
Confidence
must be earned

Amundi
ASSET MANAGEMENT

April 2020

Tsinguha Seminar

Executive Summary

- ESG investment is booming around the planet.
- But ESG is still confusing in terms of data and objectives.
- So clarity is needed and proper data will help.
- While recognizing that the links between society forces are key.
- In the meantime, already a growing use of existing ESG data with:
 - Low Carbon Indexes
 - Green Bonds
- Amundi:
 - Is the leading European Asset manager;
 - Has integrated ESG in its core strategy since its creation;
 - Has developed some innovative partnerships with clients, corporates, to develop some solutions helping clients align their portfolios with a low carbon economy.

01

Massive Increase but Still Confusing

A Global \$30trn Market

\$30.7tn

Global Responsible
Investment

~ 40%*

of Global Assets under
management

+34%

Growth in 2 years

CANADA

\$1.7tn

42% growth in 2 years

6%

46%

EUROPE

\$14.1tn

11% growth in 2 years

7%

JAPAN

\$2.2tn

307% growth in 2 years

39%

USA

\$12.tn

38% growth in 2 years

2%

AUSTRALIA / NZ

\$734bn

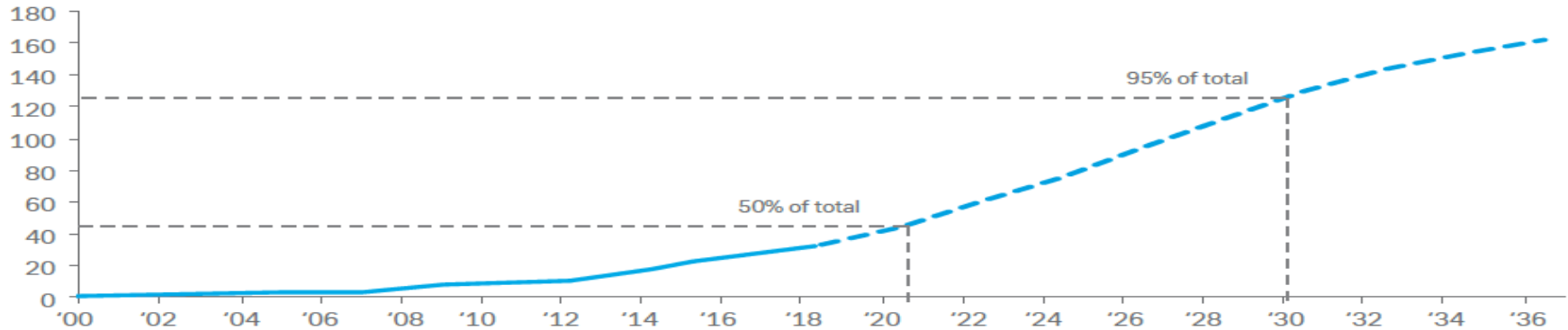
46% growth in 2 years

Source: Global Sustainable Investment Review 2018. AuM as of December 2017,
Global Sustainable Investment Alliance (GSIA)

* Calculated using the Global AUM \$79,2tn. BCG. Global Asset Management 2018 The Digital Metamorphosis.

And Expected to Continue to Grow

Global AUM falling under an ESG mandate (USD tn)

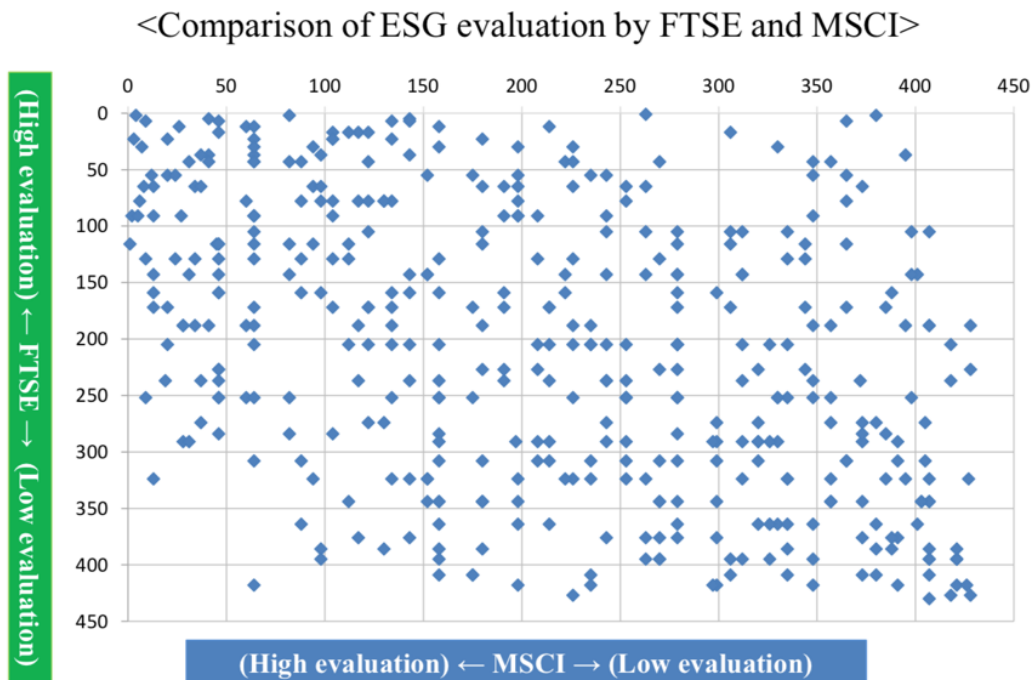


Source: Deutsche Bank, Global Sustainable Investment Alliance

ESG market could keep on growing :

- From \$30tn (about on third of total AUM now)...
- ...towards \$45tn (50% of total AUM) in 2021
- ...and even \$125tn (95% of total AUM) in 2030

Lack of Consensus on ESG Data



GPIF has compared ESG scores provided by FTSE and MSCI on the Top 450 Japanese companies

