

Integrating climate change considerations into investment strategies

Fong Yee Chan

Senior Product Manager, Sustainable Investment

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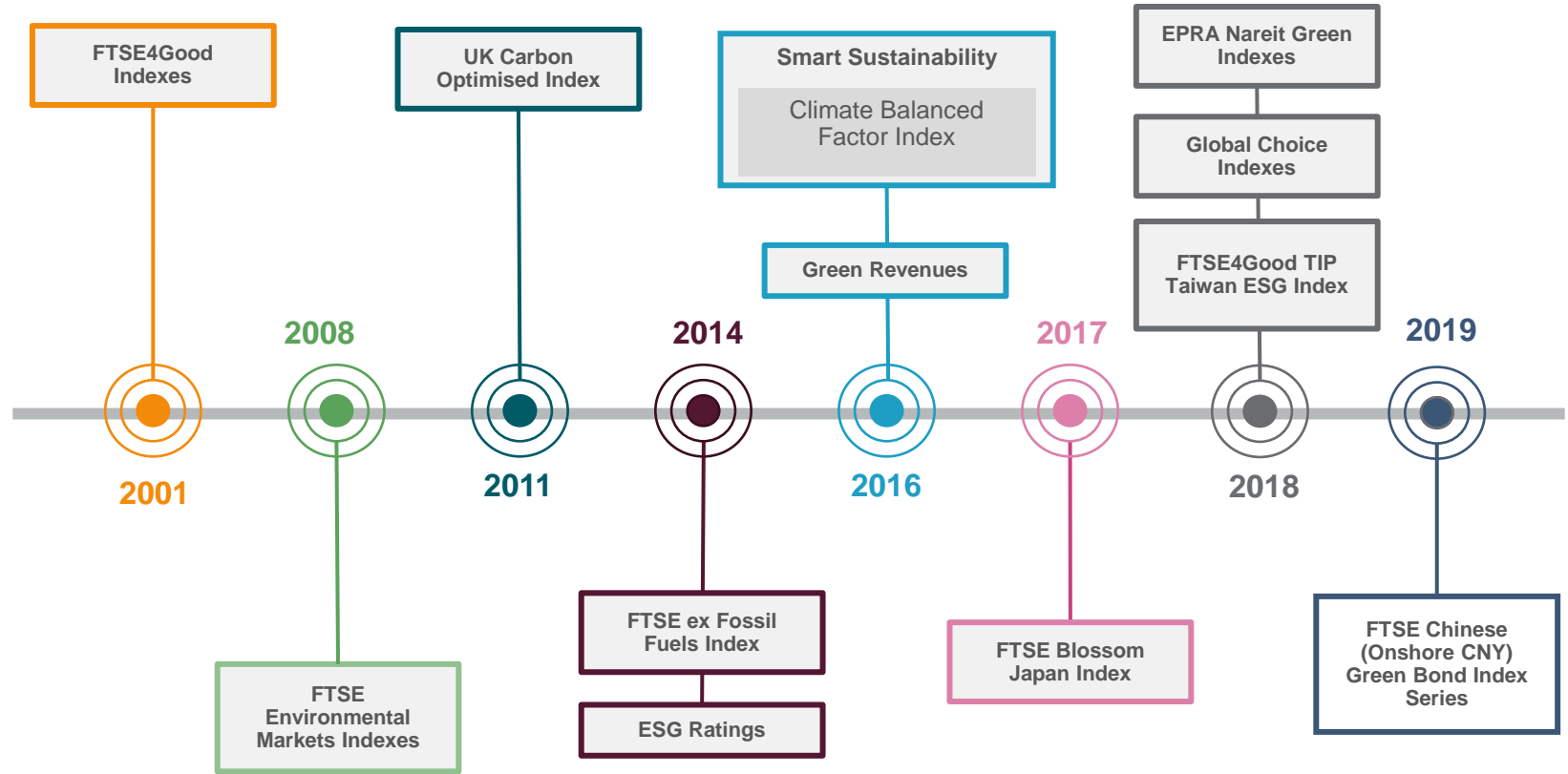
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FTSE Russell Sustainable Investment capabilities

