: Robust news flow may lead to volatility of shares in 2Q2007 (April 9, 2007)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=3330846&fn=/document.pdf>
- Americas: Healthcare: Biotechnology: 2007 Industry Outlook: Stay selective (January 4, 2007)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=2864938&fn=/document.pdf>
- United States: Healthcare: Biotechnology: Biotechnology Products: Thirteenth Edition (December 2006)  
<https://portal.gs.com/gs/portal/?action=action.binary&d=2915590&fn=/document.pdf>

## Appendix: Stocks under coverage

Prices are as of the market close of June 20, 2007.

Industry	Company	Country	Ticker	Mkt cap US\$ mn	GS analyst	Rating	Price	P/E		
								2007E	2008E	2009E
Energy	BG Group	United Kingdom	BG.L	\$ 55,320	Jonathan Waghorn	Sell	799p	14.8x	14.2x	13.9x
Energy	BHP Billiton Plc	United Kingdom	BLT.L	\$ 174,252	Peter Mallin-Jones	Buy	1384p	10.9x	9.9x	11.5x
Energy	BP plc	United Kingdom	BP.L	\$ 232,093	Jonathan Waghorn	Buy	582p	12.0x	9.8x	9.3x
Energy	Chevron Corp.	United States	CVX		Arjun N. Murti		\$80.97			
Energy	China Petroleum and Chemical (H)	China	0386.HK	\$ 98,758	Kelvin Koh, CFA	Sell	HK\$8.90	12.2x	11.6x	12.8x
Energy	CNOOC	China	0883.HK	\$ 49,674	Kelvin Koh, CFA	Buy	HK\$9.13	14.5x	11.6x	10.0x
Energy	ConocoPhillips	United States	COP		Arjun N. Murti		\$78.20			
Energy	ENI	Italy	ENI.MI	\$ 133,349	Michele della Vigna, CFA	Buy	€26.97	10.2x	10.0x	9.9x
Energy	Exxon Mobil Corp.	United States	XOM		Arjun N. Murti		\$82.82			
Energy	Gazprom	Russia	GAZP.RTS	\$ 235,711	Anton Sychev	Buy	\$10.35	10.5x	9.5x	8.3x
Energy	Hess Corp.	United States	HES		Arjun N. Murti		\$58.07			
Energy	Lukoil	Russia	LKOH.RTS	\$ 65,909	Anton Sychev	Neutral	\$79.70	9.5x	9.2x	8.6x
Energy	Marathon Oil Corp.	United States	MRO		Arjun N. Murti		\$61.78			
Energy	Murphy Oil Corp.	United States	MUR		Arjun N. Murti		\$58.14			
Energy	Norsk Hydro	Norway	NHY.OL	\$ 46,106	Michele della Vigna, CFA	Not Rated	Nkr225.25	13.9x	13.4x	13.4x
Energy	Occidental Petroleum Corp.	United States	OXY		Arjun N. Murti		\$57.11			
Energy	OMV	Austria	OMVV.VI	\$ 20,040	Michele della Vigna, CFA	Sell	€50.00	10.3x	9.2x	8.7x
Energy	PetroChina	China	0857.HK	\$ 268,981	Kelvin Koh, CFA	Neutral	HK\$11.74	14.3x	13.4x	13.5x
Energy	Petroleo Brasileiro S.A. (ADR)	Brazil	PBR		Brian Singer, CFA		\$120.83			
Energy	Repsol YPF	Spain	REP.MC	\$ 47,308	Michele della Vigna, CFA	Neutral	€28.88	12.8x	13.3x	13.3x
Energy	Royal Dutch Shell plc (A)	Netherlands	RDSA.AS	\$ 256,641	Jonathan Waghorn	Neutral	€29.51	10.3x	10.4x	10.2x
Energy	Statoil	Norway	STL.OL	\$ 63,659	Michele della Vigna, CFA	Not Rated	Nkr177.25	11.1x	10.1x	9.4x
Energy	TOTAL SA	France	TOTF.PA	\$ 183,887	Michele della Vigna, CFA	Neutral	€59.27	10.9x	10.4x	10.2x
European Media	Antena3	Spain	A3TV.MC	\$ 4,391	Jean-Michel Bonamy	Sell	€15.50	14.8x	13.4x	12.6x
European Media	British Sky Broadcasting	United Kingdom	BSY.L	\$ 24,244	Laurie Davison	Neutral	644p	22.5x	18.3x	14.6x
European Media	EMAP	United Kingdom	EMA.L	\$ 4,108	Veronika Pechlaner, CFA	Neutral	863p	14.3x	13.9x	13.8x
European Media	Havas	France	EURC.PA	\$ 2,412	Jean-Michel Bonamy	Buy	€4.19	23.1x	17.3x	14.6x