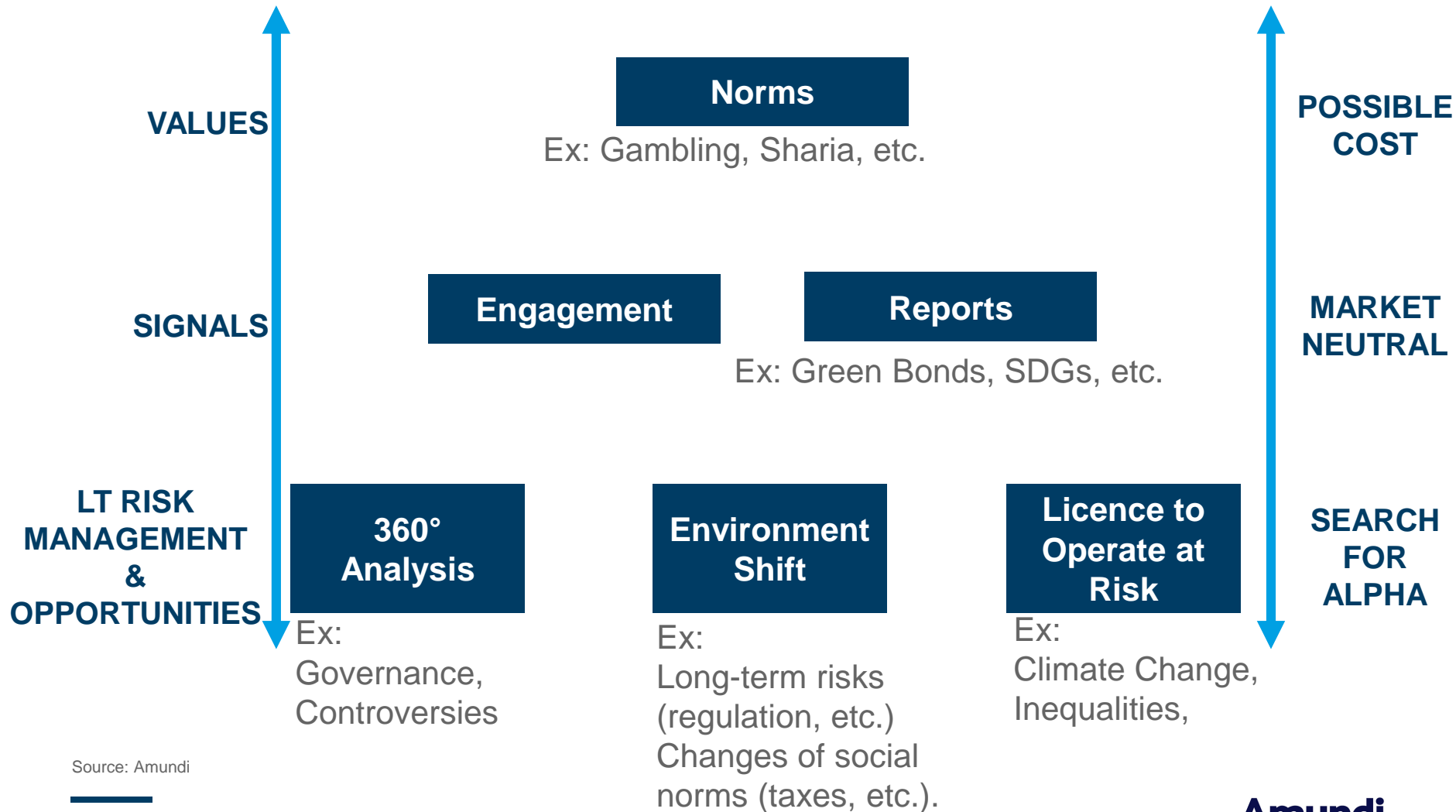


Absolute lack of correlation

02

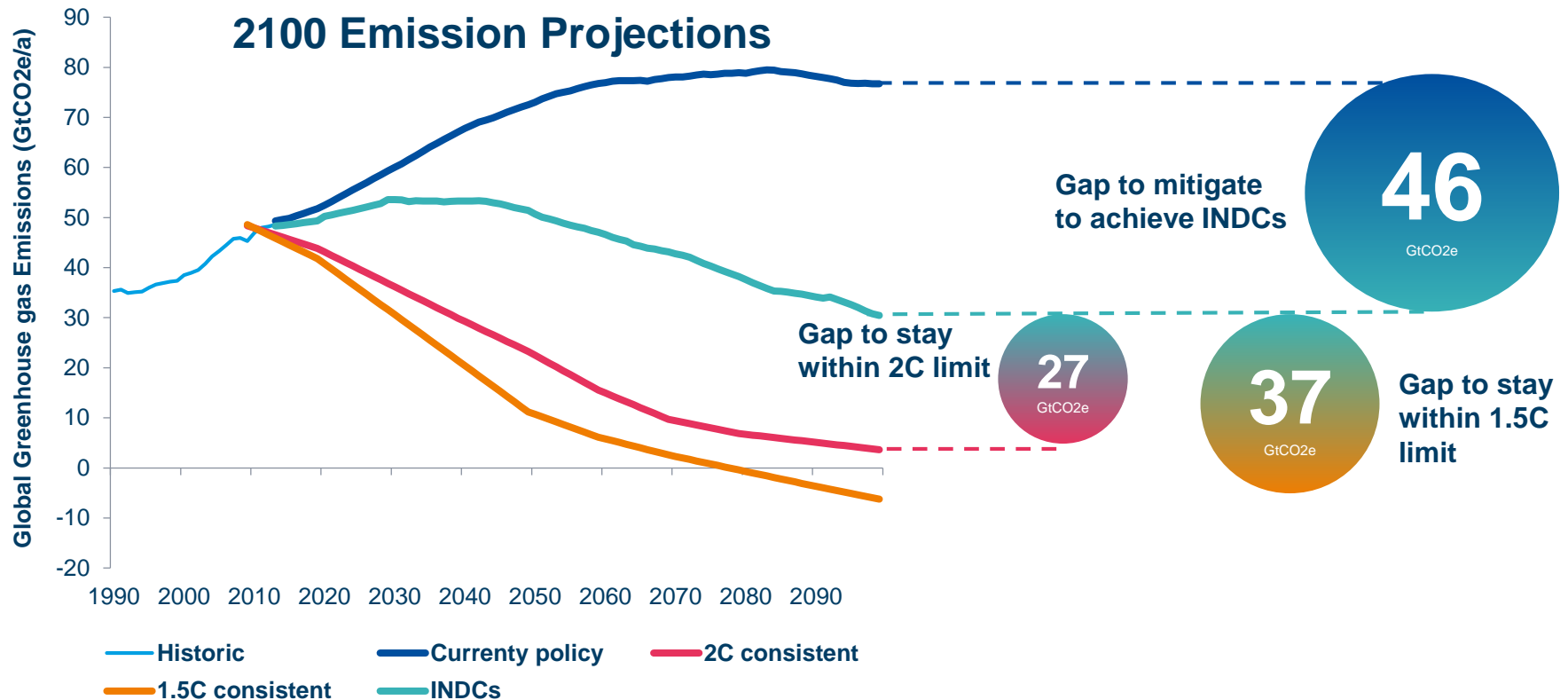
Data is key but for which Objective?

