

## Stream 1

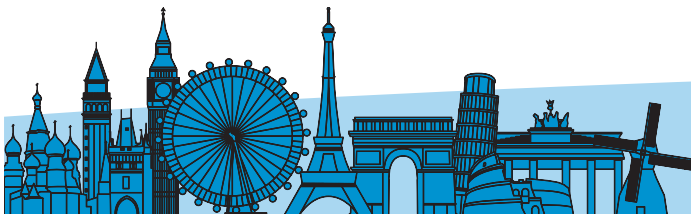
What carbon regulation/footprinting will asset owners/managers have to report on?  
How can investment portfolios be decarbonised without investment risk?

14:15 – 14:55

Lauren Smart, *Executive Director, Trucost*

Peter Smith, *Investment Officer, The Pensions Trust*

**Moderator:** Ian Simm, *Chief Executive, Impax Asset Management*





# Climate change investment risk






RI Europe 2016

Ian Simm, Founder & Chief Executive

22 June 2016

FOR UK PROFESSIONAL INVESTORS ONLY – NOT FOR ONWARD DISTRIBUTION TO RETAIL CLIENTS

# Investment risk - society's response not the weather !

	Source of risk	Timescale of material portfolio impact	Investment response
<b>Climate Change</b>	 	<div>2040+</div>	<ul style="list-style-type: none"> <li>Insurance</li> <li>Diversification</li> <li>Portfolio management</li> </ul>
<b>Society's response to Climate Change</b>	<div>Government intervention</div> <div>Changing consumption patterns</div>	<div>2020 - 2025</div>	<div>    </div> <div> <b>"Hold"</b>  <b>"Sell"</b>  <b>"Buy"</b> </div>

## Summary of carbon pricing impact

- Industry volume
- Wholesale energy prices



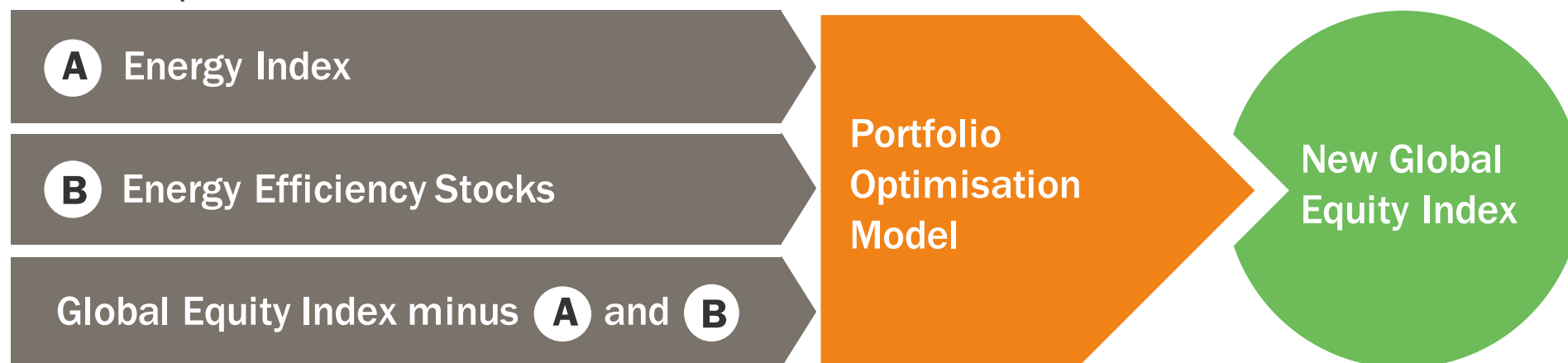
- Retail energy prices



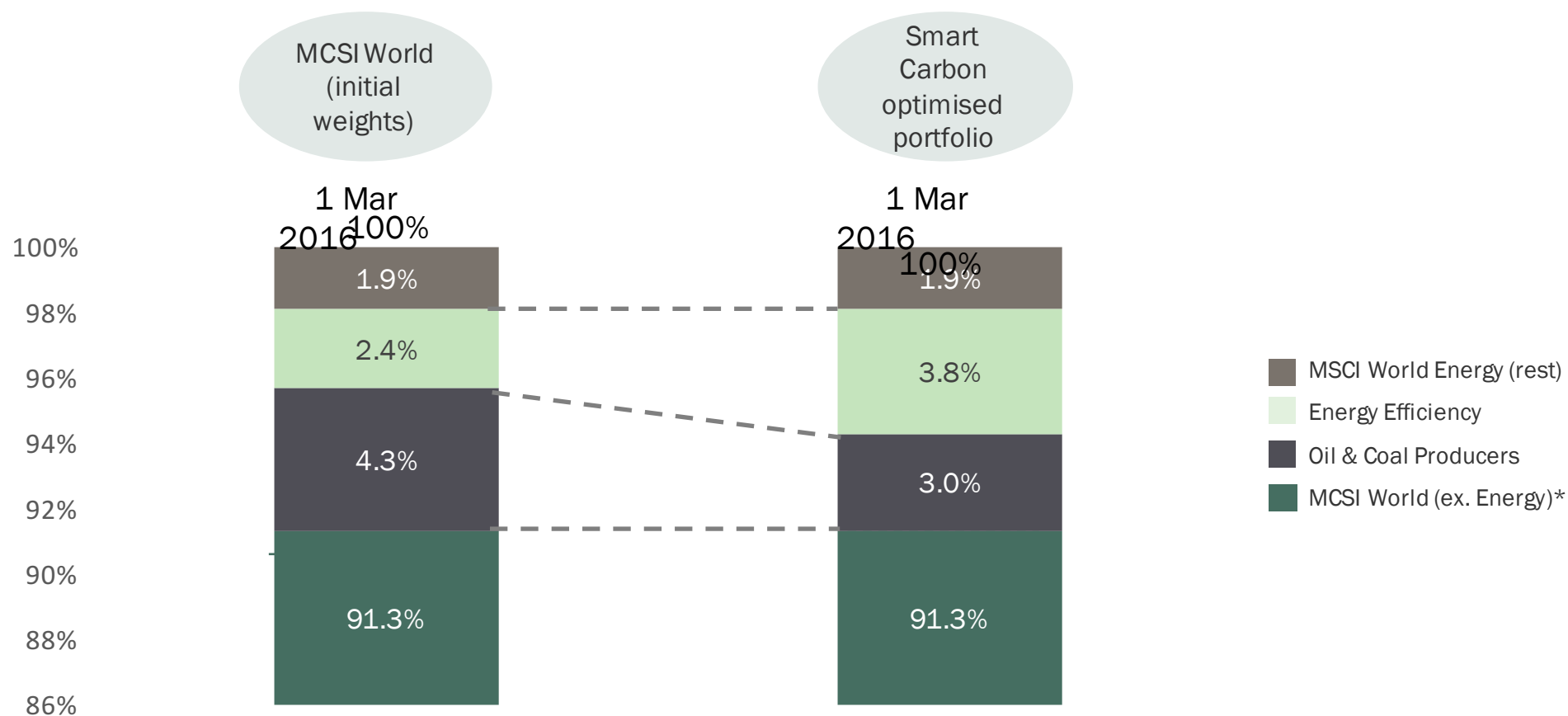


# Optimising an equity portfolio for carbon price risk

Model inputs:



## Illustrative optimised portfolio



Source: Impax Asset Management, model portfolio run using FactSet. \* Also ex Energy Efficiency

# Important information

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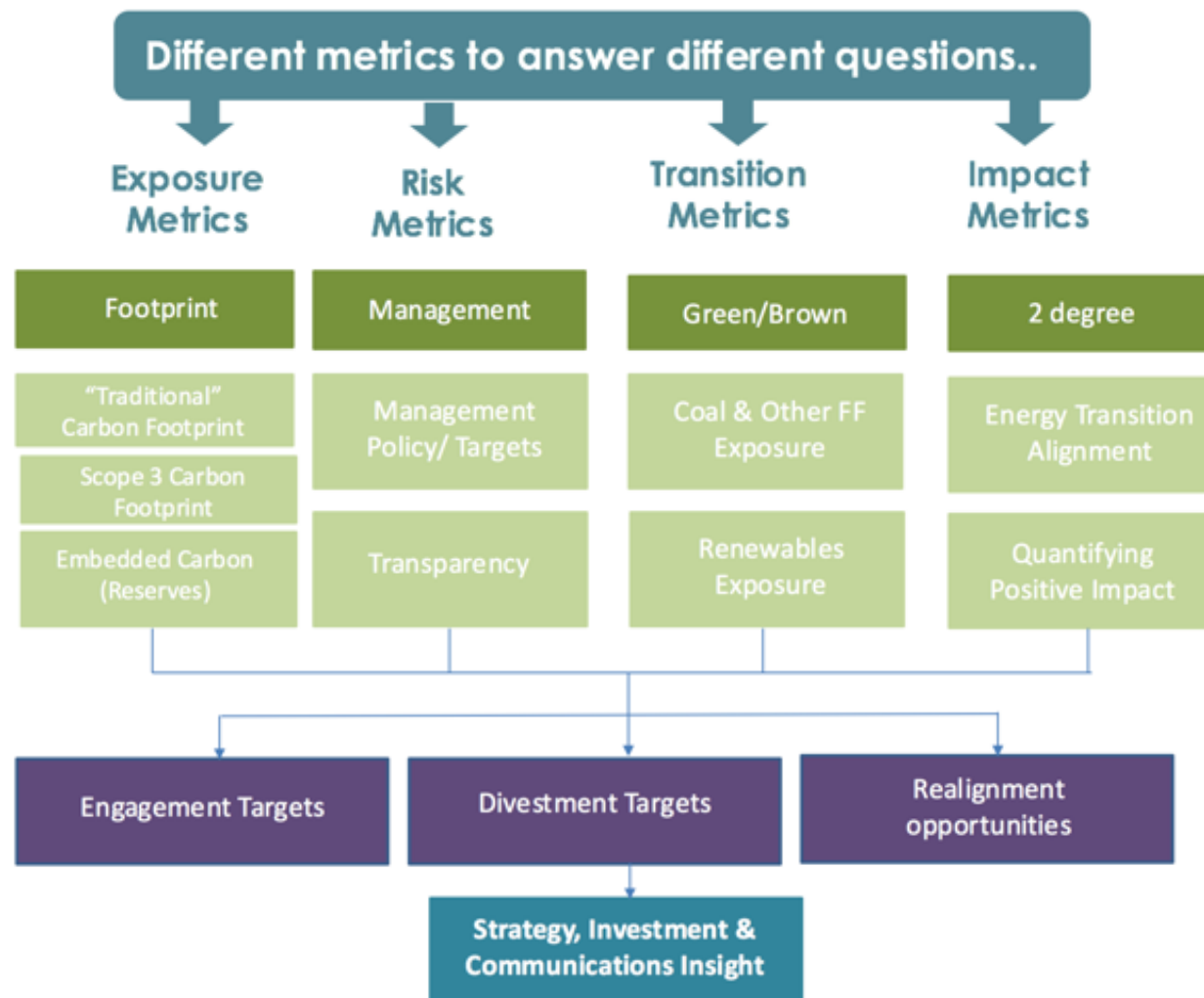
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**What carbon regulation/footprinting will asset owners/managers have to report on? How can investment portfolios be decarbonised without investment risk?**

# AN EVOLUTION IN CARBON METRICS: DIFFERENT TOOLS FOR DIFFERENT OBJECTIVES



WHY ARE WE LOOKING AT THIS THIS? WHAT ARE OUR INVESTMENT BELIEFS? WHAT DO OUR STAKEHOLDERS DEMAND?  
WHAT DO WE WANT TO COMMUNICATE? WOULD/HOW MIGHT WE WANT TO CHANGE OUR INVESTMENT PRACTISES?



# "GREEN/BROWN" METRICS



## Fossil Fuel Exposure & Coal Divestment

Set Divestment thresholds

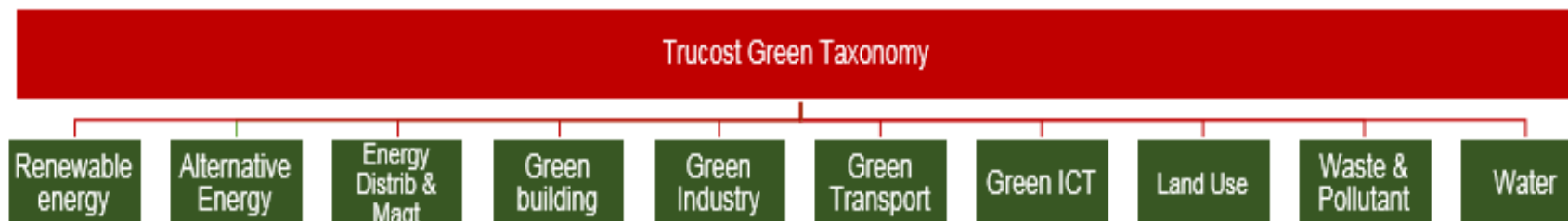
Assess 3 year trend & progress

Name	value of holding	Coal Power Generation	Bituminous Coal and Lignite Surface Mining	Bituminous Coal Underground Mining	Total Coal Based Revenue	year y-1	year y-2	3-years trend
Bathurst Resources Ltd.		-	100.00%	-	100.00%	100.00%	100.00%	—
Coal India Ltd.		-	92.19%	7.81%	100.00%	100.00%	100.00%	—
Yanzhou Coal Mining Co. Ltd.		2.41%	13.08%	83.89%	99.38%	99.19%	99.20%	—
Whitehaven Coal Ltd.		-	53.24%	42.80%	96.04%	100.00%	100.00%	—

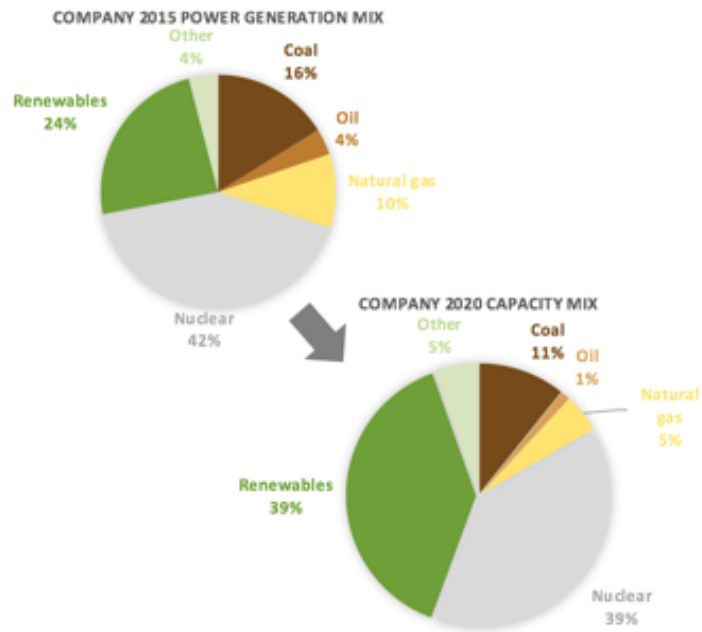
## Renewable Energy Exposure

Name	value of holding	Hydroelectric Power Generation	Wind Power Generation	Solar Power Generation	Geothermal Power Generation	Total revenues from renewable energy activities latest reporting year	Total	year y-1	year y-2	3-years trend
Infigen Energy Ltd.		-	100.00%	-	-	100.00%	100.00%	100.00%	100.00%	—
AES Tietê SA		100.00%	-	-	-	100.00%	100.00%	100.00%	100.00%	—
Enel Green Power SpA		36.95%	41.36%	1.02%	18.98%	98.31%	99.33%	98.80%	98.67%	—
Mighty River Power Ltd.		49.56%	-	-	37.88%	87.44%	87.44%	76.00%	n.a.	—
Tractebel Energia SA		84.90%	0.80%	-	-	85.71%	86.12%	86.42%	90.44%	—

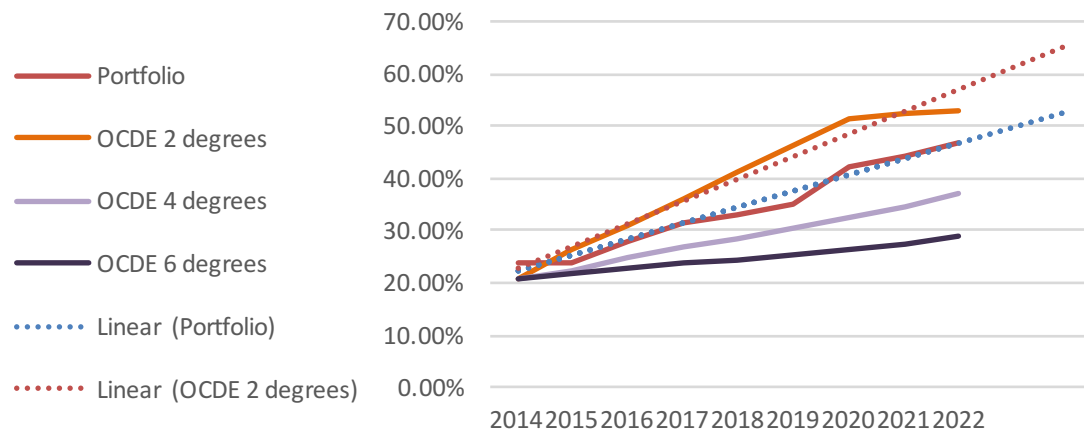
## Other "Solution" Providers



# ENERGY TRANSITION & 2 DEGREE ALIGNMENT

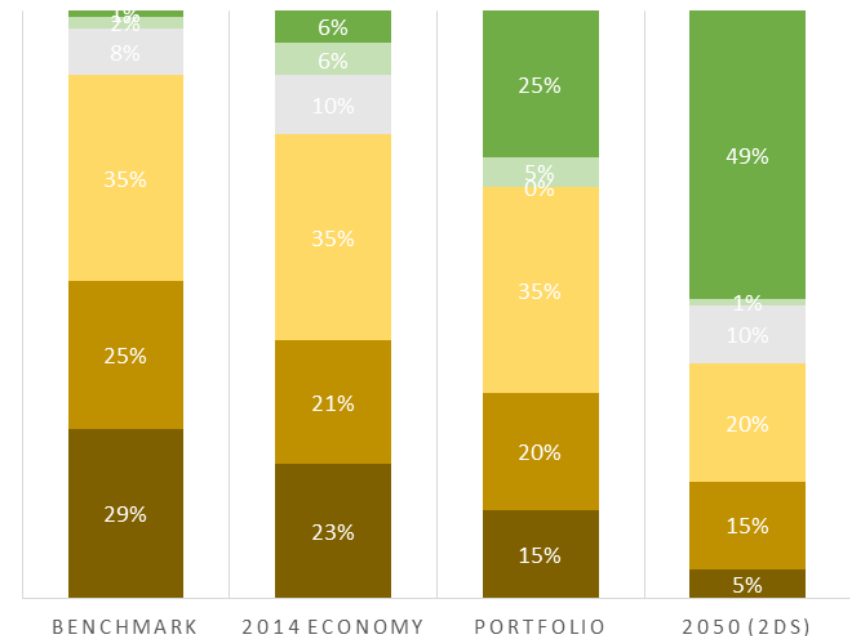


Renewables share: Portfolio vs IEA scenarios

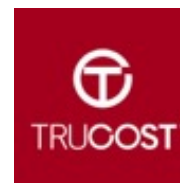


GREEN SHARE IN MY PORTFOLIO: FOCUS ON ENERGY TRANSITION

■ Coal ■ Oil ■ Natural Gas ■ Nuclear ■ Other ■ Renewables



# PORTFOLIO METRICS OR COMPANY METRICS? ENGAGEMENT



## GLENCORE

NAME	GLENCORE PLC
ICB Subsector	General Mining
Location (HQ)	Baar, SWITZERLAND
Mkt Cap (EURm, end Apr)	55,645
ROE (12 mth ave)	4.61

BUSINESS ACTIVITY	REVENUE (% OF TOTAL)
Crude Petroleum and Natural Gas Extraction	38%
Coal Mining	22%
Iron ore mining	16%
Soybean and other oilseed processing	13%
Other Mining	11%

Glencore Plc's Carbon Strategy has significant omissions including governance, target setting and disclosure. The company's business model is predicated on continuing demand for coal and unabated increases in carbon emissions in the medium and long term; the company is not positioned with a low-carbon economy in mind.

Glencore does not issue a group-wide carbon reduction target and, whilst it states that targets are set at the site level, no site-level targets are disclosed publicly. In addition, emissions are reported at group level rather than site-level, which is inconsistent with the stated preference for a site-level strategy. The company discloses carbon reduction initiatives on a case study basis, but we are surprised that Glencore has opted to not report via the CDP framework. Efficiency expenditures include partnership with the US Department of Energy on a USD 1.65bn (EUR 1.47bn) oxy-combustion technology project as well as AUD 245m (EUR 169m) invested in CCS. A company with Glencore's resources ought to be disclosing these projects at the aggregate level, and providing total expenditure compared with monetised lifetime carbon savings.