European Media	ITV plc	United Kingdom	ITV.L	\$ 9,300	Jean-Michel Bonamy	Buy	113p	20.8x	17.5x	15.4x
European Media	JCDecaux	France	JCDX.PA	\$ 6,991	Jean-Michel Bonamy	Neutral	€23.50	24.2x	21.6x	19.0x
European Media	Lagardere	France	LAGA.PA	\$ 11,715	Veronika Pechlaner, CFA	Neutral	€64.07	34.2x	15.0x	12.9x
European Media	M6 - Metropole Television	France	MMTP.PA	\$ 4,313	Jean-Michel Bonamy	Neutral	€24.37	19.8x	19.6x	15.3x
European Media	Mediaset	Italy	MS.MI	\$ 12,679	Jean-Michel Bonamy	Not Rated	€8.00	17.0x	16.5x	15.0x
European Media	Pearson	United Kingdom	PERSON.L	\$ 13,263	Veronika Pechlaner, CFA	Neutral	832p	19.2x	17.0x	15.1x
European Media	Publicis	France	PUBP.PA	\$ 8,611	Jean-Michel Bonamy	Buy	€32.56	17.4x	15.0x	13.5x
European Media	Reed Elsevier (UK)	United Kingdom	REL.L	\$ 16,238	Veronika Pechlaner, CFA	Neutral	644p	18.0x	16.4x	14.8x
European Media	Sanoma WSOY	Finland	SWSBV.HE	\$ 4,676	Veronika Pechlaner, CFA	Neutral	€22.56	16.8x	15.9x	15.1x
European Media	Telecinco	Spain	TL5.MC	\$ 6,959	Jean-Michel Bonamy	Not Rated	€21.03	15.7x	14.9x	14.5x
European Media	TF1	France	TFFP.PA	\$ 7,573	Jean-Michel Bonamy	Sell	€26.36	21.9x	19.1x	15.4x
European Media	United Business Media	United Kingdom	UBM.L	\$ 4,033	Veronika Pechlaner, CFA	Buy	801p	16.5x	14.5x	13.5x
European Media	Vivendi	France	VIV.PA	\$ 49,312	Jean-Michel Bonamy	Buy	€31.80	14.1x	13.1x	12.0x
European Media	Wolters Kluwer	Netherlands	WLSNc.AS	\$ 9,395	Veronika Pechlaner, CFA	Buy	€22.86	16.0x	14.0x	12.9x
European Media	WPP Group plc	United Kingdom	WPP.L	\$ 18,098	Jean-Michel Bonamy	Not Rated	732p	16.4x	14.3x	12.5x
European Media	Yell Group	United Kingdom	YELL.L	\$ 7,452	Veronika Pechlaner, CFA	Neutral	485p	12.9x	11.4x	10.6x

Source: Datastream, Goldman Sachs Research estimates.

Industry	Company	Country	Ticker	Mkt cap US\$ mn	GS analyst	Rating	Price	P/E		
								2007E	2008E	2009E
Food & Beverages	Anheuser-Busch Companies, Inc.	United States	BUD	\$ 40,823	Judy E. Hong	Sell	\$52.79	19.1x	17.5x	15.9x
Food & Beverages	Associated British Foods	United Kingdom	ABF.L	\$ 14,450	Mark Lynch	Neutral	919p	16.9x	15.2x	13.7x
Food & Beverages	Cadbury Schweppes	United Kingdom	CBRY.L	\$ 28,409	Mark Lynch	Not Rated	688p	23.1x	20.7x	19.1x
Food & Beverages	Campbell Soup Co.	United States	CPB	\$ 15,737	Steven T. Kron, CFA	Sell	\$38.57	18.9x	17.5x	
Food & Beverages	Carlsberg	Denmark	CARLb.CO	\$ 9,215	Mike Gibbs	Sell	Dkr672.00	25.4x	20.3x	19.2x
Food & Beverages	Coca-Cola Enterprises, Inc.	United States	CCE	\$ 11,085	Judy E. Hong	Sell	\$23.24	19.2x	16.7x	15.0x
Food & Beverages	Coca-Cola HBC	Greece	HLB.AT	\$ 10,900	Mike Gibbs	Neutral	€33.56	18.6x	16.2x	14.1x
Food & Beverages	Constellation Brands	United States	STZ	\$ 5,707	Judy E. Hong	Neutral	\$23.84	16.7x	14.2x	12.4x
Food & Beverages	Danisco	Denmark	DCO.CO	\$ 3,886	Mark Lynch	Not Rated	Dkr442.50	21.7x	18.4x	14.8x
Food & Beverages	Danone	France	DANO.PA	\$ 39,056	Mark Lynch	Buy	€58.06	20.7x	18.3x	16.3x
Food & Beverages	Diageo	United Kingdom	DGE.L	\$ 58,954	Mike Gibbs	Neutral	1073p	18.3x	16.6x	15.2x
