

Attempting to integrate social and environmental analysis into sell-side research

Our experience in Energy: Social & Environmental Issues Count

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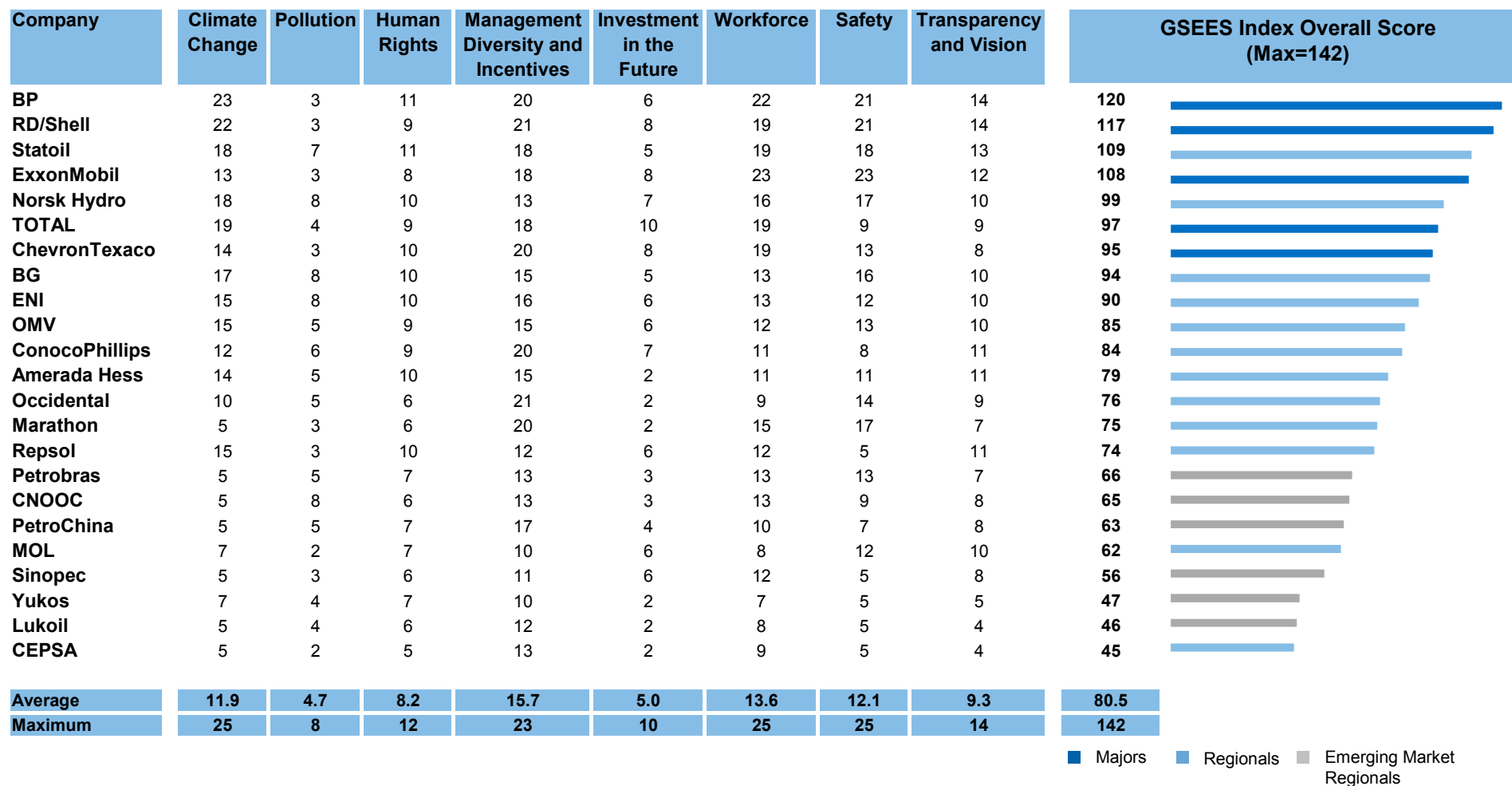
Our approach

