Implementing TCFD Recommendations

Perspectives from Asset Managers

Hannah Simons, Head of Sustainability Strategy

Holly Turner, Sustainability Investment Analyst

10 June 2020

Sustainability at Schroders

Our approach

ESG integration

We seek to integrate ESG factors into our research and investment decisions across asset classes, using proprietary tools

21

Dedicated ESG specialists

>210 years

Combined investment experience[1]

A+

UN PRI Assessment[2]

Engagement

We actively engage with companies on material ESG issues to enhance our analysis or to seek improvements in performance

1,750+

Engagements

Across

57

countries globally

Voting

We assess resolutions and apply our voting policy and guidelines as outlined in our ESG policy

5,876

company meetings voted

47%

Meetings voted against management[3]

99%

valid resolutions voted

Measurement

We develop proprietary tools to help translate structural trends into actionable investment implications and quantify impacts via reporting

10

Proprietary models and tools for our analysts and portfolio managers

9,000+

Companies covered by our portfolio-level sustainability reporting tools

Source: Schroders, as at 31 December 2019 unless otherwise stated. [1]30 April 2020. [2]PRI, 2015, 2016, 2017, 2018 and 2019 Assessment Reports. [3]% of meetings where we voted against at least one resolution.

Climate change at Schroders

A long history of voting, engagement and industry involvement

2000
- Voted on first climate change resolution

2002
- 1st recorded instance of engagement on Climate Change
- Founder member of the IIGCC

2006
- CDP signatory

2007
- Supported Prince of Wales Business Leaders Forum Communique on climate change
- Launched Schroder ISF[1] Global Climate Change Equity

2009
- Founding signatories to Water Disclosure Project and Forest Footprint Disclosure Project

2010
- Signatory to Global Investor Statement on Climate Change

2011
- Original member of the Carbon Active Initiative

2013
- Supported a call for a decarbonisation target in UK's energy bill

2015
- Supported the CC resolution filed at Royal Dutch Shell
- Our Chief Economist publishes series of climate change articles
- Produced paper on deforestation and soy with CDP
- Responded to UK Government's consultation on 'Investor confidence in the UK energy sector'
- Signed Paris Pledge for Action

2016
- Co-filed climate change resolution at Anglo American and Glencore
- Supported the climate change resolution filed at Rio Tinto
- As part of the Carbon Action Initiative, engaged with selected emissions-intensive: Newcrest, Santos, and Sime Darby
- Responded to Task Force on Climate Disclosures (TFCD) consultation in May 2016 and February 2017
- Oxford Sustainable Finance Programme's Global Advisory Council member

2017
- Launched Climate Progress Dashboard and Carbon Value at Risk (VaR)
- Engaged >125 companies on climate change risks and strategic planning
- Founding signatory to Climate Action 100+
- Co-filed climate change resolution at Exxon
- Publicly supported TCFD recommendations
- Contributed to The Oxford Institute for Energy Studies journal
- Signatory to Transitions Pathway Initiative
- Urged G7 and G20 nations to support and implement the Paris Agreement

2018
- Launched physical risks model
- Organised educational event for board members of investee companies on transition risks
- >200 company engagements covering carbon emissions, reduction targets, physical risks, analysis & disclosure in line with TCFD recommendations
- Lead for Climate Action 100+ engagement with Anhui Conch Cement

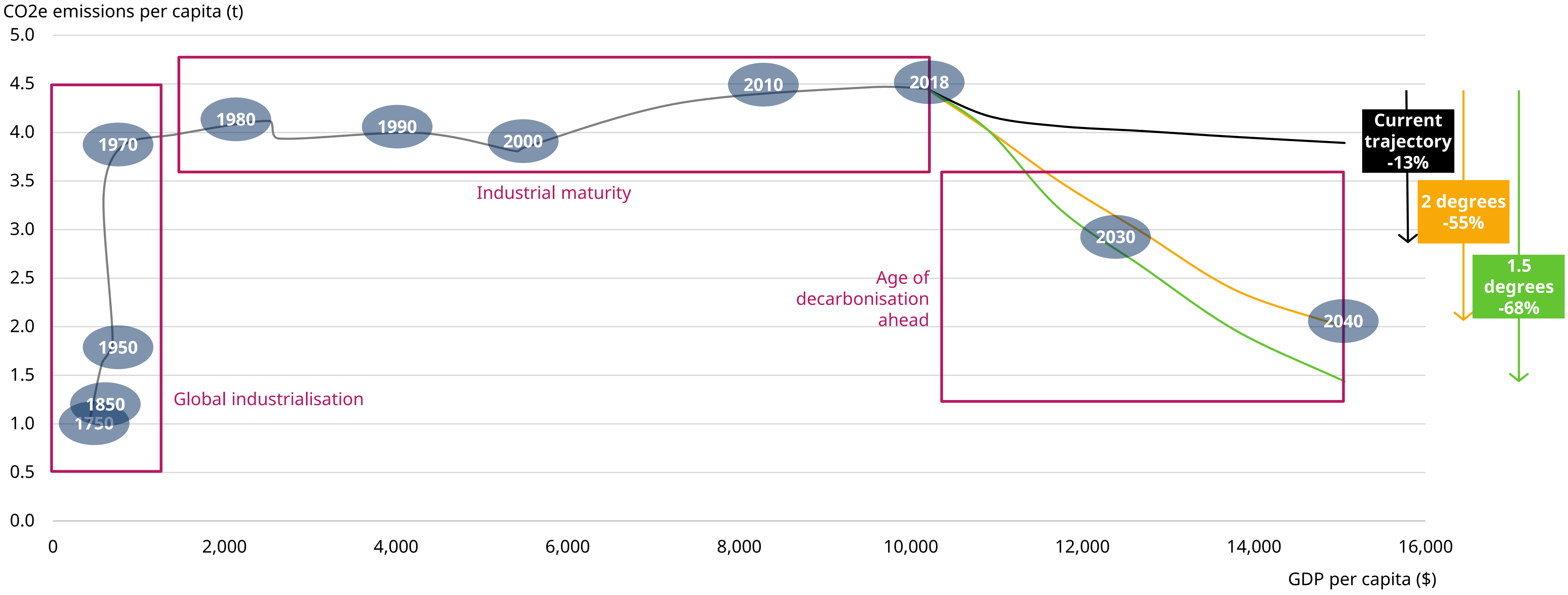
2019
- Launched Schroder ISF[1] Global Energy Transition

Source: Schroders, as at 31 December 2019. 1 Schroder ISF refers to Schroder International Selection Fund.

A new era for carbon intensity

Return to pre-industrial emissions with continued economic expansion

Carbon emissions per capita vs. GDP per capita since 1750



Source: BP Statistical Review, Maddison (OECD), UNFCC, IEA, IIPCC, UN Population Division, Schroders.

Taskforce for Climate-related Financial Disclosures (TCFD)

Enabling stakeholders to better understand carbon exposures

Recommended disclosures across four core areas

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organisation's governance around climate-related risks and opportunities	Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy and financial planning where such information is material	Disclose how the organisation identifies, assesses, and manages climate-related risks	Disclose the metrics and targets used to assess and manage climate-related risks and opportunities, where such information is material

Source: TCFD

Separating the climate question into when and what

Building a climate risk measurement & management toolkit

Climate risk & opportunity

Speed and scale of action to mitigate climate change

Climate Progress Dashboard tracks pace and scale of climate action

Impact of climate action on investments

Climate risk analyses (Carbon VAR, Physical risk etc) examine impacts of action on investments & portfolios

Climate risk tools available across investment desks

Source: Schroders

Significant changes ahead to reach global targets

Climate Progress Dashboard tracks scale and speed of climate action

Aggregate implied temperature rise **3.9°**

	Political ambition	Business and finance	Technology solutions	Entrenched industry
Aspiration	Political ambition 2.8°	Corporate planning 3.4°	Electric vehicles 3.1°	Oil & gas investment 3.6°
↓	Public concern 3.3°	Climate finance 5.5°	Renewable capacity 2.5°	Fossil fuel reserves 4.9°
Action	Political action 3.0°	Carbon prices 4.3°	CCS[1] capacity 4.9°	Fossil fuel production 5.9°

Source: Schroders analysis based on industry sources. Based on data available as at Q1 2020. For further details please visit: http://www.schroders.com/en/sysglobalassets/digital/insights/2017/pdf/sustainable/climate-change-dashboard/climatedashboard-july2017.pdf [1]Carbon capture & storage.