Food & Beverages	General Mills, Inc.	United States	GIS	\$ 21,562	Steven T. Kron, CFA	Neutral	\$59.06	17.9x	16.6x	
Food & Beverages	Heineken	Netherlands	HEIN.AS	\$ 28,664	Mike Gibbs	Buy	€43.60	19.8x	16.8x	15.2x
Food & Beverages	InBev	Belgium	INTB.BR	\$ 49,763	Mike Gibbs	Neutral	€61.00	20.5x	17.9x	16.2x
Food & Beverages	Kellogg Company	United States	K	\$ 20,661	Steven T. Kron, CFA	Buy	\$51.60	18.6x	16.9x	15.3x
Food & Beverages	Kraft Foods Inc.	United States	KFT	\$ 58,685	Steven T. Kron, CFA	Sell	\$34.46	19.0x	18.1x	16.6x
Food & Beverages	Molson Coors Brewing Co.	United States	TAP	\$ 8,120	Judy E. Hong	Neutral	\$91.11	17.6x	15.0x	12.7x
Food & Beverages	Nestle	Switzerland	NESN.VX	\$ 144,617	Mark Lynch	Neutral	SFr460.75	17.8x	16.1x	14.6x
Food & Beverages	Numico	Netherlands	NUMCc.AS	\$ 8,533	Mark Lynch	Neutral	€36.98	23.3x	20.2x	17.4x
Food & Beverages	PepsiCo, Inc.	United States	PEP	\$ 109,615	Judy E. Hong	Buy	\$65.52	20.1x	17.9x	16.0x
Food & Beverages	Pernod Ricard	France	PERP.PA	\$ 24,474	Mike Gibbs	Neutral	€161.60	19.9x	18.1x	16.2x
Food & Beverages	SABMiller	United Kingdom	SAB.L	\$ 35,052	Mike Gibbs	Neutral	1282p	20.4x	18.1x	16.0x
Food & Beverages	Scottish & Newcastle	United Kingdom	SCTN.L	\$ 12,220	Mike Gibbs	Buy	648p	17.1x	15.2x	14.2x
Food & Beverages	Suedzucker AG	Germany	SZUG.DE	\$ 4,180	Mark Lynch	Sell	€16.45		124.3x	21.0x
Food & Beverages	Tate & Lyle	United Kingdom	TATE.L	\$ 5,420	Mark Lynch	Neutral	571p	12.5x	11.8x	10.7x
Food & Beverages	The Coca-Cola Company	United States	KO	\$ 119,508	Judy E. Hong	Buy	\$51.49	19.9x	17.6x	15.7x
Food & Beverages	The Hershey Co.	United States	HSY	\$ 12,005	Steven T. Kron, CFA	Neutral	\$50.51	20.5x	18.7x	17.1x
Food & Beverages	The Pepsi Bottling Group	United States	PBG	\$ 7,931	Judy E. Hong	Neutral	\$34.04	16.3x	14.7x	13.3x
Food & Beverages	Unilever (NV)	Netherlands	UNc.AS	\$ 86,416	Mark Lynch	Neutral	€22.11	16.7x	15.6x	14.7x
Food & Beverages	Wm. Wrigley Jr. Co.	United States	WWY	\$ 15,345	Steven T. Kron, CFA	Neutral	\$55.29	24.6x	22.1x	20.1x
Mining & Steel	Acerinox	Spain	ACX.MC	\$ 6,490	Peter Mallin-Jones	Sell	€18.64	10.3x	11.4x	15.6x
Mining & Steel	Alcan Inc.	Canada	AL	\$ 30,211	Oscar Cabrera	Not Rated	\$83.10	12.6x	13.4x	13.7x
Mining & Steel	ALCOA	United States	AA	\$ 34,957	Oscar Cabrera	Not Rated	\$40.25	12.2x	12.0x	12.6x
Mining & Steel	Aluminum Corporation of China (H)	China	2600.HK	\$ 21,110	Song Shen	Buy	HK\$12.80	12.1x	10.8x	12.5x
Mining & Steel	Anglo American plc	United Kingdom	AAL.L	\$ 88,405	Peter Mallin-Jones	Neutral	3100p	11.6x	12.0x	14.6x
Mining & Steel	Anglo Platinum	South Africa	AMSJ.J	\$ 39,623	Peter Mallin-Jones	Sell	R1284.00	15.9x	18.5x	22.6x
Mining & Steel	Arcelor Mittal	Luxembourg	MTP.PA	\$ 94,757	Peter Mallin-Jones	Not Rated	€49.46	10.6x	9.7x	10.5x
Mining & Steel	BHP Billiton Plc	United Kingdom	BLT.L	\$ 174,252	Peter Mallin-Jones	Buy	1384p	10.9x	9.9x	11.5x
Mining & Steel	China Steel Corporation	Taiwan	2002.TW	\$ 13,388	Rajeev Das	Neutral	NT\$39.90	9.7x	9.2x	9.8x
Mining & Steel	Compan. Vale do Rio Doce (ADR)	Brazil	RIO_P	\$ 87,124	Oscar Cabrera	Buy	\$37.83	8.1x	6.9x	6.1x
