Climate, Carbon & Stranded Assets

What do they mean for stock exchanges?

SSE Leaders Briefing

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The Climate Challenge

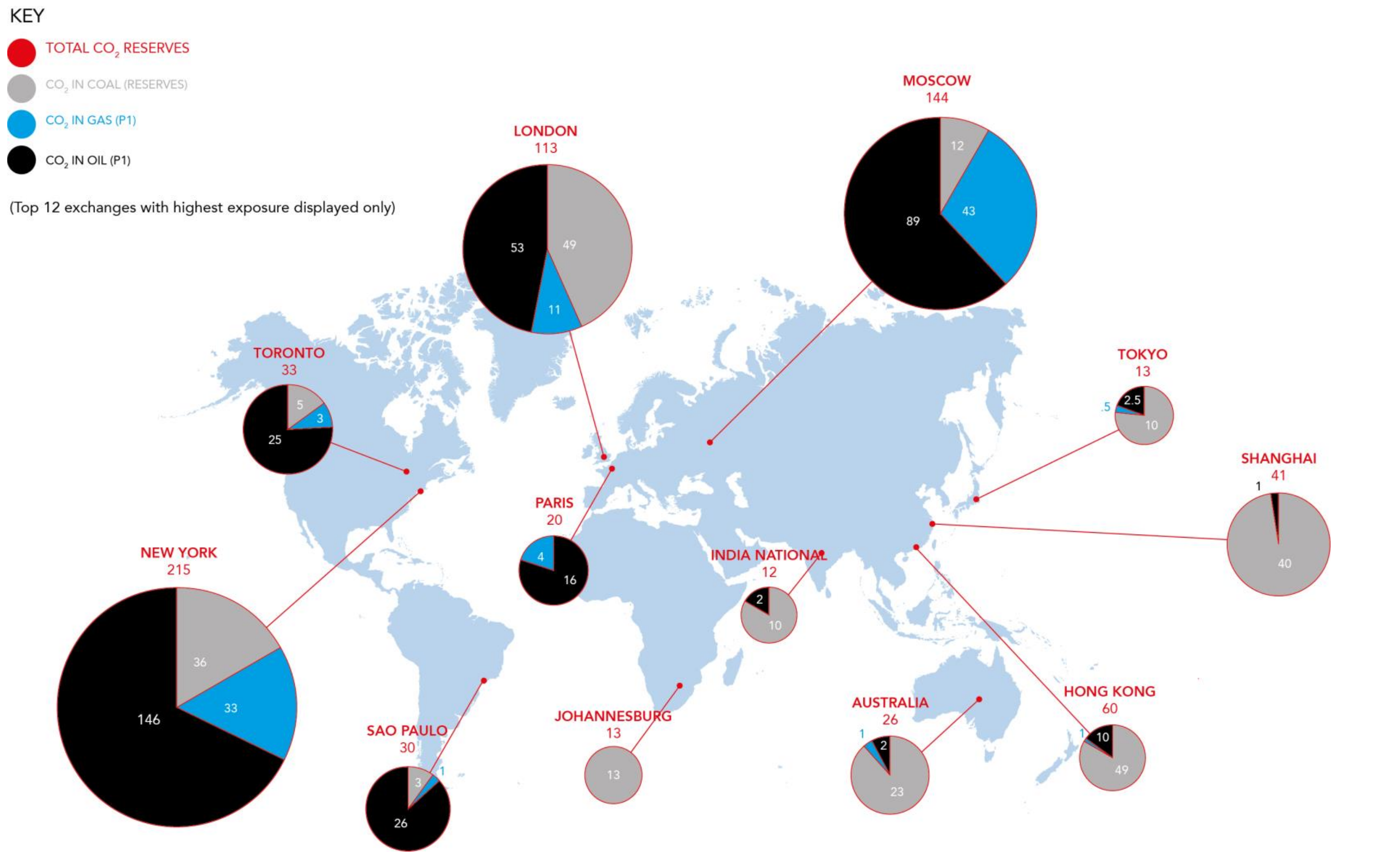
Carbon Tracker has identified the fossil fuel reserves and resources most at risk of becoming economically "stranded assets" due to the low-carbon energy transition. Regulators, accounting standards-setters, investors and policy makers are analyzing the financial implications for transition risk; stock exchanges should also consider them.

The climate challenge is long-term and global in scope, with impacts beyond typical disclosure time frames and involving factors outside of management's direct control. However, most low-carbon pathways foresee ex-growth demand curves in coal and oil and, to a lesser extent, gas - this shift has implications for company business strategy today. Investors will need forward looking information to help manage this shift. stock exchanges' listings functions have a role to play in promoting transparency of these risks on their exchanges; especially where the risks are likely most intensely felt.