ESG Mapping: Multiple Possible Objectives



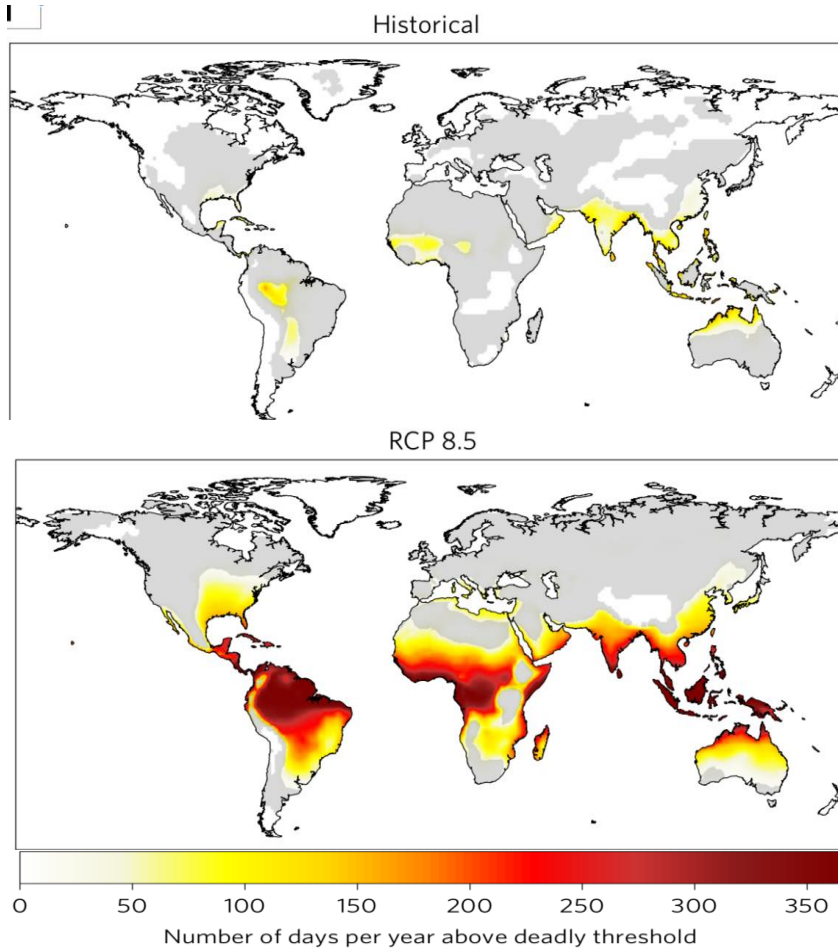
Source: Amundi

Climate Change: Unprecedented Challenge



Source: Climate Action Tracker Database, Global emissions time series, updated November 2017. Time series data for INDCs, 2C consistent, 1.5C consistent time series are computed as medians of highest and lowest potential global emission level results.

Impacts of Temperatures on Where to Live



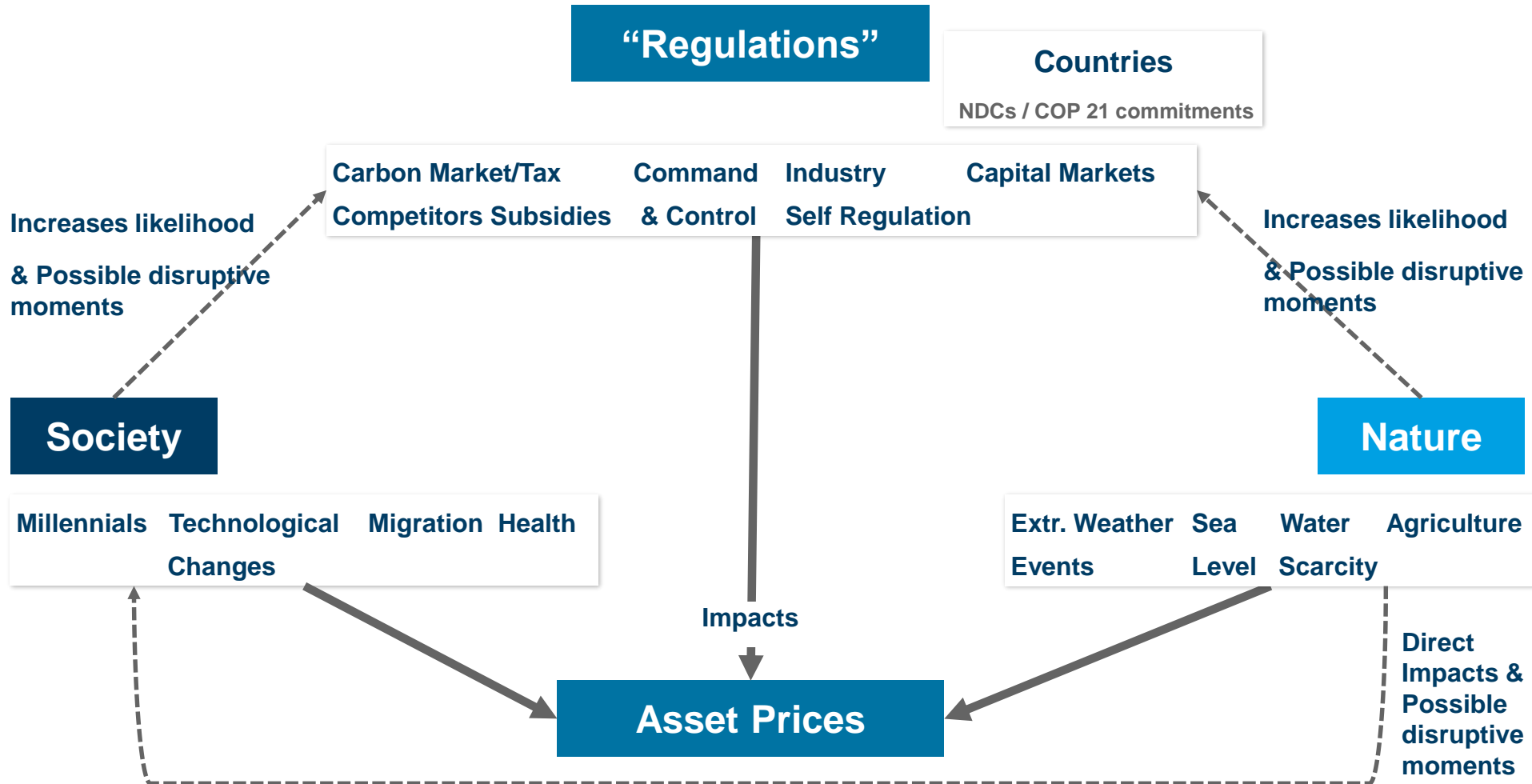
- Human beings must regulate their internal heat, and so they are exposed to the mix of :
 - External temperatures and
 - Humidity
- In 2000*, this was already a severe risk:
 - 13.2% of the planet's land area where 30.6% of the population resides...
 - was exposed to 20 or more days when temperatures and humidity surpassed the threshold beyond which such conditions become deadly.
- By the end of the century, in a BAU scenario, entire regions of the world would be inhabitable.