Glencore's disclosure of significant coal reserves is welcome, but there is no clear disclosure on Capex relating to exploration. From a sustainability governance perspective, shareholders might enquire into the 2014 appointment of Tony Hayward as Chairman given his stewardship of BP during the Gulf of Mexico crisis: given Glencore's exposure to carbon risk, sustainability ought to be a significant determinant in key Board appointments.

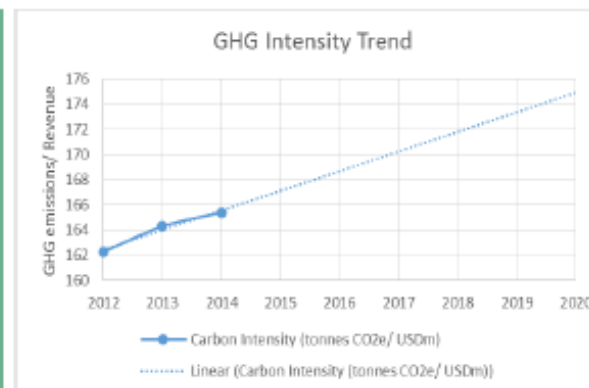
## ENGAGEMENT RECOMMENDATIONS

1. Set and disclose quantitative reduction targets at group and site levels
2. Disclose to the CDP, aiming for a CDP disclosure rating above 80
3. Continue to invest in low-emissions and low-energy extraction techniques (beyond CCS). Quantify and disclose investment and monetised carbon savings at the aggregate level.

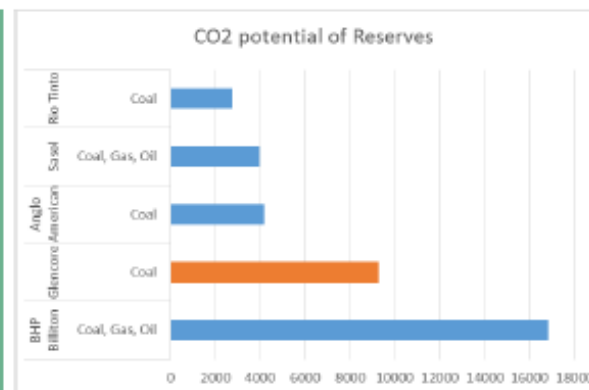
## CARBON STRATEGY



## MOMENTUM



## FOSSIL FUEL RESERVES



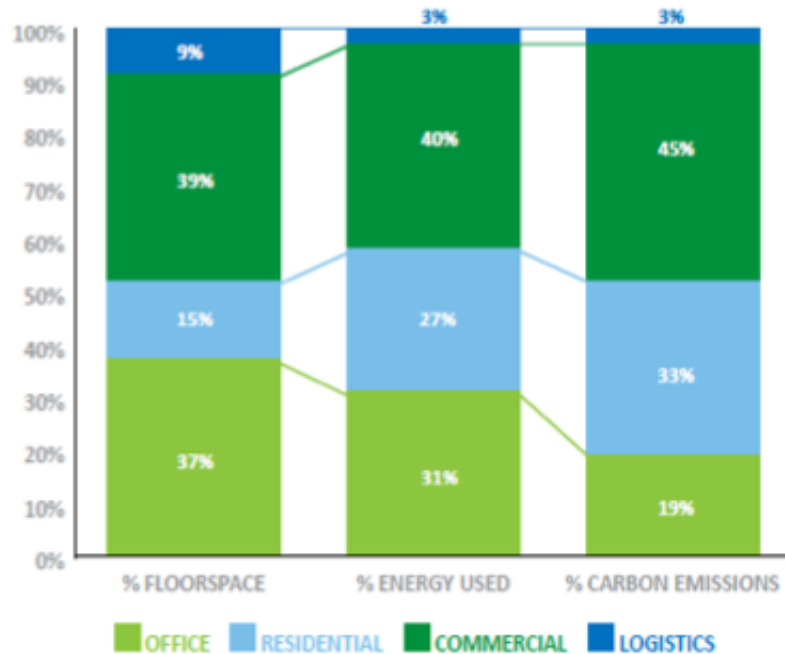


# FOOTPRINTING ACROSS ASSET CLASSES

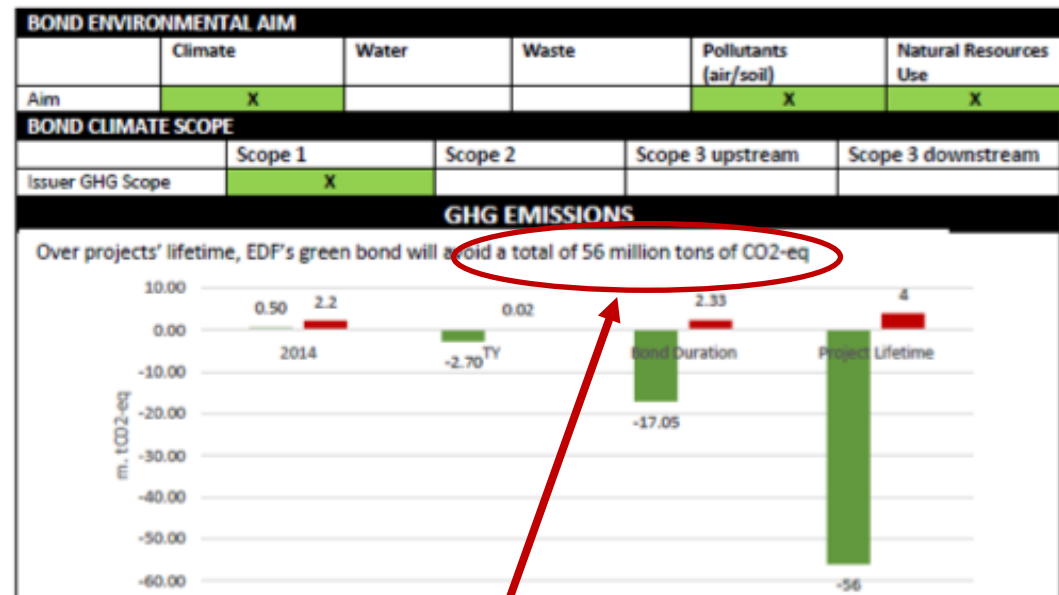
## IDENTIFYING POSITIVE IMPACT



### REAL ESTATE



### GREEN BONDS

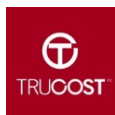


**QUANTIFIED POSITIVE IMPACT**  
56 million tons of carbon avoided

# QUESTIONS?



## **Lauren Smart** **Executive Director**



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London UK

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E-Mail: [lauren.smart@trucost.com](mailto:lauren.smart@trucost.com)



**Lauren Smart**  
**Executive Director**

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## **Further resources**

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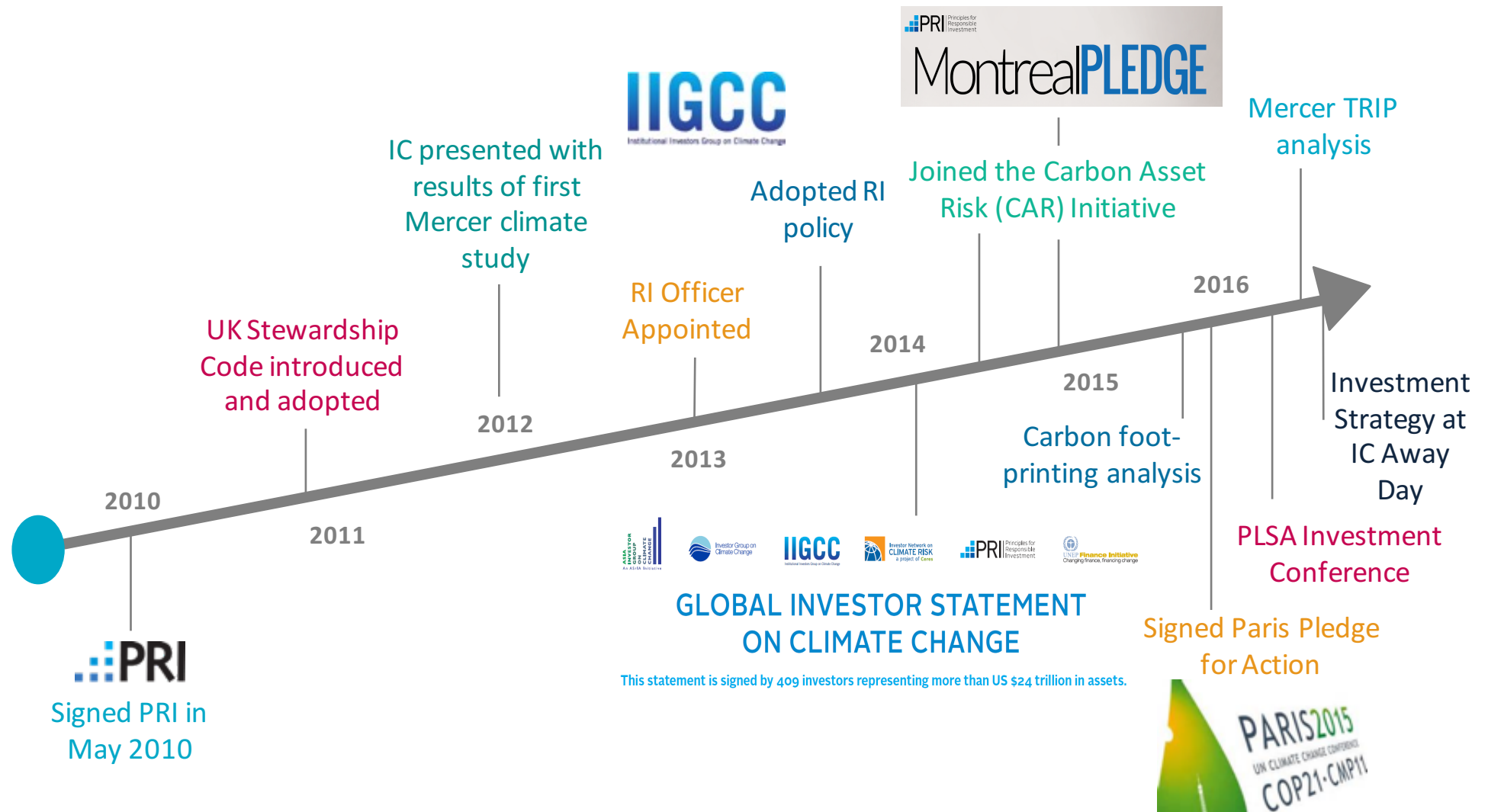
# **The Pensions Trust**

## **RI Europe 2016**

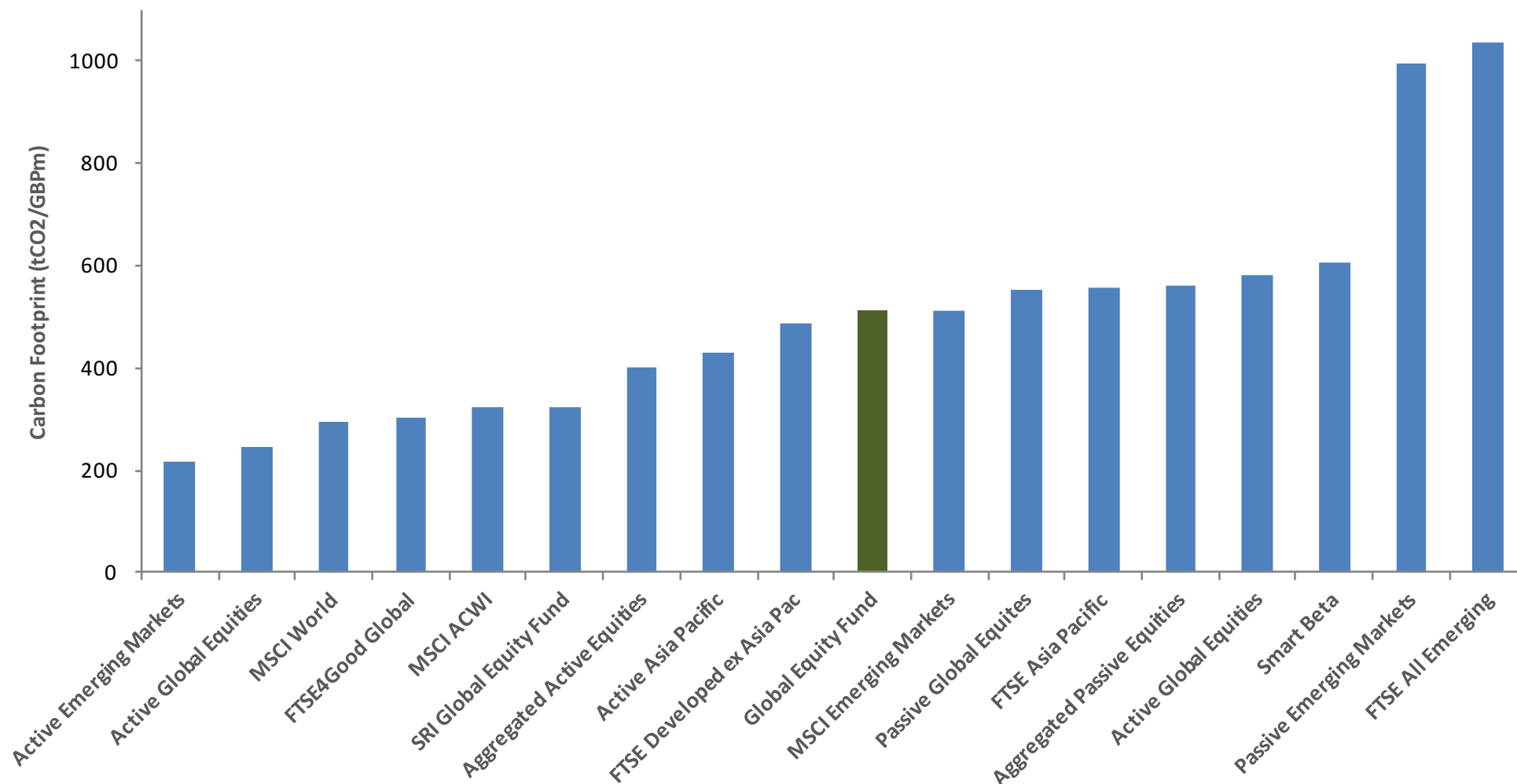


The Pensions Trust

# The Pensions Trust: Journey so Far



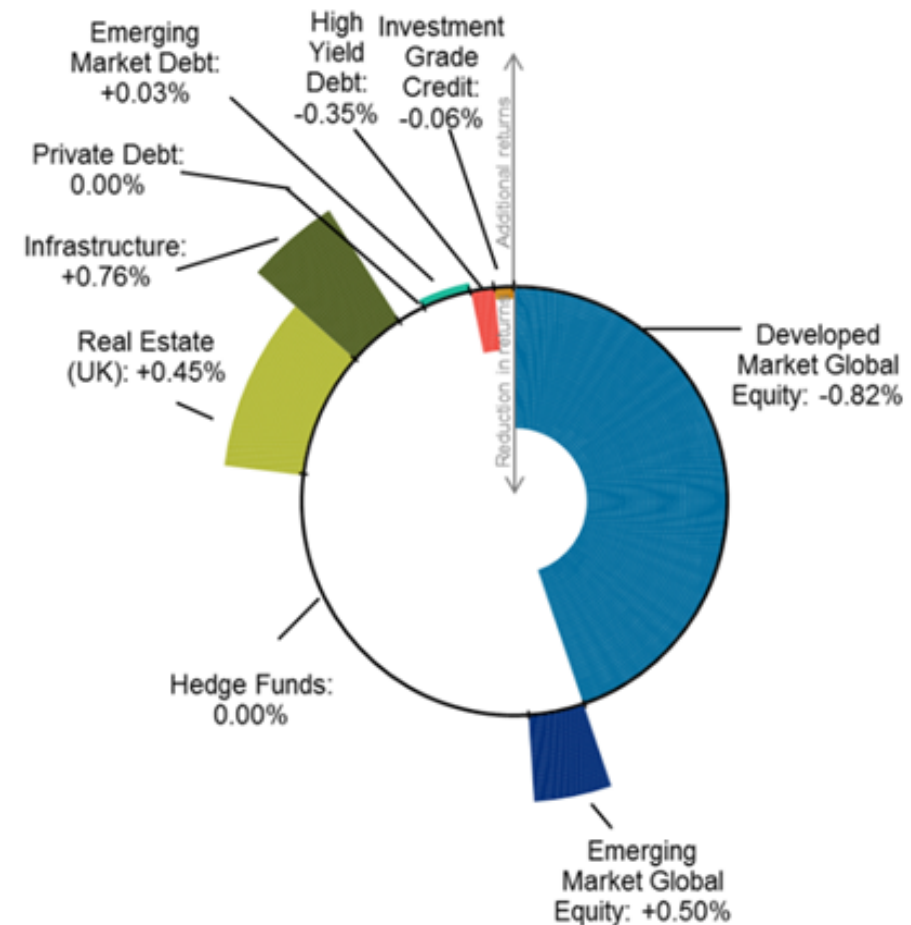
# Climate Change Risk in Equities – The Trust's Carbon Footprint



Source: Trucost

# Climate Change Opportunities for the Growth Portfolio

- Increasing recognition of investment opportunities related to climate change policy
- The Pensions Trust investment strategy moves from risk based approach to include positive solutions
- Analysis of the Trust's growth portfolio by Mercer supports the decision of Investment Committee



Median annual return impact over 10 years to 2025

Source: Mercer



Peter Smith, CFA  
Investment Officer  
The Pensions Trust  
45 Moorfields| London | EC2Y 9AE  
Phone: 020 7448 9734  
Email : [peter.smith@tpt.org.uk](mailto:peter.smith@tpt.org.uk)

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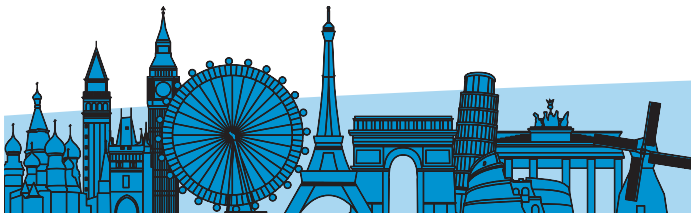
# What are low carbon funds investing in, and are they delivering returns and real CO2 reductions?