Climate impacts: business & investment risks

Starting with ‘what will change’

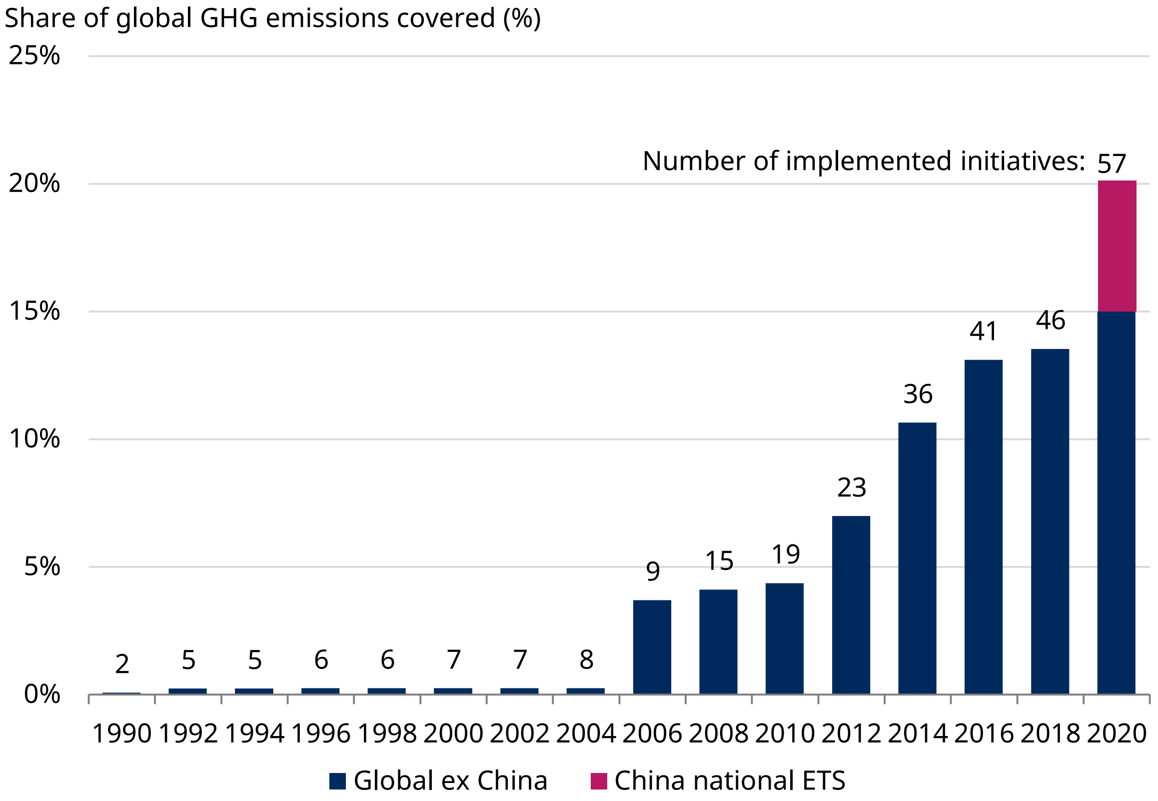
What needs to change?	How will those changes be achieved?	Impact on earnings and valuations?	Overall risk exposure?
1 **Regulation**	E.g. Carbon prices to $100/t	Global cash flows 15–20% lower	
2 **Technology**	E.g. 6% p.a. growth in wind capacity	Positive growth options 25–30% of market cap	**Most portfolios face 10–20% valuation risk under 2° scenario**
3 **Fossil fuels**	E.g. 35% drop in fossil fuel production	Up to 70% impact on sector valuation	
4 **Physical risk**	E.g. 3% p.a. increase in economic costs	Insurance costs up to 5% of current valuations	

Source: Schroders.

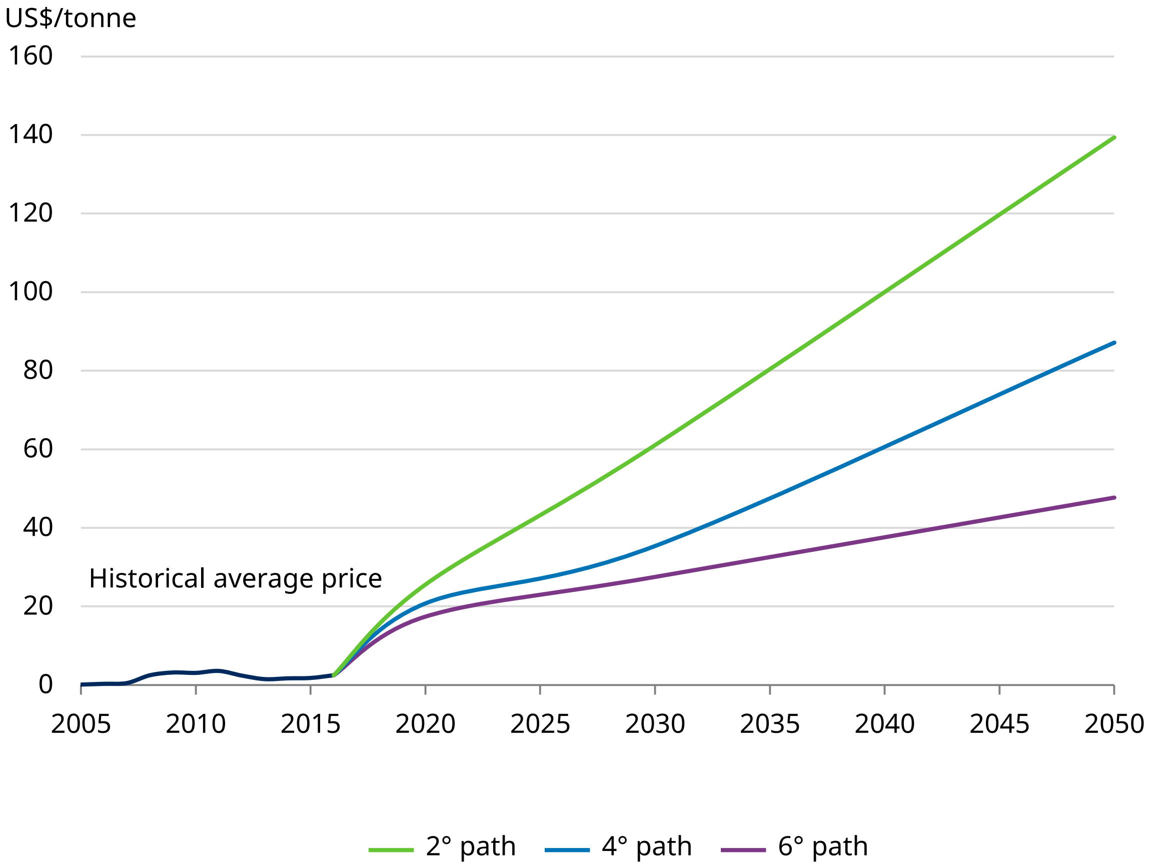
Change 1: Regulation

Substantial rise in carbon prices needed over the next decades

Carbon pricing will soon cover a quarter of global emissions[1]



Carbon prices are set to rise significantly[2]



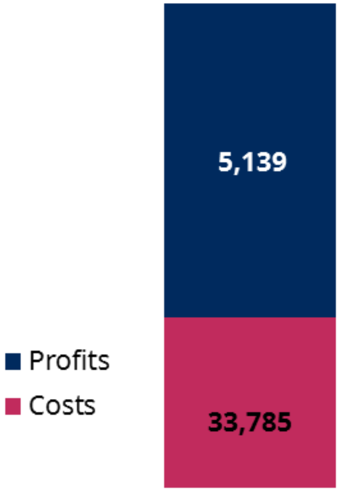
[1]Source: Schroders, World Bank, November 2019. [2]Source: PointCarbon, BP, IEA, OECD, World Bank, May 2017.