* Source: Global Risk of Deadly Heat (Science 2017)

03

Links Between Forces

Multiple Forces Related to Climate Change Impacting Asset Prices



Sharp rise in EU carbon prices: expectation for supply squeeze

EU CARBON PRICES, June 2013-December 2018 (€/t)

Price Expected to Keep on Rising



— Price : X5 in one year

— Could be even bigger:

- Request from EU to align the mechanism with NDC
- EUR45-55/ target

EUA stands for European Union Allowance. Source: Carbon Tracker, « Carbon Clampdown: Closing the Gap to a Paris-compliant EU ETS », April 25, 2018, Carbon Tracker Website as of May 2, 2018.















Regulation in the automobile industry

Efforts to reduce CO₂ emissions from cars will impact oil demand globally

GLOBAL IMPACT

- In 2015, 18% of global CO₂ emissions were attributed to road transportation¹
- Efforts to reduce emission from road transport has emerged across the world
- By 2040, oil demand will decrease by 8m barrels/day according to estimates by Bloomberg²

COUNTRY SPECIFIC REGULATION OF THE AUTOMOBILE INDUSTRY

	2025	2030	2040	Not confirmed
Ban on new vehicle sales	 	     Rome	   California	
Ban on all vehicles		 Madrid  Athens  Paris		

Ban applies to:

Petrol & Diesel

Diesel only

Note: (1) Source: CO₂ emissions from fuel combustion p.39, International Energy Agency, 2017

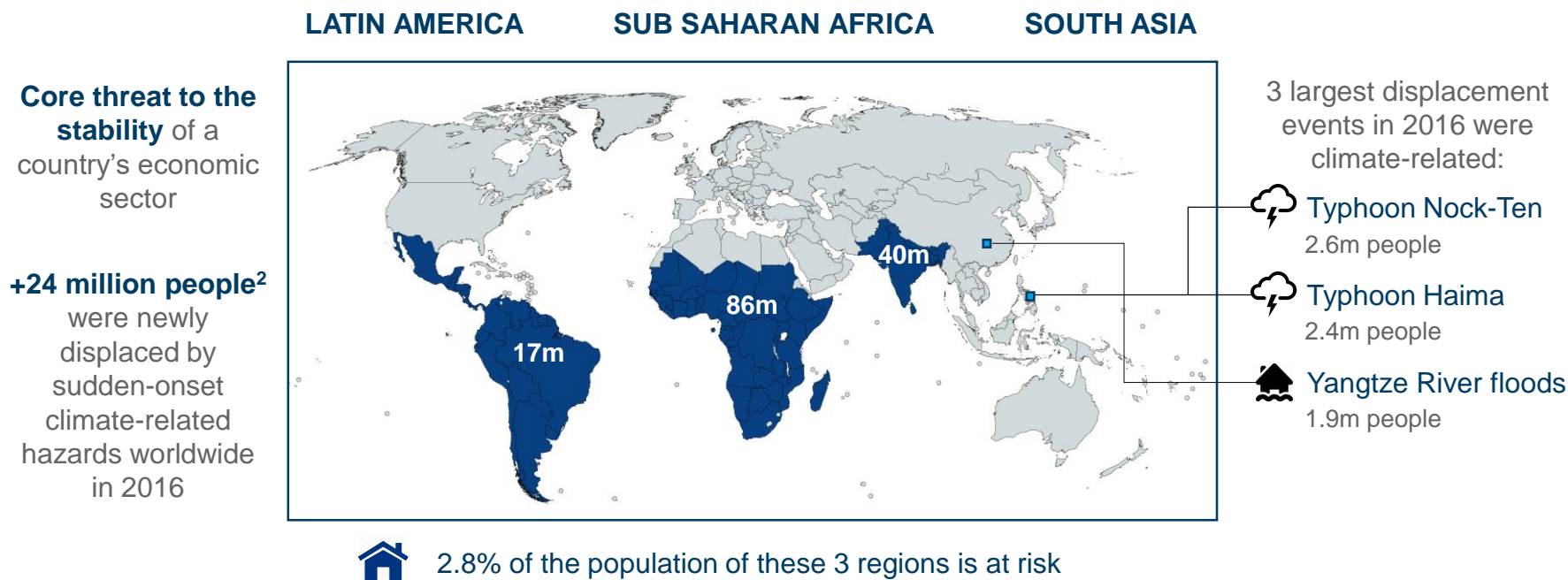
(2) Source : Electric Vehicle Outlook 2017, Bloomberg New Energy Finance

Migration risks of climate change

- Changes in the global environment cause an increasing number of human displacements

“By 2050, climate change could force more than **143 million people** in just **3 regions** to move within their countries”

– World Bank Group¹



Sources: (1) Groundswell, Preparing for internal climate migration, World Bank Group, 2018
(2) Internal displacement monitoring centre database 2017

Physical risks of climate change

— Natural catastrophes have increased significantly worldwide since 1980

FREQUENCY

- Frequency of natural catastrophe loss events has increased worldwide (see table 1 below)
- This increase is mainly due to weather related disasters

LOSS

- Substantial increase of normalized and inflation adjusted losses
- Socioeconomic factors are the most relevant drivers of this increase

HIGH EXPOSURE

- Natural Catastrophe insurance gap remains very large in all regions of the world (see table 2 below)

Table 1: NatCat events worldwide 1980-2016: Number of events

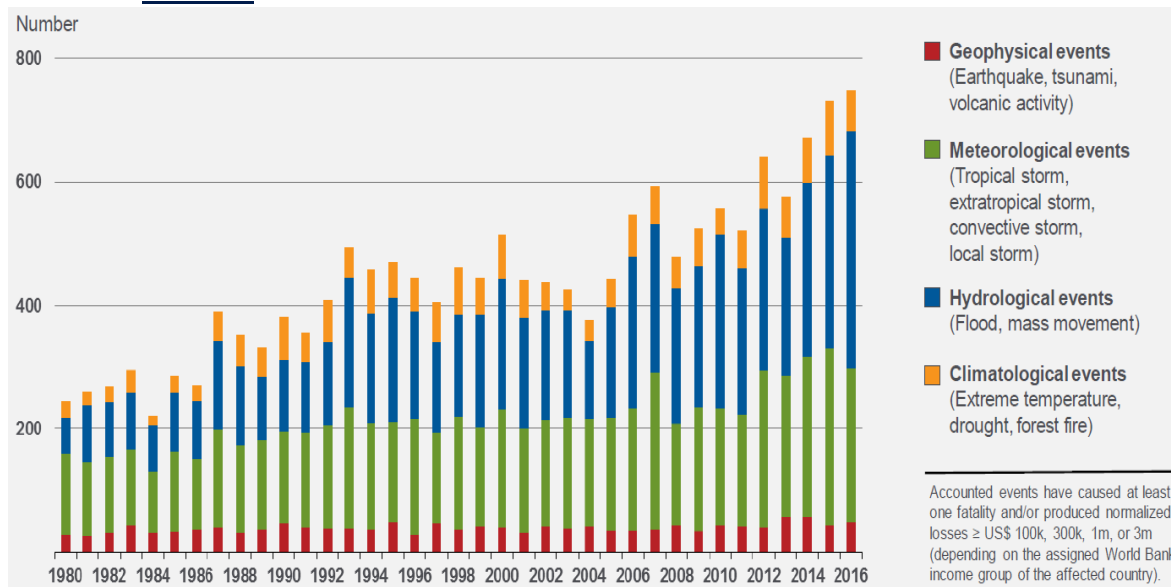
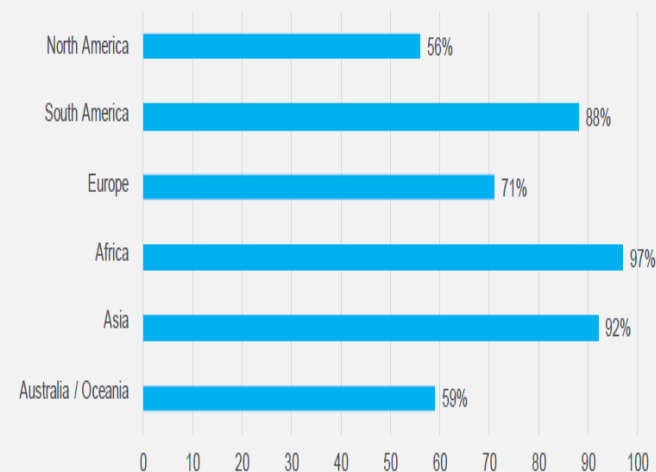