15:00 – 15:40

Martijn Oosterwoud, *Head Client Portfolio Management*, **RobecoSAM**

Jakob Thomä, *Deputy Director*, **2 Degrees Investing Initiative**

**Moderator:** Dominique Blanc, *Director, Head of Research*, **Novethic**





## RobecoSAM's approach to investing in climate change



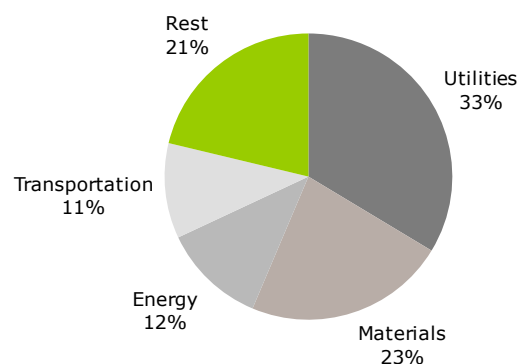
## Why and how to invest in response to climate change

- **Climate change is the largest and most complex sustainability challenge**
  - Economic and moral imperative to include climate change in investments
  - Direct, indirect and potential future fossil fuel emissions
- **Environment impact parameters**
  - Fossil fuel reserves
  - Separation operational efficiency and transition
  - Monitoring and reporting

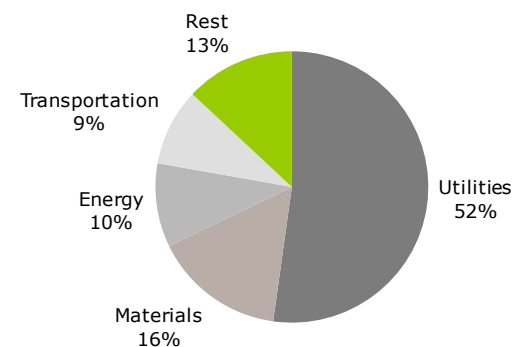
## Adjusting a portfolio to reduce environmental footprint

### Focus on efficiency in critical industries

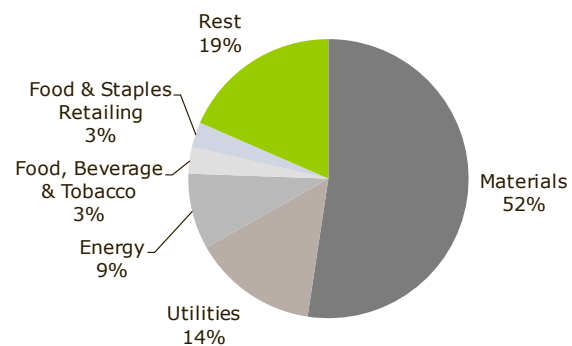
**Green House Gas Emissions (t CO<sub>2</sub>/mUSD EV)**



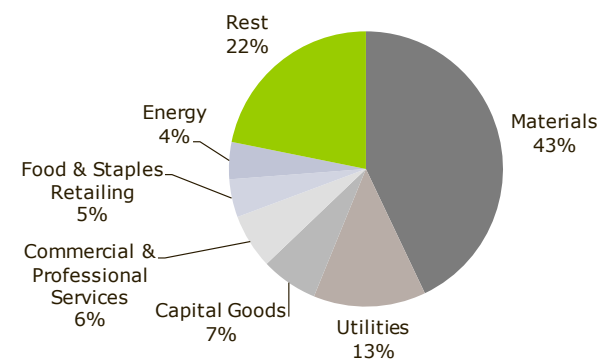
**Energy Consumption (MWh/mUSD EV)**



**Water Use (m<sup>3</sup>/mUSD EV)**



**Waste Generation (t/mUSD EV)**



## Separation operational efficiency and transition

- Quality: highly volatile across various providers
- Quantity: high coverage across all regions
- Depth: include broader definition of climate risk than CO2 emissions



- **Quantitative impact measures**
- Environmental risks:
  - GHG emissions
  - Energy consumption
  - Water use
  - Waste generation



- **Environmental Impact Scores**
- Companies managing environmental risks are better equipped to cope with future environmental challenges

## Reporting and monitoring of impact indicators



**\*European average figures per year**

Average carbon dioxide emissions from new passenger cars per year; average 20000 km and 130 g CO2-eq/km; in t CO2-eq (source: [www.eea.europa.eu](http://www.eea.europa.eu))

Average electricity consumption per household and year; in MWh (source: [www.ec.europa.eu/eurostat](http://www.ec.europa.eu/eurostat))

Average water consumption per person and year; in m3 (source: [www.eea.europa.eu](http://www.eea.europa.eu))

Average waste generation per household and year; in t (source: [www.ec.europa.eu/eurostat](http://www.ec.europa.eu/eurostat))

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2.6  
3.9  
47.5  
0.4

Source: RobecoSAM

## Parameters from an investor perspective

- **Expected risk return profile of the solution**
- **Tracking error and sector exposure risks**
- **Components to select**
  - Fossil fuel reserves
  - Ownership or use in production of thermal coal
  - Efficiency of companies in critical sectors
  - Transition to low carbon economy
  - Renewable energies
- **Stakeholder communication**
- **Active ownership**

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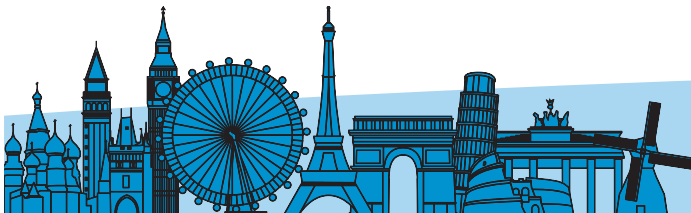
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## Afternoon Networking Break

15:40 – 16:20

Sponsored by **Impax Asset Management**





## Stream 1

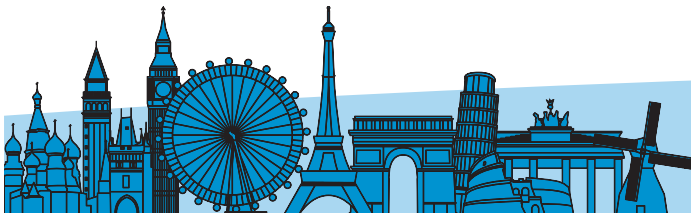
# The explosion in ESG in wealth management: what's happening and why?

16:20 – 17:00

Bonny Landers, *Head of Sustainable Responsible and Impact Investing*, **Sandaire Investment Office**

Flavia Micilotta, *Executive Director*, **EUROSIF**

**Moderator:** Susanne Bregy, Managing Director, **Rhodanus Capital**





Developing Sustainability through European Financial Markets

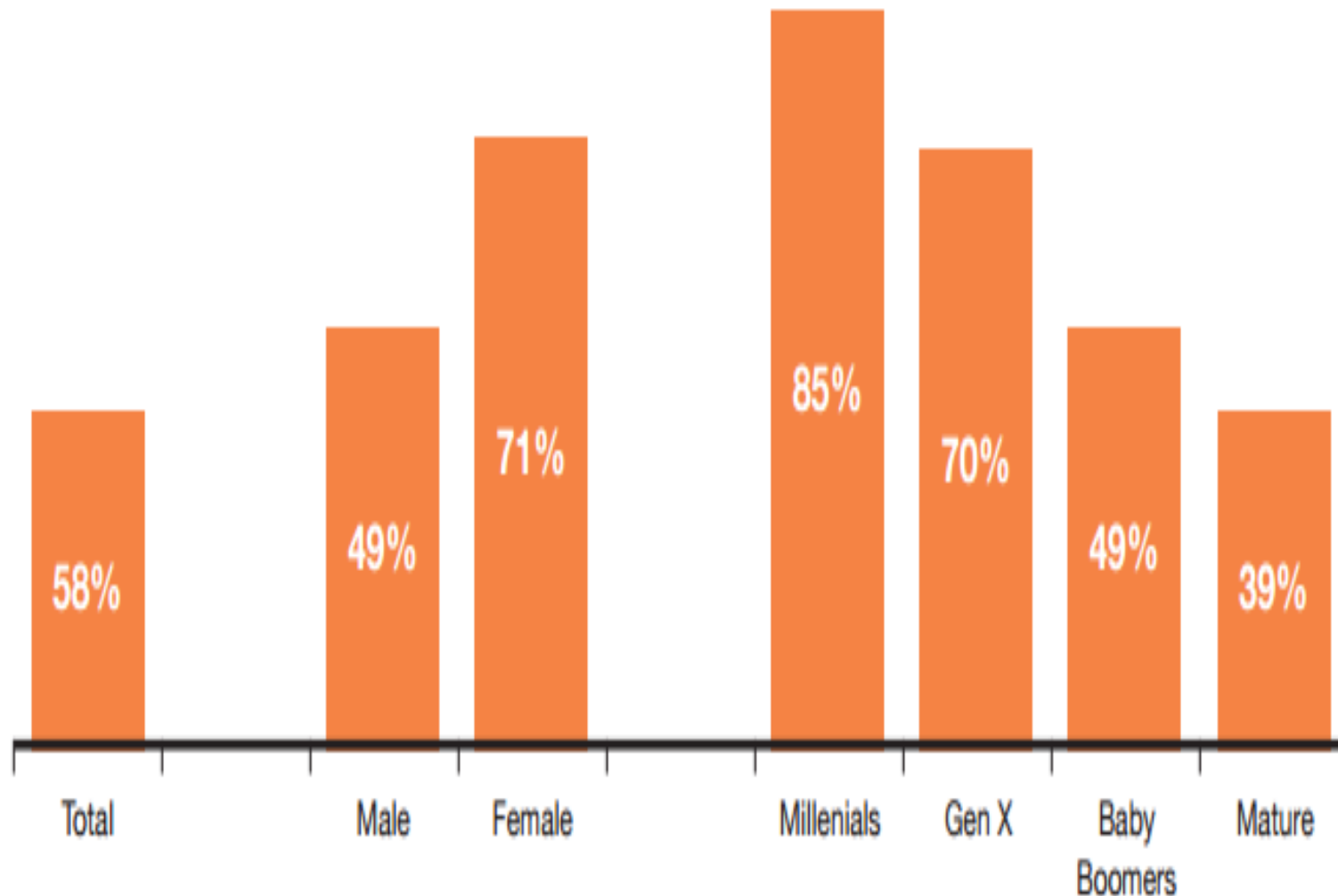
# **Wealth Management and SRI: the natural choice**

Flavia Micilotta, Executive Director, Eurosif  
London

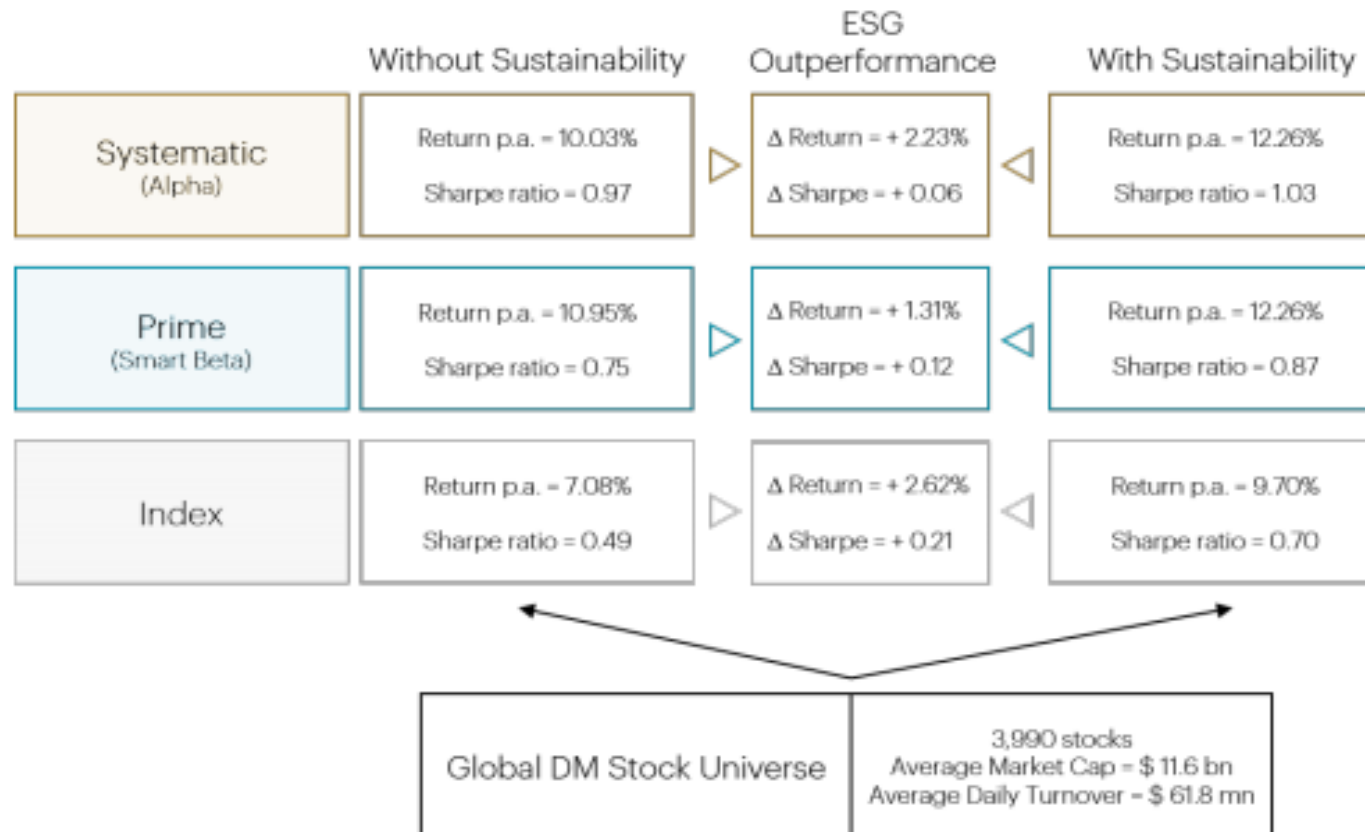
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# HNW: Who are they and what are their triggers

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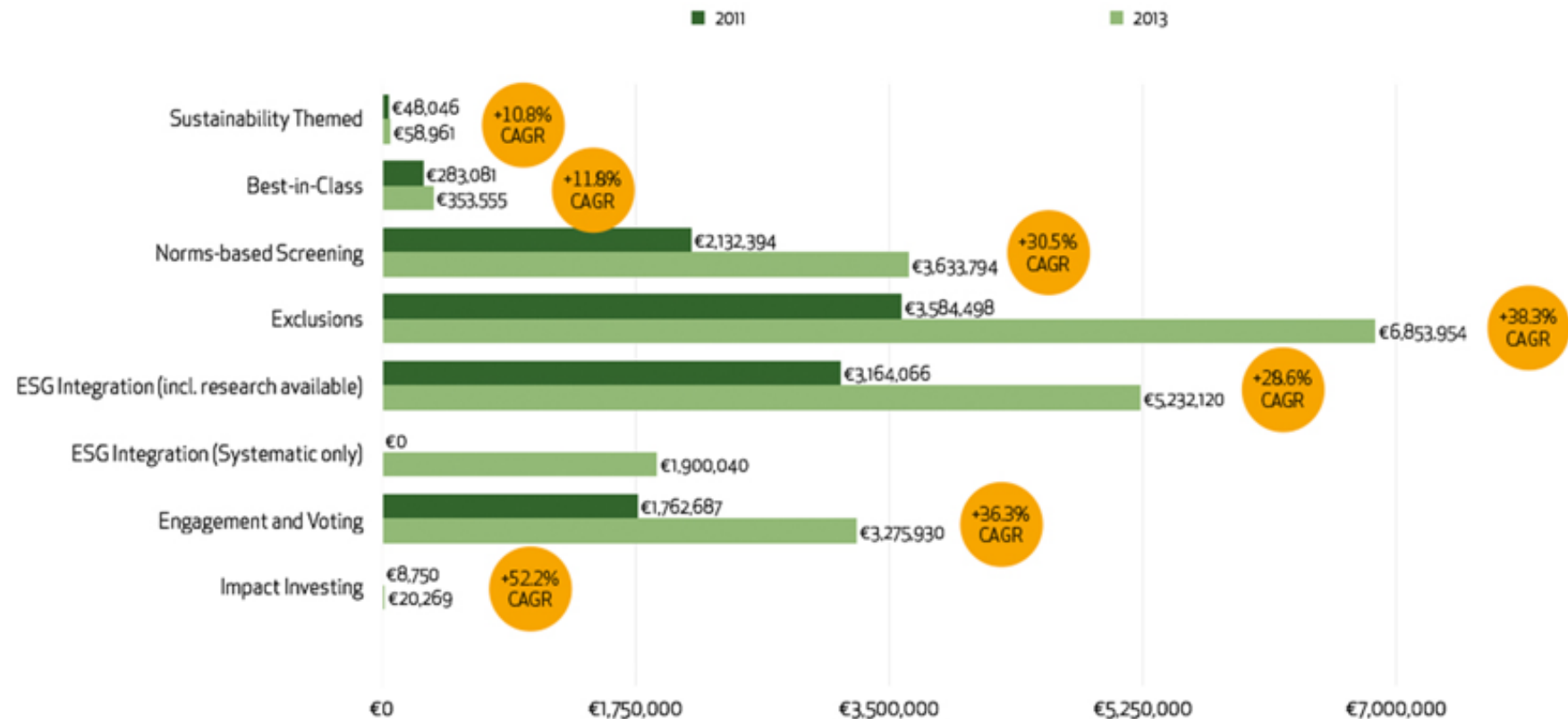


# Increased financial return



Figures from 01 January 2010 to 29 February 2016

# Overview of SRI strategies in Europe



Source: Eurosif (EU 13)

# Trends and Statistics

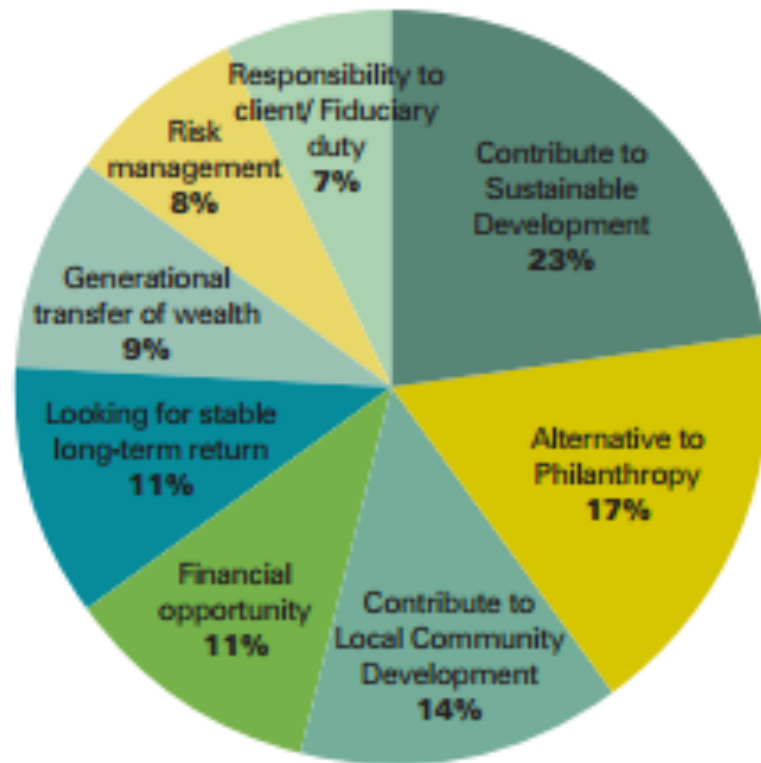
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- Rising wealth and increased demand from Millennials
- Increasing demand from women
- The growth of impact investing opportunities

# HNWI what's the best strategy?

In the last Eurosif study on HNWI **Impact Investing** was highlighted as the main strategy and a more business-like alternative to philanthropy

The main motivations for Impact Investing?