- **Be as objective as possible (28 out of 30 criteria) and encompass as many issues as possible**
- **Rank the companies against each other, but don't try and rank the industry against others**
- **Distinguish between one-off events, and performance that can differentiate long-run competitive positioning**
- **Set out a framework for development of the industry and the issues that count today and in the future**
- **Distinguish between reactive and proactive issues: issues which all must bear and result in low returns and issues which allow for strategic choice and differentiation of performance in the longer run**
- **While accepting that there will never be a one-for-one link, try to find a link between performance in social and environmental issues and medium-term (new legacy assets) and longer-term (exposure to gas) performance drivers**

Environmental and social issues count

- **UN request to analyse environmental and social issues in the oil and gas industry (UNEP FI, AMWG)**
- **Client and corporate feedback highly positive: much more high profile than we thought**
- **Introducing the GSEES Index: 30 metrics across 8 categories covering climate change, pollution, human rights, management diversity and incentives, investment in the future, workforce, safety, transparency; 28 out of 30 objective**
- **BP and RD/Shell stand out, followed by Statoil and ExxonMobil 10% ahead of the pack, with Norsk Hydro, TOTAL, ChevronTexaco, BG and ENI also notable performers**
- **One-off events have limited share price impact e.g., oil spills and other disasters, NGO-led campaigns**
- **The world is becoming increasingly more complex for oil and gas companies – in order to succeed they need to be environmentally and socially aware**
- **High GSEES Index scorers dominate next generation legacy assets**
- **Moving from the age of oil to the age of gas and renewables**

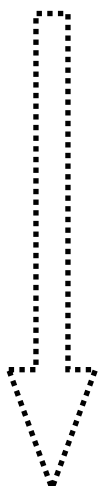
BP and RD/Shell stand out, followed by Statoil and ExxonMobil 10% ahead of the pack



Source: Goldman Sachs Research estimates.

Conclusion: In order to succeed companies must be managed for the new world

Current age of oil, OPEC



Future age of gas and beyond

Changing production mix

21% of production non-OPEC in 1970, 42% in 2002, 70% of new legacy assets non-OPEC

Larger, more complex projects

Average size of new legacy field is 1.7 bnboe and will require US\$4 bn in capex to develop

Reduced workforce – the war for talent

Employees in US oil and gas industry have slumped by 30% from 1981-1999 and 55% in E&P alone

Increasing competition

The industry is much more competitive post the consolidation which started in 1998, and the rise of the Emerging Market Regionals

Transparency initiatives

Extractive Industry Transparency Initiative (EITI) is the most significant move to improve visibility of revenues between industry and governments

Rise of NGOs and SRI funds

The WTO lists 966 NGOs, Eurosif estimates that 14% of European pension funds are influenced by SRI

Increasing environmental awareness

Local governments are increasingly forcing the industry into more environmentally friendly development e.g., no flaring of gas in West Africa beyond 2008

Globalising gas industry

Oil demand growth is less than half GDP, gas more than GDP. Within 20 years consumption of gas will overtake oil with LNG, GTL then hydrogen powered fuel cells

Renewables

Further attempts to reduce carbon content mean a move to develop renewable energy sources such as wind

To succeed in the rapidly evolving energy industry we believe companies have to win, and then operate, larger, more complicated projects, often in new regions. Competition is more intense, the workforce smaller and external observers less forgiving.

Ultimately the industry is moving from the age of oil to the age of gas, and potentially an even lower carbon world. To succeed in this new world we believe companies must be both environmentally and socially aware.

Companies must face environmental issues: from one-offs to drivers of strategic vision