Mining & Steel	Impala Platinum Holdings Ltd.	South Africa	IMPJ.J	\$ 19,612	Peter Mallin-Jones	Neutral	R245.00	18.2x	20.3x	26.3x
Mining & Steel	Lonmin	United Kingdom	LMI.L	\$ 12,089	Peter Mallin-Jones	Neutral	4254p	19.1x	18.7x	21.2x
Mining & Steel	Outokumpu	Finland	OUT1V.HE	\$ 6,432	Peter Mallin-Jones	Sell	€26.48	7.0x	10.7x	10.6x
Mining & Steel	POSCO	South Korea	005490.KS	\$ 44,416	Rajeev Das	Neutral	W472500.00	11.7x	8.9x	
Mining & Steel	Rio Tinto plc	United Kingdom	RIO.L	\$ 106,239	Peter Mallin-Jones	Neutral	3838p	12.3x	10.6x	11.8x
Mining & Steel	Salzgitter	Germany	SZGG.DE	\$ 11,419	Peter Mallin-Jones	Buy	€148.35	10.7x	11.7x	13.7x
Mining & Steel	Teck Cominco Ltd. (Toronto)	Canada	TEK_B.TO	\$ 19,380	Oscar Cabrera	Buy	C\$47.87	8.6x	8.2x	9.7x
Mining & Steel	ThyssenKrupp	Germany	TKAG.DE	\$ 31,368	Peter Mallin-Jones	Neutral	€45.44	10.5x	10.2x	10.3x
Mining & Steel	U.S. Steel Group	United States	X	\$ 12,246	Aldo Mazzaferro, CFA	Not Rated	\$112.52	11.1x	10.7x	11.1x
Mining & Steel	Vedanta Resources	United Kingdom	VED.L	\$ 9,269	Peter Mallin-Jones	Neutral	1624p	8.7x	6.5x	6.2x
Mining & Steel	Voestalpine	Austria	VOES.VI	\$ 13,209	Peter Mallin-Jones	Neutral	€62.62	10.4x	10.9x	12.9x
Mining & Steel	Xstrata plc	United Kingdom	XTA.L	\$ 59,576	Peter Mallin-Jones	Buy	3082p	9.3x	9.6x	13.2x

Source: Datastream, Goldman Sachs Research estimates.

Industry	Company	Country	Ticker	Mkt cap US\$ mn	GS analyst	Rating	Price	P/E		
								2007E	2008E	2009E
Pharmaceuticals	Allergan, Inc.	United States	AGN	\$ 17,678	James Kelly	Neutral	\$116.57	27.1x	22.7x	18.8x
Pharmaceuticals	AstraZeneca	United Kingdom	AZN.L	\$ 77,856	John Murphy	Not Rated	2608p	13.6x	13.6x	11.3x
Pharmaceuticals	Barr Pharmaceuticals, Inc.	United States	BRL	\$ 5,526	Randall Stanicky, CFA	Buy	\$51.15	18.0x	14.4x	12.8x
Pharmaceuticals	Bristol-Myers Squibb Company	United States	BMJ	\$ 61,429	James Kelly	Neutral	\$31.23	21.0x	19.3x	16.8x
Pharmaceuticals	Chugai Pharmaceutical	Japan	4519.T	\$ 10,488	Kyoko Sato	Neutral	¥2340.00	33.6x	29.0x	21.8x
Pharmaceuticals	Eisai	Japan	4523.T	\$ 12,243	Kyoko Sato	Neutral	¥5330.00	18.6x	16.4x	15.0x
Pharmaceuticals	Eli Lilly & Company	United States	LLY	\$ 64,245	James Kelly	Buy	\$56.77	16.7x	14.7x	13.3x
Pharmaceuticals	Forest Laboratories	United States	FRX	\$ 14,578	James Kelly	Sell	\$45.91	15.0x	14.4x	13.4x
Pharmaceuticals	GlaxoSmithKline	United Kingdom	GSK.L	\$ 146,046	John Murphy	Neutral	1315p	13.3x	12.6x	11.6x
Pharmaceuticals	Merck & Co., Inc.	United States	MRK	\$ 107,196	James Kelly	Neutral	\$49.26	16.6x	16.6x	14.2x
Pharmaceuticals	Merck KGaA	Germany	MRCG.DE	\$ 26,318	Dani Saurymper	Not Rated	€102.75	24.6x	20.8x	17.7x
Pharmaceuticals	Novartis	Switzerland	NOVN.VX	\$ 128,104	John Murphy	Neutral	SFr68.90	9.8x	16.0x	14.1x
Pharmaceuticals	Novo Nordisk	Denmark	NOVOb.CO	\$ 32,393	John Murphy	Sell	Dkr565.00	19.1x	20.2x	18.2x
Pharmaceuticals	Ono Pharmaceutical	Japan	4528.OS	\$ 6,411	Kyoko Sato	Neutral	¥6750.00	22.7x	23.5x	22.3x
Pharmaceuticals	Pfizer Inc.	United States	PFE	\$ 189,251	James Kelly	Buy	\$25.71	12.0x	10.9x	10.1x
Pharmaceuticals	Roche	Switzerland	ROG.VX	\$ 154,262	John Murphy	Buy	SFr216.40	18.4x	15.7x	13.6x
