Beyond transparency:

the realities of shifting capital towards low-carbon assets

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International push on disclosure initiatives

2015

- Mark Carney on climate risks for the financial system
- French Energy Transition Act (Article 173)
- Portfolio Decarbonization Coalition

2016

- Chinese Guidelines for establishing the green financial system

2017/18

- Task Force on Climate Related Disclosure (TCFD)
- Network of Central Banks and Supervisors for Greening the Financial System (NGFS)

2019

- EU taxonomy
- EU green bond standard
- EU climate benchmarks and ESG
- BoE climate stress test and PRA
- ‘TCFD Pilot Projects’ launched by the UNEP

2020

- New Zealand makes climate reporting compulsory

Expectations behind more transparency

Implicit assumptions behind disclosure initiative:

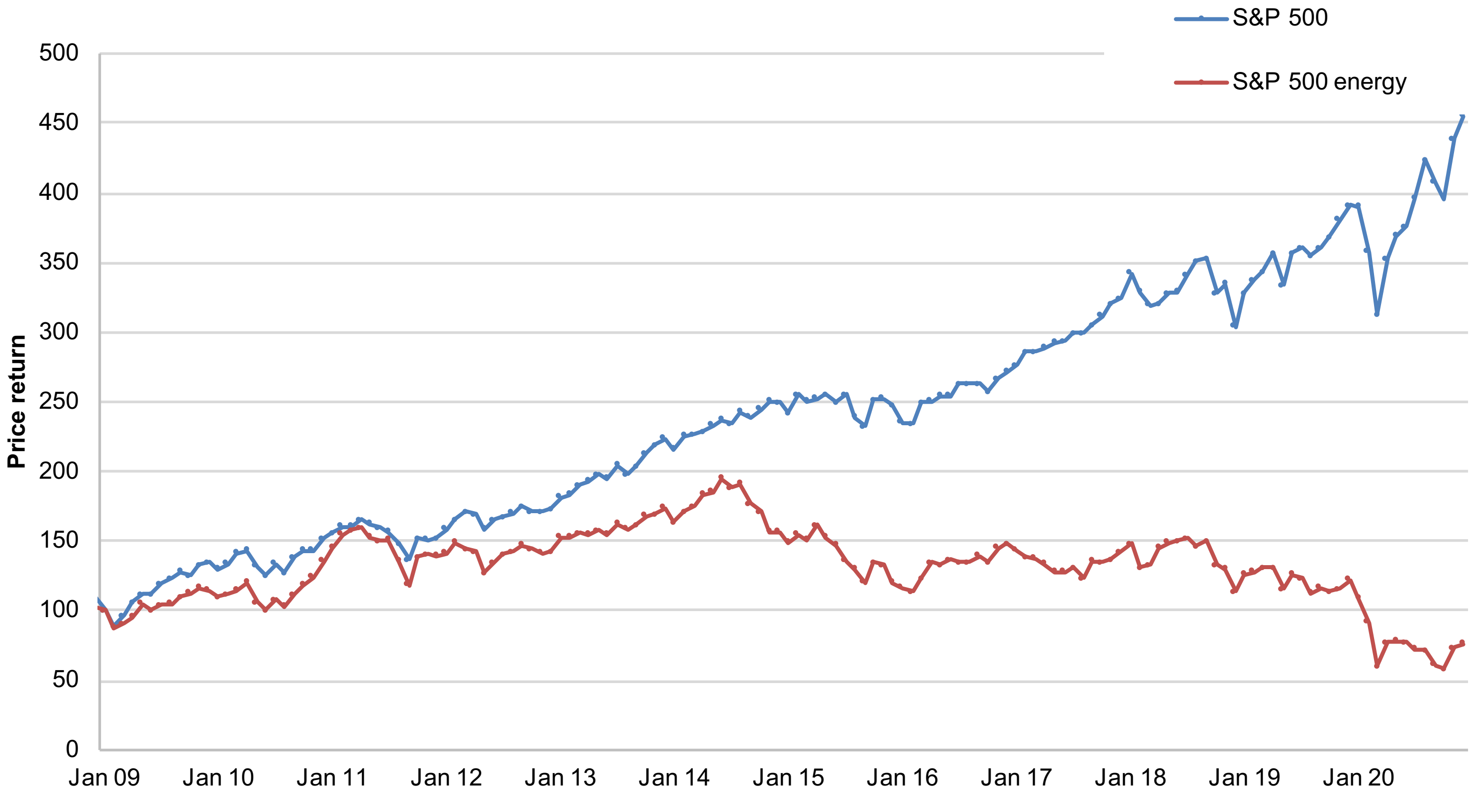
- to move away from carbon-intensive assets to reduce risks
- to re-direct capital to low-carbon opportunities