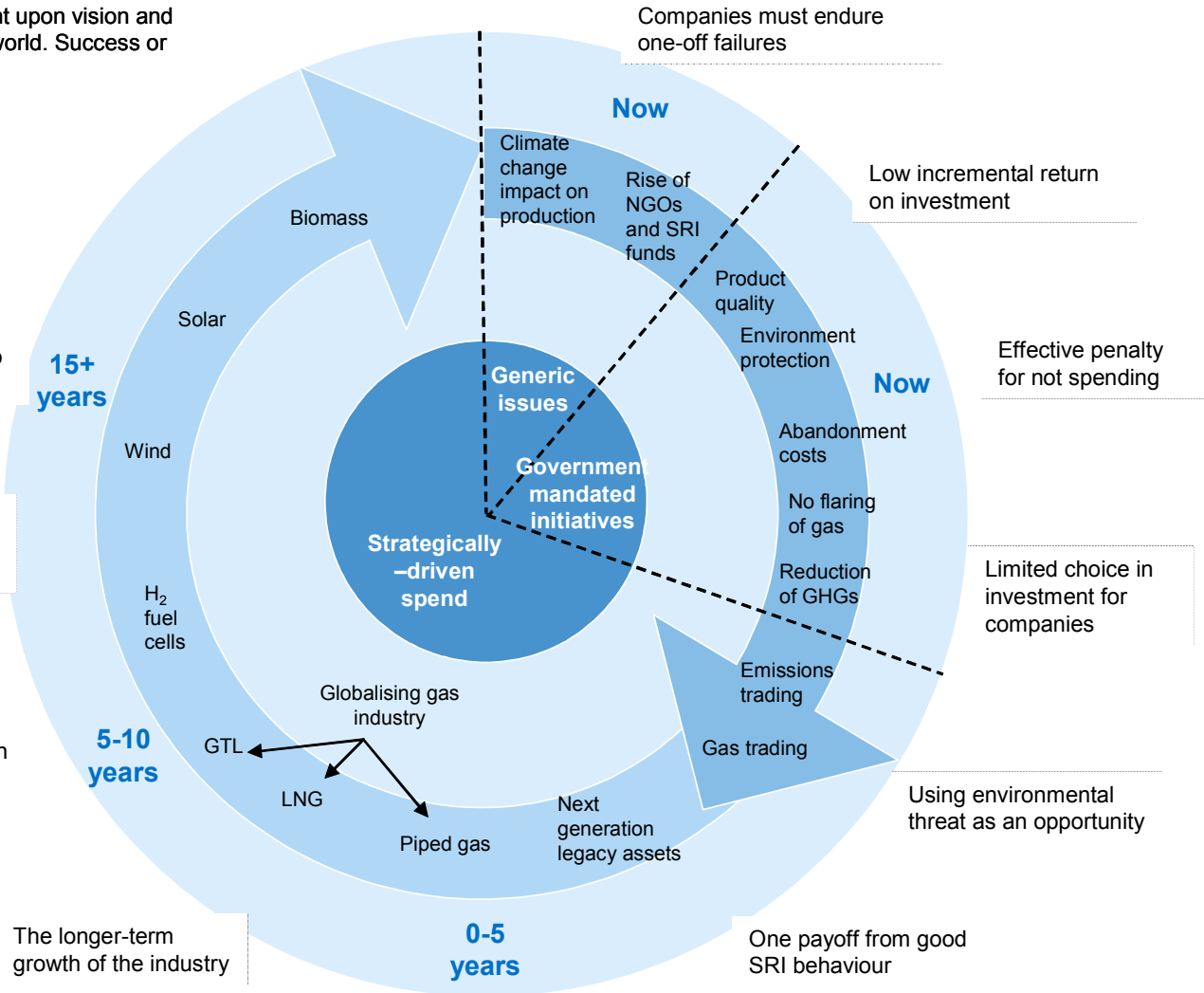
Strategic choice dependent upon vision and adoption of a low carbon world. Success or failure depends on:

- Management structure
- Employees
- Relationships with host governments and NOCs

Government tax incentives required to ensure economics

R&D spend now drives competitive positioning here

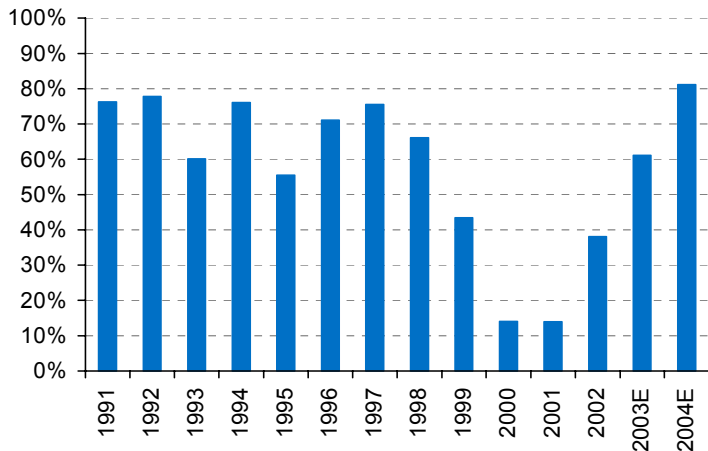
Higher potential longer-term return opportunities



Source: Goldman Sachs Research estimates.