Schroders

Carbon VaR integrates company CO_2 emissions

…including supply chain and pricing to estimate the impact on profits

Example: ABB



Before

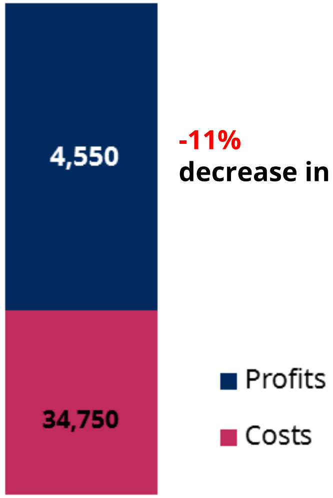
Carbon emissions

Elasticity of demand

Own factories

+

Supply chain



-11%
decrease in profits

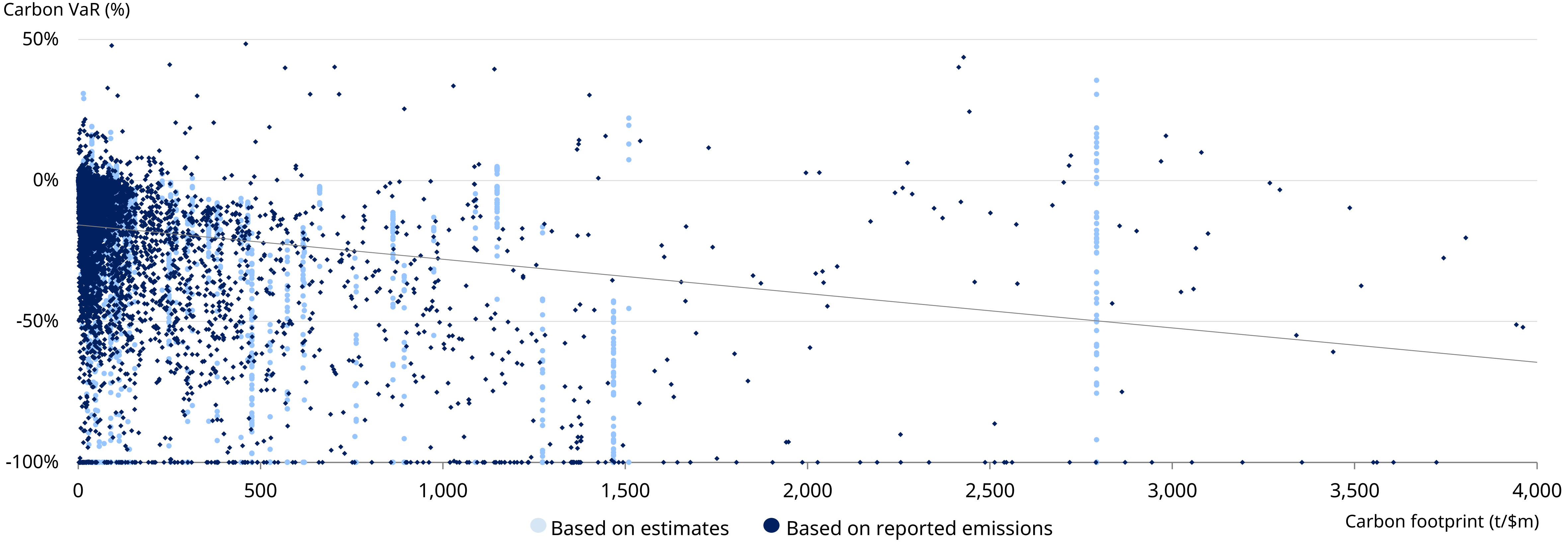
After

Source: Schroders, all numbers in \$m. Sales, costs, EBITDA values are averages over 2013–2016. Assumption: CO_2 prices increase to \$100t/tonne. Any references to securities, sectors, regions and/or countries are for illustrative purposes only and is not a recommendation to buy and/or sell.

Carbon VaR shows company profitability is at risk...

...an insight not captured by carbon footprints

Carbon footprint (t/$m) vs. Carbon VaR (%)

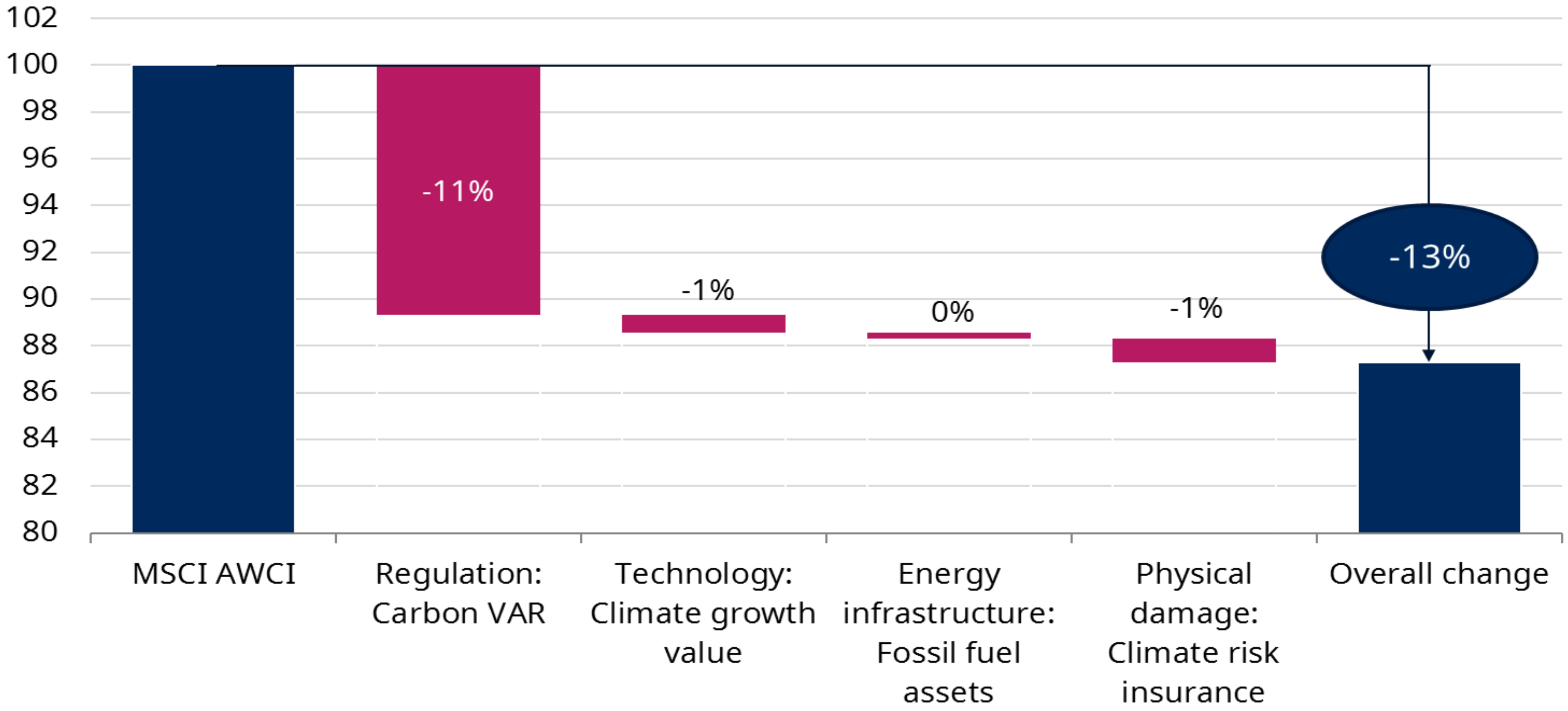


Source: Schroders, as of December 2019, assumes CO_2 at $100/tonne.

Schroders

Bringing analysis together, shows most companies will be hurt…

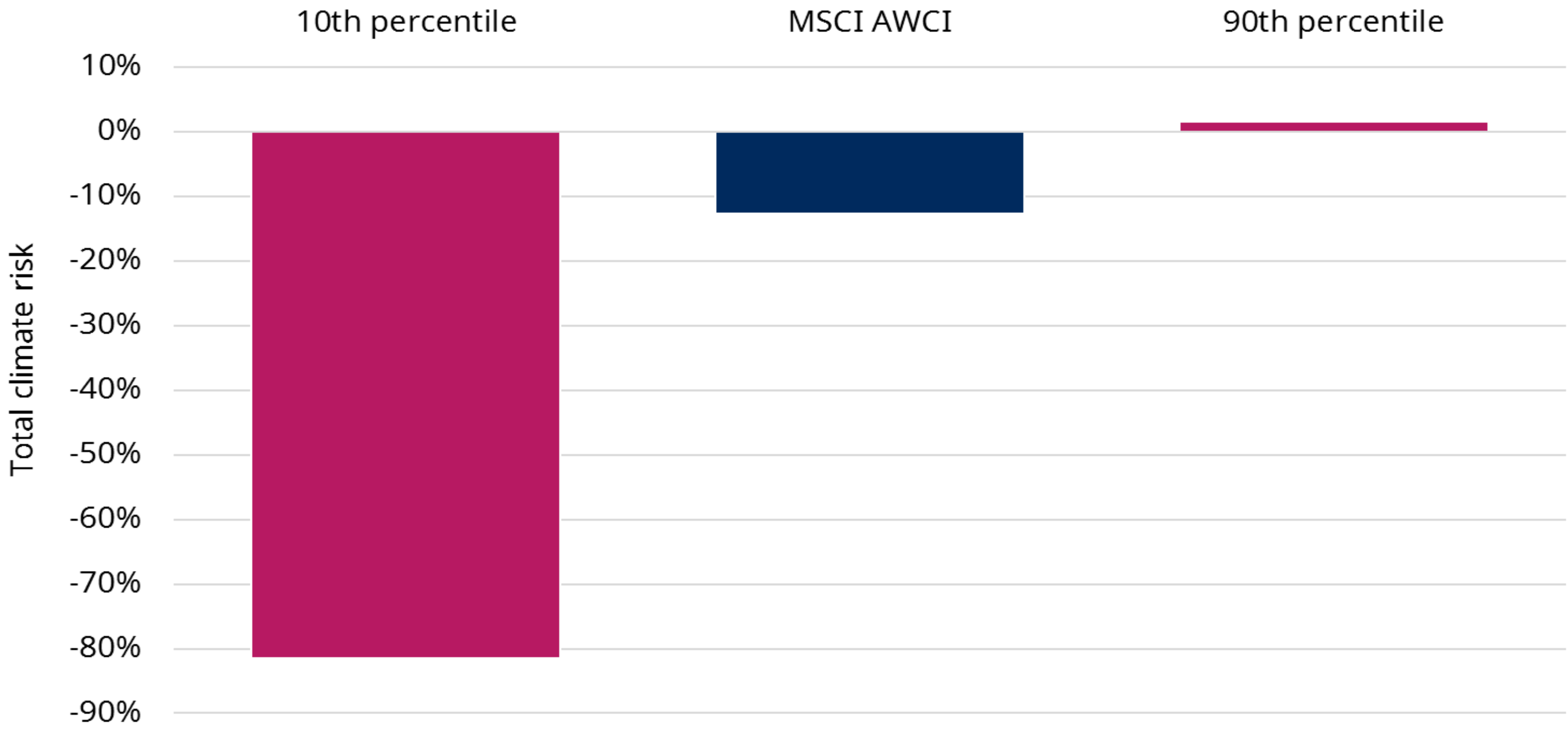
10-20% impact on global equity valuations