Table 2: Insurance gap

Insured losses as a percentage of overall losses 1980-2016

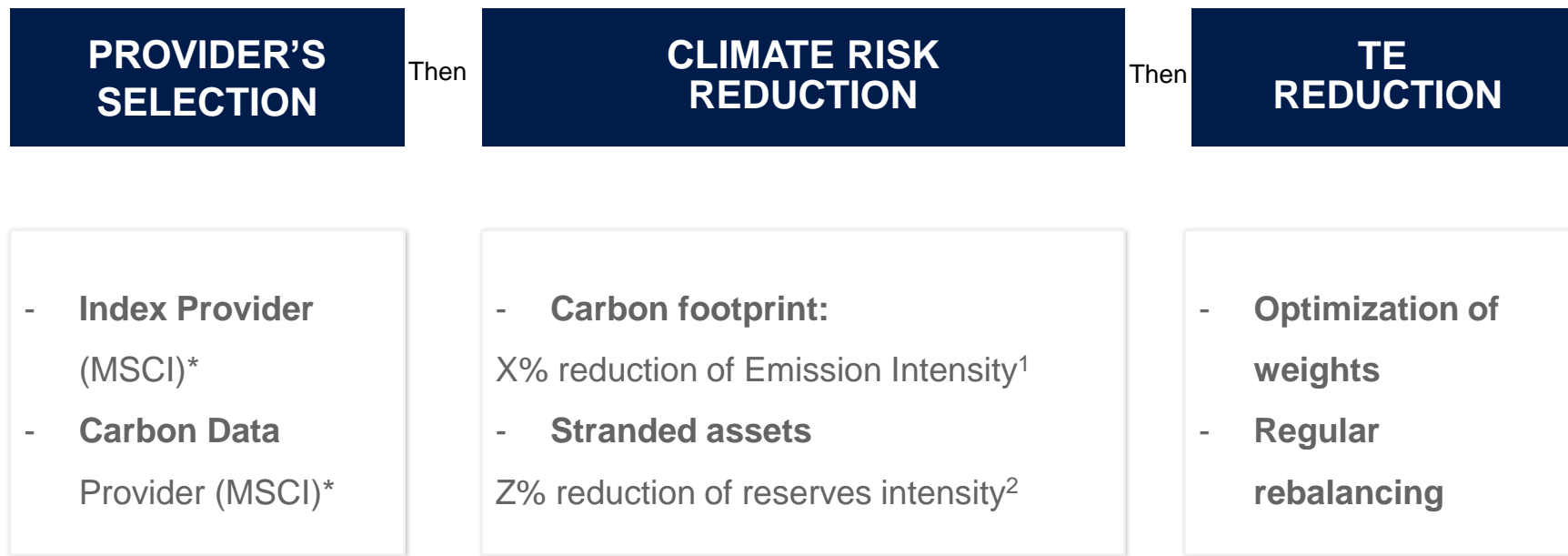


Source: 2016 Münchener Rückversicherungs-Gesellschaft, Geo Risks Research, NatCatSERVICE – As at January 2016