Economic return spreads are the key valuation driver across the market

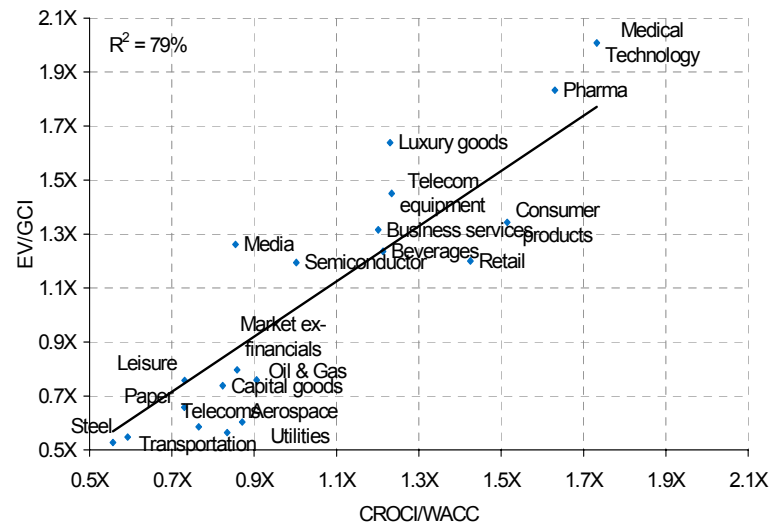
EV/GCI vs. economic return spread



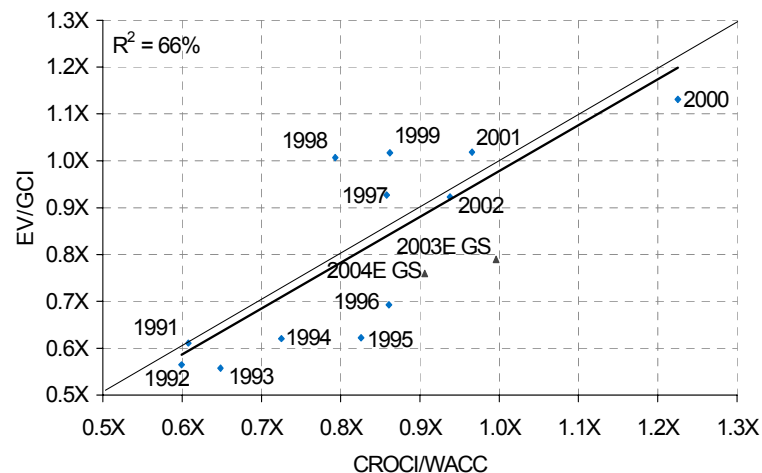
In our view, economic return spreads are the key valuation driver for the market, across sectors and for the oil sector. Correlations of valuation to economic return spreads are very high for the market, across all sectors and for the oil sector. We find that no other valuation methodology comes close in terms of predictive power for share prices. In our report *Director's Cut: Returns win*, September 11, 2003, we argued that the bulk of the value (60%) of any company is determined by its long-run, or sustainable, returns, the next 20% by secular or cyclical change observed in the coming 12 months; and the remainder by longer term growth or other issues.

One-off issues have a limited impact on share prices. In our opinion, environmental and social issues will have an impact on share prices if they affect the long-term returns profile of a company.