Source: Thomson Reuters, MSCI, CDP, Schroders

…but there will be winners & losers

Impacts of 10th and 90th percentile companies



Source: Thomson Reuters, MSCI, CDP, Schroders

Climate change: an escalating challenge

Limiting global temperature rises to 2 degrees means:

Approx. **15%**
of the value of global companies will be lost

But **10%**
of companies become more valuable

And **10%**
of companies become loss-making

$1 trillion p.a.
investment required to redesign global infrastructure

Source: Schroders, OECD.

Schroders

Appendices

Sustainable Investment Team

A well-resourced team

Jessica Ground
Global Head of Stewardship
Team head
22yrs experience

Andrew Howard
Head of Sustainable Research
Thought Leadership and integration
22yrs experience

Daniel Veazey
Head of Corporate Governance Analysts
UK & Japan governance
18yrs experience

Yousif Ebeed
Corporate Governance Analyst
Asia governance
3yrs experience

Seema Suchak
Head of Sector Research
Metals and mining
15yrs experience

Elly Irving
Head of Engagement
Consumer discretionary
12yrs experience

Stephanie Chang
Head of Integration
15yrs experience

Pippa O'Riley
Corporate Governance Analyst
Europe governance
4yrs experience

Lamin Tarawally
Corporate Governance Administrator
2020 Trainee

Catherine Macaulay
Sustainable Investment Analyst
Autos, telecoms and healthcare
2yrs experience

Ovidiu Patrascu
Sustainable Investment Analyst
Industrials, IT
8yrs experience

Holly Turner
Sustainable Investment Analyst
Energy, chemicals & paper
1yr experience

Sarah Bratton
Head of Sustainability, North America
12yrs experience

Belinda Gan
Investment Director
15yrs experience

Louise Wihlborn
Sustainable Investment Analyst
Consumer staples; US governance
2yrs experience

Dan Chi Wong
Sustainable Investment Analyst
Asian ESG Specialist
10yrs experience

Dominic Tonge
Data Analyst
4yrs experience

Hannah Simons
Head of Sustainability Strategy
20 yrs experience

Claire Herbert
Product Executive
4yrs experience

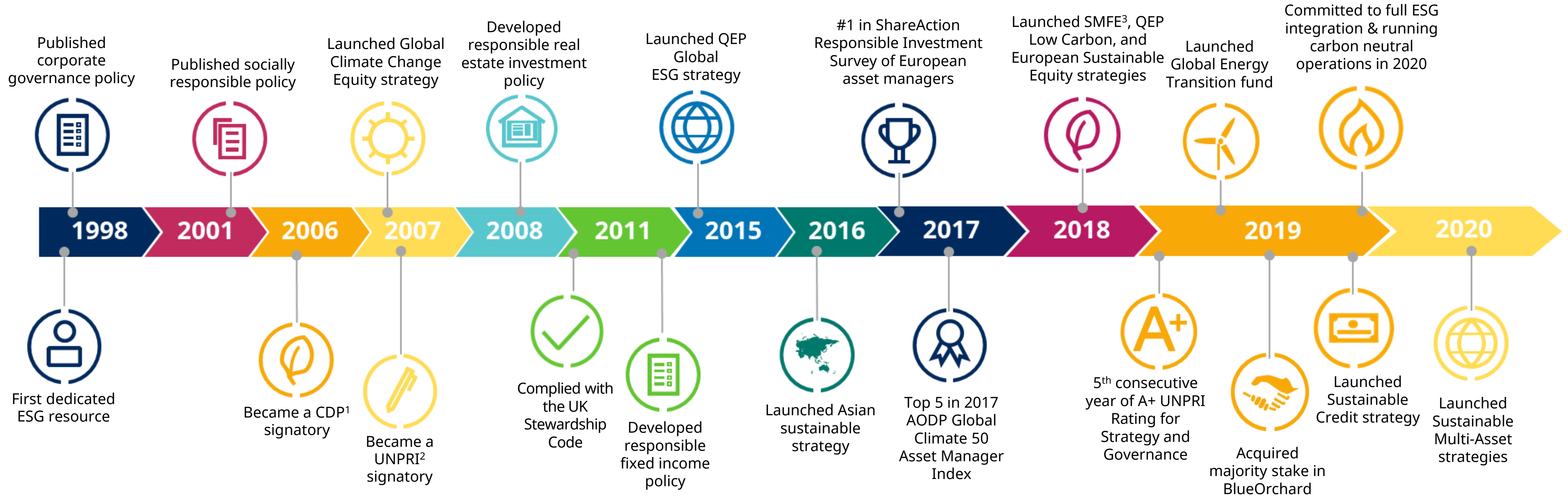
Megan Theobald
Product Support
1yr experience

Carol Storey
Sustainable Investment Analyst
Financials, utilities
9yrs experience

Source: Schroders, April 2020.

Sustainability at Schroders

The journey to be a market leader



'Issues such as climate change, resource scarcity, population growth and corporate failure have put responsible investment at the forefront of investors' minds. We believe that companies with a strong environmental, social and governance ethos tend to deliver better results for our clients.'

Peter Harrison, Group Chief Executive, Schroders plc

Source: Schroders, January 2020.
[1]Carbon Disclosure Project. [2]UN Principles for Responsible Investing. [3]Sustainable Multi-Factor Equity.

Sustainability at Schroders

Promoting responsible investment through various initiatives

PRI Principles for Responsible Investment

ICGN International Corporate Governance Network

SASB Sustainability Accounting Standards Board

Climate Action 100+ Global Investors Driving Business Transition

Eurosif

ibe Institute of Business Ethics

ACGA Asian Corporate Governance Association

The Social Bond Principles

The Green Bond Principles

UNEP Finance Initiative | Principles for Responsible Banking

UKSIF UK Sustainable Investment and Finance Association

Eumedion Corporate Governance Forum

CDP

PPCA Powering Past Coal Alliance

FCLTGLOBAL

TCFD Task Force on Climate-Related Financial Disclosures

Access to Nutrition Index™

access to medicine index

GRESB Real Estate

BBP Better Buildings Partnership

The Investor Forum

isg Investor Stewardship Group

Transition Pathway Initiative

WDi Workforce Disclosure Initiative

Source: Schroders.