FTSE Russell – A history of innovation





Climate change is a core theme for investors

Investors are signing up for sustainable investment initiatives

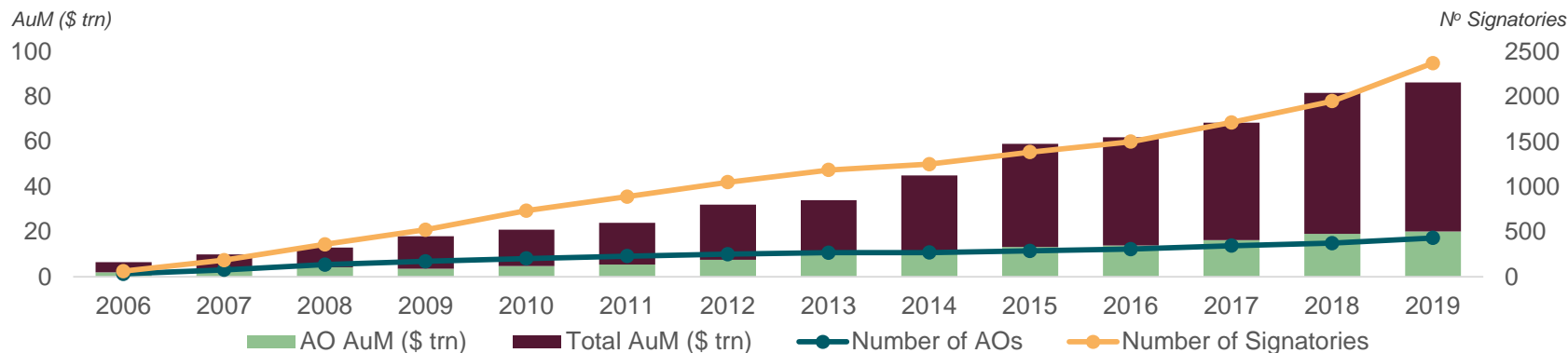
74%

of PRI asset owners^{1*} are taking action on climate change



Climate change is both on the investment risks/opportunities agenda and the sustainability/ESG agenda

SIGNATORIES TO UN PRINCIPLES FOR RESPONSIBLE INVESTMENT ¹



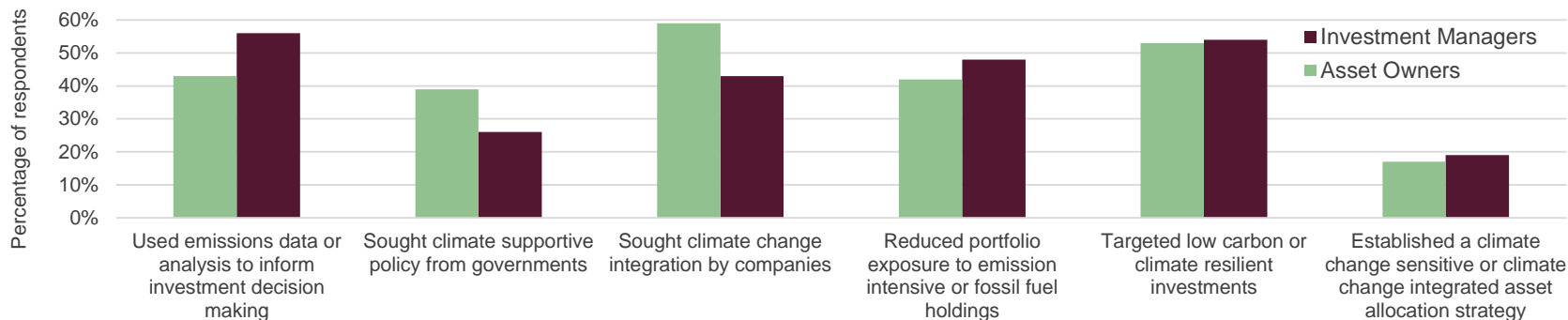
Source: 1) UN Principles for Responsible Investment. * Percentage of UN Principals for Responsible Investment ("PRI") asset owner respondents.

Growing institutional investor desire to address climate risk

Range of approaches to analyze and integrate climate risk into the investment process – fundamentally driven by carbon emission data



CLIMATE CHANGE ACTIVITIES UNDERTAKEN BY PRI SIGNATORIES ¹



Source: 1) Investor action on climate change, UN Principles for Responsible Investment & Novethic, 2017.