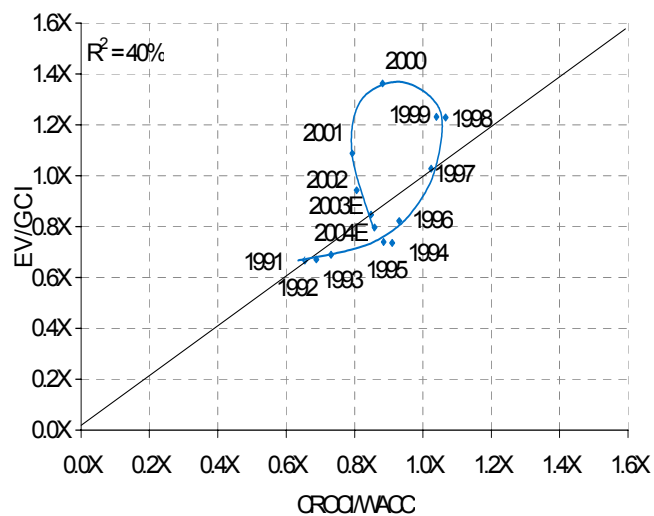
EV/GCI vs CROCI/WACC, 2004E



Oil and Gas EV/GCI vs. CROCI/WACC



Annual R² across sector



Source: Goldman Sachs Research estimates.

Increasing social demands on companies: wider range of stakeholders and expanding partnerships

Wider stakeholders

Including all stakeholders, especially NGOs, local governments and communities are necessary to maintain long-term relationships and operations, whilst providing opportunities for further developments

NGOs

- Environmental groups
- Human rights activists

Local governments and communities

- Local government
- Community work
- Local employees

Government officials

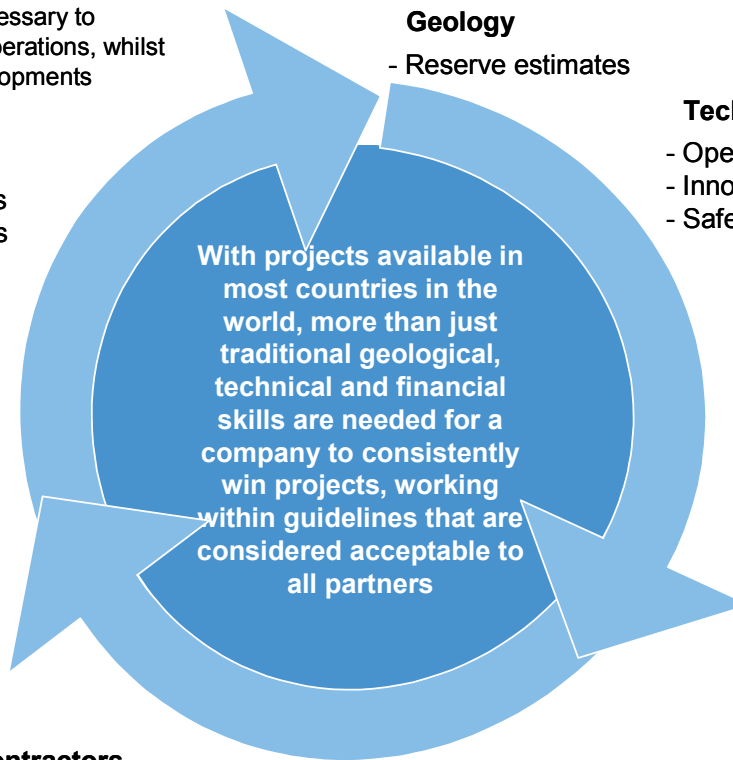
- Host government
- Neighbours
- Export routes

Contractors

- Local vs multinational
- One-offs or multi-project contracts

National Oil Company (state-owned)

- Working relationships
- Ability to train staff
- Treat as equals



Geology

- Reserve estimates

Technical

- Operatorship
- Innovation
- Safety

Traditional issues

Traditional issues such as geological and technical skills as well as financial backing and economic analysis will remain critical to maintaining access to traditional regions and projects

Financial

- Project economics
- Potential portfolio fit
- Capital allocation process

Partners

- Ability to work across cultures
- Preferred partners of choice
- Open to new entrants

Expanding partnerships

Working with diverse partners and contractors whilst building relationships with National Oil Companies will become an increasing pre-requisite for gaining access to Exploitation projects