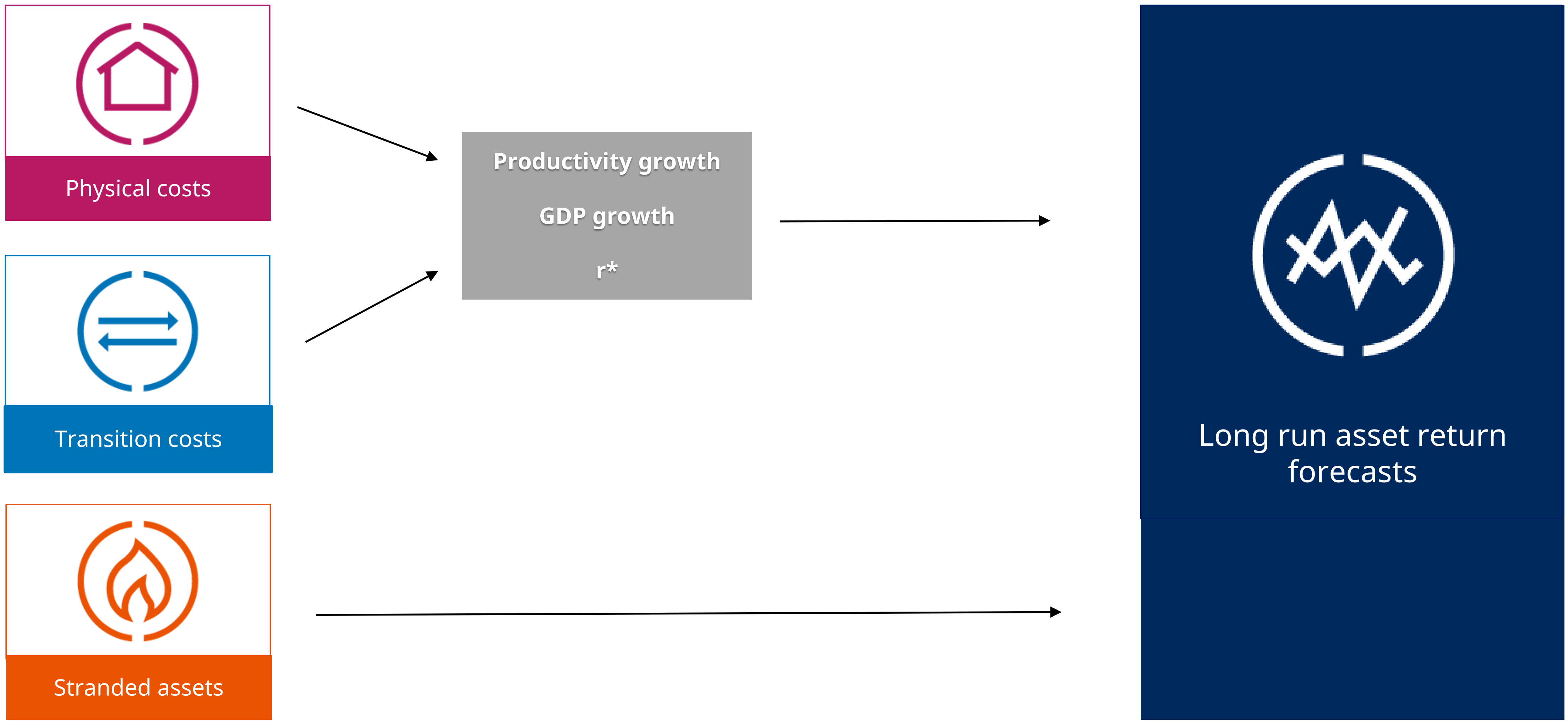
Sustainability: trusting in our own analysis

Proprietary research drives ESG integration

Source: Schroders.

Incorporating climate change in our 30 year returns

Three step process



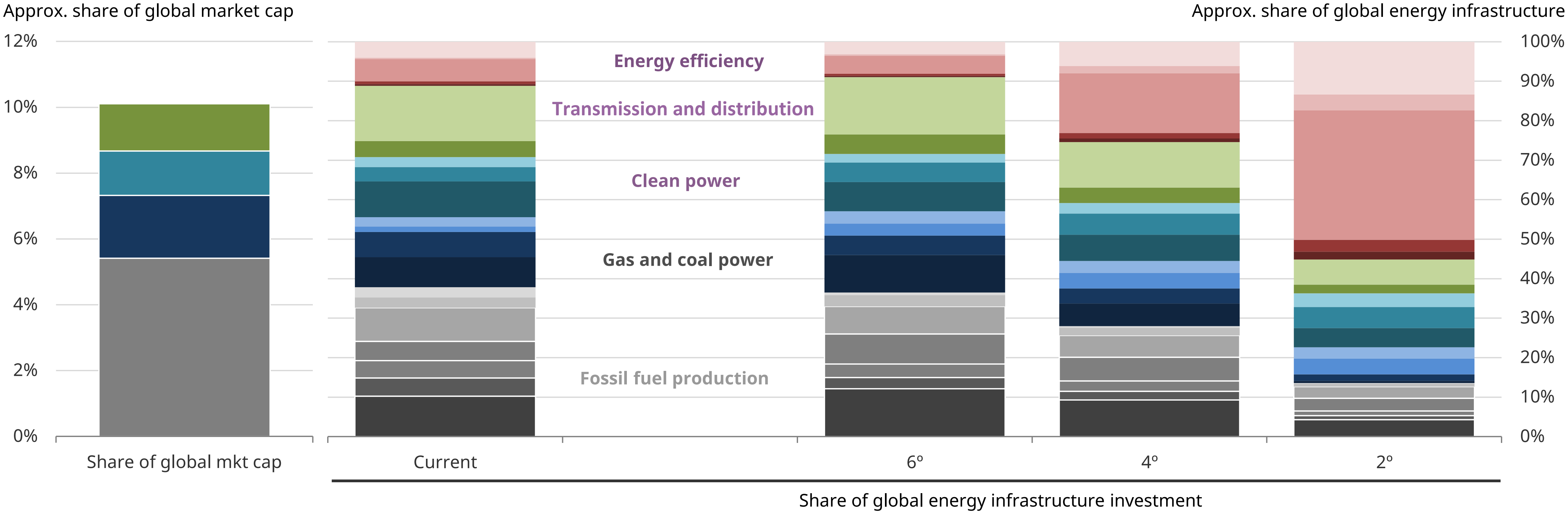
Source: Schroders.

Schroders

Change 2: Technology

Infrastructure shifts to 2035 will reshape financial markets

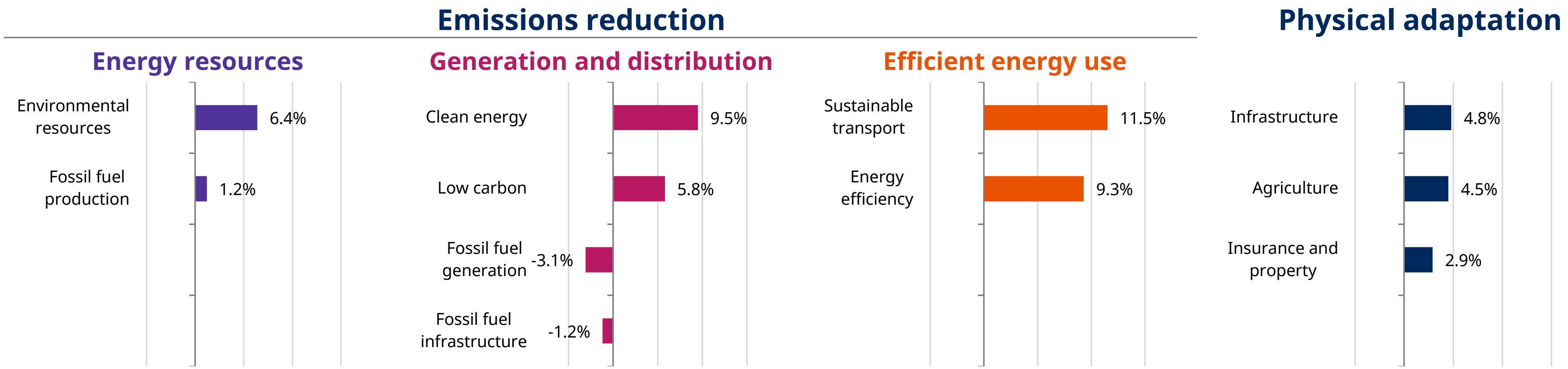
Current and projected capital investment across the energy complex



Future capital stock is estimated by combining forecast investment in each category with assumed depreciation of existing assets (ranging from 15–50 years for useful lives). We assume energy infrastructure's share of economy-wide capital stock remains unchanged. Source: DataStream, IEA, Schroders.