04

Use of Data

Methodology 1.0: low carbon indices

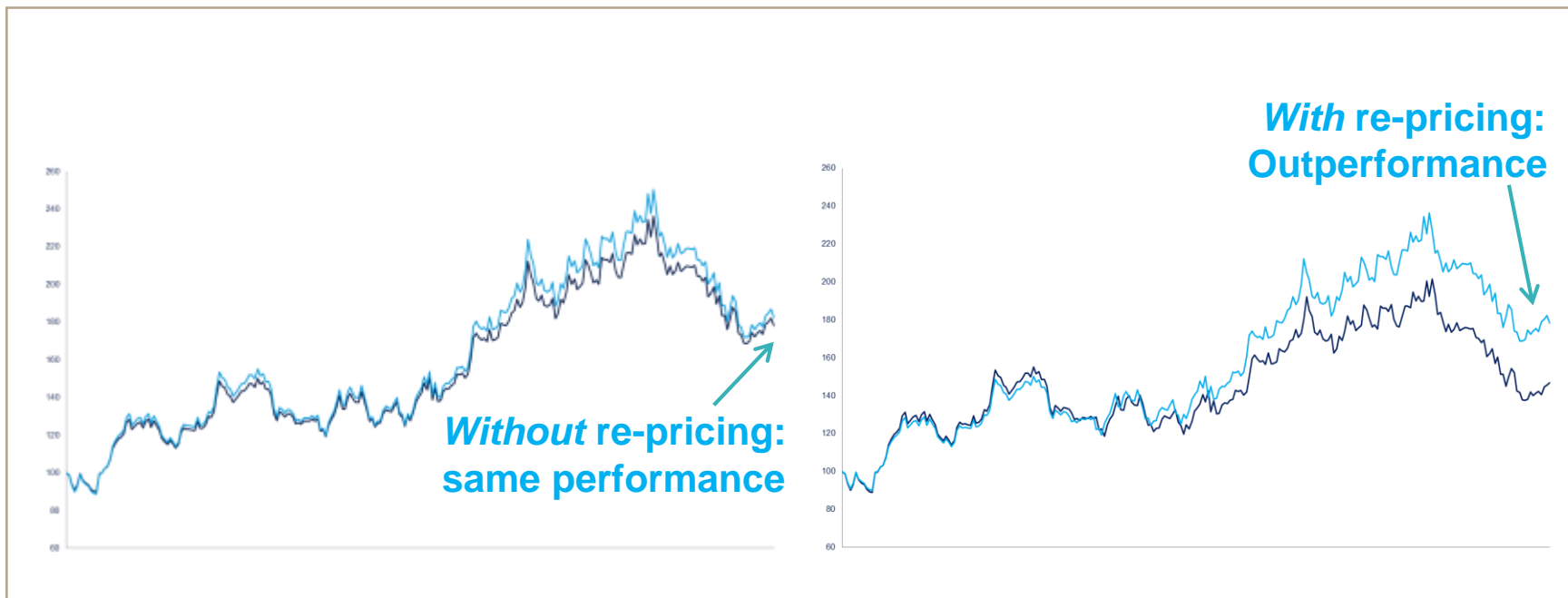


(1) Carbon emissions divided by sales

(2) Potential cumulative emissions from reserves divided by market cap

* As an example

Free option on climate change risk pricing



— Benchmark

— Low Carbon Low TE

— Benchmark

— Low Carbon Low TE

« Free Option » :

- Either no *climate change impact*: same performance
- Or a *climate change impact*: outperformance

Source: Amundi Investment Solutions / Random simulations with annual volatility at 20%, annual expected return 7% and a 0,5% TE. **Past market trends are not a reliable indicator of future ones. Past performance does not prejudice future results, nor is it a guarantee of future returns**

Low carbon leaders Europe

Key Metrics	MSCI	MSCI Europe Low Carbon Leaders
Total Return* (%)	7.50	8.05
Total Risk* (%)	11.61	11.73
Sharpe Ratio	0.65	0.69
Active Return* (%)	NA	0.55
Tracking Error* (%)	0	0.76
Information Ratio	NA	0.72
Turnover** (%)	2.40	11.86
Securities excluded	NA	96
Market cap excluded (%)	NA	23.4
Carbon <i>Emission</i> intensity reduction (tCO2/mm USD) (%)	NA	50
Carbon <i>Reserves</i> intensity reduction (tCO2/mm USD) (%)	NA	68

— Excludes:

- **Largest 20% emitters** with a maximum 30% by weight from any sector
- **Largest owners' reserves** up to 50%

— Major reduction of:

- Carbon *Emissions* Intensity **(-50%)**
- Carbon *Reserves* Intensity **(-68%)**

— Low tracking error: 0.76 %

Past market trends are not a reliable indicator of future ones. Past performance does not prejudice future results, nor is it a guarantee of future returns. Source: MSCI, Net total return annualized in EUR for the 11/30/2010 to 03/31/2018 period. The cumulative index performance is from MSCI

¹ Over 5 years. ² Last 12 months. ³ As of end february 2018 .

Performances

CUMULATIVE INDEX PERFORMANCE - GROSS RETURNS (USD) (NOV 2010 – JUN 2019)



In bps



— Annualized outperformance (2010-2019):

- World: +31 bp ⁽¹⁾
- North America: +36 bp
- Europe: +32 bp

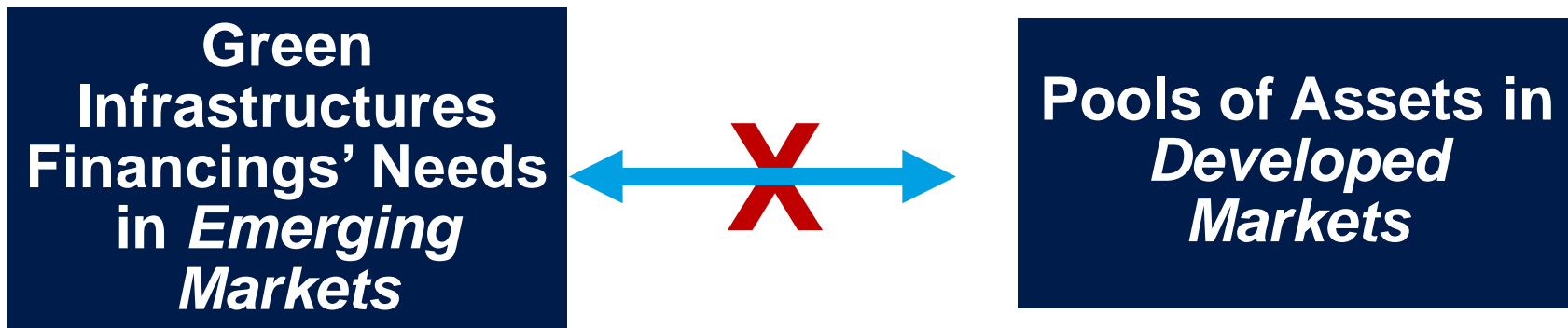
— Even if supposed to be forward-looking

— Performance of concrete investments :

- Nov 2014 – Jun 2019
- Annualized outperformance: +24 ⁽²⁾ bp
- Information ratio⁽³⁾ : 0.56