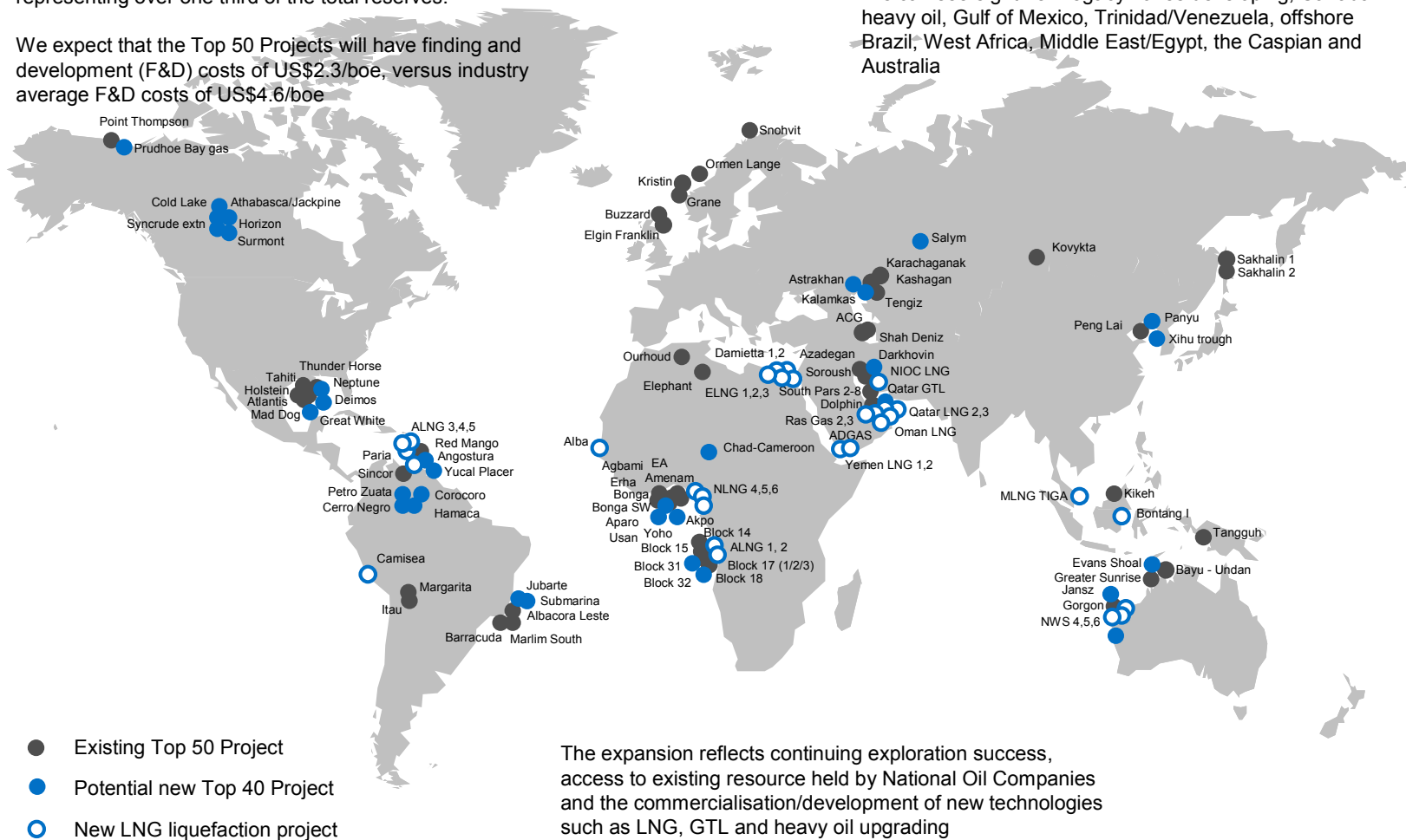
Source: Goldman Sachs Research estimates.

Top 120 Projects – the next generation of legacy assets, many non-OECD and gas

The reserves of the Top 120 Projects are split roughly 60/40 between oil and gas. Over 80% of the reserves are located in non-OECD countries, with the FSU and Caspian representing over one third of the total reserves.

