

# WHAT YOU NEED TO KNOW ABOUT MSCI ESG

Bangkok | January 21, 2019

# AGENDA

- **Introduction**
- **Why MSCI ESG Ratings matter to Thai Corporates**
- **In-depth understanding of MSCI ESG Ratings methodology (Part 1)**

**Coffee break**

- **In-depth understanding of MSCI ESG Ratings methodology (Part 2)**
- **Becoming a constituent of MSCI ESG index**
- **FAQ, Q&A**

# WELCOME AND INTRODUCTION



# ABOUT MSCI

- MSCI is an independent provider of research-driven insights and tools for institutional investors.
- MSCI Indexes and MSCI ESG Research are separate businesses. MSCI ESG Research provides the research and analysis that is *used* by MSCI Index to construct ESG Indexes.

# INTRODUCING MSCI ESG RESEARCH

**185+**

ESG analysts<sup>1</sup>  
(325+ FTE<sup>2</sup>)

**1200+**

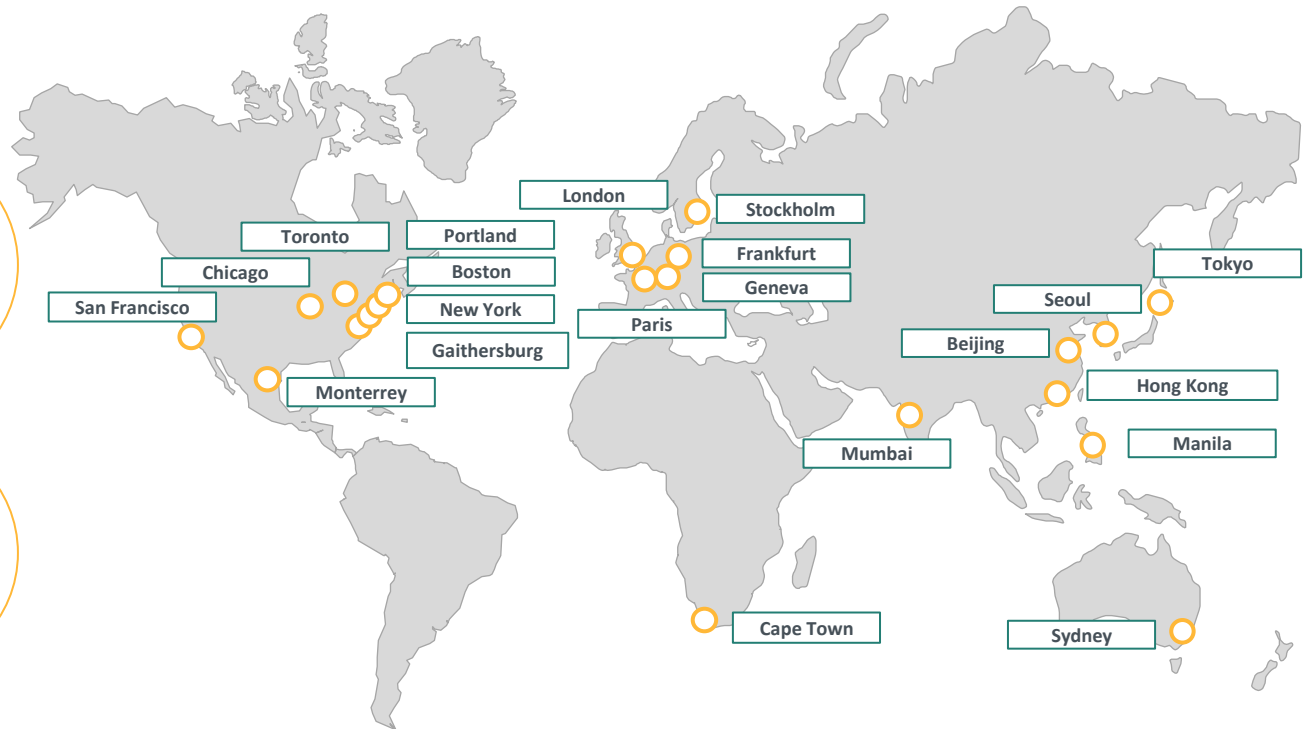
clients

**46** <sup>TOP</sup> <sub>of 50</sub>

Global asset  
managers<sup>3</sup>

**900+**

ESG equity & fixed  
income indexes use  
MSCI ESG Research  
ratings and data



**INDEPENDENT RESEARCH  
IN RESPONSIBLE  
INVESTMENT (IRRI) SURVEY**

MSCI voted **Best firm for SRI Research,  
Corporate Governance Research and  
Indexes for the third consecutive year**

**1st**  
IRRI AWARDS  
2015

**1st**  
IRRI AWARDS  
2016

**1st**  
IRRI AWARDS  
2017

**IRRI SURVEY**

**EXTel**  
IDENTIFYING EXCELLENCE

**SRI CONNECT**



0110 0100  
0110 0001  
0111 0100  
0110 0001

**DeepData**  
DeliveryStandard

Gold Standard

www.deepdata.ai

<sup>1</sup> Direct and allocated FTEs. Source: MSCI ESG Research as of April 2018

<sup>2</sup> Includes full time employees and allocated staff performing non-investment advisory tasks