# Impact investing: Growth and Metrics

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Intentions to achieve a positive societal impact

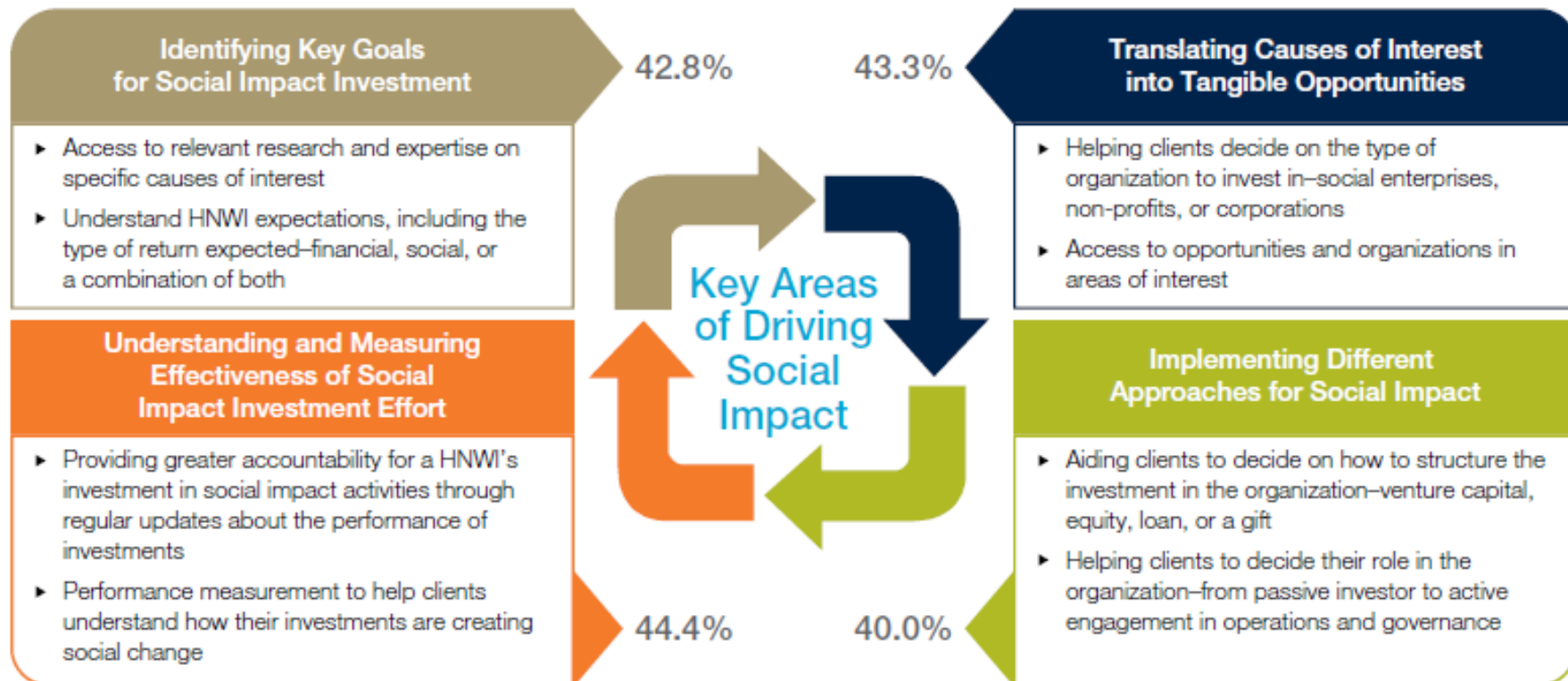
Competitive financial return

Impact measurement

Long-term horizon



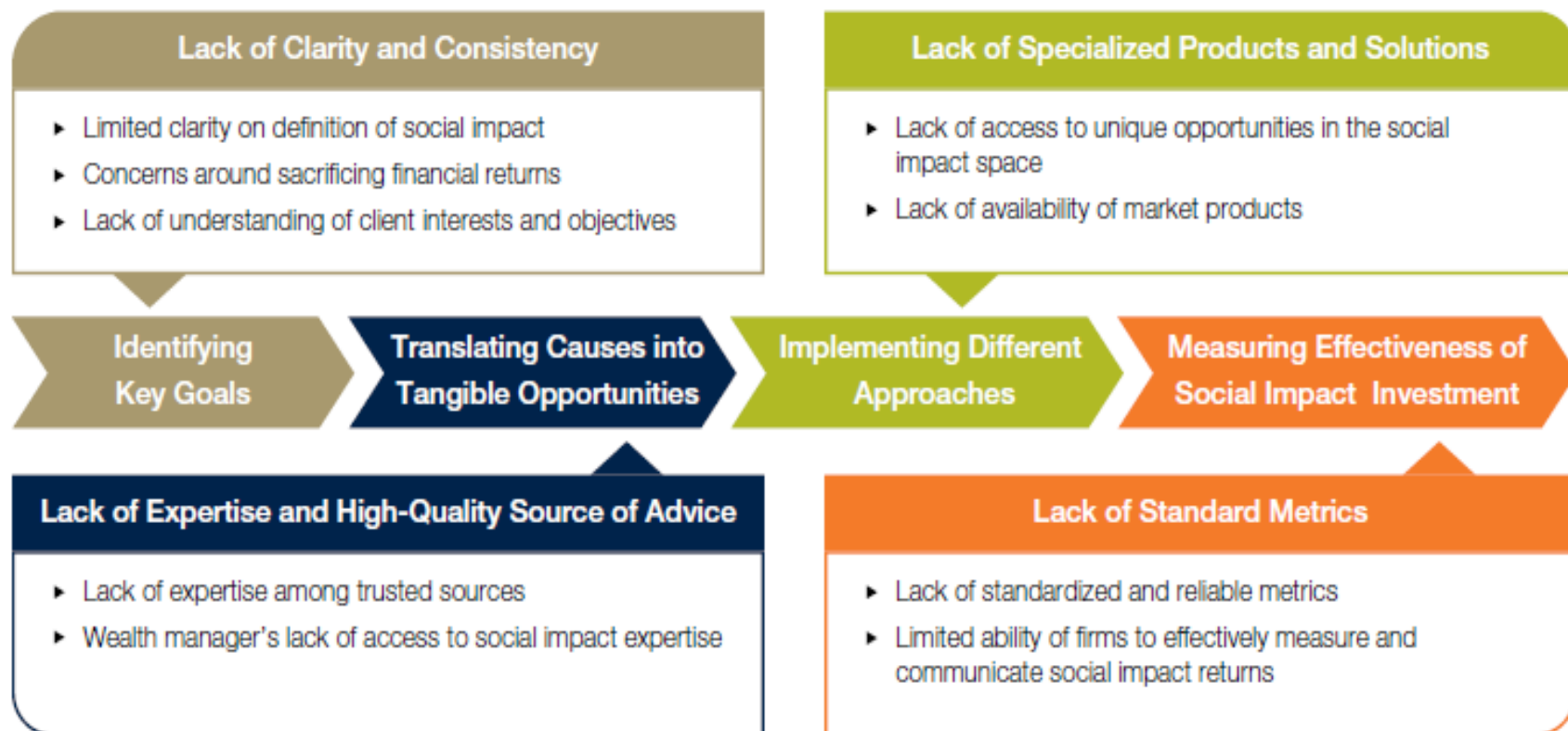
# Key areas where advice is needed



Note: Question asked: "Please indicate the importance of the key areas where you are looking for advice on driving social impact."; Respondents rated their importance on a scale of 1–7; Ratings of 5–7 have been combined to form "Important"; The percentages in the figure refer to the importance of advice for HNWIs on driving social impact in these four areas

Source: Capgemini and RBC Wealth Management Global HNWI Insights Survey, 2015; Executive Interviews, 2015

# Challenges and Limitations



Source: Capgemini Financial Services Analysis, 2015; Executive Interviews, 2015

## Stream 1

# Environmental reporting: what could the work of the Financial Stability Board's climate task force mean for companies and investors?

17:05 – 17:45

Jane Ambachtsheer, *Partner and Global Head of Responsible Investment, Mercer* and *Member, FSB Task Force on Climate-Related Financial Disclosures*

Russell Picot, *Special Adviser, FSB Task Force on Climate-Related Financial Disclosures*

**Moderator:** Hugh Wheelan, *Managing Editor, Responsible Investor*



# **FSB Task Force on Climate-Related Financial Disclosures**

9 June 2016

# Increasingly, sustainability issues have entered into the financial market landscape

Global megatrends, economic evolution create challenges for companies, investors:

## **LEGISLATIVE PRESSURE**

- Mandates in multiple markets (E.U., China, India, etc.)
- Disclosure reform
- Exchange listing requirements

## **ECONOMIC PRESSURE**

- Resource constraints
- Climate change
- Changing valuations and the rise of intangibles

## **INVESTOR PRESSURE**

- Shareholder resolutions
- Questionnaire overload
- Calls for divestment

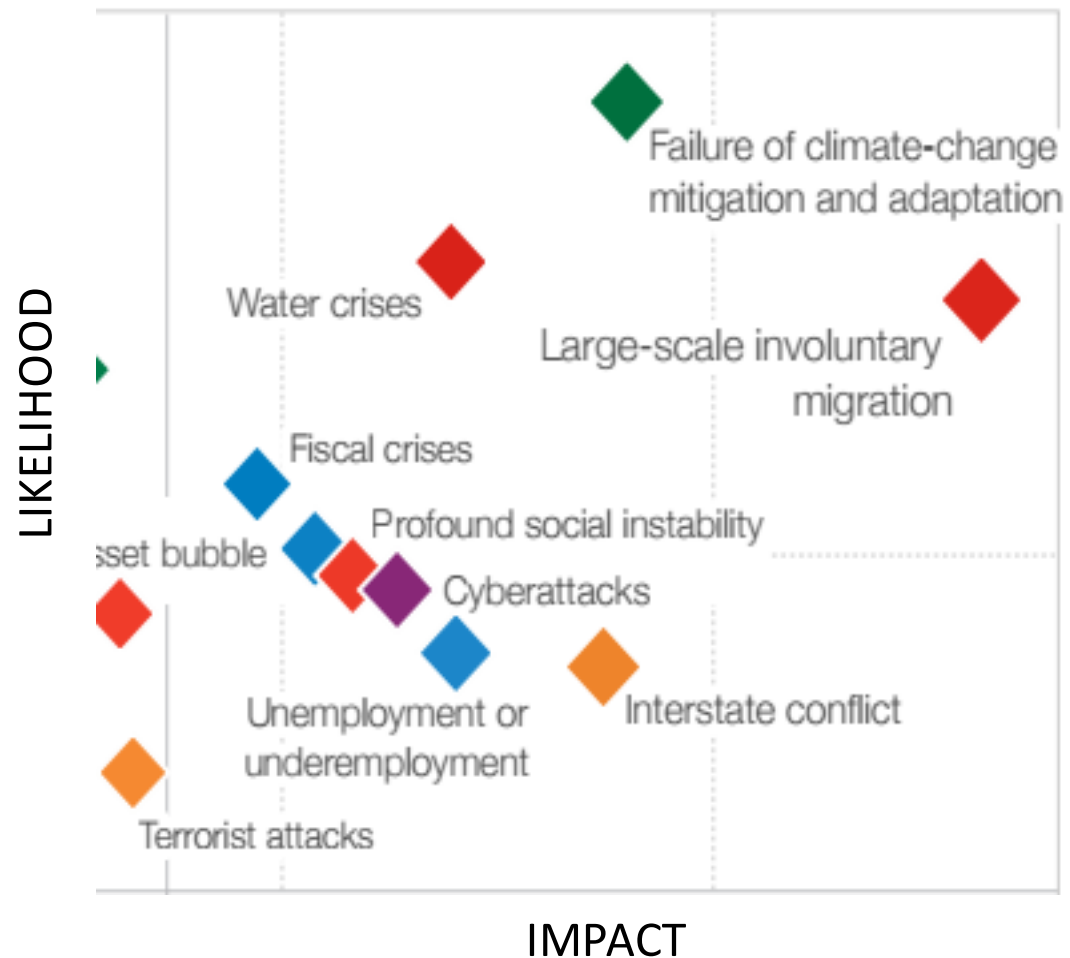
## **STATE OF DISCLOSURE**

- Proliferation of boilerplate disclosures
- Inappropriate use of materiality in corporate communications

# Perhaps the most significant component of the myriad sustainability issues is “Climate Change”

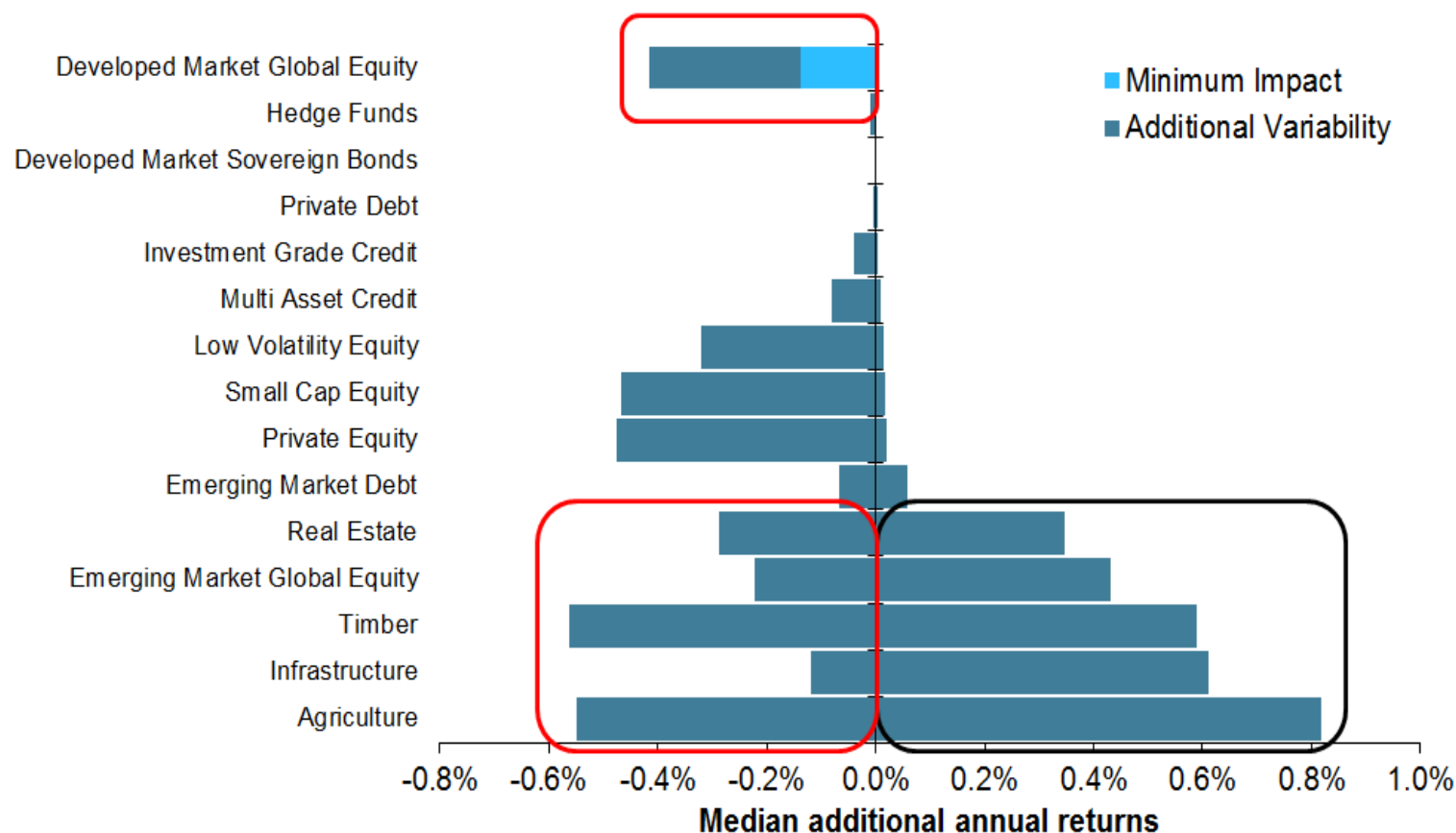
World Economic Forum  
(WEF)  
‘Global Risks Report for  
2016’

- A global risk is an uncertain event or condition that, if it occurs, can cause significant negative impact for several countries or industries within the next 10 years.



# Climate risk could have a material impact on investments over the long term....

Climate impact on future returns: median return impact by asset class (35 years)



# Therefore, there is a proliferation of efforts to improve disclosure on climate-related issues

- **Background:** Considerable agreement has emerged globally that climate-related impacts pose financial risks. This has resulted in a proliferation of climate-related disclosure frameworks, including those by governments/regulators, stock exchanges, industry organizations, and NGOs.
- **G20 Landscape:** Most G20 jurisdictions (16 out of 20) have some type of rule or regulatory guidance that requires climate-related disclosure for (at least some) corporations, but a limited number pertain directly to climate-related *financial* risks.
- **Stock Exchanges:** Stock exchanges are increasingly requiring listed companies to disclose climate-related information:
  - Of the top 10 exchanges by market capitalization, eight offer sustainability-related indices, five have signed onto the United Nations Sustainable Stock Exchanges commitment letter, and four require comprehensive sustainability reporting
  - The World Federation of Exchanges issued guidance in November 2015 recommending that member stock exchanges incorporate a set of 34 ESG factors into their disclosure guidance for listed companies and offered advice on how to roll out enhanced sustainability disclosure



## Three Problems: One Solution

- Public companies generally have a legal obligation to disclose material climate-related financial information, but there's **no coherent framework** to do so
- **Fragmented, non-comparable reporting** prevents investors, creditors, and underwriters from effectively using existing disclosures in their financial decisions
- In turn, **regulators struggle to use existing financial disclosures** to determine whether financial systems might be vulnerable to climate-related risks



**The solution to all three is a clear, efficient, and voluntary disclosure framework that improves the ease of both producing and using financial disclosures**

## What is the FSB Task Force?

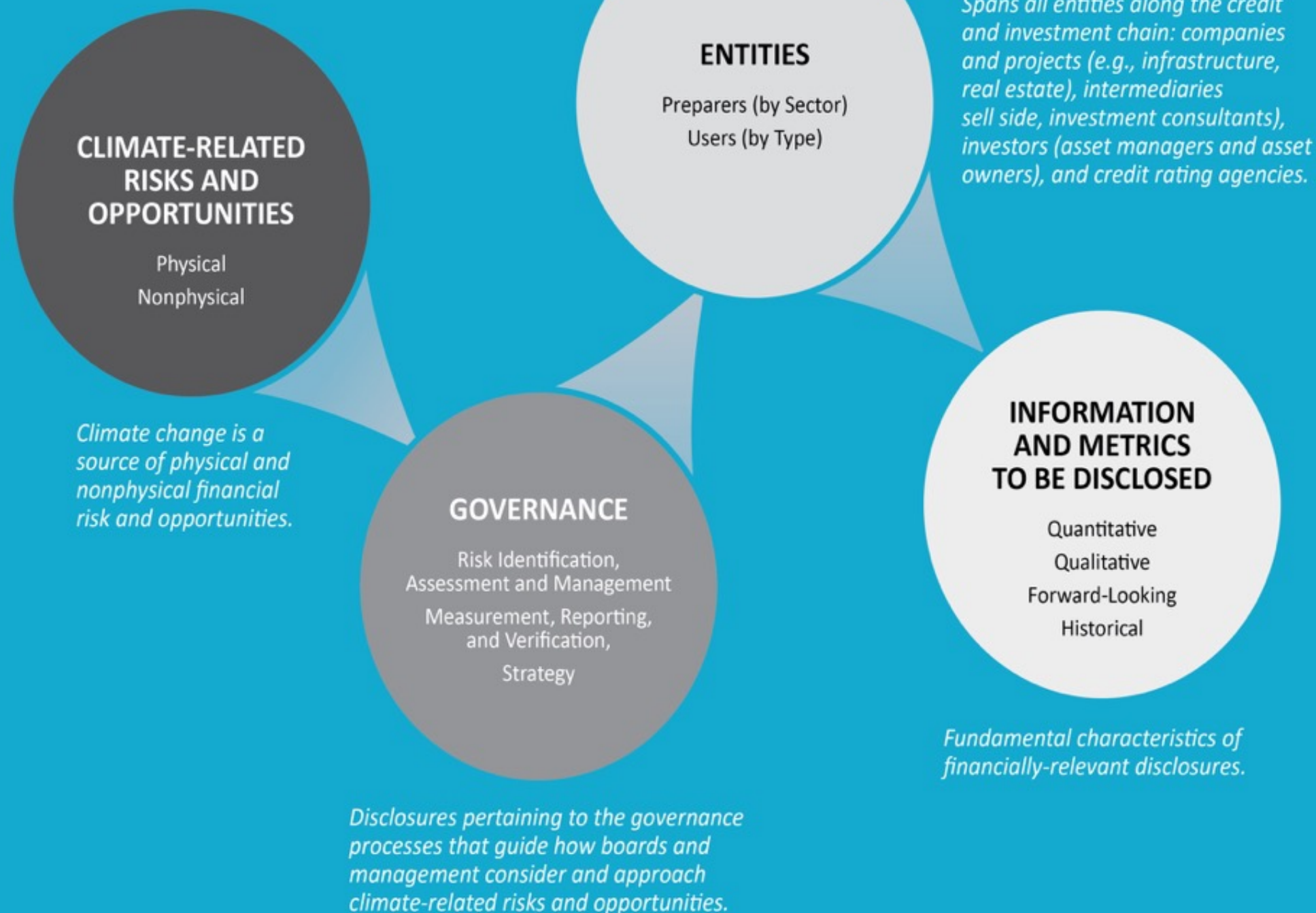
- Established by the Financial Stability Board on 4 December 2015
- The first **global, industry-led** initiative developing recommendations for voluntary climate-related financial disclosures for companies
- Chaired by Michael R. Bloomberg