Evolving approaches for addressing climate risk and transition



EVOLUTION OF “LOW CARBON INVESTMENT”

The market is becoming more sophisticated in how it assesses climate risk.



GREEN REVENUES


Exposures to growing green industrial segments



INVESTOR-LED ENGAGEMENT INITIATIVES

Investors are using climate risk / transition data to engage with companies.

Assessing corporate preparedness and efforts to manage transition.



Evolution in “Low Carbon Investment”

Integrating climate change into index design



Fossil Fuel Reserves

Underweight companies with fossil fuel reserves



Operational Carbon Emissions

Over or underweight companies according to their GHG emissions. Sector neutral adjustment

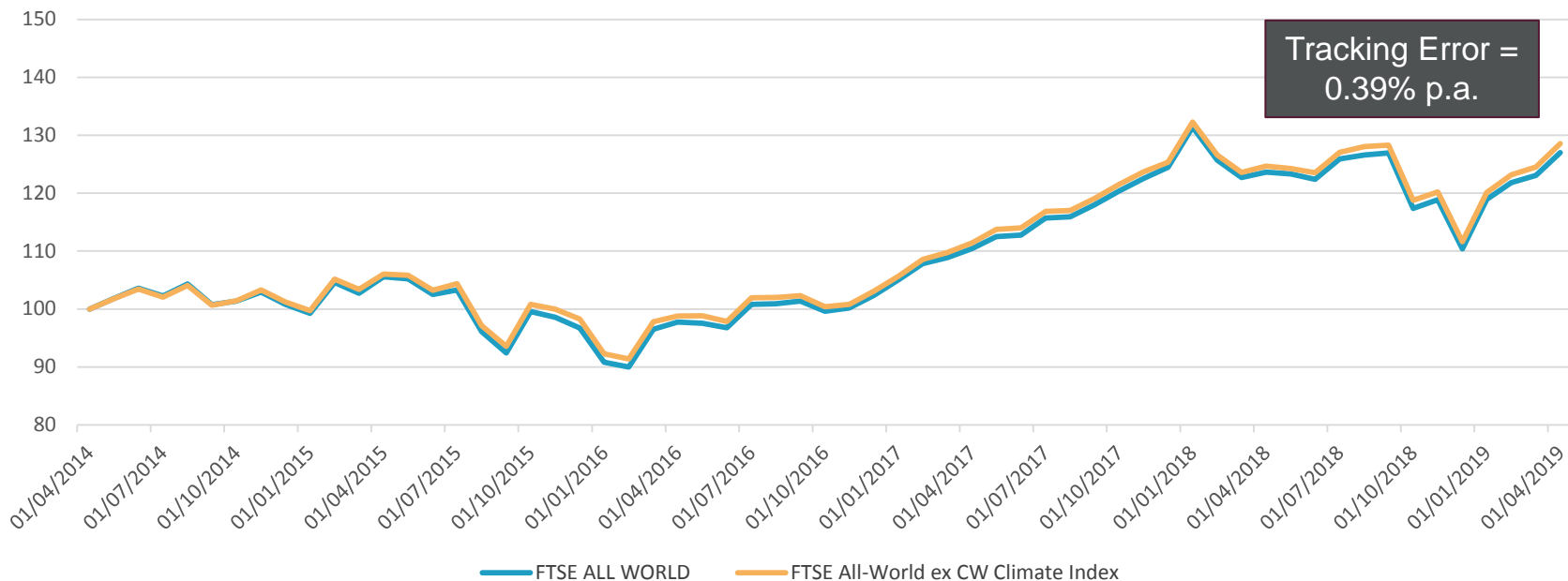


Green Revenues

Overweight companies engaged in the transition to a green economy

Global Climate Index

FTSE All World ex CW Climate Index returns (2015-2019)