<sup>3</sup> Based on latest P&I AUM data and MSCI clients as of December 2017

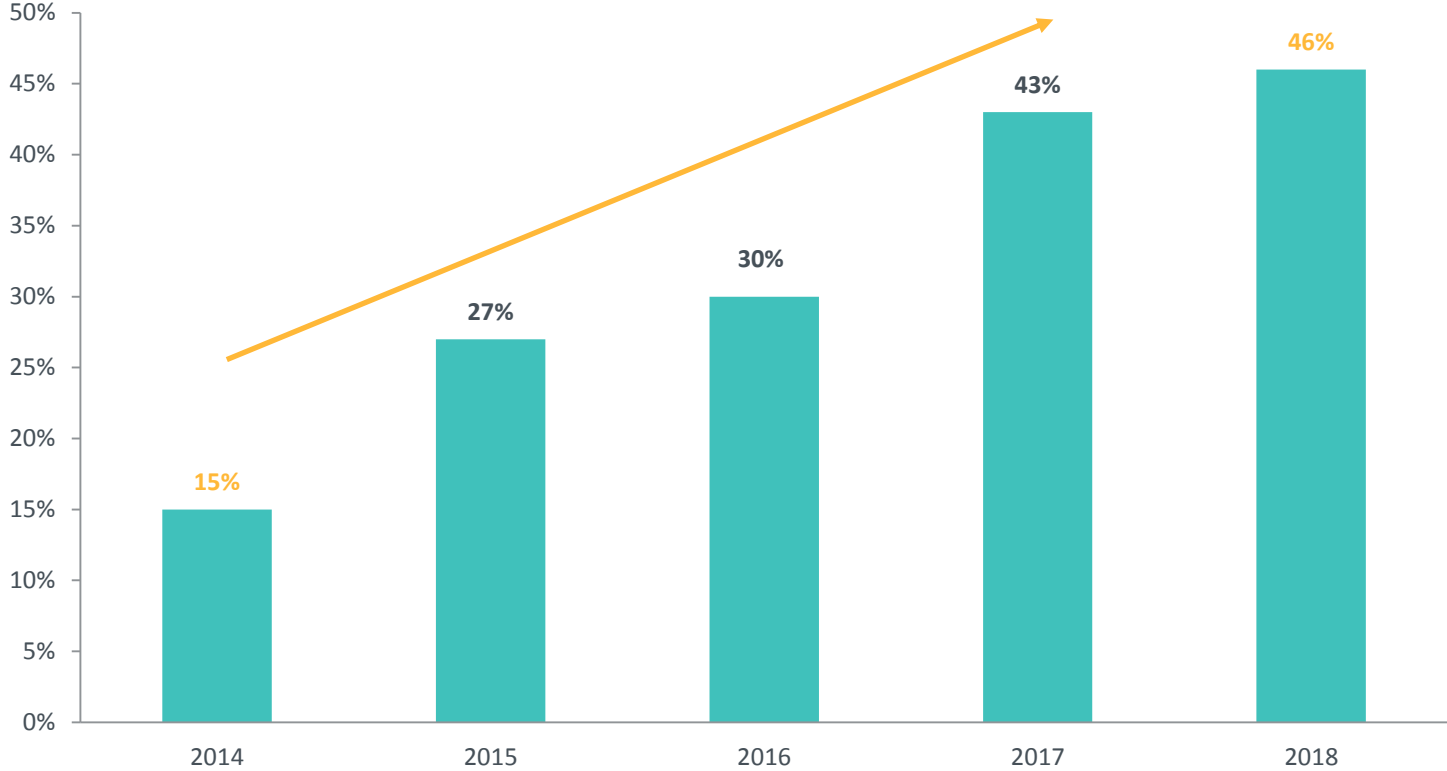


# WHY MSCI ESG RATINGS MATTER TO THAI CORPORATES



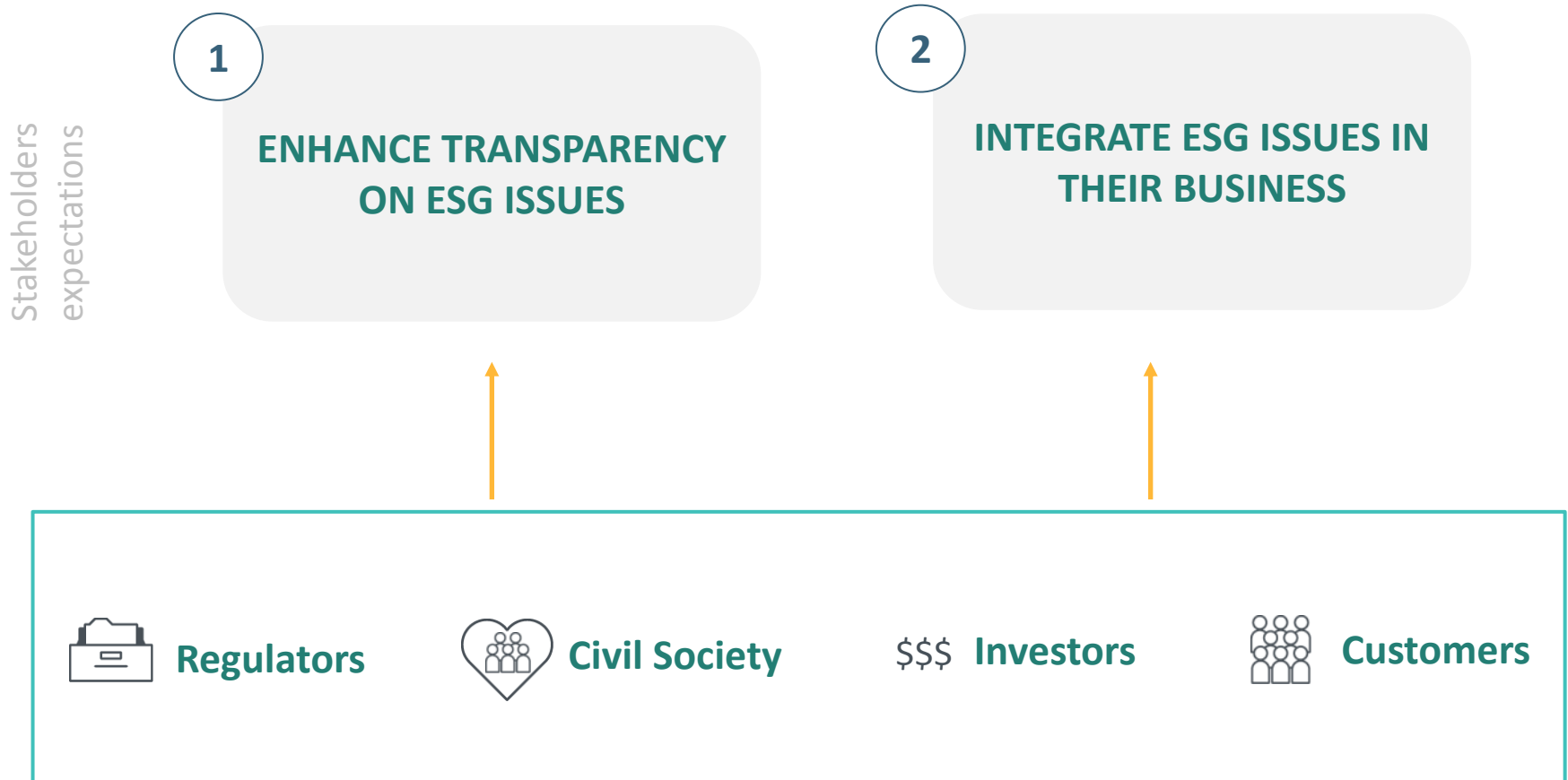
# RESPONSE RATE: MSCI ESG RESEARCH FOOTPRINT GROWING AMONG ISSUERS

### MSCI ACWI Index - Overall Inbound Communication Rate



Source: MSCI ESG Research  
\*\* 2018 data as of Oct. 2018  
\*\*\* Note that MSCI ESG Research’s coverage of the MSCI ACWI Index universe expanded in 2018 from approx. 2,400 to roughly 2,700 securities.