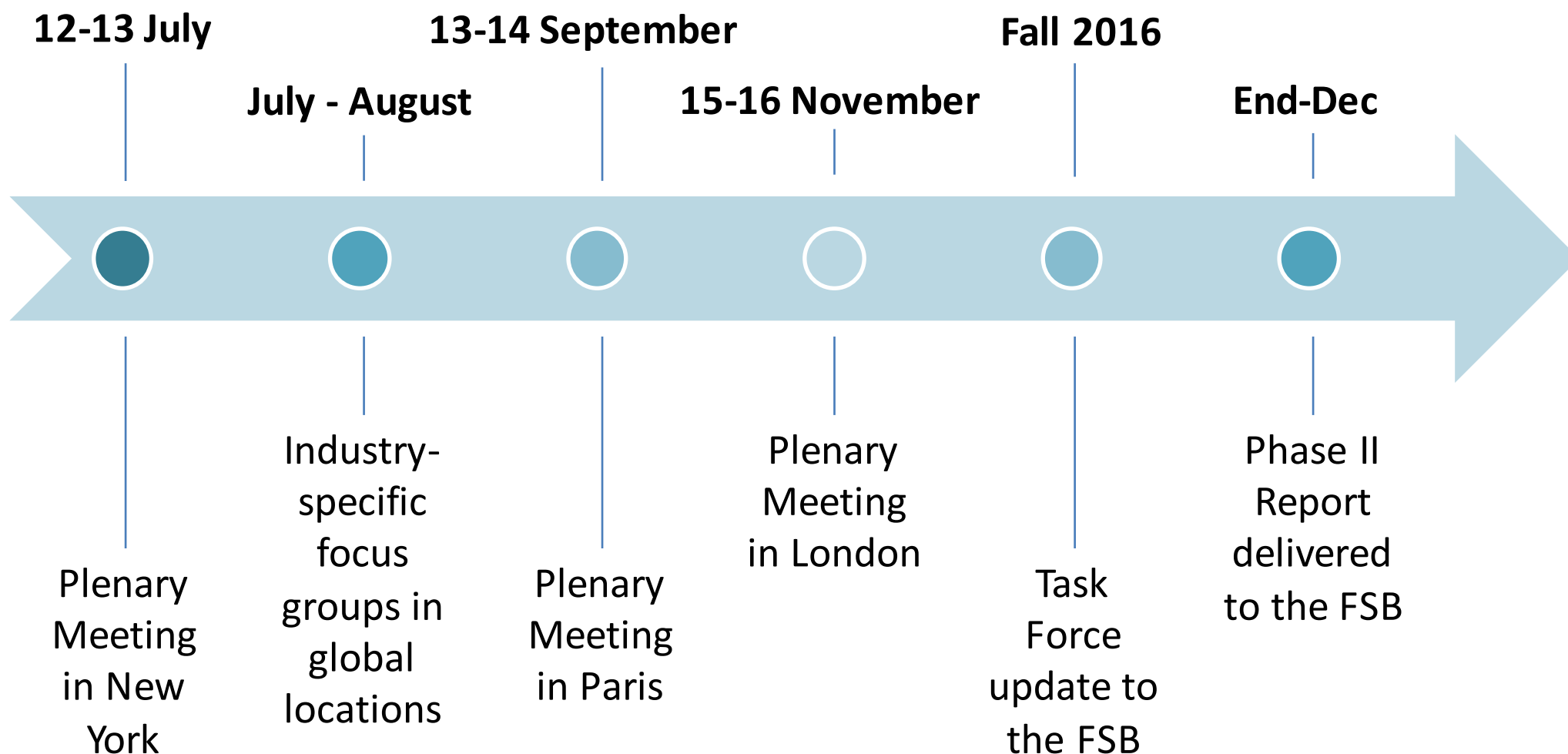
## Task Force matrix / framework for climate-related financial risks and opportunities

Risk Type	Physical Risks		Non-Physical Risks				Opportunities
	Acute	Chronic	Policy/Legal/ Litigation	Technology	Market/ Economic	Reputation	Financial
<b>Description</b>	Physical impact of more intense weather on investments	Physical impact of more frequent catastrophic weather events	Legislation and regulation to address climate change & risks associated with policy-driven transitions (transition risks & liability risks)	Changes in supply, demand, and competition; re-pricing of carbon-intensive assets	Changes in supply, demand, and competition; re-pricing of carbon-intensive assets	Damage to reputation stemming from association with an asset or company	The commercial benefits stemming from transition to a lower carbon economy
<b>Financial Impacts</b>	Damage to physical assets; disruptions to operations, supply chains, etc.	Degradation or limitations on resources	Compliance costs, liabilities, restrictions on use of carbon-intensive assets; stranded assets	Required investment in new technology; write-offs of existing technology	Asset impairment; viability of certain business models; company or securities valuation	Damage to brand value, lost revenue, additional expenditures	Identification of new revenue streams; improved operating efficiency; enhanced market pricing and transparency; accelerated technological innovation

## Roadmap for the TCFD's Phase II Work



# Task Force Phase II Timeline



## How can you engage with the TCFD?

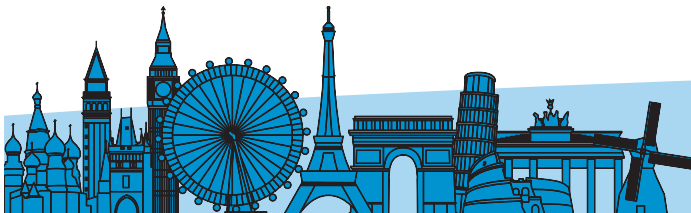
- Register at [www.fsb-tcfd.org](http://www.fsb-tcfd.org) to receive regular updates from the Task Force
- Follow the Task Force on:
  - Twitter [@FSB\\_TCFD](https://twitter.com/FSB_TCFD)
  - LinkedIn <https://www.linkedin.com/company/task-force-on-climate-related-financial-disclosures-tcfd->
  - Vimeo <https://vimeo.com/user50781874>

## Cocktail Reception and Networking

17:45 – 19:30

Sponsored by **RobecoSAM**

**ROBECOSAM**   
We are Sustainability Investing.



## Stream 1

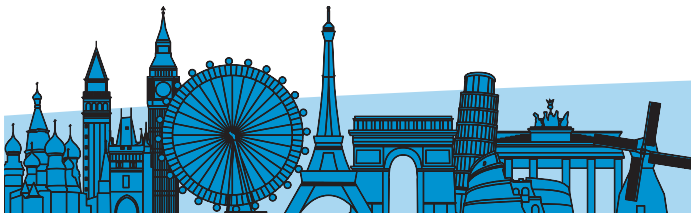
# Water stress: a deeply under- exposed investment risk

9:00 – 9:40

Emir Borovac, *Responsible Investments Analyst*, **Nordea Asset Management**

Marwa Hammam, *Executive Director, Master of Finance Programme*, **Cambridge Judge Business School**

**Moderator:** Liesel van Ast, *Natural Capital Declaration Programme Manager*, **Global Canopy Programme**





# GIZ/NCD Drought Stress Testing Pilot Project

## Project Team



Bundesministerium für  
wirtschaftliche Zusammenarbeit  
und Entwicklung



Natural  
Capital  
Declaration  
Financial sector leadership  
on natural capital

Secretariat:



GCP



**giz**

EMERGING  
MARKETS  
DIALOGUE  
ON FINANCE



## Research Team



UNIVERSITY OF  
CAMBRIDGE



UNIVERSITY OF  
OXFORD

## Expert Council



PSI  
Principles  
for Sustainable  
Insurance



STANDARD & POOR'S  
RATINGS SERVICES  
McGRAW HILL FINANCIAL



**Inquiry:** Design of a  
Sustainable Financial System



UNIVERSITY OF  
CAMBRIDGE  
Judge Business School



ÉCOLE  
POLYTECHNIQUE  
UNIVERSITÉ PARIS-SACLAY



## Partner Banks



Santander



GRUPO FINANCIERO  
BANORTE

**citi**



**UBS**



**CAIXA**  
CAIXA ECONÔMICA FEDERAL

**ICBC**

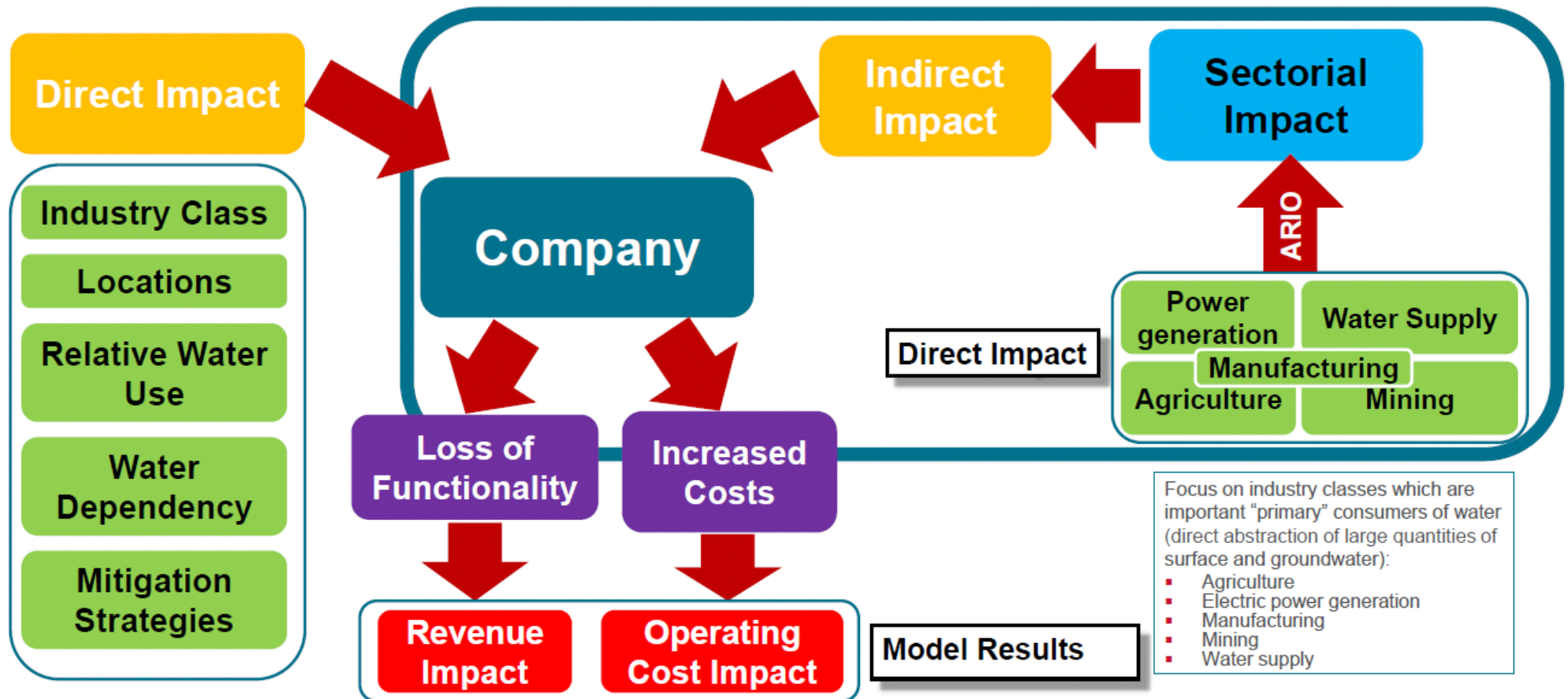


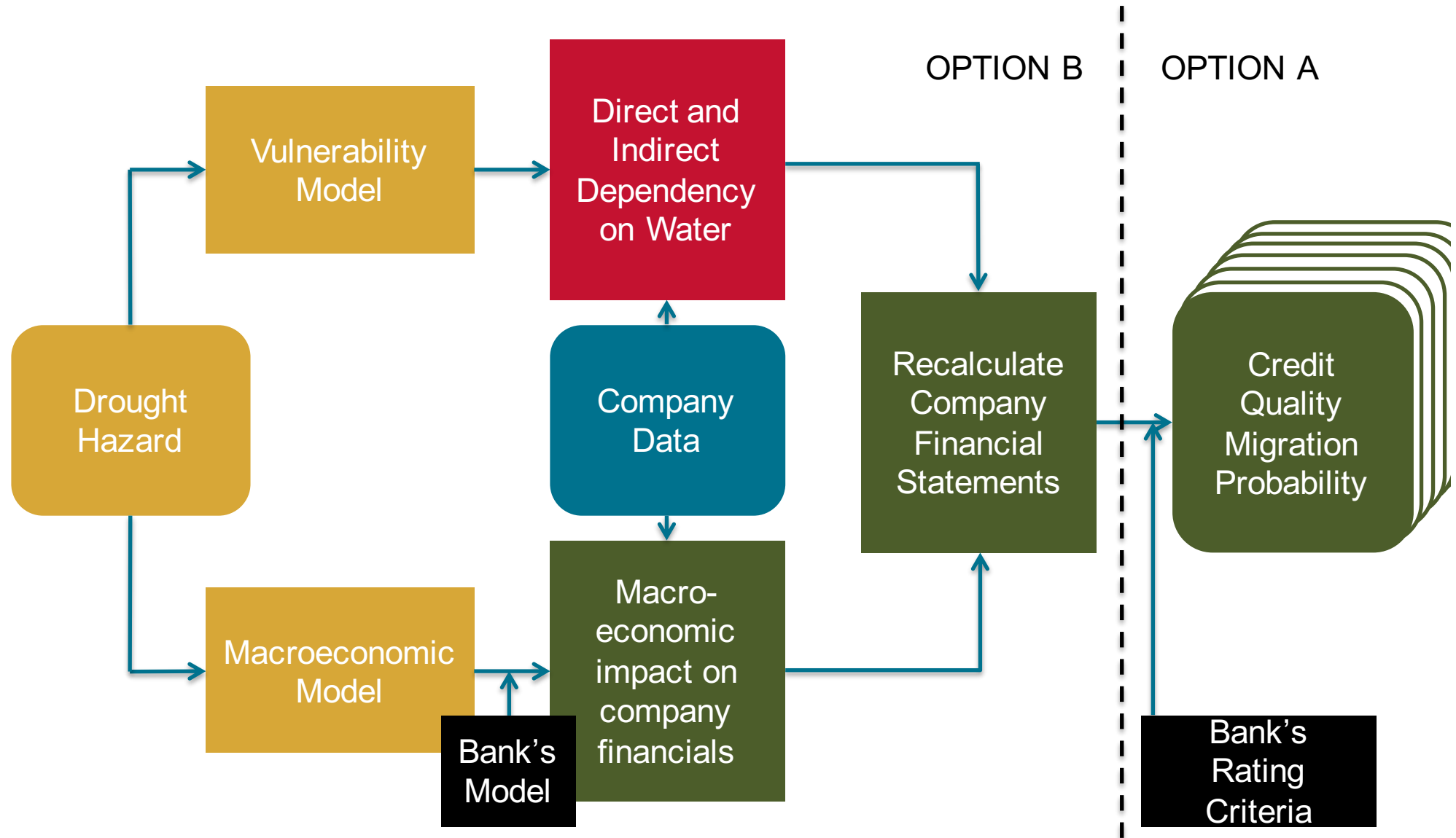
**Banamex**



**FIRA**

## DROUGHT IMPACT MODELLING – HIGH-LEVEL FRAMEWORK





## EXPECTED LOSS CALCULATION

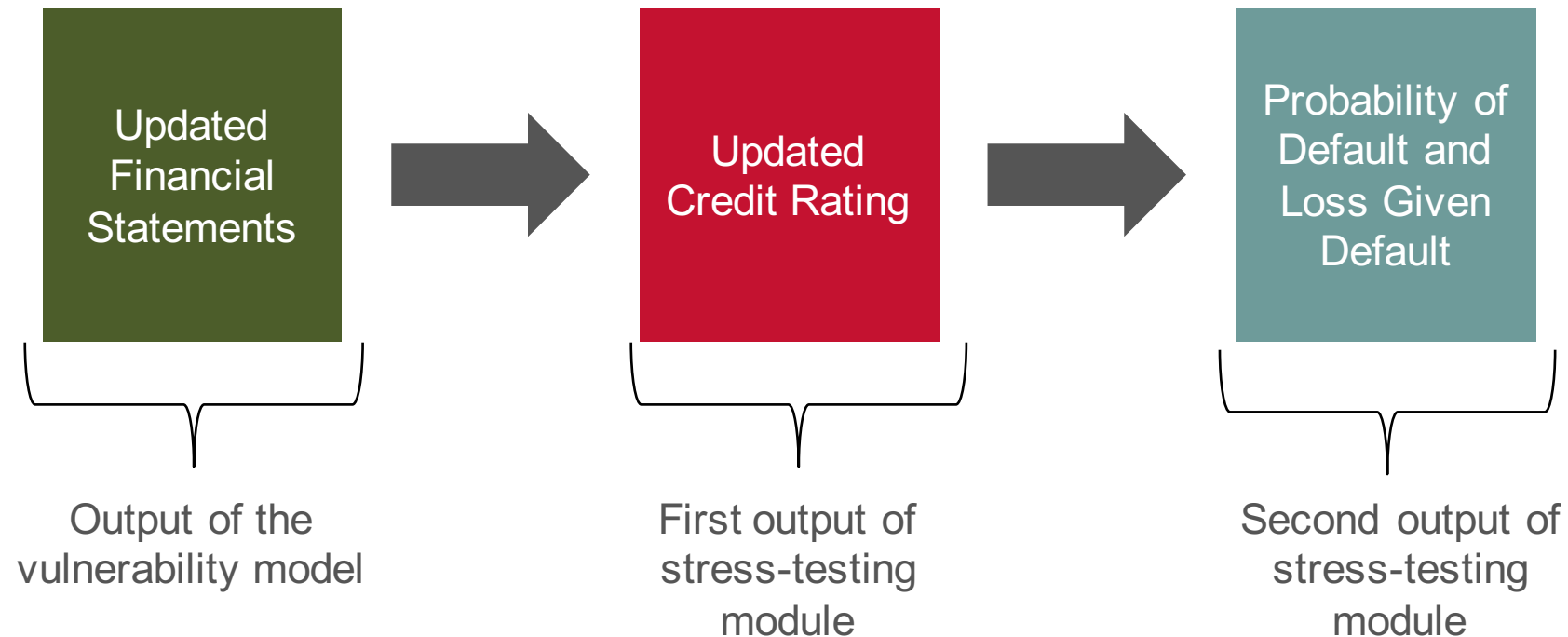
We have:

$$EL_t = DP_t \times exp_t \times LGD_t$$

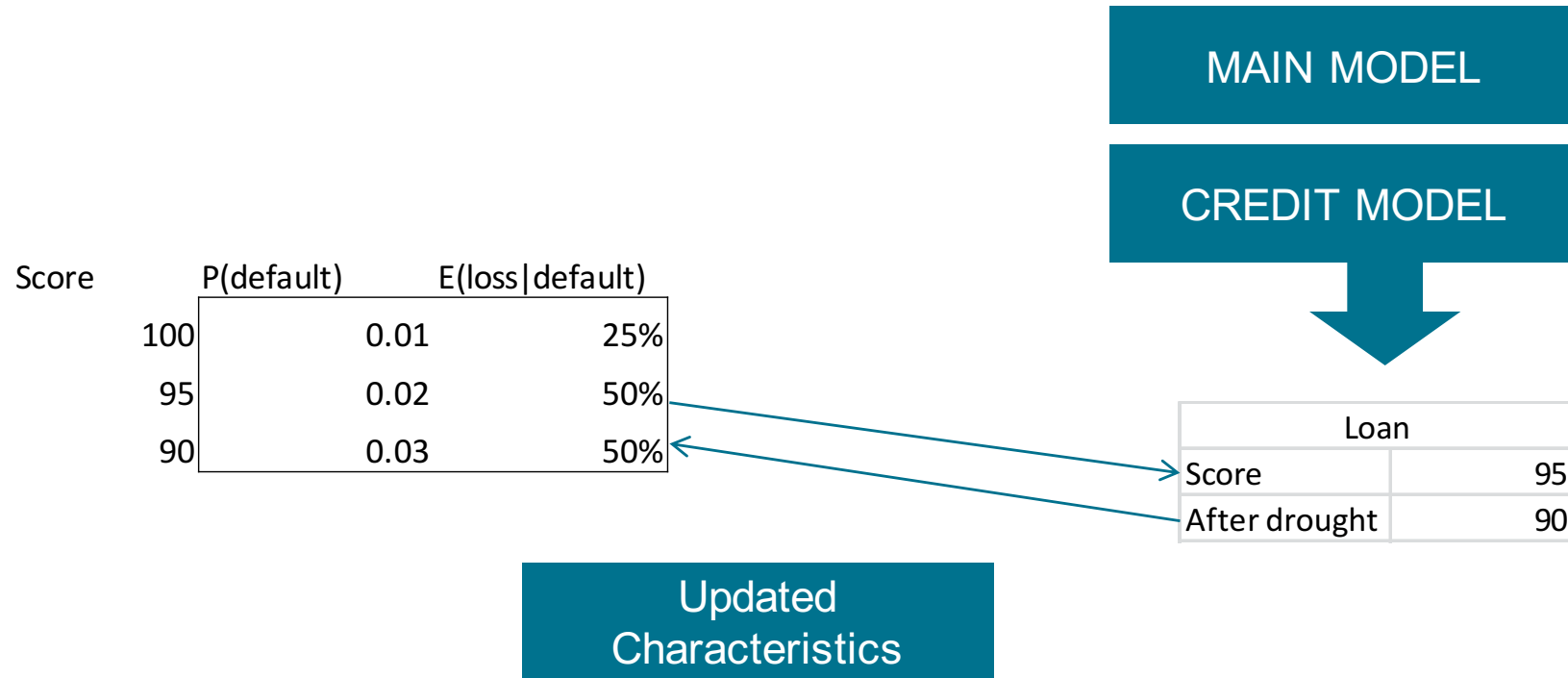
Given that we will know the exposure, we need to find the default probability and the loss given default.