Are market participants responding 'rationally' to information – climate related-financial disclosure – and **will change investment outlays?**

1. Belief that disinvestment is driven by disclosure
2. Investment 'switches' from high to low carbon assets
3. Reorientation of policy focus

Fossil fuels declining financial returns over the last decade

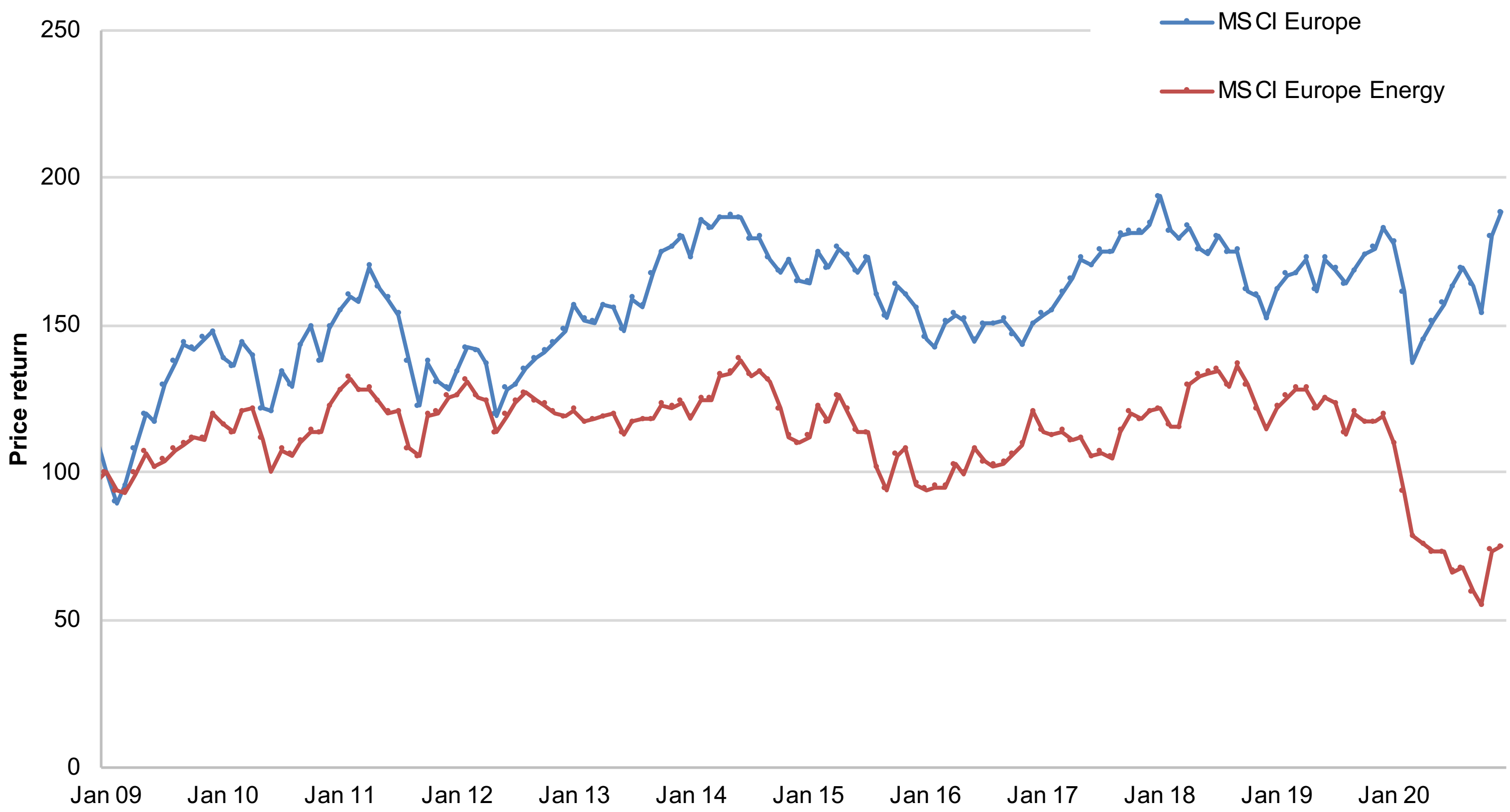
S&P 500 vs S&P 500 Energy sector performance (2010-2020)