# ISSUERS ARE BEING ASKED TO ADDRESS ESG BY THEIR STAKEHOLDERS





# WHY ESG? WHY NOW?

## DRIVERS OF ESG INVESTMENT

### THE WORLD IS CHANGING

macro sustainability challenges, rising complexity, accelerating pace of change, rising business standards

### INVESTORS ARE CHANGING

shifting investor preferences, demographic change, rising investor expectations

### DATA & ANALYTICS ARE EVOLVING

possible to measure what was previously unmeasurable

# LINKING ESG TO CORPORATE PERFORMANCE

ESG affects corporate performance through four possible transmission channels:

## VALUATION CHANNEL

High ESG rating -> lower systematic risk -> lower cost of capital -> higher DCF valuation

## MOMENTUM CHANNEL

Change in ESG rating -> change in systematic risk -> lower WACC -> change in valuation

## PROFITABILITY CHANNEL

High ESG rating -> more competitive -> higher profitability -> higher dividend payment

## IDIOSYNCRATIC RISK CHANNEL

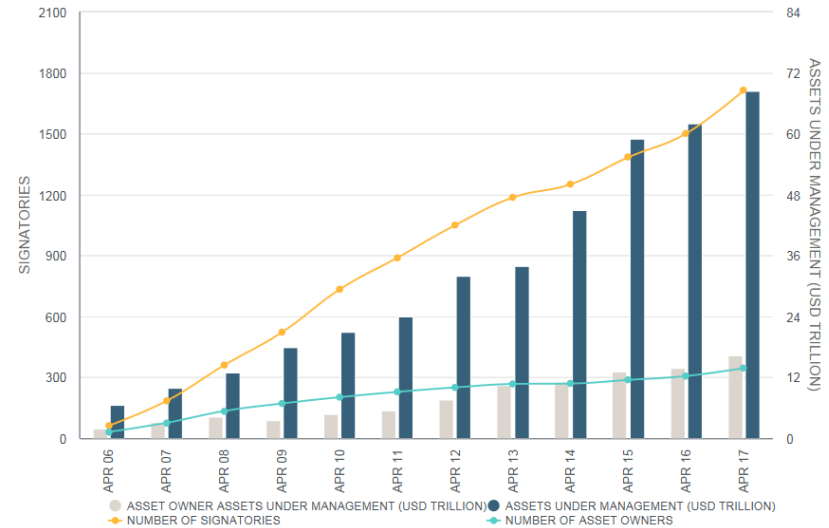
High ESG rating -> better risk management -> fewer incidents -> lower idiosyncratic risk

# ESG INVESTING LANDSCAPE

## INCREASED PRESSURE TO INTEGRATE



## INSTITUTIONAL DEMAND IS GROWING



# DEFINING TYPICAL ESG OBJECTIVES

## FINANCIAL OBJECTIVES

Incorporating ESG may improve our investment results.