# WHAT WE NEED TO BUILD

## MODEL STANDARD ASSUMPTIONS



# FRAMEWORK VISUALISATION



## Stream 1

# How to impact invest in listed equities?

9:45 – 10:25

Jonathan Dean, *Portfolio Manager*, **AXA Investment Managers**

Paul Udall, *Partner*, **Temporis Capital**

**Moderator:** Daniel Ingram, *Head of Responsible Investment*, **BT Pension Scheme Management**





A photograph of several wind turbines on a snow-covered hill at sunset. The sky is filled with colorful clouds in shades of pink, orange, and purple. The turbines are silhouetted against the bright horizon. The ground is covered in snow with some dark patches.

# Temporis Listed Equities

## Sustainable Impact

June 2016

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Authorised and Regulated by the Financial Conduct Authority

**TEMPORIS CAPITAL**  
SUSTAINABLE RETURNS



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- Past performance should not be seen as an indication of future performance.
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# Temporis Overview

Infrastructure  
Equity

Infrastructure  
Debt

Listed Equities

Corporate  
Administration

Development

## Investment Focus

- Temporis is a leading multi-asset class impact investment manager
- The firm currently has over 40 professionals and over US\$ 1Bn of AUM (Dec 15)

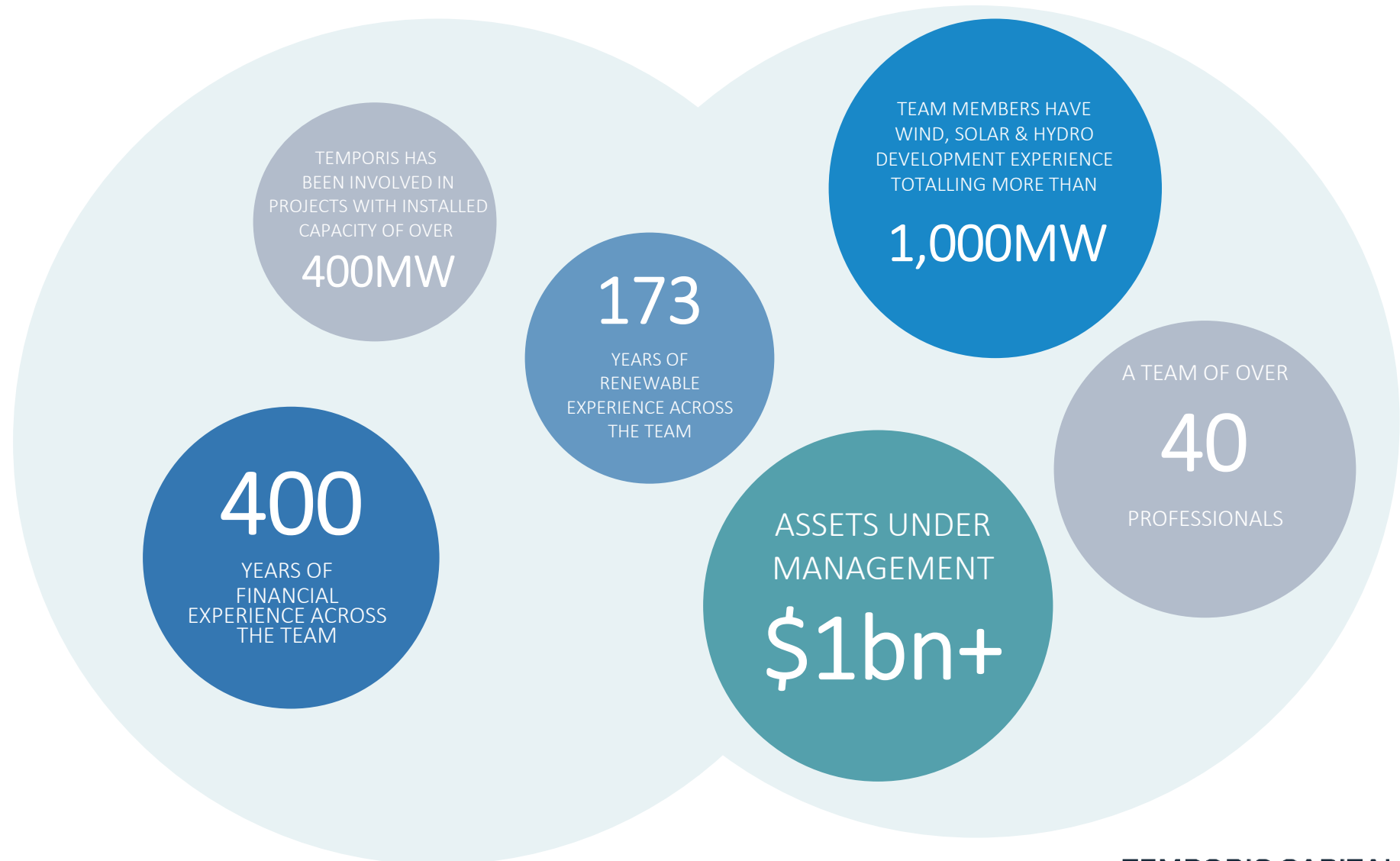
## Competitive Edge

- Listed equities strategies investing high impact water and clean energy stocks
- Leading portfolio manager with 12 years track record in the strategy
- Portfolio manager Thomson Extel 1 rated ESG manager 2003, 2004-2007

## Our Partners

- Sovereign Wealth Funds, Asset Managers, Pension Funds and Family Offices

# Experienced team in the renewables Sector



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# Experienced team managing listed equities

Core team supported by senior executive committee

Paul Udall  
Portfolio Manager

- 18 years experience with 15 years in the sector with proven positive track record
- Preservation of capital and alpha generation in different market conditions
- Previously a portfolio manager for: GAM, Climate Change Capital, Tudor, Aviva

Michael McNamara  
Head of Research

- 23 years investment experience with 9 years in the sector
- Prior to Temporis was Head of Clean Technology for Jefferies

Senior Partners

- Senior Partners of Temporis Capital have extensive investment experience in the alternative energy sectors

# Overview of the Temporis Sustainable Impact Strategy

<b>Strategy</b>	Global equity long-only
<b>Sector</b>	Sustainable Impact - Water and Clean Energy focused
<b>Process</b>	Active high conviction stock picking
<b>Objectives</b>	Outperformance of the MSCI World
<b>Portfolio Manager</b>	Paul Udall
<b>Liquidity</b>	Daily
<b>Strategy Capacity</b>	US\$ 3 billion
<b>Management Fees</b>	1% per annum
<b>Performance Fees</b>	10% over the MSCI World

# Investment Philosophy centred on positive societal impact

A differentiated impact strategy focused on companies making a positive societal impact

## Impact investing

- We only invest in those companies with a measureable positive impact.
- Traditional ESG / SRI funds resemble the S&P 500 with less resources and heavy industry.

## Example of an ESG / SRI investment

- Amazon meets the S and G criteria through their corporate practices and tick the E box by virtue of the use of renewable energy.
- We applaud Amazon for their increased use of renewable energy, but their share price is not going to perform better or worse as a function of the source of their electrons.

## Our approach is different

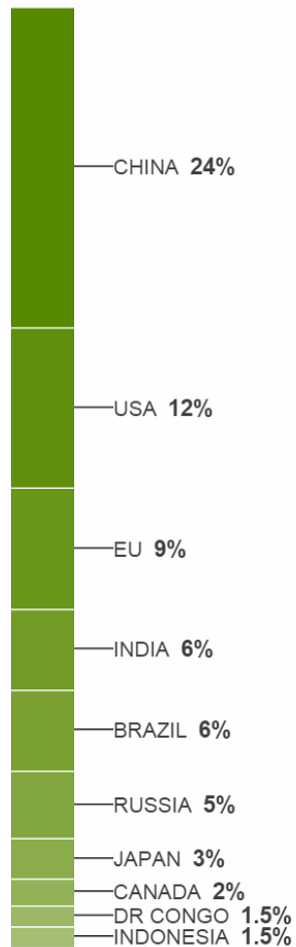
- We **do not** invest in Amazon which is an online retail encouraging us to buy evermore cheaper 'stuff'
- We **do** invest in Pattern Energy who build and operate wind farms and supply renewable energy to Amazon.

## The ESG 'Word cloud' keeps on growing

Water  
Sustainability Cleantech Agriculture  
Climate-Change Global-Warming  
Greenhouse-gases Infrastructure  
Carbon-Emissions Efficiency  
Impact Responsible  
ESG Governance Mission Resources  
SRI

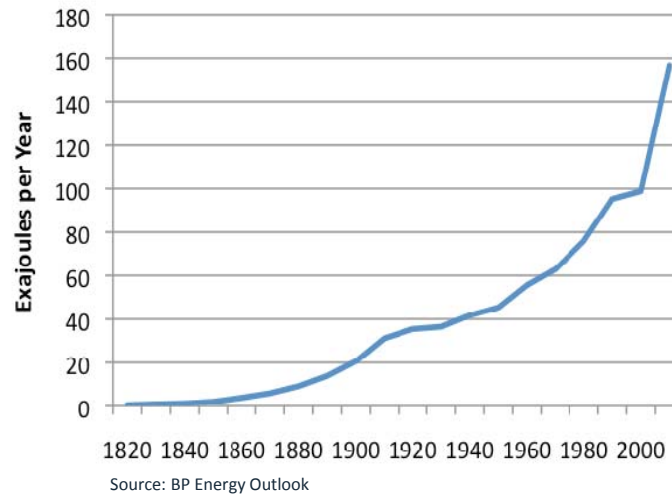
# Risk rising as records being beaten

**World top ten emitters**

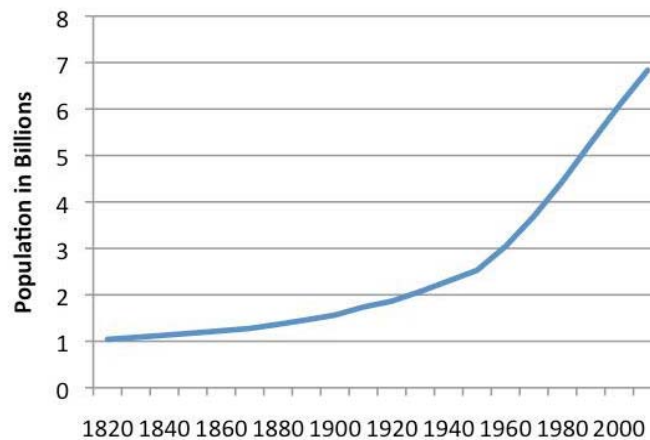


Source:  
Carbon Brief, figures are for 2012

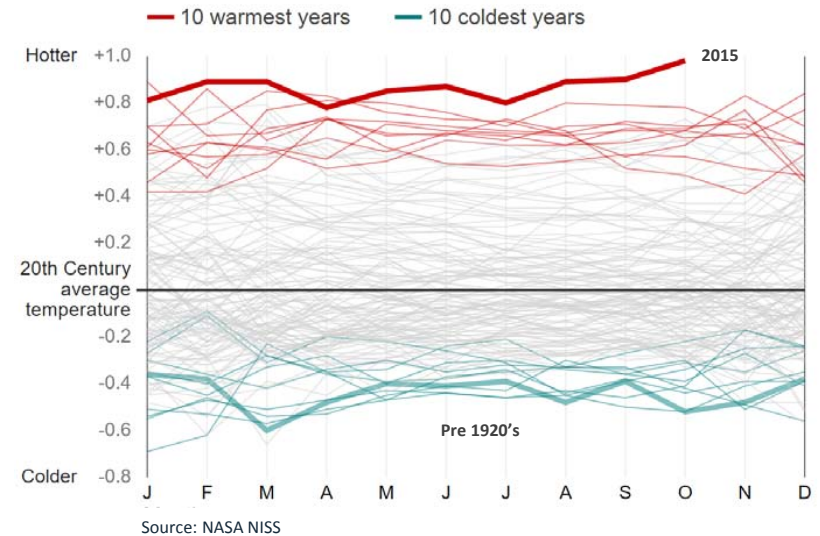
**World coal production**



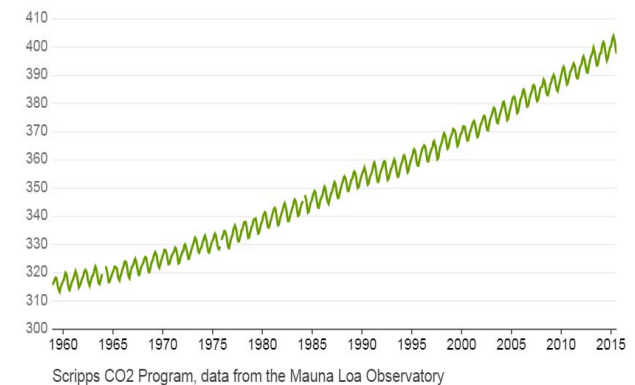
**World population**



**World monthly temperature**



**World CO2 concentration**

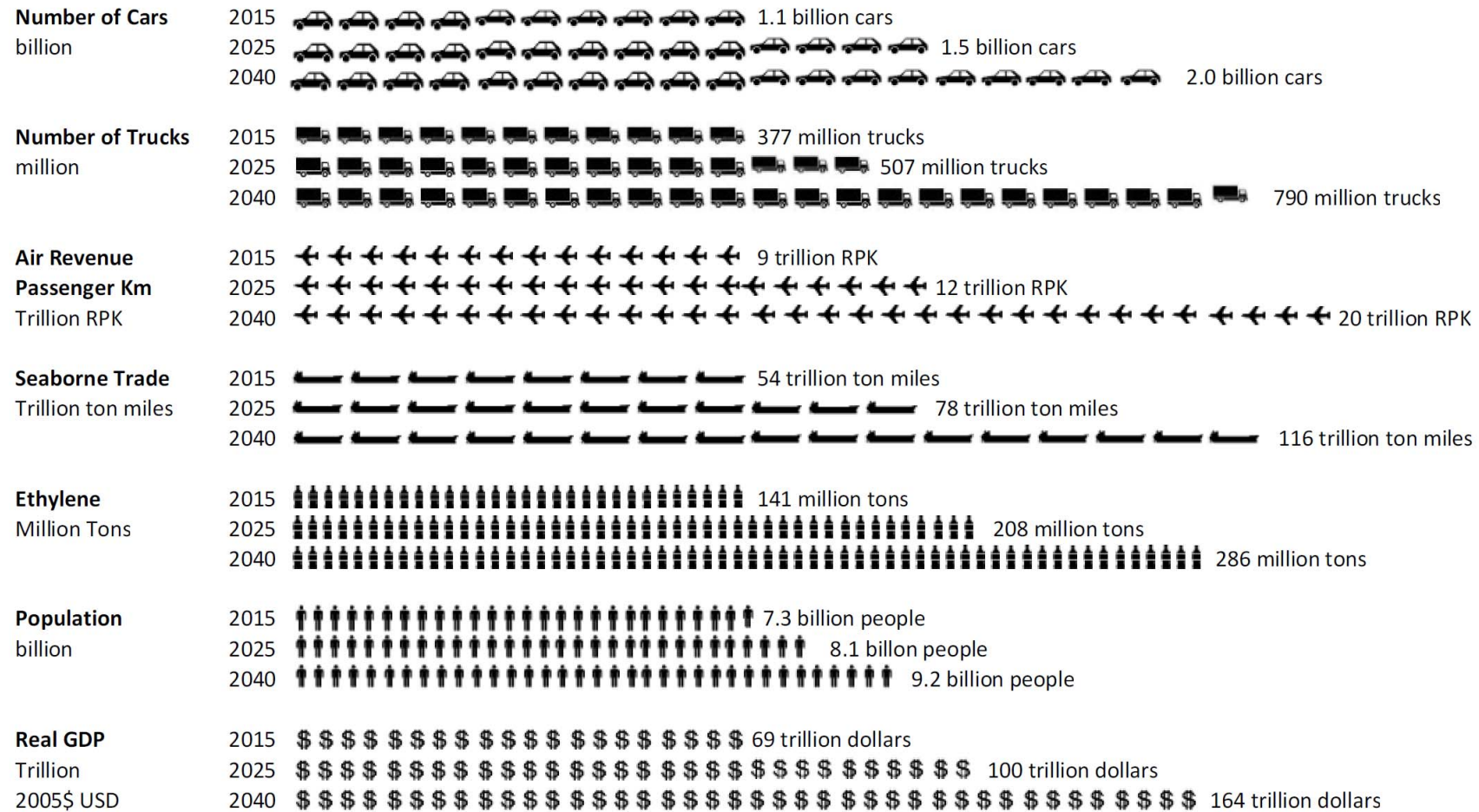


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# Growth growth everywhere not a rate hike in sight

Oil consuming cars, trucks, airplanes, boats and people keep on growing

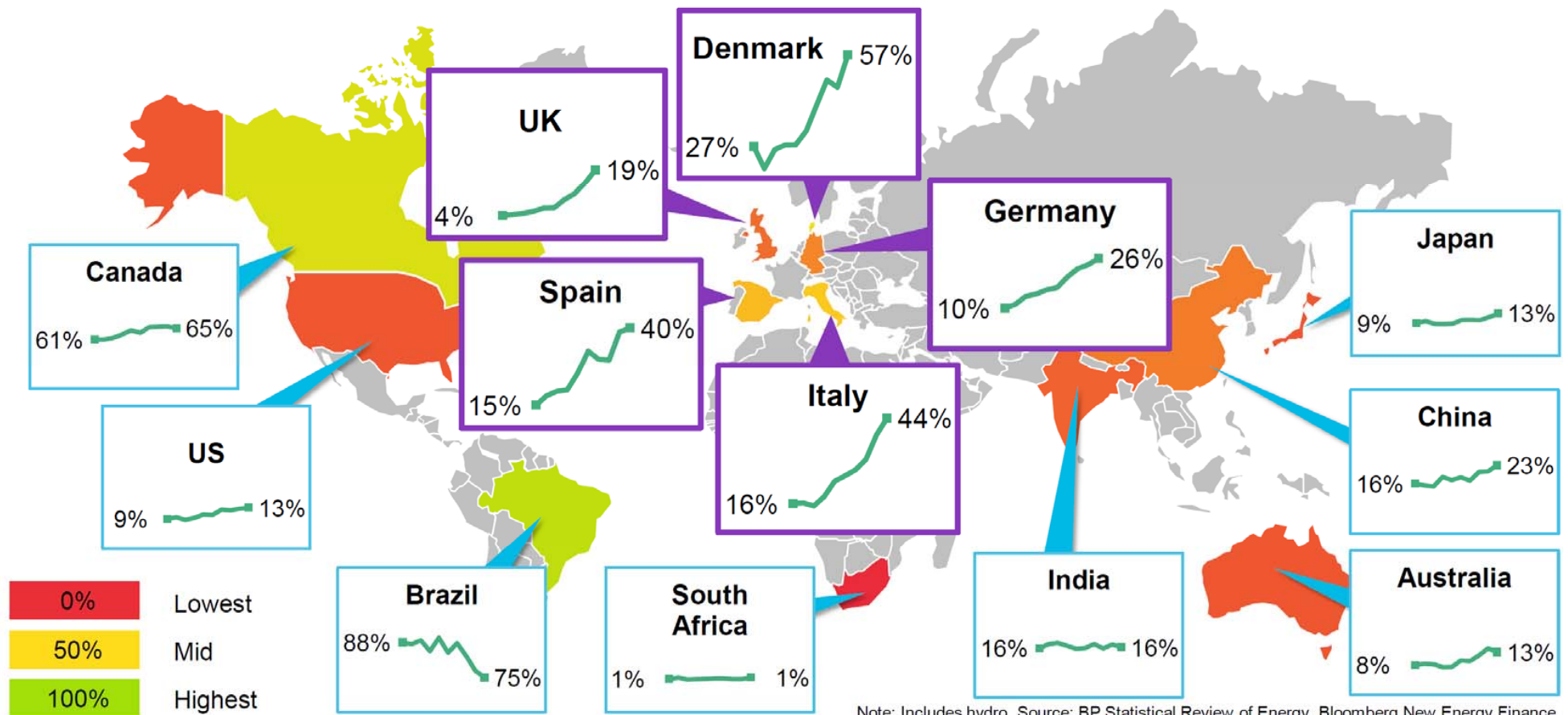


Source: IHS, IATA, World Bank, IMF, Bernstein analysis and estimates

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# Why invest now? Innovation, disruption and growth

Rapid growth and globalisation of renewable energy over last 10 years (2004 – 2014)