Reserve Reduction*



71%

Emission Reduction*



47%

Green Revenue Increase*



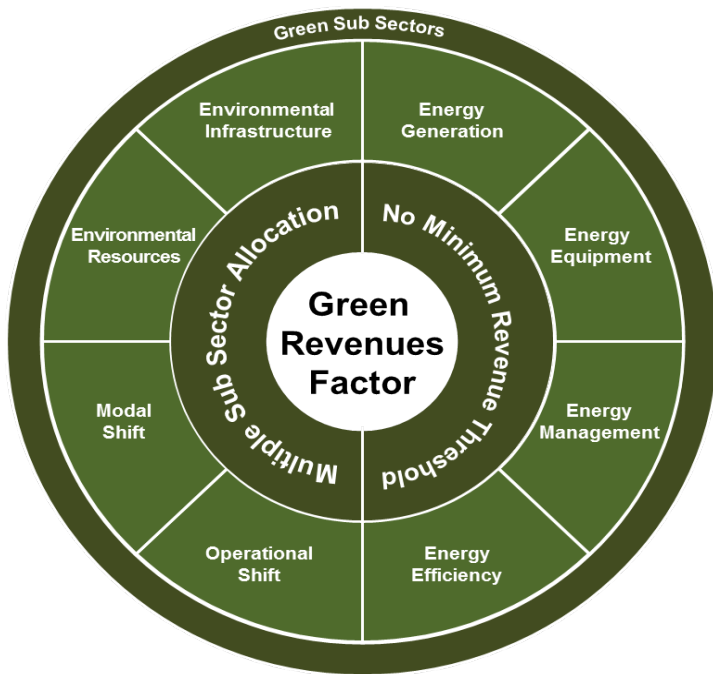
39%



Green Revenues

Green Revenues

Green Revenues – What do companies manufacture?



FTSE GR classification: 8 sectors / 60 subsectors

>98% of total global market cap. (FTSE GEIS)



Universe of 13,500 public companies

Companies can map to >1 sector / subsector



c. 3,000 cos. generating GRs

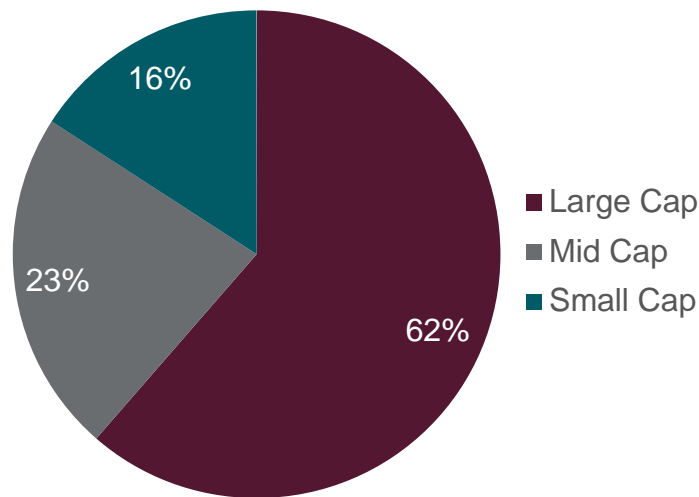
FTSE Russell's Green Revenues data model

Green Revenues Classification System (GRCS)