Pharmaceuticals	sanofi-aventis	France	SASY.PA	\$ 111,406	John Murphy	Neutral	€61.65	11.5x	10.8x	10.4x
Pharmaceuticals	Schering-Plough Corp.	United States	SGP	\$ 44,045	James Kelly	Not Rated	\$29.74	24.6x	22.2x	19.6x
Pharmaceuticals	Shionogi	Japan	4507.T	\$ 5,510	Kyoko Sato	Neutral	¥2000.00	28.9x	22.7x	18.0x
Pharmaceuticals	Shire	United Kingdom	SHP.L	\$ 13,253	Dani Saurymper	Neutral	1220p	30.6x	21.3x	15.9x
Pharmaceuticals	Takeda Pharmaceutical	Japan	4502.T	\$ 55,403	Kyoko Sato	Buy	¥7900.00	18.4x	16.8x	15.7x
Pharmaceuticals	Teva Pharmaceuticals	Israel	TEVA	\$ 32,733	Randall Stanicky, CFA	Buy	\$39.58	17.8x	14.8x	12.7x
Pharmaceuticals	UCB	Belgium	UCBBt.BR	\$ 11,251	Dani Saurymper	Sell	€45.75	41.0x	22.7x	21.3x
Pharmaceuticals	Wyeth	United States	WYE	\$ 76,702	James Kelly	Neutral	\$57.00	16.4x	14.8x	13.1x
Biotechnology	Acambis	United Kingdom	ACM.L	\$ 257	Stephen McGarry	Buy	120p			
Biotechnology	Actelion	Switzerland	ATLN.S	\$ 5,825	Stephen McGarry	Buy	SFr58.85	20.5x	16.8x	14.3x
Biotechnology	Alexion Pharmaceuticals, Inc.	United States	ALXN	\$ 1,669	Meg Malloy, CFA	Neutral	\$46.70			46.8x
Biotechnology	Amgen Inc.	United States	AMGN	\$ 67,308	May-Kin Ho, Ph.D.	Buy	\$57.70	13.8x	12.8x	11.8x
Biotechnology	Amylin Pharmaceuticals, Inc.	United States	AMLN	\$ 5,379	Meg Malloy, CFA	Buy	\$41.30			103.3x
Biotechnology	Arpida	Switzerland	ARPN.S	\$ 556	Stephen McGarry	Neutral	SFr36.00			
Biotechnology	Basilea	Switzerland	BSLN.S	\$ 2,005	Stephen McGarry	Neutral	SFr270.75			
Biotechnology	Biogen Idec, Inc.	United States	BIIB	\$ 17,591	May-Kin Ho, Ph.D.	Neutral	\$51.37	21.0x	18.4x	16.7x
Biotechnology	Biovitrum	Sweden	BVT.ST	\$ 659	Stephen McGarry	Neutral	Skr105.00	25.0x	36.9x	
Biotechnology	Celgene Corp.	United States	CELG	\$ 21,687	May-Kin Ho, Ph.D.	Neutral	\$57.44	58.1x	39.1x	30.5x
Biotechnology	Crucell	Netherlands	CRCLAS	\$ 1,420	Stephen McGarry	Sell	€16.48			
Biotechnology	Cubist Pharmaceuticals, Inc.	United States	CBST	\$ 1,148	Meg Malloy, CFA	Neutral	\$20.82	39.5x	29.8x	20.8x
Biotechnology	Cytokinetics, Inc.	United States	CYTK	\$ 284	Meg Malloy, CFA	Sell	\$6.06			
Biotechnology	Elan Corporation (ADR)	Ireland	ELN		Stephen McGarry	Buy	\$21.13			92.8x
Biotechnology	Exelixis, Inc.	United States	EXEL	\$ 1,106	May-Kin Ho, Ph.D.	Neutral	\$11.55			
Biotechnology	Genentech Inc.	United States	DNA	\$ 79,472	May-Kin Ho, Ph.D.	Buy	\$75.40	29.0x	23.6x	19.7x
Biotechnology	Genmab	Denmark	GEN.CO	\$ 3,002	Stephen McGarry	Buy	Dkr379.00		156.9x	37.0x
Biotechnology	Genzyme Corp.	United States	GENZ	\$ 16,969	Meg Malloy, CFA	Buy	\$64.41	24.3x	21.1x	17.2x
Biotechnology	Gilead Sciences Inc.	United States	GILD	\$ 36,755	Meg Malloy, CFA	Buy	\$79.10	27.3x	23.6x	20.0x
Biotechnology	GPC Biotech	Germany	GPCG.DE	\$ 923	Stephen McGarry	Buy	€19.85			30.7x
Biotechnology	GTx, Inc.	United States	GTXI	\$ 627	Meg Malloy, CFA	Neutral	\$17.99			
Biotechnology	Human Genome Sciences, Inc.	United States	HGSI	\$ 1,313	Meg Malloy, CFA	Neutral	\$9.80			
Biotechnology	Idenix Pharmaceuticals, Inc.	United States	IDIX	\$ 350	May-Kin Ho, Ph.D.	Neutral	\$6.24			