Source: Bloomberg 2021

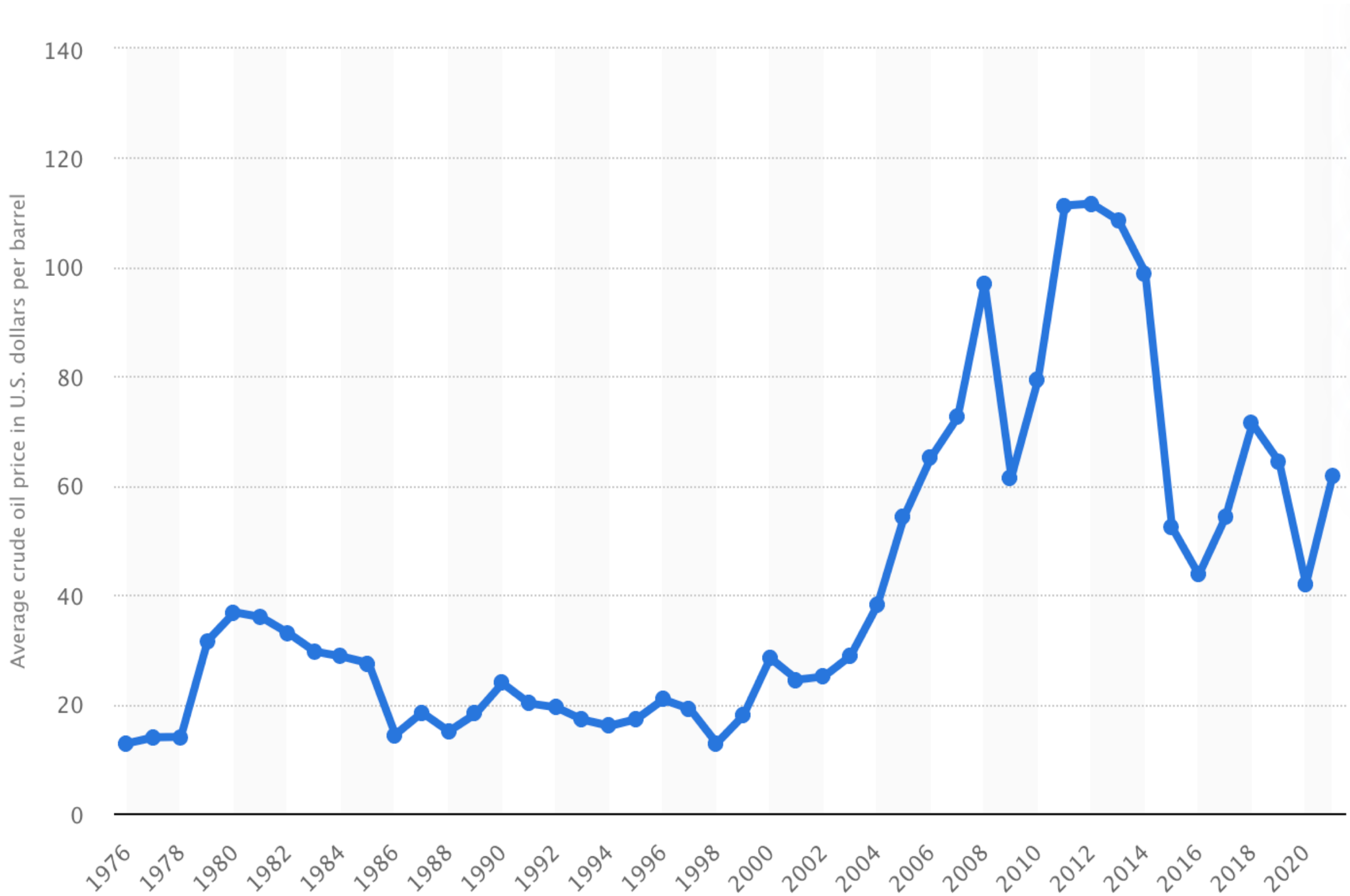
Fossil fuels declining financial returns over the last decade