### INTEGRATION



Incorporate ESG criteria to enhance long term return, manage ESG financial risk

## NON-FINANCIAL OBJECTIVES

### VALUES



Our investments should reflect our values.

Align portfolio with investor's ethical or political values

### IMPACT



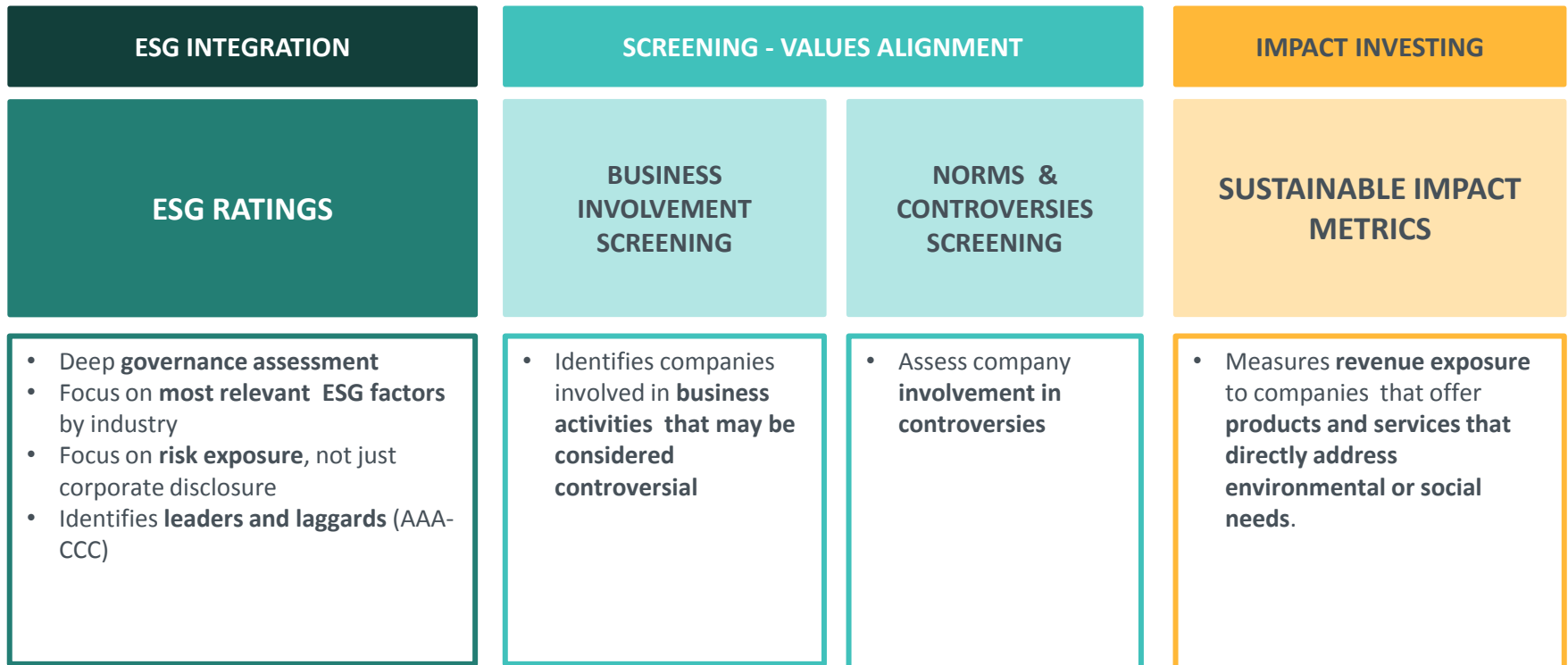
We want our investments to make a difference in the world.