Biotechnology	Ilumina Inc	United States	ILMN	\$ 2,230	May-Kin Ho, Ph.D.	Neutral	\$40.54	68.7x	42.2x	30.7x
Biotechnology	Imclone Systems	United States	IMCL	\$ 3,143	May-Kin Ho, Ph.D.	Buy	\$36.88	31.1x	21.9x	21.5x
Biotechnology	Intercell	Austria	ICEL.VI	\$ 1,257	Stephen McGarry	Neutral	€23.70		95.7x	38.2x
Biotechnology	Maxygen	United States	MAXY	\$ 308	May-Kin Ho, Ph.D.	Sell	\$8.54			
Biotechnology	Medarex, Inc.	United States	MEDX	\$ 1,824	Meg Malloy, CFA	Neutral	\$14.68			
Biotechnology	MediGene	Germany	MDGG.DE	\$ 223	Stephen McGarry	Sell	€5.21			
Biotechnology	Millennium Pharmaceuticals, Inc.	United States	MLNM	\$ 3,287	May-Kin Ho, Ph.D.	Neutral	\$10.40		115.6x	86.7x
Biotechnology	NPS Pharmaceuticals, Inc.	United States	NPSP	\$ 202	May-Kin Ho, Ph.D.	Neutral	\$4.36			
Biotechnology	OSI Pharmaceuticals, Inc.	United States	OSIP	\$ 2,123	May-Kin Ho, Ph.D.	Neutral	\$36.99	25.8x	22.9x	18.2x
Biotechnology	Qiagen, N.V.	Germany	QGEN	\$ 2,652	May-Kin Ho, Ph.D.	Not Rated	\$17.71	29.0x	23.9x	19.9x
Biotechnology	Renovis, Inc.	United States	RNVS	\$ 105	May-Kin Ho, Ph.D.	Neutral	\$3.55			
Biotechnology	Renovo	United Kingdom	RNVOL	\$ 810	Stephen McGarry	Buy	214p			
Biotechnology	Theravance, Inc.	United States	THRX	\$ 1,887	May-Kin Ho, Ph.D.	Neutral	\$31.34			
Biotechnology	Trimeris, Inc.	United States	TRMS	\$ 153	Meg Malloy, CFA	Neutral	\$6.93	12.4x	36.5x	34.7x
Biotechnology	Vernalis	United Kingdom	VER.L	\$ 381	Stephen McGarry	Buy	61p			
Biotechnology	Vertex Pharmaceuticals, Inc.	United States	VRTX	\$ 3,447	Meg Malloy, CFA	Neutral	\$27.22			
Biotechnology	Vical Inc.	United States	VICL	\$ 221	May-Kin Ho, Ph.D.	Sell	\$5.64			
Biotechnology	ViroPharma Inc.	United States	VPHM	\$ 978	Meg Malloy, CFA	Neutral	\$14.01	14.7x	30.4x	63.6x
Biotechnology	Zeltia	Spain	ZEL.MC	\$ 2,101	Stephen McGarry	Sell	€7.26			

Source: Datastream, Goldman Sachs Research estimates.

Industry	Company	Country	Ticker	Mkt cap US\$ mn	GS analyst	Rating	Price	P/E		
								2007E	2008E	2009E
Alternative energy	Abengoa	Spain	ABG.MC	\$ 3,687	Jason Channell	Sell	€30.37	23.4x	18.7x	18.3x
Alternative energy	Aleo Solar	Germany	AS1Gn.DE	\$ 229	Jason Channell	Neutral	€13.12	20.4x	16.4x	12.2x
Alternative energy	Astra Agro Lestari	Indonesia	AALI.JK	\$ 2,544	Patrick Tiah, CFA	Buy	Rp14450.00	13.1x	11.3x	10.2x
Alternative energy	Ballard Power Systems Inc.	Canada	BLDP	\$ 554	Chris Hussey	Neutral	\$4.84			
Alternative energy	Biopetrol Industries	Germany	B2I.DE	\$ 367	Mariano Alarco	Neutral	€7.39	20.0x	11.9x	8.7x
Alternative energy	Clipper Windpower	United Kingdom	CWP.L	\$ 1,820	Jason Channell	Sell	855p	68.1x	43.1x	28.7x
Alternative energy	D1 Oils	United Kingdom	DOO.L	\$ 150	Mariano Alarco	Buy	239p			15.2x
Alternative energy	Energy Conversion Devices, Inc.	United States	ENER	\$ 1,173	Chris Hussey	Not Rated	\$29.69		40.9x	26.5x
Alternative energy	Ersol Solar Energy AG	Germany	ES6G.DE	\$ 785	Jason Channell	Neutral	€59.70	37.1x	13.4x	8.8x
Alternative energy	Evergreen Energy Inc.	United States	EEE	\$ 489	Chris Hussey	Neutral	\$6.00			
Alternative energy	Evergreen Solar, Inc.	United States	ESLR	\$ 613	Chris Hussey	Neutral	\$9.15			13.7x