MSCI Europe vs MSCI Europe Energy sector performance (2009-2020)



Source: Bloomberg 2021

Oil sector historical trends



Source: Statista 2021

Role of industry returns and future expectations

Oil is highly-volatile, high-return sector (until recently)

- Supply (OPEC influence, shale production) and demand (global crises, pandemic) factors affect the sector volatility
- Previous oil super-cycles enabled oil prices to vastly exceed production costs resulting in high returns

Today the sector has a **very uncertain short and long-term outlook**

- Declining returns over the last years (fossil fuel companies have underperformed the overall market trends)
- Climate change adds an extra layer of uncertainty that can further increase the sector's volatility and reduce its returns
- Most investors monitors OPEC/Russia relations and OPEC decisions rather than disclosure

The transfer myth from high to low-carbon investment

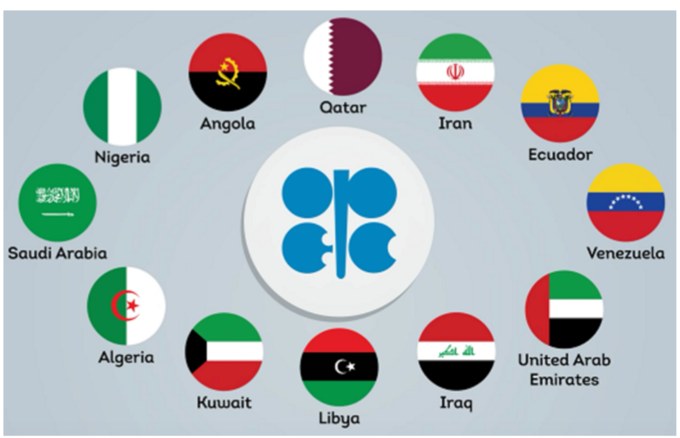
Industry market structure: fossil fuel

The Seven Sisters

Standard Oil of New Jersey (Esso) · Royal Dutch Shell (Anglo-Dutch) · Anglo-Persian Company (APOC) · Standard Oil Co. of New York (Socony)

Standard Oil of California (Socal) · Gulf Oil · Texaco

OPEC



State-owned

SINOPEC

中国石化

ارامكو السعودية

Saudi Aramco

ROSNEFT

BR

PETROBRAS

Consolidated structure

- cost reduction along the value chain
- asset acquisition to support a fast growth
- strong negotiation power in contractual relationships