Generate measurable social or environmental benefits as well as financial returns

# ESG INVESTMENT OBJECTIVES DRIVE INVESTORS' ESG DATA NEEDS

ESG investment toolbox is varied in order to address the full spectrum of investor needs

## MSCI ESG RESEARCH



# HOW OUR CLIENTS USE MSCI ESG RATINGS



COMPANY, INDUSTRY,  
AND THEMATIC  
REPORTS



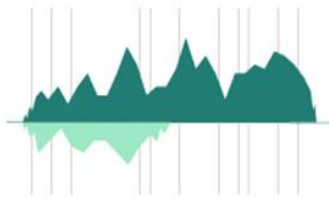
RATINGS, SCORES AND DATA



PORTFOLIO  
ANALYTICS & ESG  
INDEXES



Fundamental /  
Quant Analyses



Portfolio Construction /  
Risk Management



Engagement &  
Thought Leadership



Benchmarking /  
Index-based Product  
Development



# INTRODUCTION TO MSCI ESG RATINGS



# MSCI ESG RATINGS



Analysis begins with a **deep governance assessment**



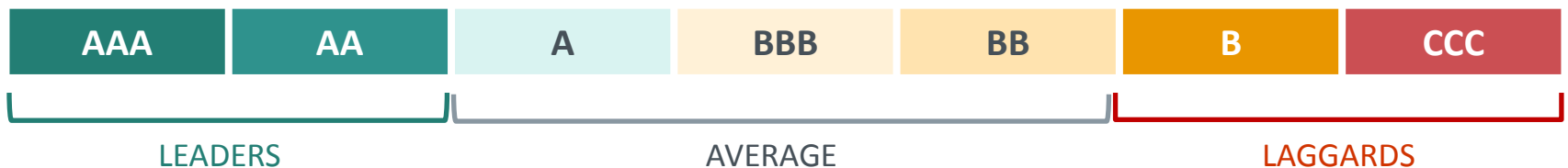
Focus on **most relevant ESG factors** by industry