We expect that the Top 50 Projects will have finding and development (F&D) costs of US\$2.3/boe, versus industry average F&D costs of US\$4.6/boe

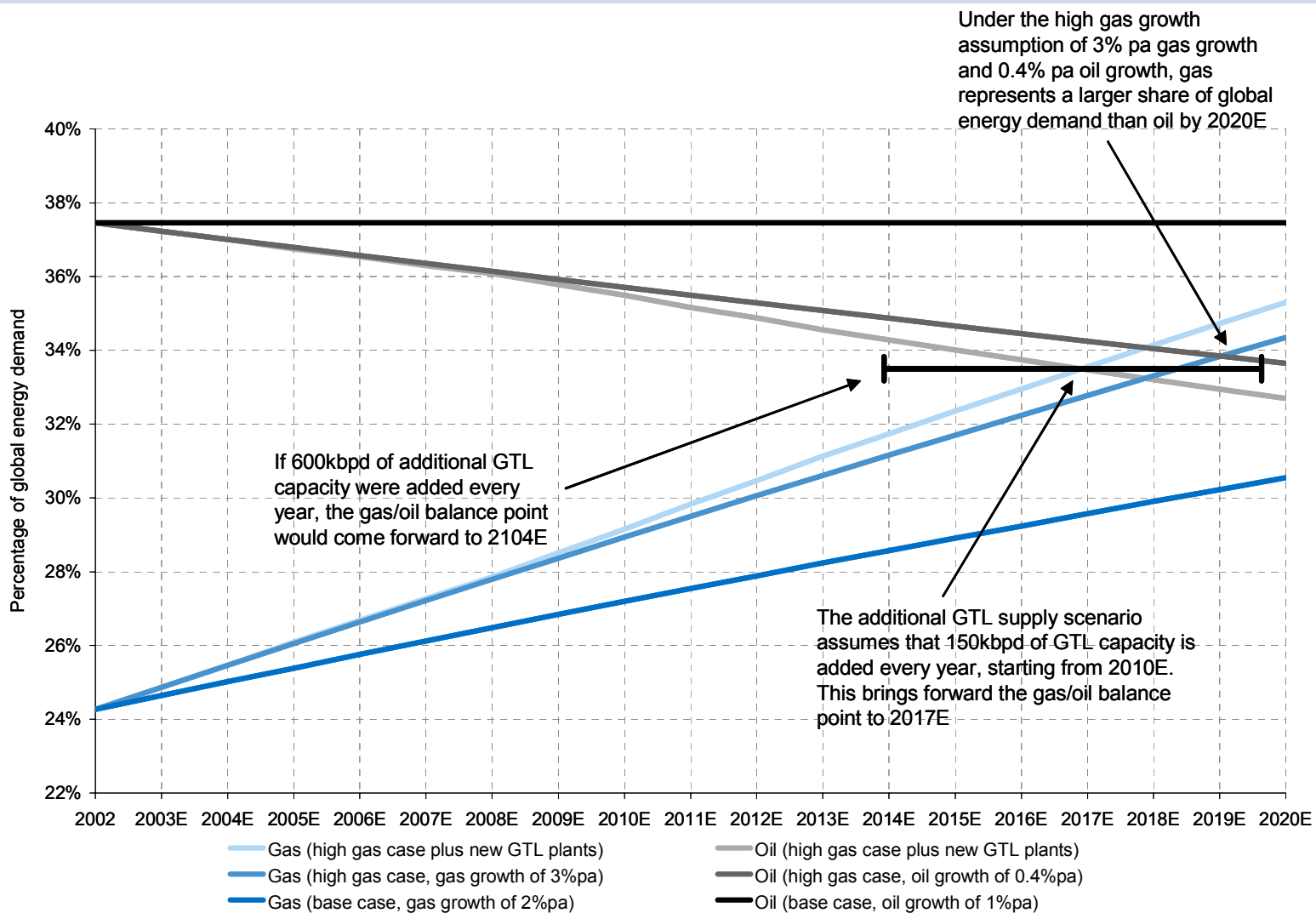
We can see eight new legacy zones developing; Canada heavy oil, Gulf of Mexico, Trinidad/Venezuela, offshore Brazil, West Africa, Middle East/Egypt, the Caspian and Australia



The expansion reflects continuing exploration success, access to existing resource held by National Oil Companies and the commercialisation/development of new technologies such as LNG, GTL and heavy oil upgrading