Alternative energy	Fuel Tech, Inc	United States	FTEK	\$ 751	Chris Hussey	Neutral	\$33.97	80.5x	48.1x	30.6x
Alternative energy	FuelCell Energy, Inc.	United States	FCEL	\$ 413	Chris Hussey	Sell	\$7.76			
Alternative energy	Gamesa Corp Tecnologica SA	Spain	GAM.MC	\$ 8,984	Jason Channell	Neutral	€27.52	24.4x	20.4x	17.3x
Alternative energy	Golden Hope Plantations	Malaysia	GHOP.KL	\$ 3,528	Patrick Tiah, CFA	Neutral	RM8.50	18.5x	12.8x	
Alternative energy	Headwaters Inc.	United States	HW	\$ 749	Chris Hussey	Neutral	\$17.77	10.4x	19.4x	21.5x
Alternative energy	IOI Corporation	Malaysia	IOIB.KL	\$ 9,776	Patrick Tiah, CFA	Sell	RM5.45	22.5x	19.2x	
Alternative energy	Kuala Lumpur Kepong	Malaysia	KLKK.KL	\$ 4,130	Patrick Tiah, CFA	Neutral	RM13.30	17.7x	15.0x	
Alternative energy	Kumpulan Guthrie	Malaysia	KGBK.KL	\$ 1,923	Patrick Tiah, CFA	Not Rated	RM6.55	15.4x	12.8x	11.1x
Alternative energy	London Sumatra Indonesia	Indonesia	LSIP.JK	\$ 938	Patrick Tiah, CFA	Buy	Rp6600.00	14.2x	11.7x	10.1x
Alternative energy	Novera Energy	United Kingdom	NVE.L	\$ 184	Jason Channell	Neutral	75p			72.2x
Alternative energy	Phoenix Solar AG	Germany	PS4G.DE	\$ 158	Jason Channell	Buy	€19.40	17.2x	13.0x	9.7x
Alternative energy	PPB Oil Palms Bhd	Malaysia	PPBO.KL			Not Available	RM15.20			
Alternative energy	Q-Cells AG	Germany	QCEG.DE	\$ 9,267	Jason Channell	Neutral	€63.33	41.7x	35.6x	21.4x
Alternative energy	ReneSola	United Kingdom	SOLA.L	\$ 1,214	Jason Channell	Neutral	552p	15.4x	11.6x	11.5x
Alternative energy	Renewable Energy Corporation	Norway	REC.OL	\$ 17,821	Jason Channell	Sell	Nkr216.00	53.4x	43.7x	23.4x
Alternative energy	Rentech, Inc.	United States	RTK	\$ 339	Chris Hussey	Neutral	\$2.38			
Alternative energy	REpower Systems	Germany	RPWGn.DE	\$ 1,442	Jason Channell	Neutral	€132.65	51.1x	26.7x	17.8x
Alternative energy	Roth & Rau	Germany	R8RG.DE	\$ 306	Jason Channell	Buy	€99.00	31.8x	20.8x	14.4x
Alternative energy	Sime Darby Bhd	Malaysia	SIME.KL	\$ 7,189	Patrick Tiah, CFA	Neutral	RM10.00	20.1x	17.6x	
Alternative energy	Solar Fabrik AG	Germany	SFXG.DE	\$ 232	Jason Channell	Neutral	€21.38	31.9x	18.3x	20.1x
Alternative energy	Solar Millennium	Germany	S2MG.DE	\$ 519	Jason Channell	Neutral	€38.99	23.9x	20.7x	18.0x
Alternative energy	Solarfun Power Holdings	China	SOLF	\$ 459	Cheryl Tang	Neutral	\$9.57	50.5x	16.5x	10.6x
Alternative energy	SolarWorld AG	Germany	SWVG.DE	\$ 5,099	Jason Channell	Neutral	€68.03	32.6x	26.1x	24.3x
Alternative energy	SOLO AG	Germany	SOOG.DE	\$ 532	Jason Channell	Neutral	€42.92	20.5x	16.3x	12.0x
Alternative energy	SunPower Corp.	United States	SPWR	\$ 4,383	Chris Hussey	Neutral	\$59.45		63.3x	25.6x
Alternative energy	Suntech Power	China	STP	\$ 4,928	Cheryl Tang	Neutral	\$33.14	31.1x	21.9x	17.0x
Alternative energy	VeraSun Energy Corp.	United States	VSE		Arjun N. Murti		\$13.08			
Alternative energy	Vestas Wind Systems	Denmark	VWS.CO	\$ 12,902	Jason Channell	Buy	Dkr386.50	39.2x	22.0x	17.5x
Alternative energy	Wilmar International	Singapore	WLIL.SI	\$ 5,047	Patrick Tiah, CFA	Buy	S\$3.06	22.0x	19.1x	16.9x

Source: Datastream, Goldman Sachs Research estimates.