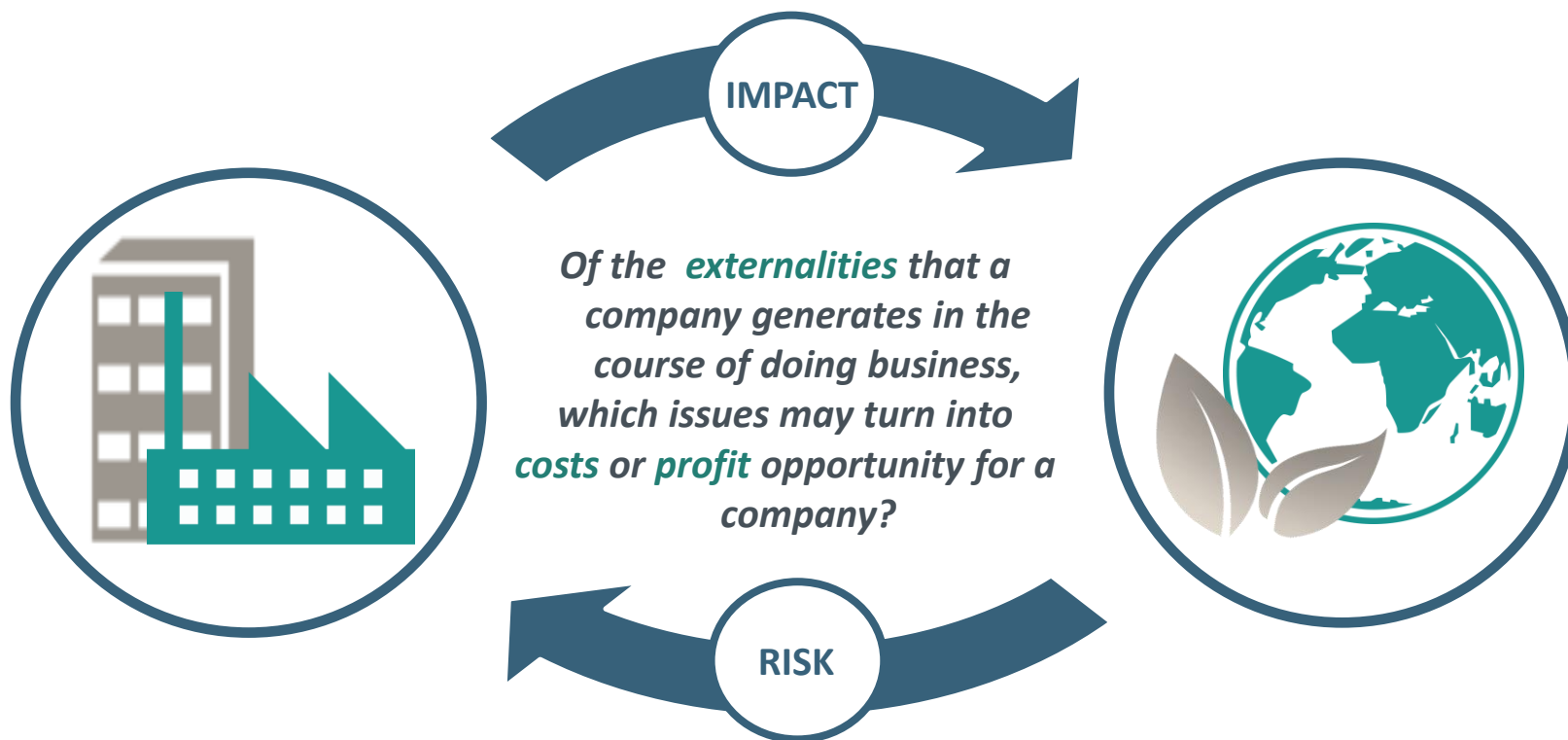
Focus on **risk exposure** not just disclosure