High returns on capital and value for stakeholders

Financial ecosystem used to dealing in huge scales thought major institutions

The transfer myth from high to low-carbon investment

Industry market structure: renewables

In the first decade of 2000s specialised companies started to emerge

SUNTECH
SUNPOWER®
First Solar.
SHARP

SUZLON
IBERDROLA
Vestas.
SIEMENS Gamesa
RENEWABLE ENERGY

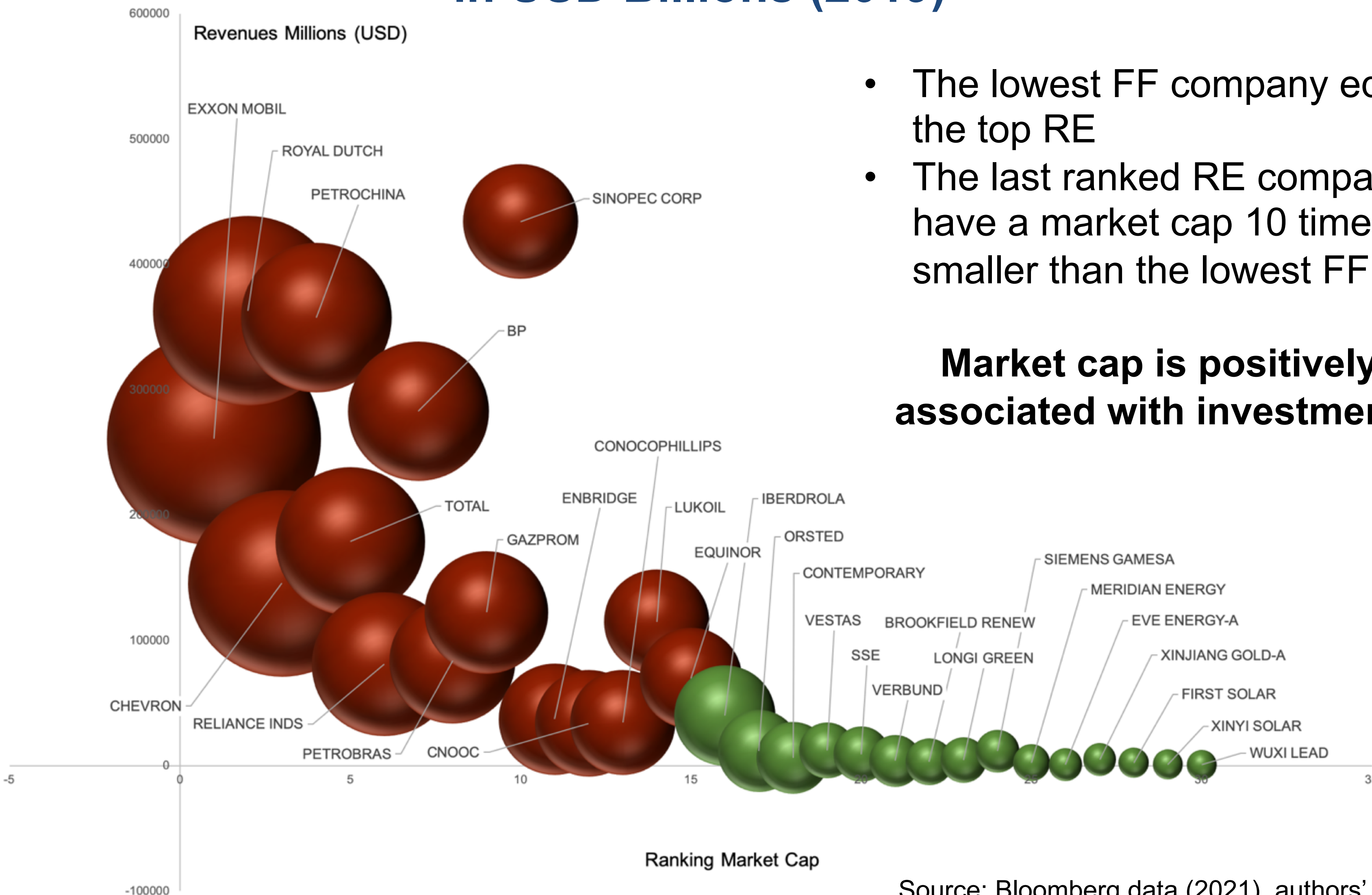
Fragmented structure

- Young industry with a less integrated supply chain
- Many players specialised in just one technology and on a single geographic market
- Missing “its majors”