Industry	Company	Country	Ticker	Mkt cap US\$ mn	GS analyst	Rating	Price	P/E		
								2007E	2008E	2009E
Environmental technology	American Ecology Corp.	United States	ECOL	\$ 395	Chris Hussey	Neutral	\$21.68	20.4x	17.6x	16.1x
Environmental technology	American Standard Cos., Inc.	United States	ASD	\$ 11,952	Deane M. Dray, CFA	Neutral	\$59.58	17.8x	16.1x	14.7x
Environmental technology	Beijing Capital	China	600008.SS	\$ 4,107	Franklin Chow, CFA	Neutral	Rmb14.22	68.8x	62.1x	57.9x
Environmental technology	Biffa Plc	United Kingdom	BIFF.L	\$ 2,046	Jenny Ping	Buy	294p	20.3x	18.5x	17.0x
Environmental technology	Clean Harbors, Inc.	United States	CLHB	\$ 928	Chris Hussey	Neutral	\$46.98	22.8x	19.1x	17.1x
Environmental technology	Crane Co.	United States	CR	\$ 2,761	Deane M. Dray, CFA	Sell	\$45.86	15.5x	14.1x	13.1x
Environmental technology	Daiseki	Japan	9793.T	\$ 821	Yasuo Kono	Neutral	¥2495.00	28.3x	25.7x	23.5x
Environmental technology	FP	Japan	7947.OS	\$ 708	Yasuo Kono	Buy	¥4010.00	16.5x	14.1x	12.6x
Environmental technology	Goodman Global, Inc.	United States	GGL	\$ 1,480	Deane M. Dray, CFA	Neutral	\$21.45	15.9x	13.8x	12.3x
Environmental technology	Guangdong Investment	China	0270.HK	\$ 3,627	Franklin Chow, CFA	Neutral	HK\$4.71	18.2x	16.9x	16.5x
Environmental technology	Hyflux	Singapore	HYFL.SI	\$ 961	Christina Hee, CFA	Neutral	S\$2.84	38.8x	35.8x	26.6x
Environmental technology	ITT Corp.	United States	ITT	\$ 12,942	Deane M. Dray, CFA	Neutral	\$69.06	19.5x	17.5x	16.1x
Environmental technology	Kelda	United Kingdom	KEL.L	\$ 6,857	Jenny Ping	Neutral	946p	14.5x	13.0x	12.2x
Environmental technology	LKQ Corp.	United States	LKQX	\$ 1,284	Chris Hussey	Buy	\$24.08	23.6x	18.3x	15.3x
Environmental technology	Matsuda Sangyo	Japan	7456.T	\$ 513	Yasuo Kono	Neutral	¥2665.00	13.0x	12.2x	
Environmental technology	Nalco Holding Company	United States	NLC	\$ 4,267	Robert Koort, CFA	Neutral	\$28.83	27.5x	19.4x	
Environmental technology	Northumbrian Water Group	United Kingdom	NWG.L	\$ 3,230	Jenny Ping	Neutral	313p	14.0x	12.9x	12.5x
Environmental technology	Pennon	United Kingdom	PNN.L	\$ 4,294	Jenny Ping	Neutral	620p	17.2x	14.6x	13.8x
Environmental technology	Pentair, Inc.	United States	PNR	\$ 3,760	Deane M. Dray, CFA	Neutral	\$37.99	19.2x	17.3x	15.2x
Environmental technology	Republic Services, Inc.	United States	RSG	\$ 5,949	Chris Hussey	Neutral	\$30.71	19.9x	18.2x	16.8x
Environmental technology	Roper Industries, Inc.	United States	ROP	\$ 5,165	Deane M. Dray, CFA	Neutral	\$55.96	21.2x	18.7x	16.7x
Environmental technology	Severn Trent	United Kingdom	SVT.L	\$ 6,764	Jenny Ping	Neutral	1458p	16.7x	14.5x	12.8x
Environmental technology	Shanghai Municipal Raw Water	China	600649.SS	\$ 3,829	Franklin Chow, CFA	Neutral	Rmb15.48	64.0x	54.6x	52.5x
Environmental technology	Shanks Group	United Kingdom	SKS.L	\$ 1,256	Jenny Ping	Buy	268p	20.3x	17.1x	14.9x
Environmental technology	Sinomem Technology	Singapore	SINO.SI	\$ 385	Christina Hee, CFA	Buy	S\$1.28	19.4x	14.6x	12.4x
Environmental technology	Stericycle, Inc.	United States	SRCL	\$ 3,948	Chris Hussey	Neutral	\$45.10	33.1x	28.8x	25.6x
Environmental technology	Tianjin Capital Environmental Protection (H)	China	1065.HK	\$ 894	Franklin Chow, CFA	Neutral	HK\$5.25	36.6x	29.5x	27.0x
Environmental technology	Tomra Systems	Norway	TOM.OL	\$ 1,392	Jonathan Rodgers, CFA	Neutral	Nkr53.90	27.9x	22.8x	18.9x
Environmental technology	United Utilities	United Kingdom	UU.L	\$ 13,390	Jenny Ping	Sell	768p	16.5x	15.4x	14.9x
Environmental technology	Veolia Environnement	France	VIE.PA	\$ 29,733	Jenny Ping	Neutral	€56.44	23.7x	21.0x	18.4x
Environmental technology	Waste Connections, Inc.	United States	WCN	\$ 2,096	Chris Hussey	Neutral	\$30.62	22.0x	19.7x	18.1x
Environmental technology	Waste Industries USA, Inc.	United States	WWIN	\$ 452	Chris Hussey	Neutral	\$32.26	21.3x	18.8x	17.1x
Environmental technology	Waste Management, Inc.	United States	WMI	\$ 20,932	Chris Hussey	Neutral	\$39.54	19.3x	17.3x	15.5x
Environmental technology	Waste Services, Inc.	United States	WSII	\$ 529	Chris Hussey	Sell	\$11.50	50.8x	26.1x	21.1x

Source: Datastream, Goldman Sachs Research estimates.



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Goldman Sachs Investment Research global coverage universe

	Rating Distribution			Investment Banking Relationships		
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