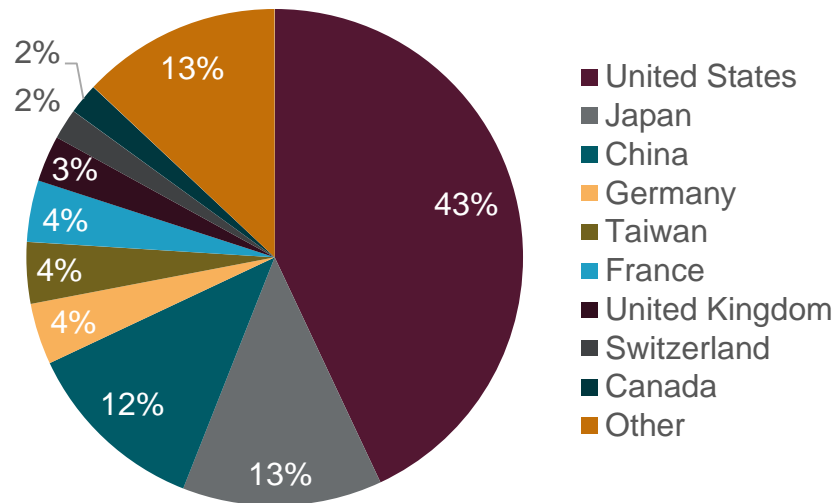
Energy Generation	Energy Equipment	Energy Management	Energy Efficiency
EG Bio Fuels	EQ Bio Fuels	EM Combined Heat/Power	EE Advanced Materials
EG Clean Fossil Fuels	EQ Clean Fossil Fuels	EM Controls	EE Building and Property
EG Geothermal	EQ Geothermal	EM Fuel Cells	EE Industrial Processes
EG Hydro	EQ Hydro	EM Integrated EM	EE Integrated EE
EG Integrated EG	EQ Integrated EQ	EM Logistics and Support	EE IT Processes
EG Ocean and Tidal	EQ Ocean and Tidal	EM Power Storage	EE Lighting
EG Solar	EQ Solar	EM Smart Grids	EE Video Conferencing
EG Waste to Energy	EQ Waste to Energy		
EG Wind	EQ Wind		
Environmental Infrastructure	Environmental Resources	Modal Shift	Operating Shift
EI Carbon Capture & Storage	ER Agriculture	MS Aviation	OS Finance/Investment
EI Desalination	ER Aquaculture	MS Integrated MS	OS Integrated OS
EI Flood Control & Land Erosion	ER Integrated ER	MS Railways	OS Retail/Wholesale
EI Integrated EI	ER Mining	MS Road Vehicles	OS Property
EI Logistics and Support	ER Minerals and Metals	MS Shipping	
EI Pollution Management	ER Source Water		
EI Recyclable Products	ER Sustainable Forestry		
EI Recycling Services			
EI Waste Management			
EI Water Management			

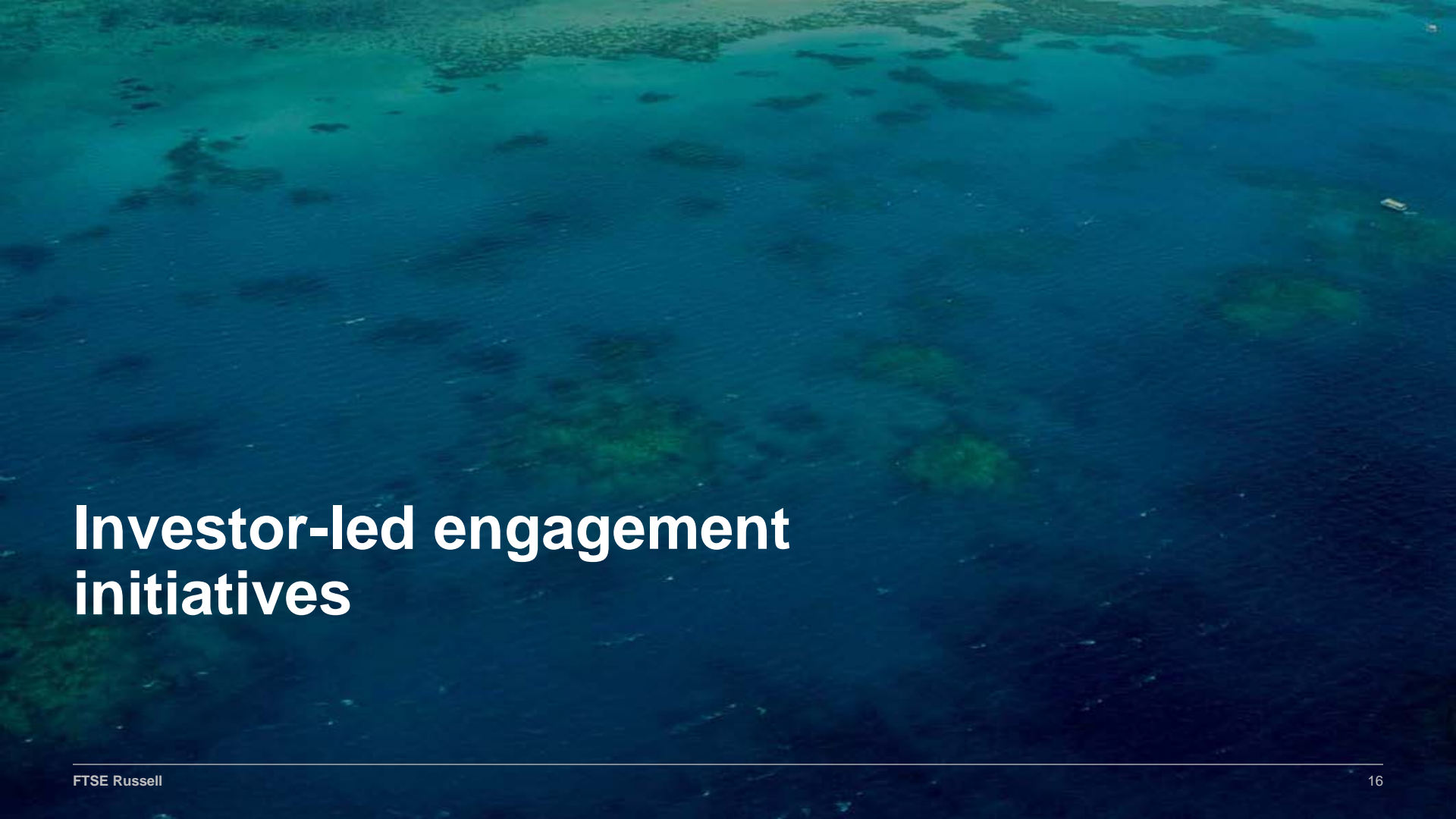
Diversified and global investment opportunity