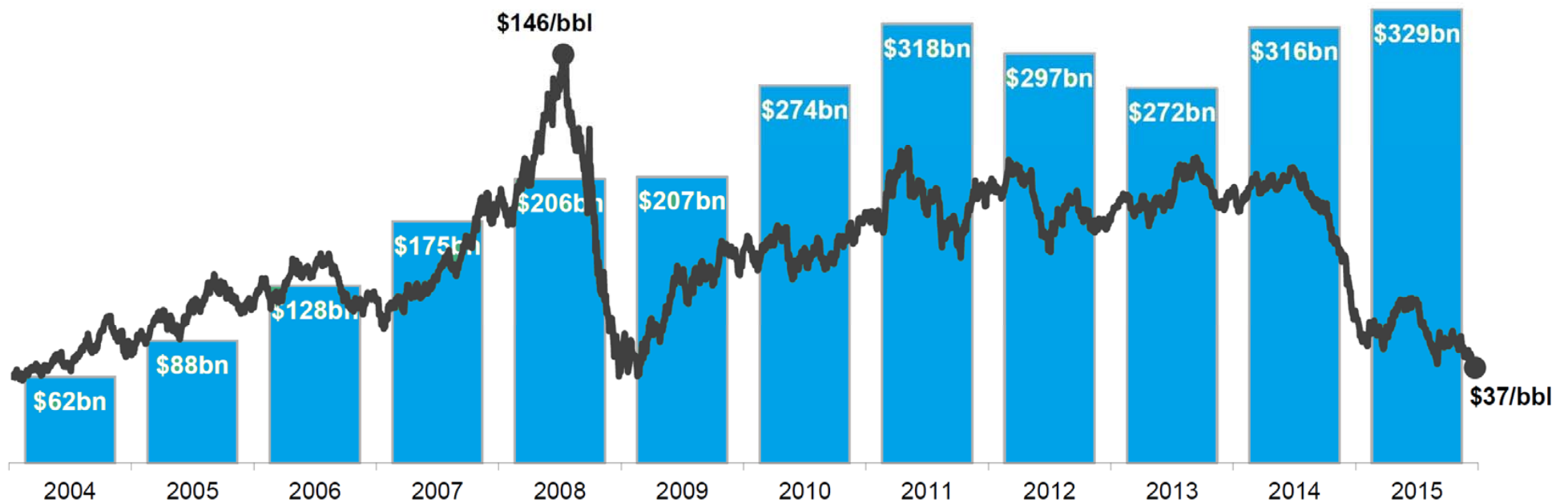


# Why invest now? Innovation, disruption and growth

Renewable energy industry has grown significantly despite the GFC and Oil price halving

- Global oil & gas capex down 35% in 2015 and is now less than renewables in \$ size

## Global Renewable Energy Investment \$ Bn



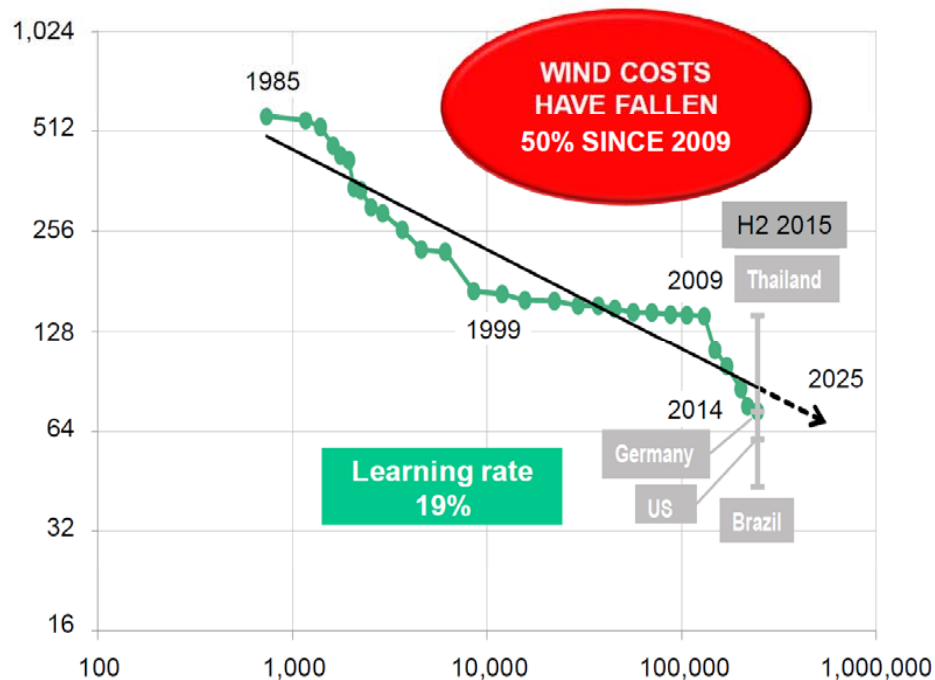
Note: Total values include estimates for undisclosed deals. Includes corporate and government R&D, and spending for digital energy and energy storage projects (not reported in quarterly statistics). Excludes large hydro.

Source: Bloomberg Intelligence, Bloomberg New Energy Finance

# Why invest now? Innovation, disruption and growth

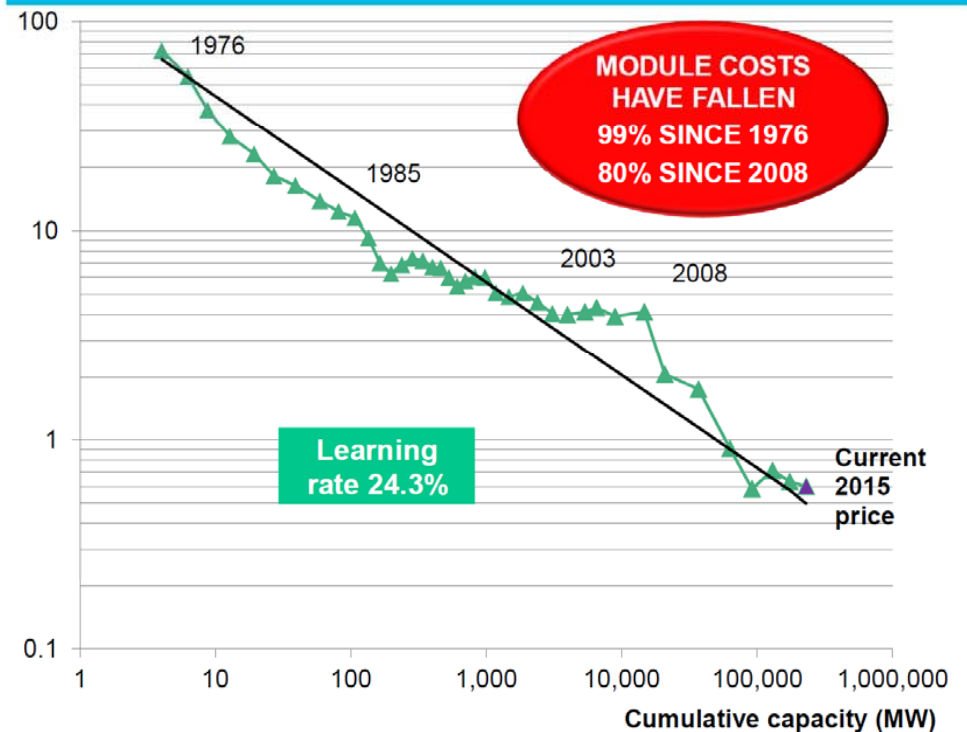
Sustained price declines of renewable energy displacing fossil fuel power generation

## ONSHORE WIND LEVELISED COST (\$/MWh)



Note: Pricing data has been inflation corrected to 2014. We assume the debt ratio of 70%, cost of debt (bps to LIBOR) of 175, cost of equity of 8% Source: Bloomberg New Energy Finance

## SOLAR PV MODULE COST (\$/W)

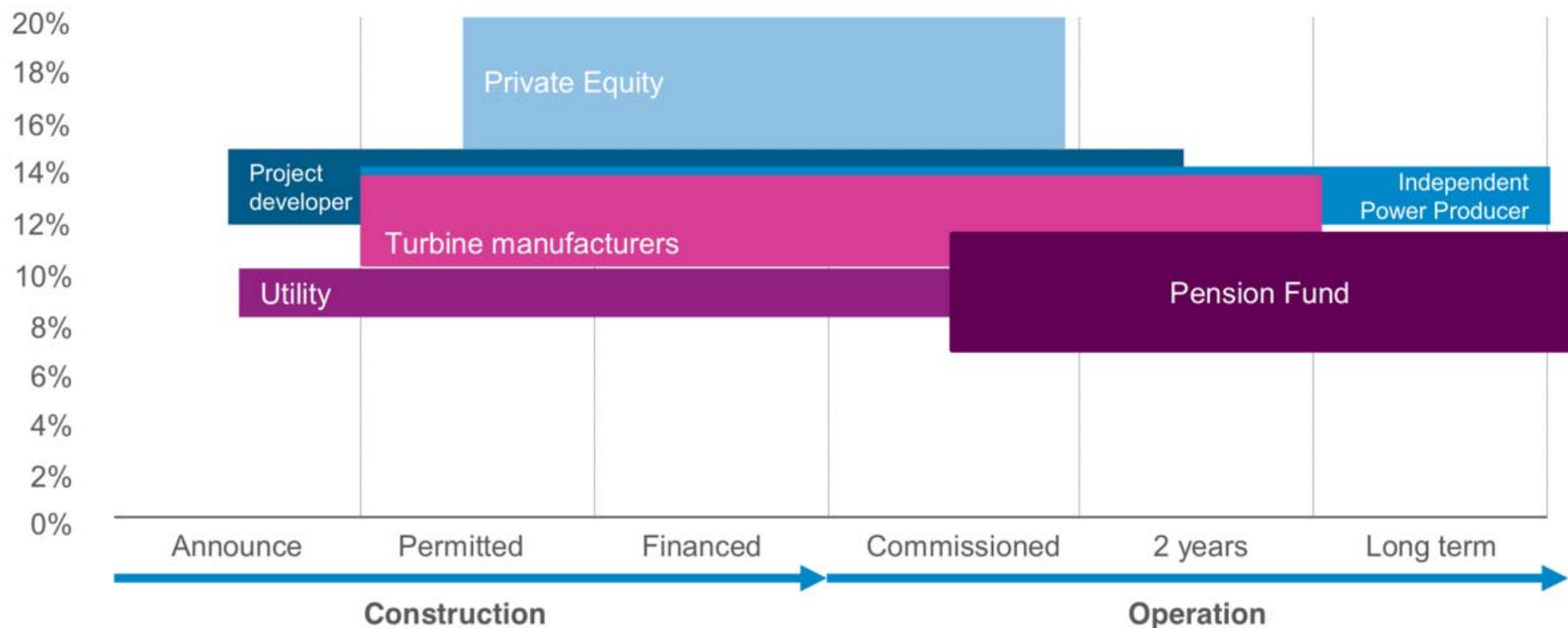


Note: Prices are in real (2015) USD. 'Current price' is \$0.61/W Source: Bloomberg New Energy Finance, Maycock

# Listed Public Equities can have the biggest impact

Development of offshore wind predominantly funded by public listed equities

Entry and exit timings for equity investors with target risk-adjusted returns:

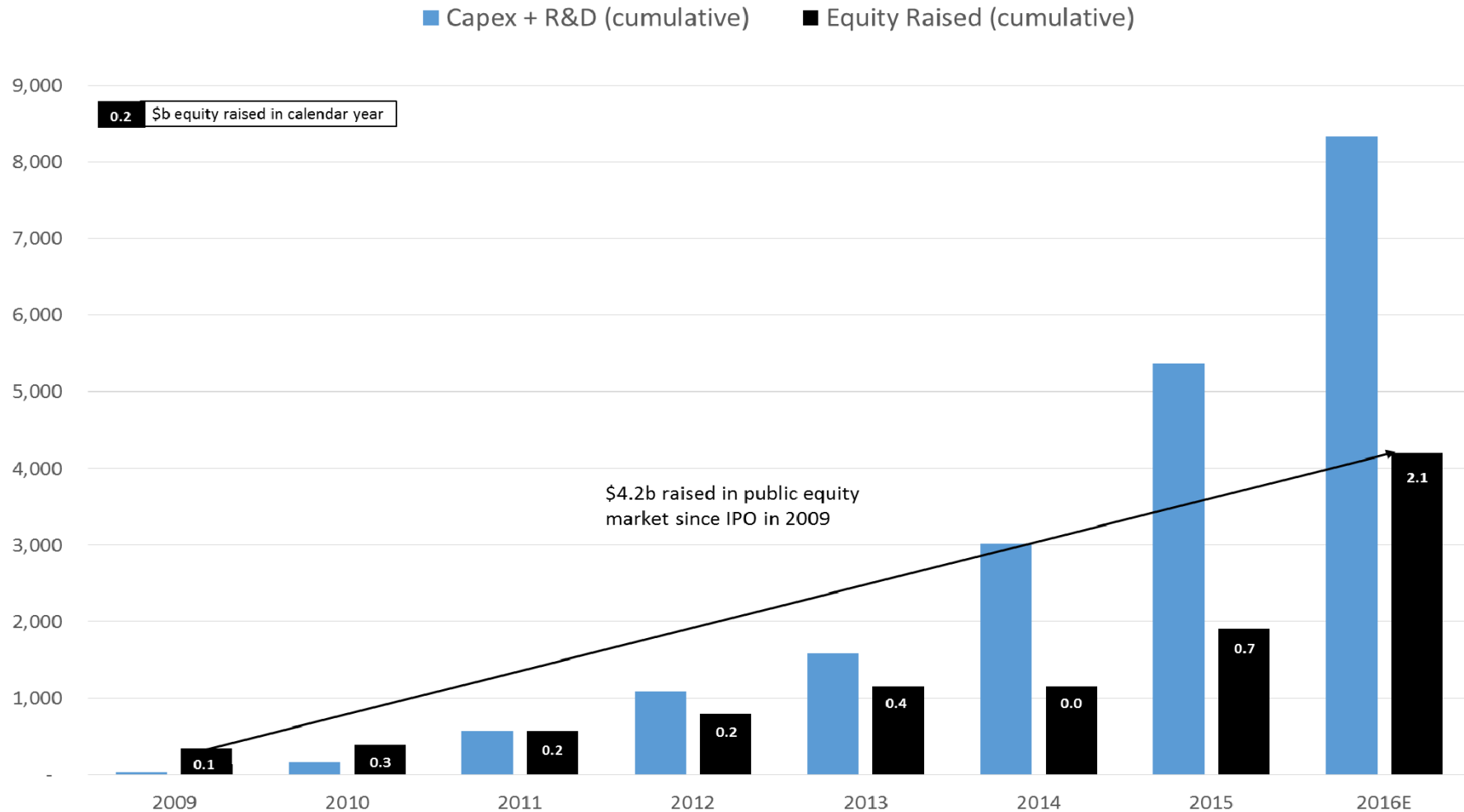


Methodology: The positioning of the different players along the risk-return and entry timing spectrum is based on interviews with market players. Due to commercial considerations, these are not exact numbers, but a range, where the average of all the groups lies.

Source: Bloomberg New Energy Finance

# Listed Public Equities can have the biggest impact

Tesla – Capital raised in public markets is key to innovation and disruption



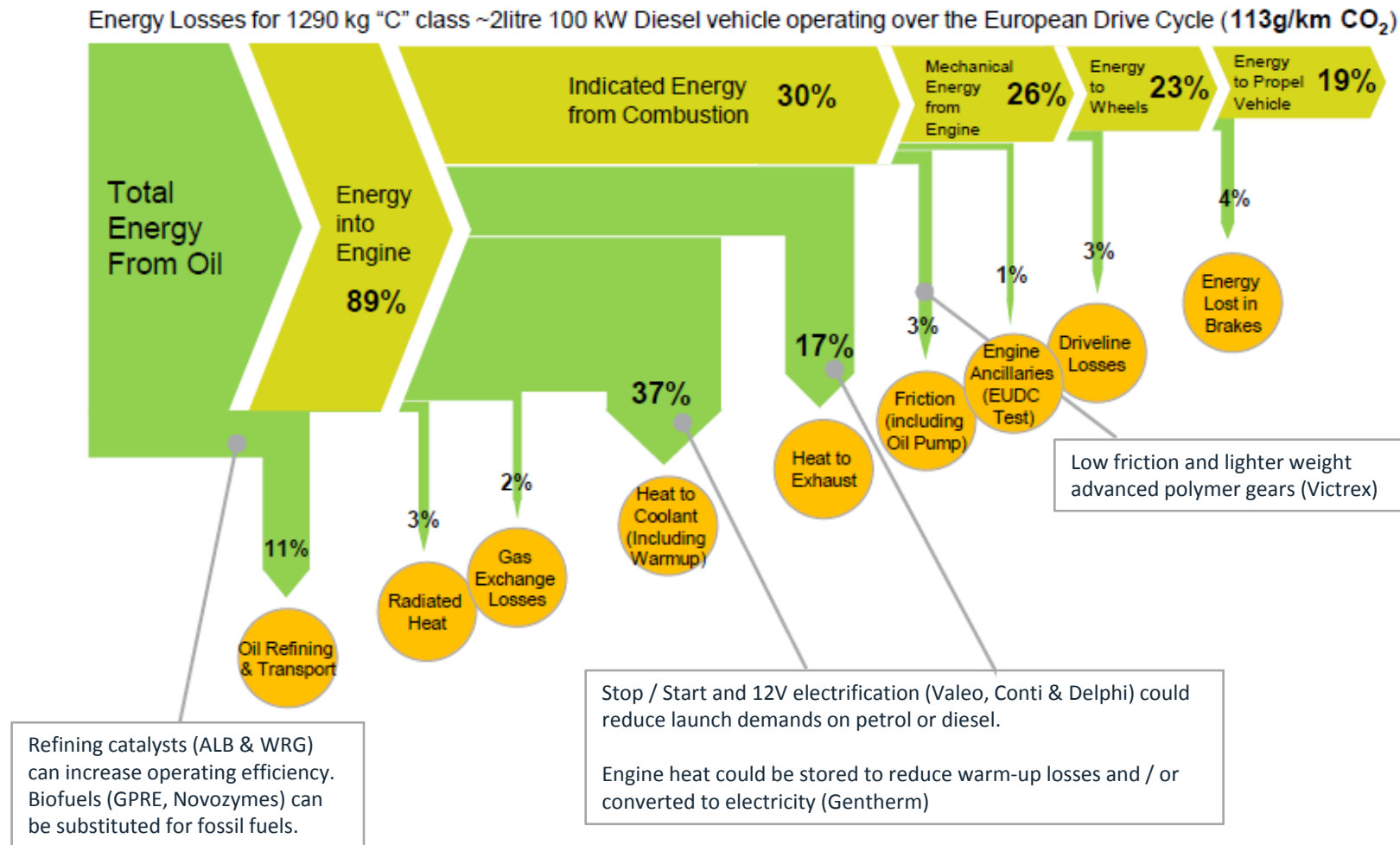
Source: Tesla, Temporis Capital

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# Current internal combustion engines are very inefficient

Listed equity markets offer many options to invest in efficiency improvements.