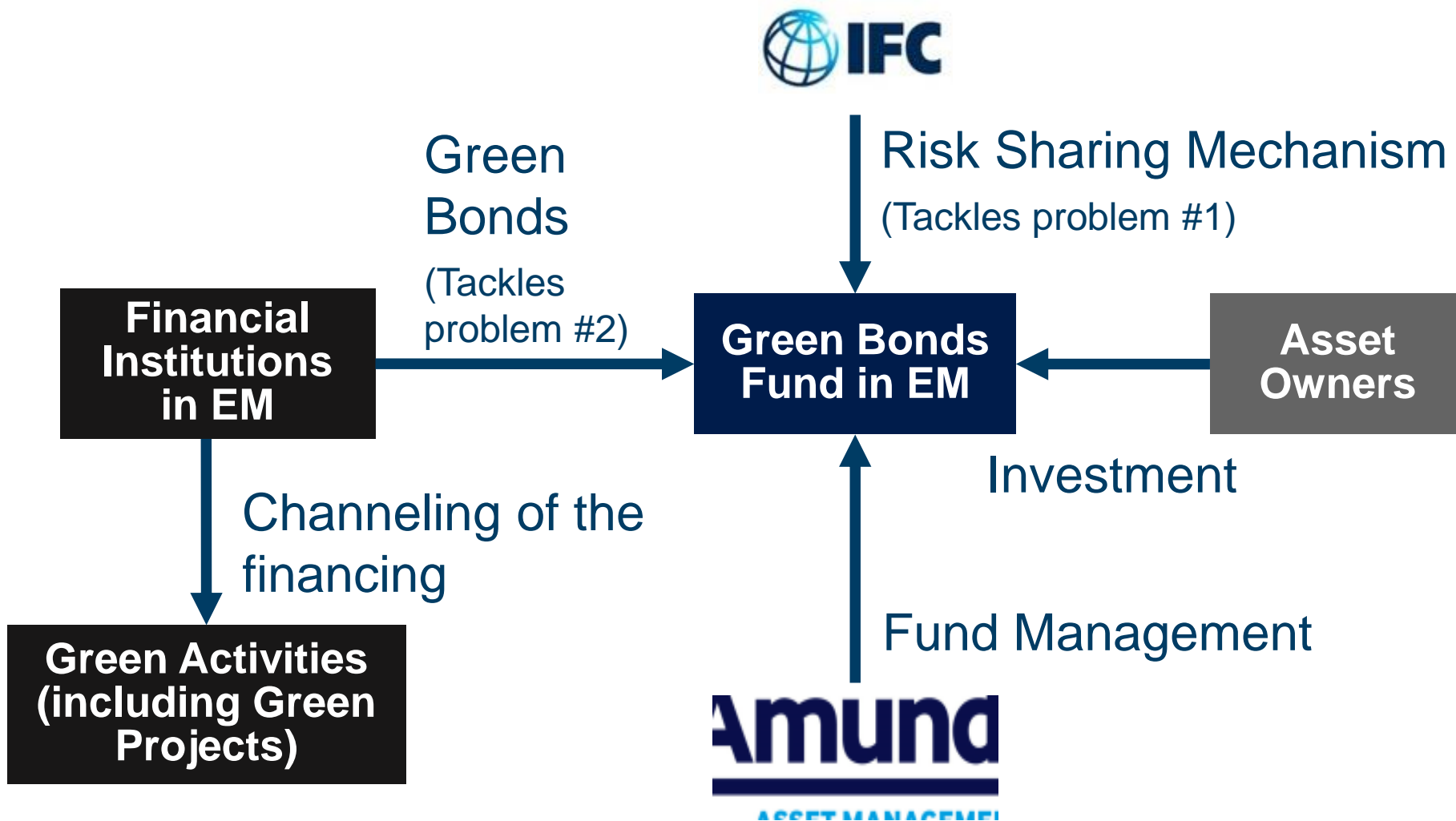
Past market trends are not a reliable indicator of future ones. Past performance does not prejudice future results, nor is it a guarantee of future returns. Source: MSCI (1) Net monthly returns annualized in USD for the 11/30/2010 to 06/28/2019 period. Data prior to the launch date (Sep 16, 2014) is back-tested data (2) Net weekly returns annualized in USD for the 11/07/2014 to 06/28/2019 period. Outperformance in basis points. The cumulative index performance is from MSCI (3) A ratio of portfolio returns above the returns of a benchmark (usually an index) to the volatility of those returns

Green Infrastructures' Financing Gap



- Costly for both parties
- 2 main obstacles:
 - Emerging Markets being considered as too risky by many investors
 - Lack of knowledge on infrastructures financing (even locally)

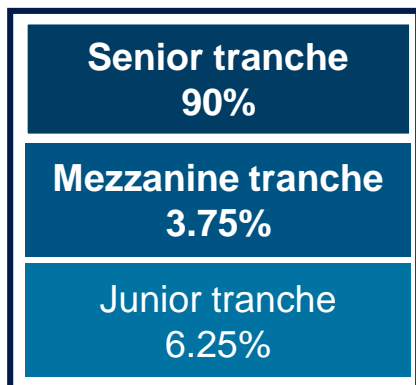
Green Infrastructures Financing Gap: Elegant Solution



EM Green Bonds strategy

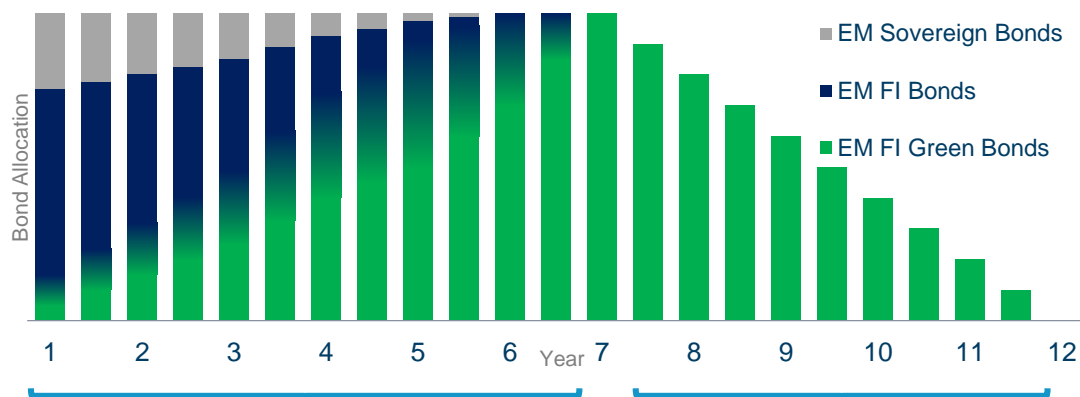
Financing the energy transition in Emerging Markets

Structure



ptf

Portfolio



Pooled vehicle

- Luxembourg Specialized Investment Fund (SIF)
- European AIF
- Shares to be listed
- 12yr legal maturity

Fin. features:

- EMD Hard Currency
- Portfolio target gross yield > [5.0%]
- Indicative rating: [BB+/BB]

Investment period

- From 100% EM bonds (with systematic ESG screening)
- To target 100% FI green bond⁽¹⁾
- Capture yield premiums
- Finance the energy transition

Run-off period

- FI green bond portfolio matures
- Other bonds—if any—to be divested⁽²⁾
- Distributions of proceeds to investors

For professional investors only. (1) There is no assurance that the portfolio will reach the green bonds investment targets as indicated in the chart above. (2) Within a period of 6 months subject to normal market conditions.