Redefining growth across markets

Translating a macro view of climate change into market implications



Examples of positive/negative impacts

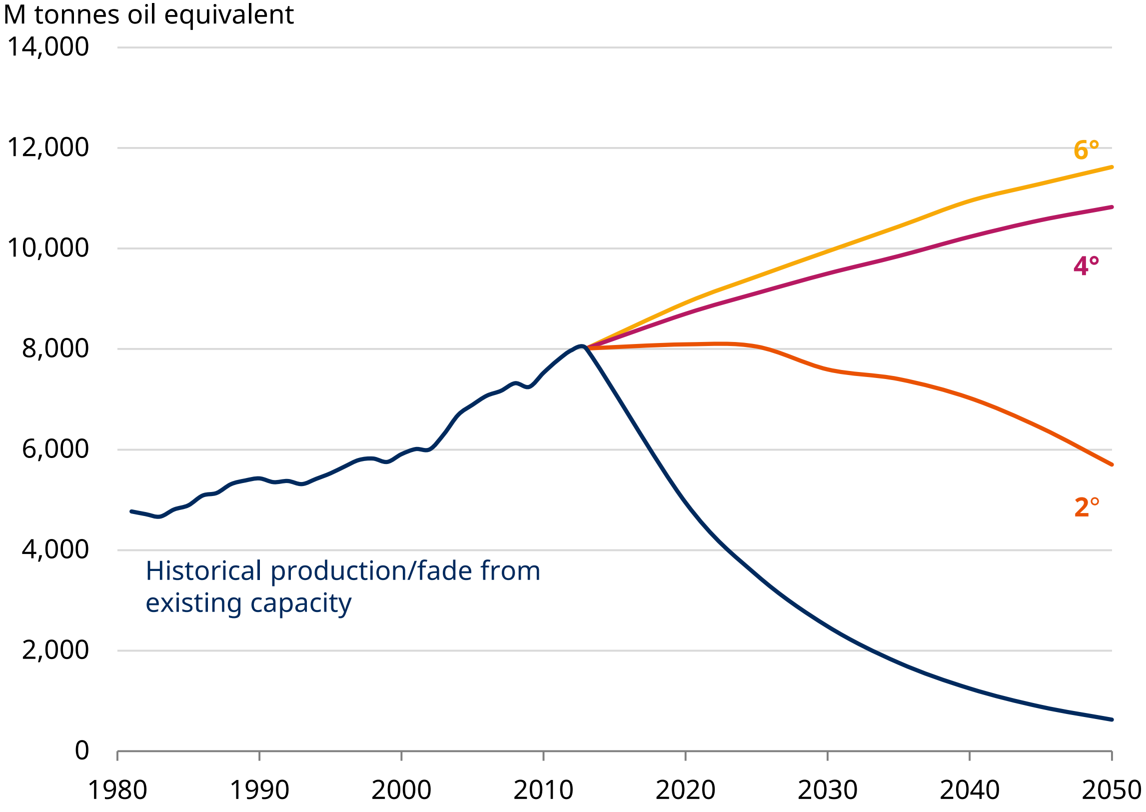
	Winners	Losers	Winners	Losers	Winners	Losers	Winners	Losers
Direct effects	Forestry	Oil and gas extraction	Solar and wind farms	Coal utilities	LED producers	Steel	Irrigation	Farming
Downstream markets	Biofuel refining	Petrochemicals	Energy storage	Cement producers	Smart metering	3D printing	Genetically modified crops	Food producers
Upstream industries	Lithium mining	Oilfield equipment	Solar cell makers	Coal mining	Building efficiency	Iron ore	Agricultural equipment	Logistics

Investment growth projections based on IEA technology forecasts and reviews of individual markets using third-party market studies. Source: IEA and Schroders. Any references to securities, sectors, regions and/or countries are for illustrative purposes only and is not a recommendation to buy and/or sell.

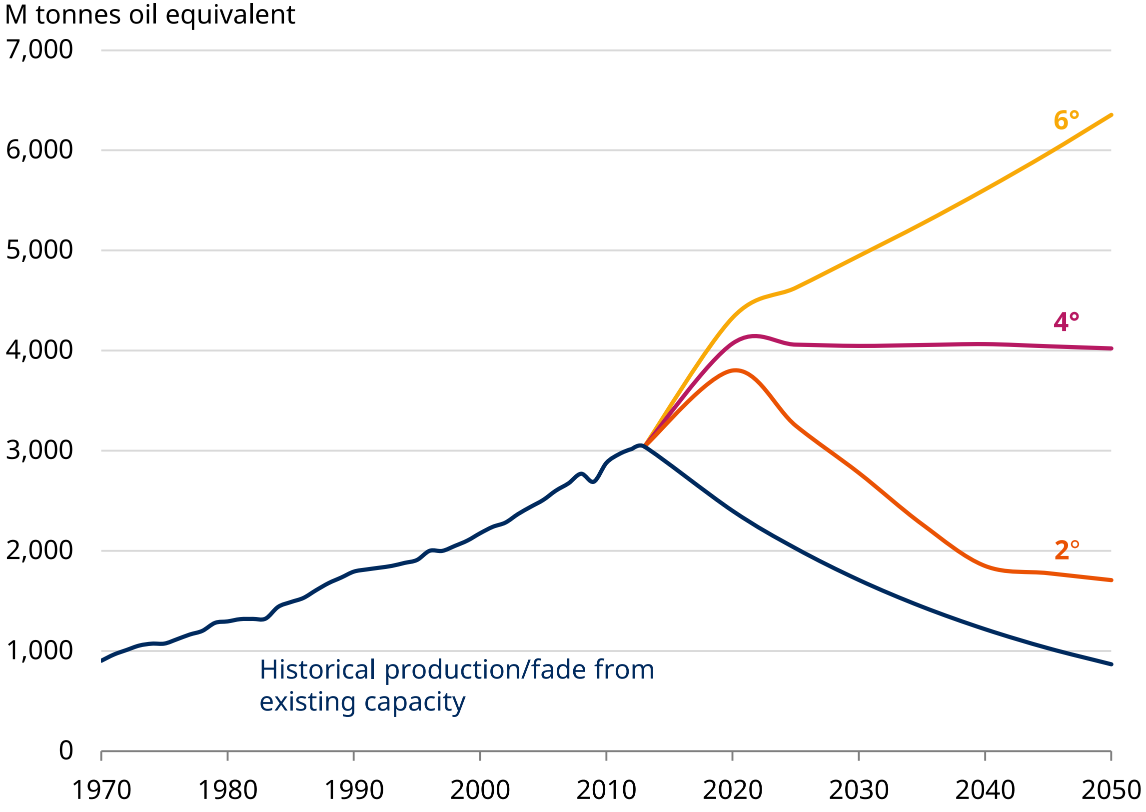
Change 3: Fossil fuels

Consumption of fossil fuels under climate scenarios

Meeting climate goals could hit oil production hard...



...and coal production even harder

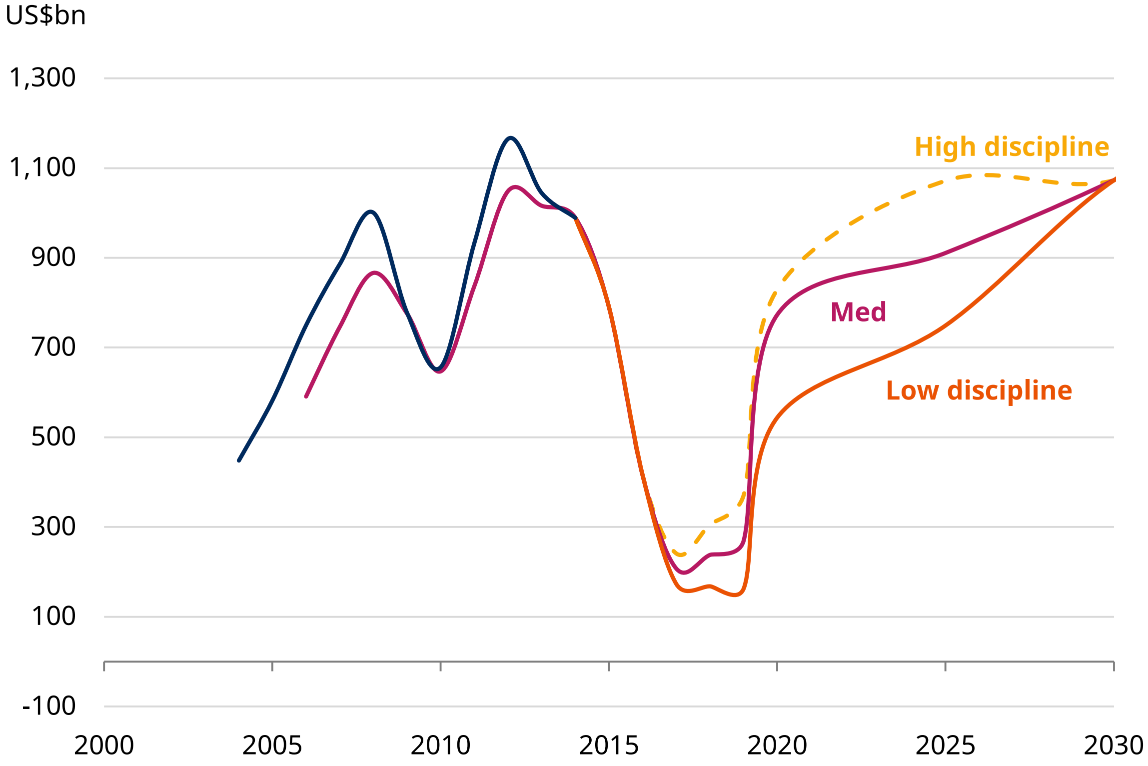


Source: Schroders based on BP Statistical Review, IEA and OECD data.