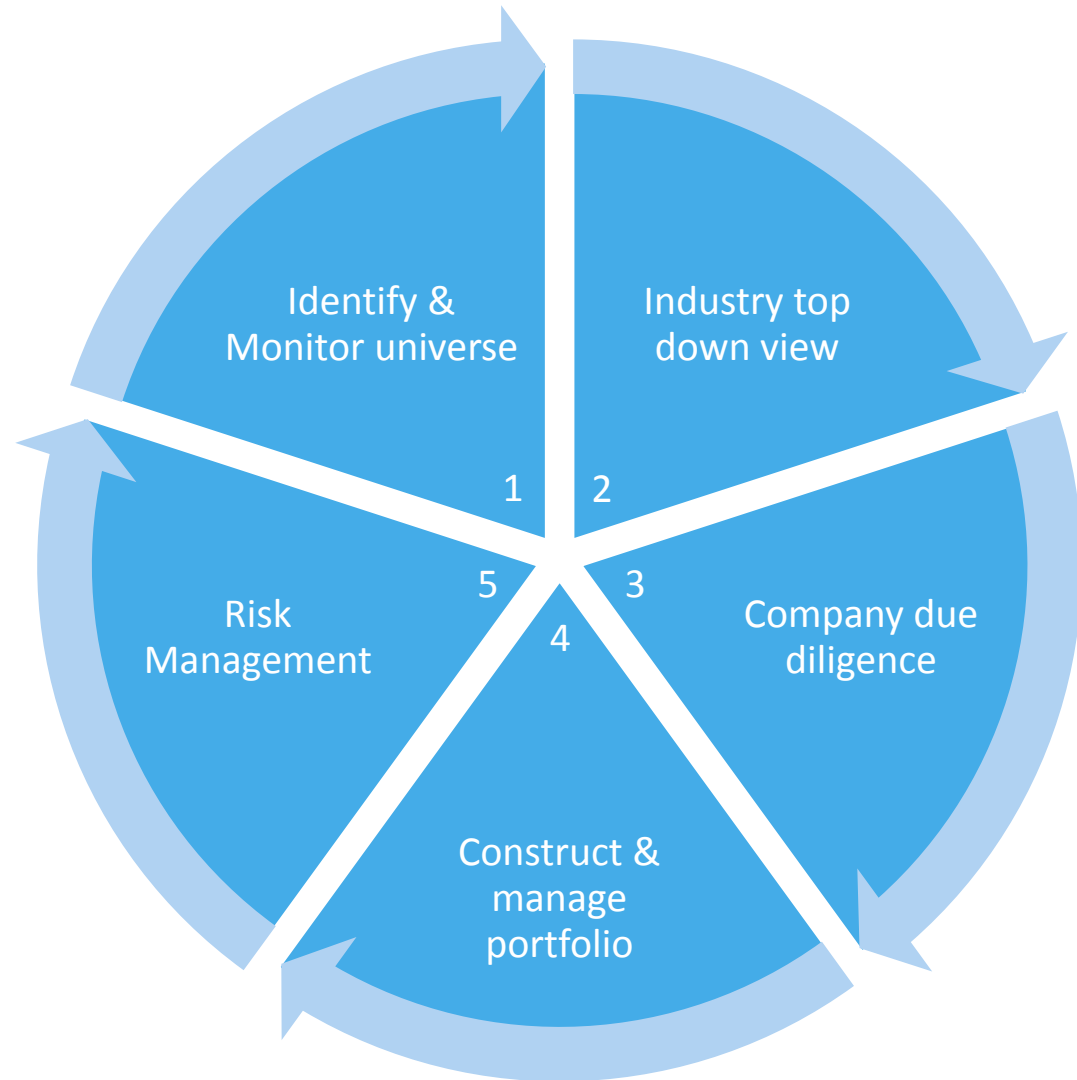


Source: Ricardo, Temporis Capital

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# Fundamental research process

- Temporis employs a blend of top down industry view and bottom up stock selection
- Cyclicalality of certain subsectors is a key driver of performance
- Individual stock selection is driven by in-house fundamental research
- Temporis' investment team experience in the sector represents a major competitive advantage

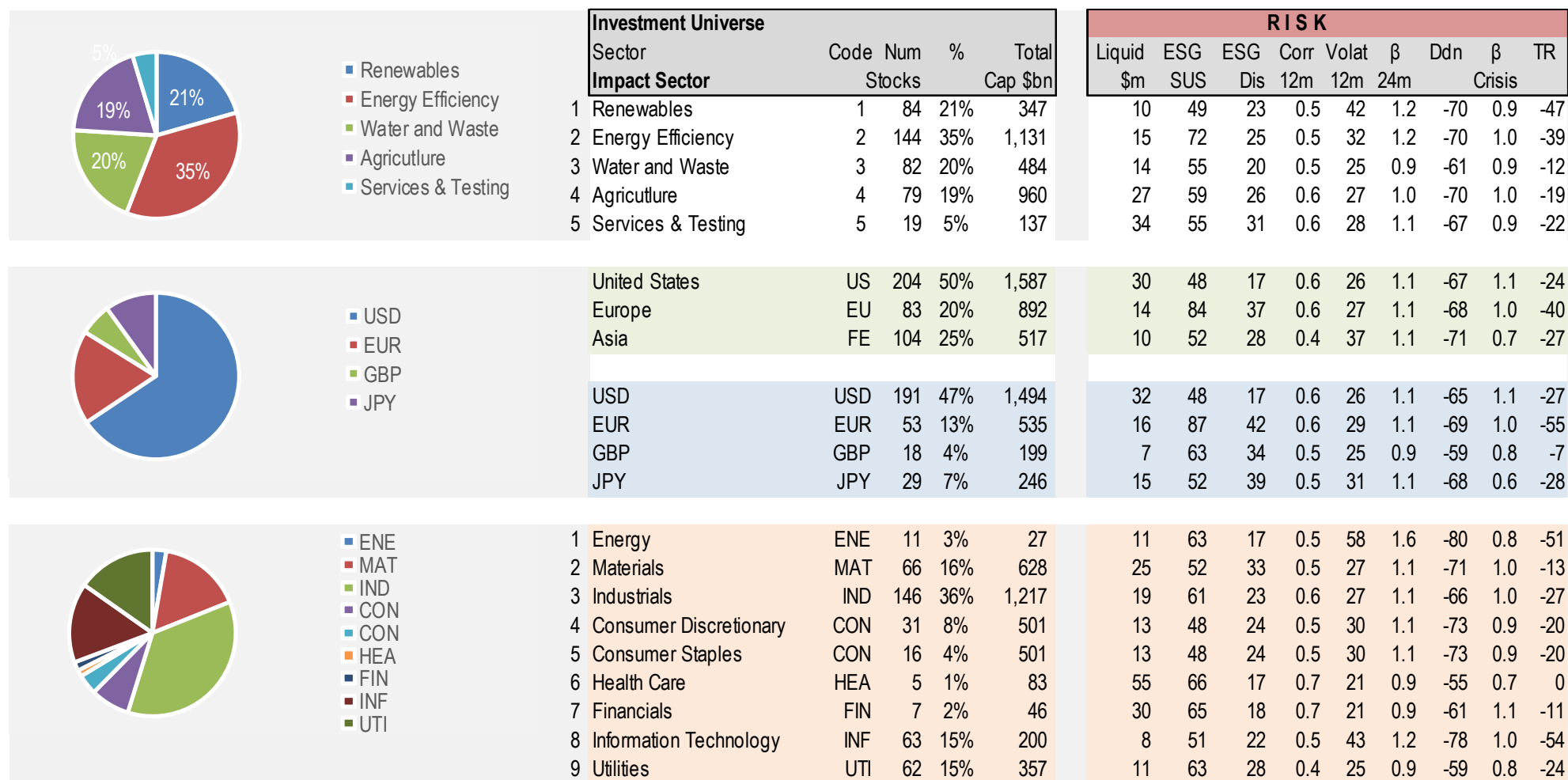


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# Active selection of liquid high impact stocks

Over 500 stocks with \$3trn market cap across multiple sectors and styles



RISK								
Liquid	ESG	ESG	Corr	Volat	β	Ddn	β	TR
\$m	SUS	Dis	12m	12m	24m		Crisis	
10	49	23	0.5	42	1.2	-70	0.9	-47
15	72	25	0.5	32	1.2	-70	1.0	-39
14	55	20	0.5	25	0.9	-61	0.9	-12
27	59	26	0.6	27	1.0	-70	1.0	-19
34	55	31	0.6	28	1.1	-67	0.9	-22
30	48	17	0.6	26	1.1	-67	1.1	-24
14	84	37	0.6	27	1.1	-68	1.0	-40
10	52	28	0.4	37	1.1	-71	0.7	-27
32	48	17	0.6	26	1.1	-65	1.1	-27
16	87	42	0.6	29	1.1	-69	1.0	-55
7	63	34	0.5	25	0.9	-59	0.8	-7
15	52	39	0.5	31	1.1	-68	0.6	-28
11	63	17	0.5	58	1.6	-80	0.8	-51
25	52	33	0.5	27	1.1	-71	1.0	-13
19	61	23	0.6	27	1.1	-66	1.0	-27
13	48	24	0.5	30	1.1	-73	0.9	-20
13	48	24	0.5	30	1.1	-73	0.9	-20
55	66	17	0.7	21	0.9	-55	0.7	0
30	65	18	0.7	21	0.9	-61	1.1	-11
8	51	22	0.5	43	1.2	-78	1.0	-54
11	63	28	0.4	25	0.9	-59	0.8	-24

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# Transparent integration of ESG into investment process

# Stocks	Step	Process	Rational
2,500	1. MSCI ACWI	We start with MSCI ACWI Investment Universe	
2,300	2. CU200	Screen out the Carbon Underground 200 top carbon emitters	-Risk
2,000	3. UNGC	Screen out violators of UN Global Compact on Human Rights, Anti-Corruption, Labour Rights, Environment, Arms, Tobacco	-Risk
1,500	4. ESG	Screen out ESG under performers using best of Trucost, MSCI ESG, GMI, Sustainalytics, Bloomberg ESG data	-Risk
600	5. Impact	Identify highest impact stocks and sectors where >50% revenues or growth supporting a more sustainable economy	+Returns
400	6. Liquidity	Remove illiquid stocks with <\$3m average trading volume	-Risk
<b>50</b>	<b>7. Portfolio</b>	<b>Construct active portfolio of highest conviction stocks using expertise, experience and insight</b>	<b>+Returns</b>

# Risk Management

Apply institutional strength portfolio and operational management approach and systems within a sector focused boutique

## **Portfolio Risk Management**

- Direction, sector, concentration, region, style, relative value, beta, liquidity, and currency exposures
- Liquidity. 90% of the portfolio being less than 2 days volume at 25% participation
- Largest currency exposure is the US\$ and represents on the average 60-70% of the portfolio. The rest of the currency exposure (EUR, GBP, JPY) is generally kept unhedged

## **Portfolio Characteristics**

- Average number of long positions: 40 - 50 stocks
- Typical large individual position size: 5% (10% hard limit). Top 10 positions typically 40%

## **Operational Risk Management**

- Performed independently by middle office team
- Compliance, legal, middle and back office, human resources and accounting

# Track record of performance in different market regimes

## Demonstrable twelve year track record of generating alpha whilst protecting capital

		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD
AVIVA	2003			1.5%	9.1%	6.0%	2.1%	3.0%	3.8%	-1.4%	3.9%	0.1%	0.9%	32.0%
	2004	3.5%	1.4%	-1.0%	-0.2%	-2.5%	2.5%	-3.8%	0.5%	1.8%	1.5%	2.1%	3.4%	9.0%
	2005	1.9%	2.3%	-0.6%	-3.4%	2.1%	2.7%	4.6%	0.2%	3.2%	-3.9%	3.2%	4.7%	18.0%
	2006	2.6%	2.5%	3.4%										9.0%
CCC	2008										-1.2%	-0.8%	1.0%	-1.0%
	2009	-0.1%	0.9%	1.8%	2.6%	2.4%	0.6%	1.8%	-1.4%	-0.1%				9.0%
GAM	2010												0.9%	1.0%
	2011	-3.7%	0.9%	-6.7%	10.3%	3.8%	2.4%	0.8%	1.3%	5.2%	3.5%	4.3%	1.1%	25.0%
	2012	-3.6%	4.2%	5.1%	2.7%	2.5%	-1.8%	6.8%	-2.0%	1.7%	1.9%	1.7%	-4.3%	15.0%
	2013	-4.1%	-2.2%	0.6%	-1.9%	3.3%	-0.3%							-5.0%

As members of Temporis Capital LLP we are responsible for the track record information for Paul Udall presented above. We engaged Kinetic Partners LLP to review this information on our behalf and they have confirmed to us that the net asset values underlying the track record have been correctly extracted from statements provided by the administrators of the relevant funds and managed account. They have also checked the arithmetic accuracy of the calculations and the application of a 2% management fee and 20% performance fee structure. Kinetic Partners LLP accept no responsibility to anyone other than Temporis Capital LLP and its members in relation to their findings.

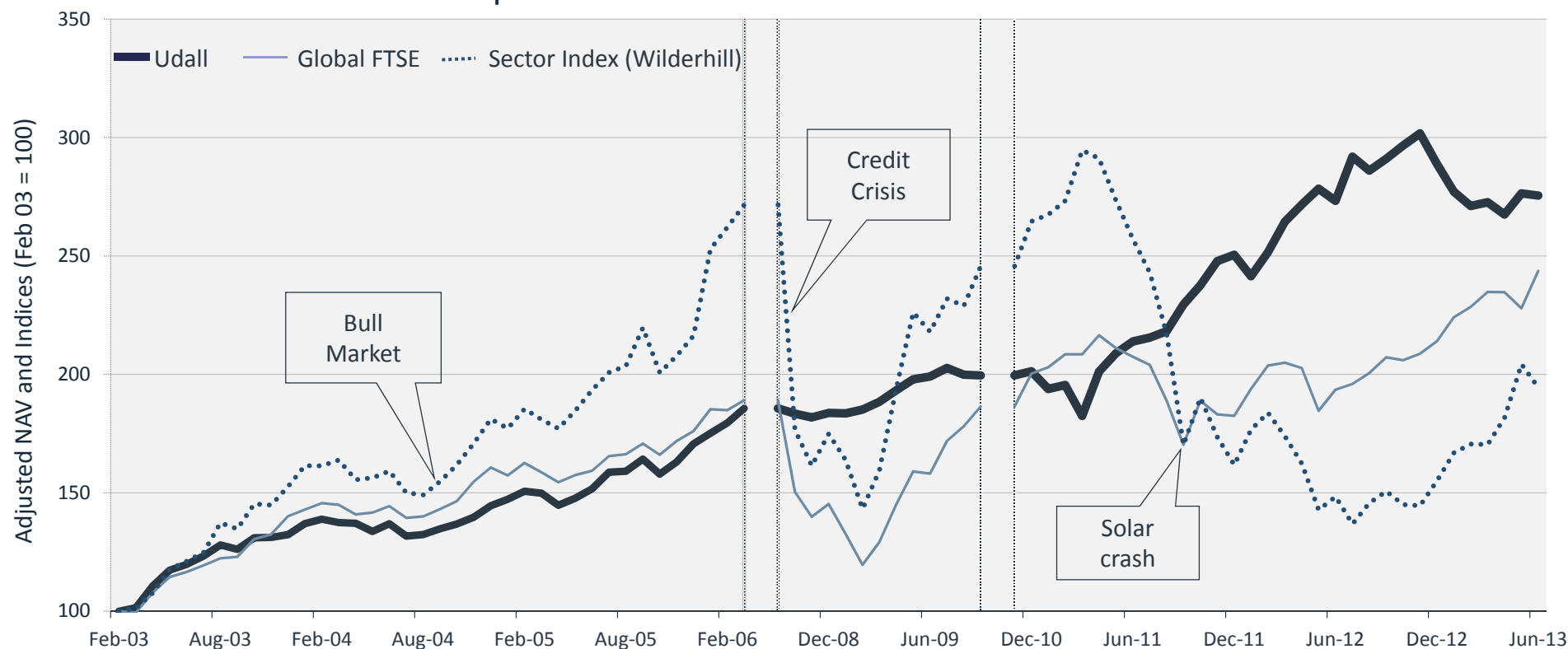
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD	MSCI*	ECO INDEX*
TEMPORIS	2014												0.7%	0.7%	-1.6%	2.5%
	2015	-0.7%	3.5%	2.1%	5.0%	1.8%	-3.6%	-1.6%	-7.7%	-4.1%	7.6%	0.1%	-1.0%	0.4%	-0.2%	-10.3%
	2016	-6.1%	0.6%	6.2%	0.8%	1.2%								2.3%	2.1%	-18.1%

The monthly performance record presented above, from December 2014 – present, is based on a 1% per annum management fee.

\*Benchmarks are total returns MSCI World and WilderHill Clean Energy Index (ECO) indices in USD

# Track record of outperformance in different market regimes

Cumulative performance of Paul Udall vs sector and market



As members of Temporis Capital LLP we are responsible for the track record information for Paul Udall presented above. We engaged Kinetic Partners LLP to review this information on our behalf and they have confirmed to us that the net asset values underlying the track record have been correctly extracted from statements provided by the administrators of the relevant funds and managed account. They have also checked the arithmetic accuracy of the calculations and the application of a 2% management fee and 20% performance fee structure. Kinetic Partners LLP accept no responsibility to anyone other than Temporis Capital LLP and its members in relation to their findings.

Past performance is not indicative of future performance and an investment in the strategy may lose value. Please refer to the disclaimer at the front of this presentation for more information.

	Aviva	CCC	GAM	Total
Performance pa	22%	7%	13%	16%
Volatility pa	9%	5%	12%	10%
Correlation with MSCI	76%	67%	-15%	22%
Alpha vs MSCI	4%	7%	16%	14%
Beta vs MSCI	75%	10%	-13%	13%

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# Temporis Listed Equities Team



## **PAUL UDALL – PORTFOLIO MANAGER**

Paul Udall joined Temporis in 2013. Paul has 18 years of investment experience, and has been managing hedge funds since 2002. Prior to working at Temporis, he was a portfolio manager for GAM, Tudor Investments, Morley Fund Management and AXA Investment Management. Paul holds an MSc in Investment Management from the University of Stirling, a BSc in Accounting and Finance from the University of East Anglia and is an associate member of both the CFA institute and the UK Society of Investment Professionals. He is based in London.



## **MICHAEL MCNAMARA - HEAD OF RESEARCH**

Michael has extensive experience in both clean technology investment and asset management. Before joining Temporis Capital, he established and lead the highly regarded European Clean Technology research department at Jefferies as well as Matrix Corporate Capital. Prior to Jefferies, Michael worked as both an equity buy side analyst and fund manager at Gartmore Investment Management and CNA Vida. Michael is the Head of Research within the investment management team and will play a key role in for both ideas generation assistance and analysing existing portfolio positions. Michael holds a BA degree in History from Skidmore College.



## **ANDRES SENOUF - HEAD OF DISTRIBUTION**

Andres started his career at Lehman Brothers where he spent four years trading interest rate options and structured notes. He then spent six years at Morgan Stanley where he was responsible for structuring derivative products for Latin American institutions and high net worth individuals. In mid- 2000, Andres was hired by Goldman Sachs to structure credit derivative products for European clients. He ended his six year tenure running the Iberian structured product sales area. Andres holds a BA in Economics and a Masters in International Economics and Finance both from Brandeis University. Andres speaks English, Spanish, Portuguese and his native French.



## **LEIGH NELSON - SYSTEMS MANAGER**

Leigh is responsible for the development and rollout of systems at Temporis, focussing on helping teams to streamline and automate repetitive tasks so that more time is available for qualitative value-add activities. Leigh joined Temporis nine years ago in a quantitative analyst role, and has worked in this capacity on a number of mandates as well as expanding his focus to middle and back office activities. Leigh graduated with distinction from the University of Edinburgh, attaining an MSc in Operational Research. Leigh also holds a BSc (Hons) in Mathematics and Mathematical Statistics from Rhodes University in South Africa.

**TEMPORIS CAPITAL**

# Contact



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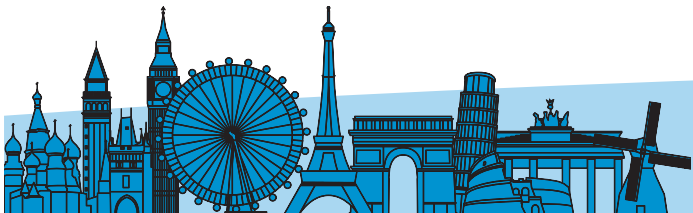
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## Networking Break

10:25 – 11:05





## Stream 1

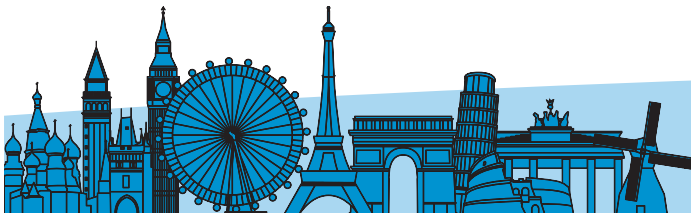
# Are the United Nations' Sustainable Development Goals an investable theme?

11:05 – 11:45

Edward Davey, *Senior Programme Manager, International Sustainability Unit (The Prince of Wales's Charitable Foundation)*

Emma Doner, *Project Manager, Innovation Team, Vigeo Eiris*

**Moderator:** Catherine Howarth, *Chief Executive, ShareAction*



## Stream 1

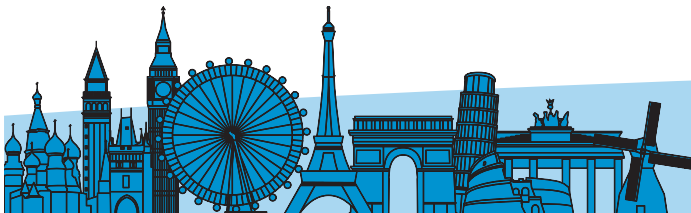
# The rise of NGO finance campaigns, what next and to what effect? ShareAction, Carbon Tracker, Divest-Invest, Positive+Investment

11:50 – 12:30

Ellen Quigley, *Doctoral Candidate*, **University of Cambridge**

Tim Valentine, *Emeritus Professor of Psychology*, **Goldsmiths, University of London**

**Moderator:** Laurie Havelock, *Reporter*, **Responsible Investor**



## Networking Lunch

12:30 -13:30