2018 Impact Highlights



**\$1.42 billion at closing to
deploy more than \$2 billion
over seven years**



**77% of capital leveraged
from private sector sources**



14 green bonds in portfolio



**16.5% of the portfolio
allocated to green bonds**



**233 tCO₂e avoided
emissions per €1mn
invested per year**

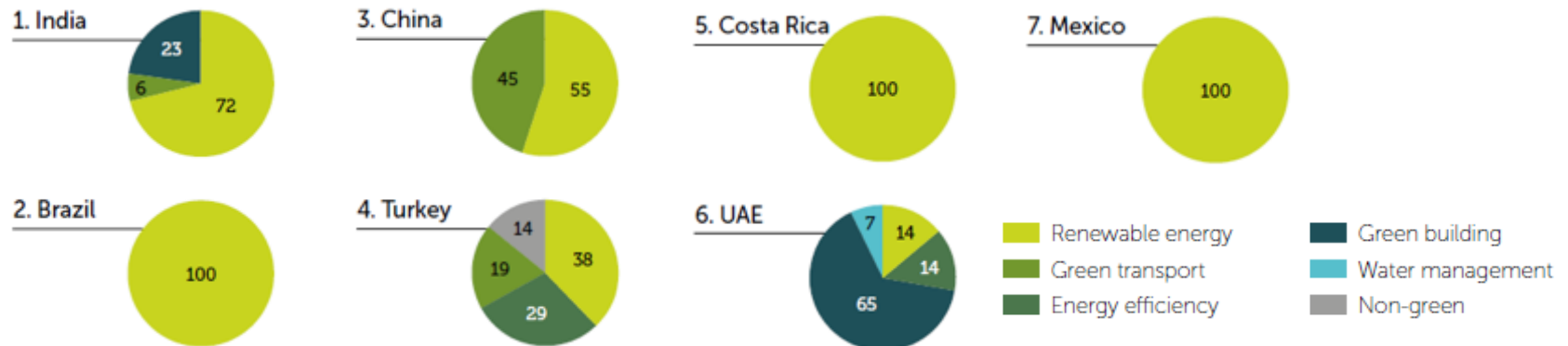
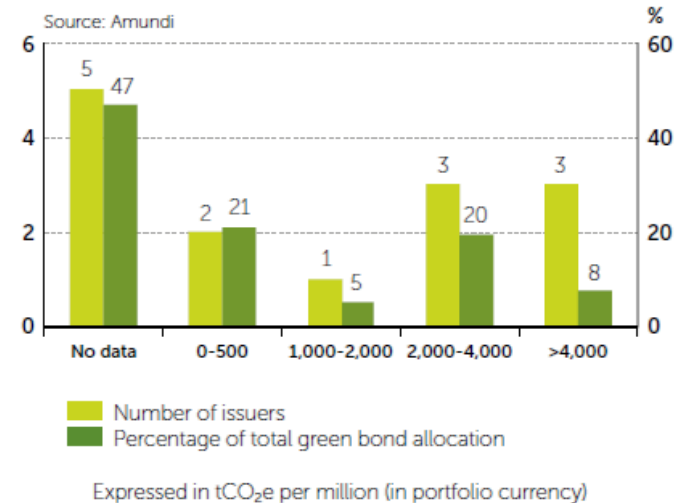


**7 emerging countries
with green projects financed**

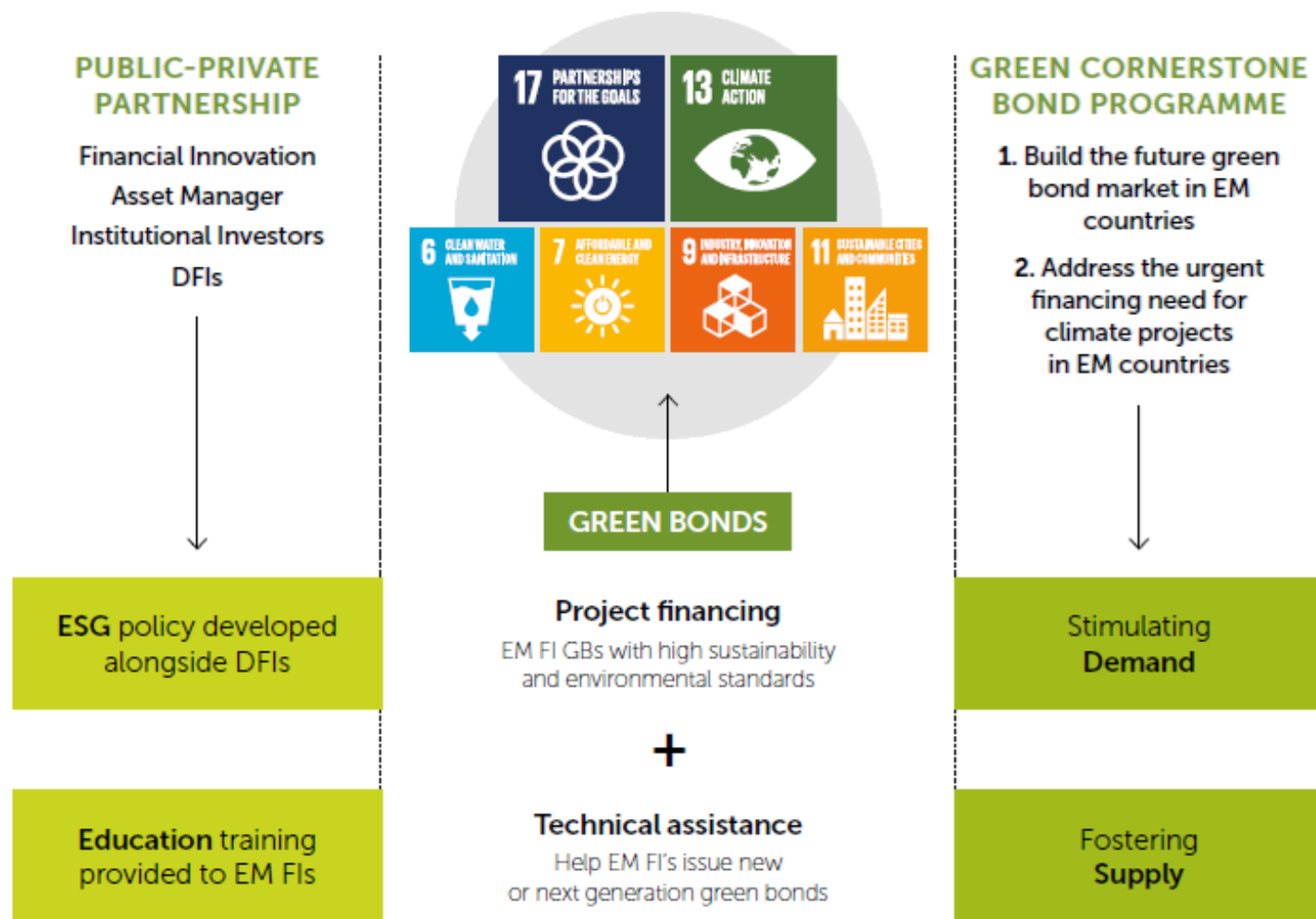
Breakdown of Use of Proceeds by Country/Sector (in %)

233 tCO₂e in avoided emissions for 2018

Breakdown of Avoided Emissions per Bond



Alignment with Sustainable Development Goals



High Recognition

From partnership inception to fund launch

Partnership launch

FINANCIAL TIMES

IFC invests \$325m in green bond fund for emerging markets

Arm of World Bank to support environmentally friendly projects in developing markets



World Bank's IFC, Amundi to create \$2 billion green bond fund

Fund closing

FINANCIAL TIMES

Green investing generates returns, not just a warm glow

Sustainability is now seen as a way of looking at often ignored externalities

GILLIAN TETT

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ASSET MANAGEMENT

Amundi and World Bank close largest green bond fund at \$1.4bn



G20 Report

Presented by **X. Musca**, former Head of the French Treasury and President Sarkozy Chief of Staff.

Making the case of the IFC deal being a case study of a new business model for developing banks

Already won 6 Awards