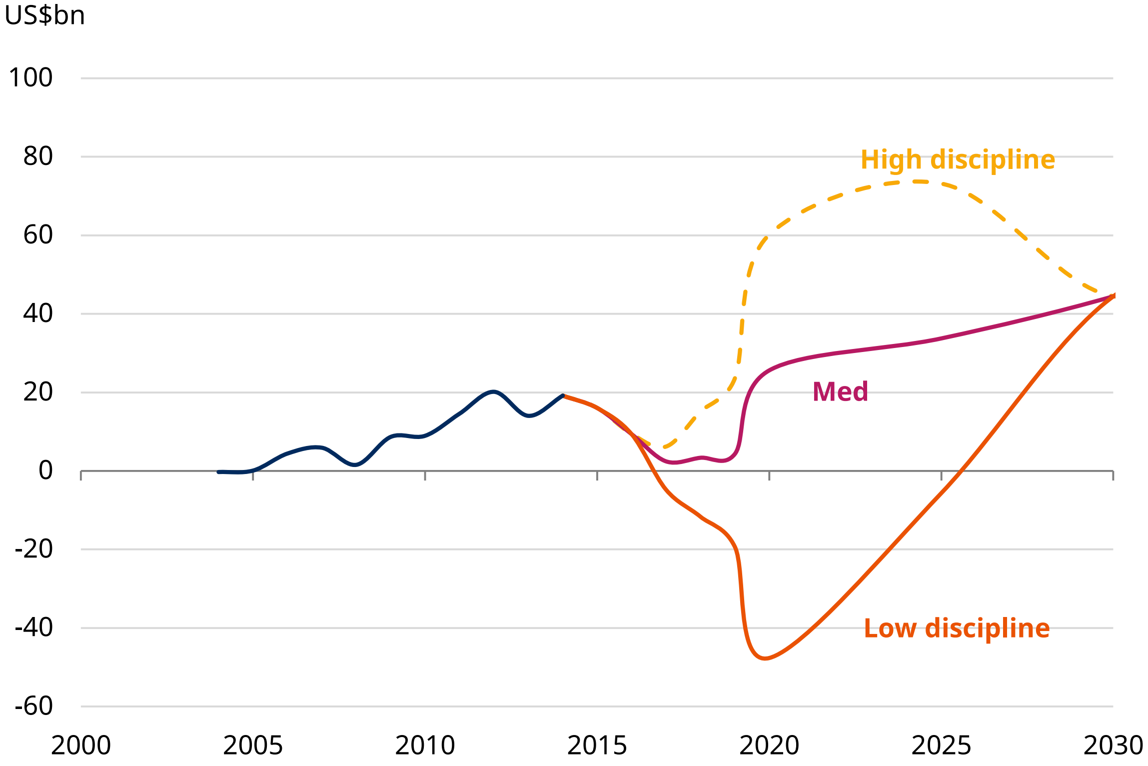
Meaning very different earnings, irrespective of growth

Earnings profile under different discipline scenarios

Discipline will help oil companies master their own destiny…



…and coal companies even more so



Source: Datastream, Schroders. Based on financial data available in May 2017.

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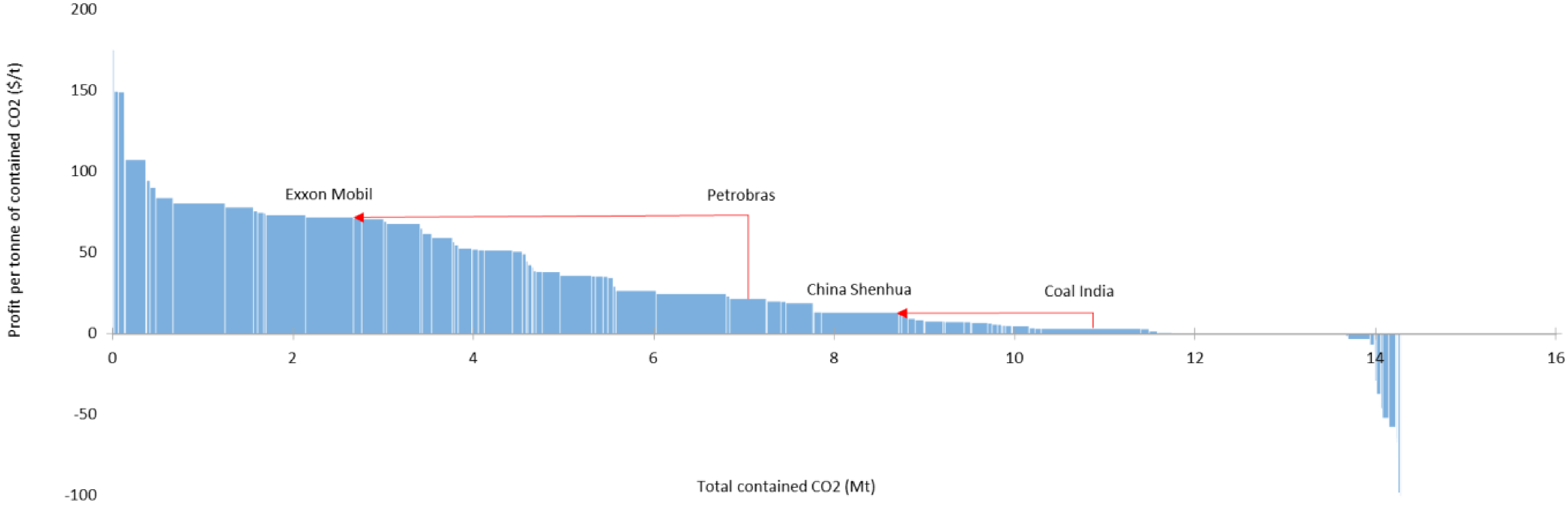
Not all companies are equally exposed

Many fossil fuel producers have a buffer against demand constraints

Fossil fuel production profit pool per tonne of contained CO2



Source: Carbon Underground, Thomson Reuters, Bloomberg.

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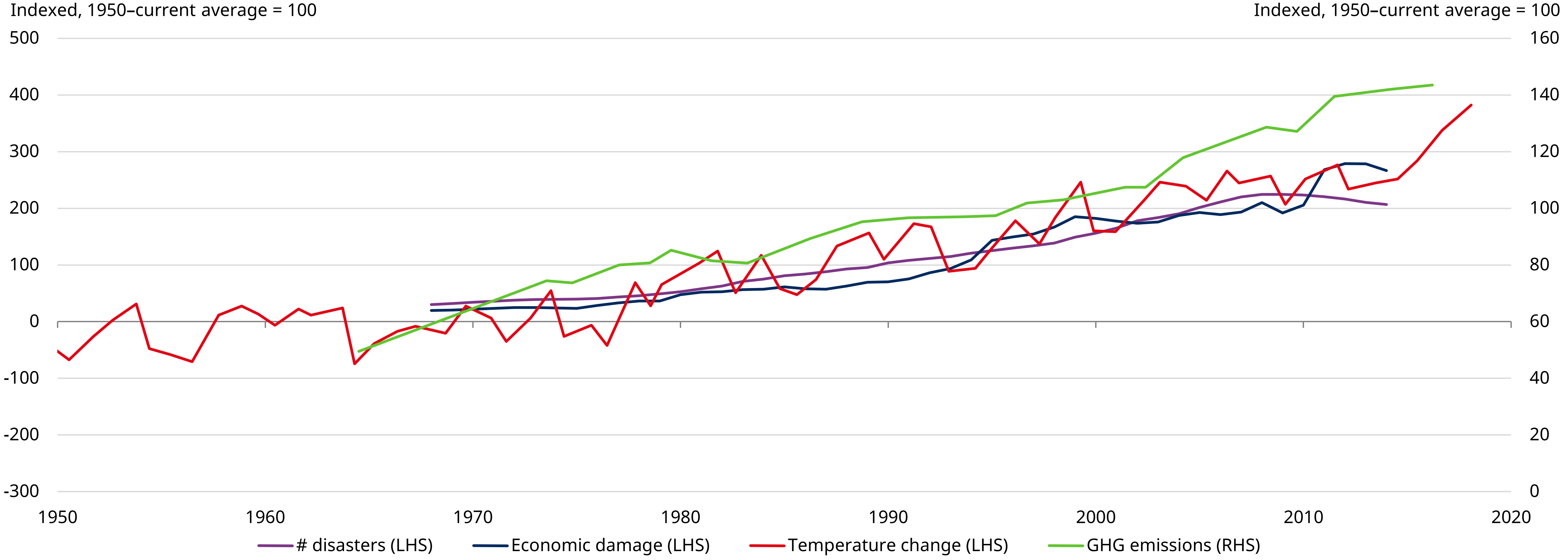
Change 4: Physical risk

Greenhouse gas emissions, temperatures and disasters are all rising in tandem



Natural disasters and economic damage lagging GHG emissions → increase in damage almost a certainty

Source: NASA, EM-DAT, UN FCC, Schroders calculations.