.. Other aspect: more sensitive to local conditions

- Not an internationally traded commodity (currency risks)
- Energy policy framework (regulatory risks)

Fossil fuel and renewables companies by market capitalization in USD Billions (2019)



- The lowest FF company equals the top RE
- The last ranked RE companies have a market cap 10 times smaller than the lowest FF

Market cap is positively associated with investments

Source: Bloomberg data (2021), authors' analysis

Implications on investment

- **Fossil fuel assets** are the main target of mainstream investors

Financial sector is highly exposed to fossil fuels and climate policy-relevant sectors (~ 45%)

- **Renewables assets** still struggling in attracting key investors:
  - Low-liquidity (daily traded volumes and outstanding shares)
  - Limited number of companies meeting investors' criteria (e.g. market cap> $200M)
  - Short trading history (around 2006-08), treated as developing asset class

Some reflections

Belief that disinvestment is driven by disclosure

- Equity returns in the fossil fuels are less attractive compared to the past
- Most investors hoping for “oil high returns” monitors OPEC-Russia relations and OPEC decisions, not the results of carbon transparency

Investment ‘switches’ from high to low carbon assets

- Different industries market structures’ affect the investment attracted
- These assets are quite different and **there is not an "energy investment system"** where capital moves easily from one technology towards the other
- Capital could simply exit the energy sector to other sectors like IT and pharmaceuticals, rather than flowing to low-carbon assets

A reorientation of the policy focus

Boundaries of the financial system

- Target specific investor groups, their heterogenous preferences and investment drivers
- Renewable players along the value chain (RE majors?)

Interface between policy and financial elements

- Broader integration of the finance dimension into policy design to capture synergies
- Taking sustainability transition perspective triggered by financial elements

Capital flows in developing countries

- Create financing channels to manage investment risks in developing countries
- Missing a strong narrative beyond public support – ”a climate investment trap”

Final remarks

Disclosure **seems an insufficient response** to the low-carbon transition:

- It protects the financial system from climate-risks, rather than redirecting financial flows towards low-carbon assets
- The disclosure narrative exempts the financial system from radical action and long-term, systemic changes

More in-depth analyses:

- low-carbon assets (as an asset class)
- interactions between financial market participants, their expectations, local contexts and policy

Some sectoral aspects (market structure and related capital) remain a challenge for renewables

→ green bonds or exchange traded funds to scale up investment
→ long-term policy signals
→ redesign a financial system with preferential mechanisms supporting low-carbon assets

Supplementary Info

Company	Market Cap (USD) Billion (31/12/2009)	Revenues (USD) Million (12 months)
EXXON MOBIL	295.25	260 810
ROYAL DUTCH	233.65	363 100
CHEVRON	227.87	145 630
PETROCHINA	146.16	357 490
TOTAL	143.75	179 180
RELIANCE INDS	134.76	81 140
BP	126.9	282 960
PETROBRAS	101.32	83 550
GAZPROM	97.84	122 390
SINOPEC CORP	85.49	434 250
ENBRIDGE	80.52	37 120
CNOOC	74.29	33 720
CONOCOPHILLIPS	71.36	34 530
LUKOIL	71.09	114 770
EQUINOR	66.73	69 730
IBERDROLA	65.58	39 789
ORSTED	43.52	11 623
CONTEMPORARY	33.74	6 296
VESTAS	20.12	12 246
SSE	19.72	9 015
VERBUND	17.45	3 870
BROOKFIELD RENEW	14.34	3 034
LONGI GREEN	13.45	4 359
SIEMENS GAMESA	11.96	11 525
MERIDIAN ENERGY	8.64	2 341
EVE ENERGY-A	6.98	858
XINJIANG GOLD-A	6.82	4 882
FIRST SOLAR	5.9	2 355
XINYI SOLAR	5.74	955
WUXI LEAD	5.69	640