Climate risks can be better managed through greater transparency. Stock exchanges are well positioned to facilitate information flow between the relevant stakeholders, harmonize standard-setting and promote the interests of those investing in listed companies. Greater transparency also promotes greater post-trade risk management within the settlement and clearing process and opens commercial opportunities for green indices and financial instruments.

> “A carbon budget - like the one produced by the IPCC - is hugely valuable, but can only really be brought to life by disclosure, giving policymakers the context they need to make choices, and firms and investors the ability to anticipate and respond to those choices.
>
> Governor of the Bank of England,
> Mark Carney,
> Lloyd's of London 29 Sep 2015

Gigatonnes CO2 of Oil, Gas and Coal Reserves Listed on the World's Exchanges



Source: Carbon Tracker

Strategic Business Model Risk Disclosure Recommendations

Incorporating climate change into valuation

1

Information should disclose any divergence between the company's commodity market planning assumptions and demand levels implied by climate and energy policy targets

This seeks narrative disclosure of the extent to which company price scenarios may differ from current assumptions based upon demand volume implied climate and energy policy targets. Narrative would include identification and discussion of key supply and demand assumptions, including assumptions regarding renewables and energy substitutes development.

Risk management & strategic planning

2

Information should reflect how the board oversees climate risk management

This allows investors to understand the board's role in assessing climate risk, including whether the board considers third party information and assessments.

3

Information should discuss how management would incorporate climate policy targets into investment decisions

Management should describe its long-term, forward production profile by fuel, allocating volumes and capex between base and growth projects and describe what changes, if any, it would make in response to demand implied by climate policy targets.

4

Forward-looking projections should evaluate potential project portfolios. Quantitative disclosure should align with data used by the company for investment decision-making and risk management

Future potential projects should be discussed. Project sanctions decisions typically consider internal rates of return (IRR) or breakeven prices (BEP). Discussion should provide a cost curve for full-cycle costs of a company's future projects.

Stress-testing

5

Explanations should capture company vulnerability to price risk through stress-tests or sensitivity analysis

Analysis should go beyond single-scenario analysis based on historic prices and reflect downside cases on price and volume that would allow investors to better understand valuation impacts.

6

Information should clarify assumptions underpinning financial reporting and impairment analysis

Management should, in the context above, outline its asset impairment policy and approach including providing price assumptions. Impairment analysis should be extended to analysis of all reserves and should include a sensitivity analysis.

Compliance

7

Explanation should be given in the absence of answers to the above

Management should provide credible explanations as to why they are unable to provide any of the above. Particular focus should be given to any view expressed on how global climate and energy policy targets impact industry structure.

Source: Carbon Tracker Initiative

Climate Action for Stock Exchanges

Why Should Exchanges Engage?

Market Volatility

Climate change poses risk to market stability

Climate change and mitigating efforts have the potential to result in jump-to-distress pricing absent longer-term transparency, potentially destroying value and dissipating investor confidence in the capital raising process. Disclosure adds value by raising confidence in the markets.

Changing Regulation

Regulation is changing

Financial stability regulators are beginning to act. Earlier this year, G20 Finance Ministers asked the Financial Stability Board to consider how the financial sector could take account of the risks climate change poses to our financial system. As promotors of high quality disclosures within the initial listings process and ongoing markets disclosure, exchanges have a key role to play in helping shape this process

Investor Demand

Investor information needs are changing

To fulfill their fiduciary duty, investors will increasingly balance their portfolios and differentiate between fossil fuel companies based on their exposure to carbon risk. Investors look to market disclosure processes to deliver the relevant information.

What Can Stock Exchanges Do?

1 Promote Transparency

Promote disclosure of strategic and business model risk

Strengthen listing requirements to encourage carbon risk disclosure

Create a guide on ESG disclosure

Follow industry recommendations published by the WFE

2 Foster Green Products

Foster the development of green indices and funds

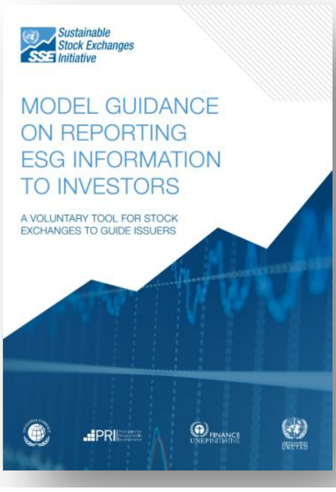
Enable listing of green bonds

3 Facilitate Dialogue

Engage with corporate reporting standards setters

Solicit input on investors' ESG information needs

Train companies on ESG Disclosure



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