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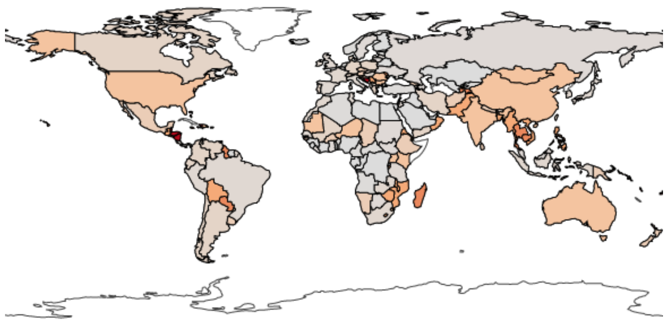
Mapping physical damage

Using insurance modelling to assess damage

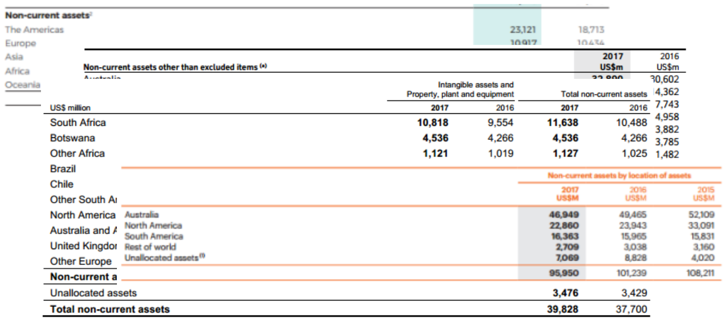
1

Damage caused by climate change, based on estimated economic costs relative to GDP over the last 20 years.



2

Companies’ exposure to physical risks calculated by combining country risk analysis with their reported geographic assets.



Non-current assets		
The Americas	23,121	18,713
Europe	10,917	10,434
Asia		
Africa		
Oceania		

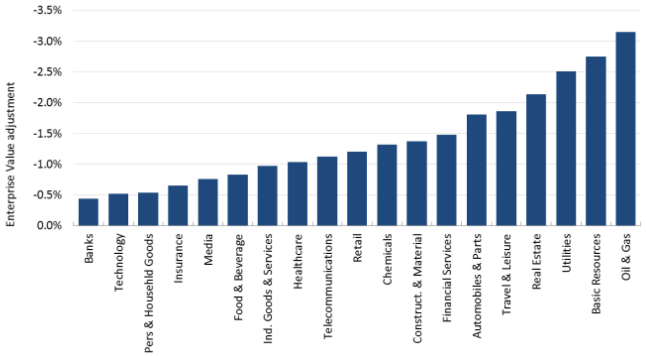
Non-current assets other than excluded items (a)	2017 US$m	2016 US$m
Australia	32,890	30,602
		4,362
		7,743
		4,958
		3,882
		3,785
		1,482

US$ million	Intangible assets and Property, plant and equipment 2017	2016	Total non-current assets 2017	2016
South Africa	**10,818**	9,554	**11,638**	10,488
Botswana	**4,536**	4,266	**4,536**	4,266
Other Africa	**1,121**	1,019	**1,127**	1,025
Brazil				
Chile				
Other South Ai				
North America				
Australia and /				
United Kingdor				
Other Europe				
Non-current a				
Unallocated assets			**3,476**	3,429
Total non-current assets			**39,828**	37,700

Non-current assets by location of assets	2017 US$M	2016 US$M	2015 US$M
Australia	**46,949**	49,465	52,109
North America	**22,860**	23,943	33,091
South America	**16,363**	15,965	15,831
Rest of world	**2,709**	3,038	3,160
Unallocated assets (f)	**7,069**	8,828	4,020
	95,950	101,239	108,211

3

Costs of insurance against physical damage calculated using current exposures, standard global loss ratios and projected damage growth over the next 13 years.

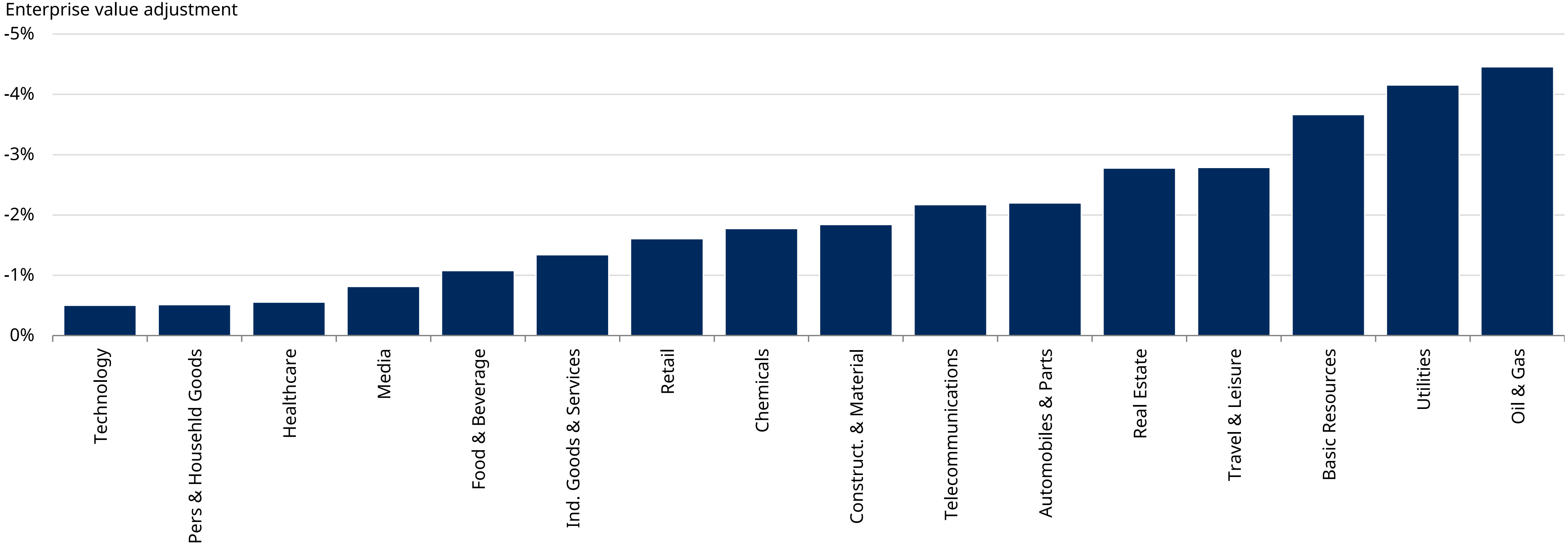


Source: Munich Re, Schroders.

Wide range of impacts

From limited risk to significant across sectors

Estimated impact (insurance cost) relative to enterprise value, by sector



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Schroders commissioned Research Plus Ltd to conduct an independent online survey of 25,743 investors in 32 locations throughout the world, with fieldwork held between 4 April – 7 May 2019. This research defines ‘investors’ as people who will be investing at least €10,000 (or the equivalent) in the next 12 months and who have made changes to their investments within the last 10 years; these individuals represent the views of people in each location included in the survey. Retired investors were boosted in each location, where it was feasible.

Schroders commissioned CoreData to conduct the third Institutional Investor Study to analyse the world’s largest investors’ key areas of focus and concern including the macroeconomic and geopolitical climate, return expectations, asset allocation and attitudes to private assets and sustainable investing. The respondent pool represents a spectrum of institutions, including pension funds, insurance companies, sovereign wealth funds, endowments and foundations managing approximately $25.4 trillion in assets. The research was carried out in May 2019. The 650 institutional respondents were split as follows: 175 in North America, 250 in Europe, 175 in Asia-Pacific and 50 in Latin America. Respondents were sourced from 20 different locations.

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