Green economy by company size



Green economy by country of domicile





Investor-led engagement initiatives

The diagram illustrates the relationship between FTSE Russell, the Transition Pathway Initiative, and Climate Action 100+. It includes three main components:

- FTSE Russell ESG Ratings:** A circular diagram showing the ESG Ratings framework, categorized into Governance, Environmental, and Social. The Environmental category includes Biodiversity, Climate Change, Pollution & Resources, Water Security, and Customer Responsibility. The Social category includes Labor Standards, Human Rights & Community, Health & Safety, and Anti-Corruption. The Governance category includes Tax Transparency, Risk Management, and Corporate Governance. The Supply Chain: Environmental and Supply Chain: Social categories are also shown.
- Transition Pathway Initiative:** A chart titled "Management Quality: Oil & Gas" showing the performance of various companies across five levels (Level 0 to Level 4) based on their management quality. The chart is divided into two main sections: "Management Quality: Oil & Gas" and "Management Quality: Coal & Gas".
- Climate Action 100+:** A chart showing the trend of GHG emissions (Scope 1 & 2) for various companies from 2014 to 2050. The chart is divided into two main sections: "Reported" and "Targeted". The "Reported" section shows the actual emissions for 2014-2018, and the "Targeted" section shows the target emissions for 2019-2050. The chart includes a legend for Paris Pledges, 2 Degrees (Used Shift-Innovated), 2 Degrees (High Efficiency), and BMF.

Investor-led engagement initiatives

Impacts and outcomes

FINANCIAL TIMES

Shell yields to investors by setting target on carbon footprint

DECEMBER 3, 2018

Cutting emissions to be linked to executive pay in industry first



THE WALL STREET JOURNAL.

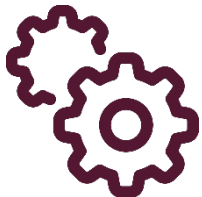
Feb. 20, 2019

Glencore, the King of Coal, Bows to Investor Pressure Over Climate

Mining giant plans to limit coal production, despite having plowed billions of dollars into the fossil fuel



Conclusions



NOT AN EXCUSE FOR INACTION

There is now a lot of data available

There are a lot of ways to incorporate climate risk depending on your investment approach



NEED FOR TRANSPARENCY ON THE DATA

Understanding what it means and tailoring to investment approach



ENGAGEMENT IS KEY

Engage with companies, regulators, governments on risk

Greater disclosure will improve the whole approach



EVOLUTION OF “LOW CARBON” INVESTMENT

Whole sector becoming more sophisticated as risks become both greater and more acknowledged

Thank you

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EMEA

+44 (0) 20 7866 1810

North America

+1 877 503 6437

Asia-Pacific

Hong Kong +852 2164 3333

Tokyo +81 3 4563 6346

Sydney +61 (0) 2 8823 3521

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