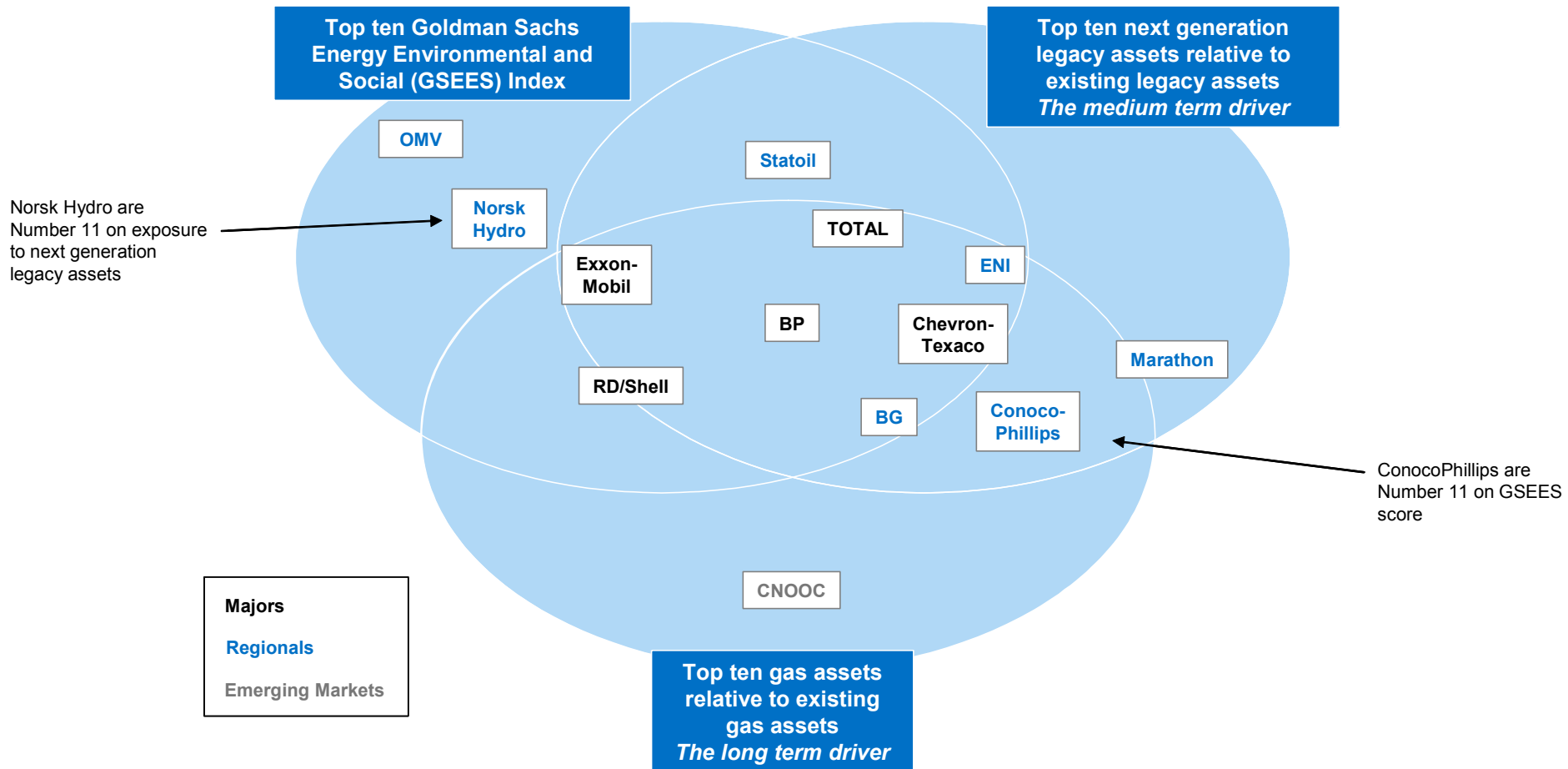
Source: Company data, Goldman Sachs Research estimates.

The age of gas is on the horizon, next will be renewables



Source: US Department of Energy, BP Statistical Review of World Energy, Goldman Sachs Research estimates.

High GSEES scorers dominate next generation legacy assets and gas assets



Source: Company data, Goldman Sachs Research estimates.

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