Identify **leaders and laggards**, not business type exclusion



# UNDERSTANDING EXPOSURE TO RISK



# MSCI ESG RATING MODEL

## KEY ISSUES

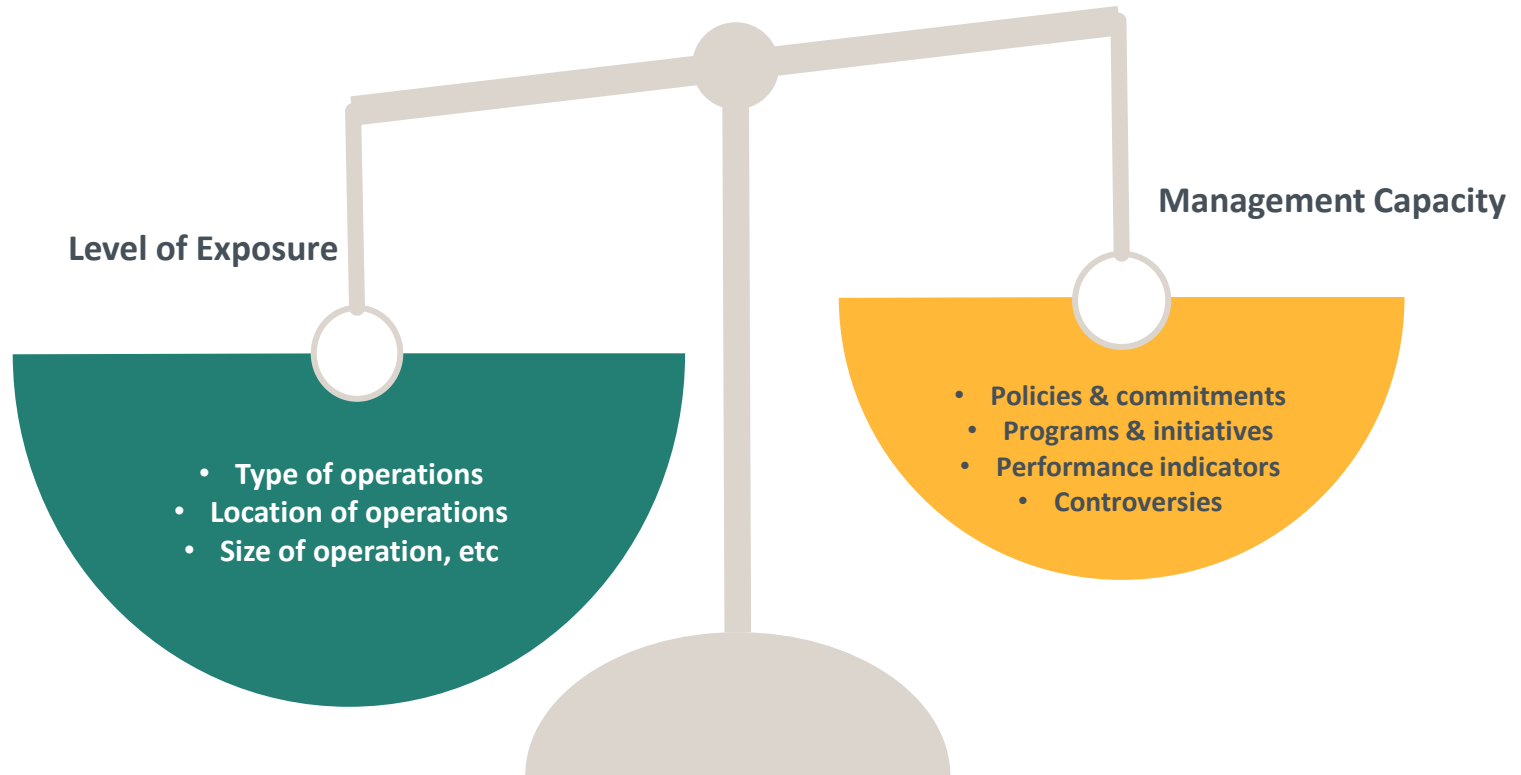
ENVIRONMENT PILLAR				SOCIAL PILLAR				GOVERNANCE PILLAR	
Climate Change	Natural Capital	Pollution & Waste	Env. Opportunities	Human Capital	Product Liability	Stakeholder Opposition	Social Opportunities	Corporate Governance	Corporate Behavior
Carbon Emissions	Water Stress	Toxic Emissions & Waste	Clean Tech	Labor Management	Product Safety & Quality	Controversial Sourcing	Access to Communication	Board	Business Ethics
Product Carbon Footprint	Biodiversity & Land Use	Packaging Material & Waste	Green Building	Health & Safety	Chemical Safety		Access to Finance	Pay	Anti-Competitive Practices
Financing Environmental Impact	Raw Material Sourcing	Electronic Waste	Renewable Energy	Human Capital Development	Financial Product Safety		Access to Health Care	Ownership	Corruption & Instability
Climate Change Vulnerability				Supply Chain Labor Standards	Privacy & Data Security		Opportunities in Nutrition & Health	Accounting	Financial System Instability
					Responsible Investment				Tax Transparency
					Insuring Health & Demographic Risk				

### Three-Step Process

- 1) Identify Key Issues By Industry
- 2) Measure Risk Exposure
- 3) Measure Risk Management

Precious Metals Industry  
 Food Products Industry

# EVALUATING KEY ISSUE PERFORMANCE



**EVALUATE MANAGEMENT STRATEGY IN  
THE CONTEXT OF RISK OR OPPORTUNITY  
EXPOSURE**

# RISK EXPOSURE NOT DISCLOSURE

## COMPANY A

- ✓ Policy: Child Labor
- ✓ Policy: Wages & Hours
- ✓ Compliance Audits
- ✗ Corrective Action Plan
- ✗ Engagement with NGOs

**200** Suppliers  
Production in **Italy**  
**10,000** Units  
**\$100m** Revenue at Risk

## COMPANY B

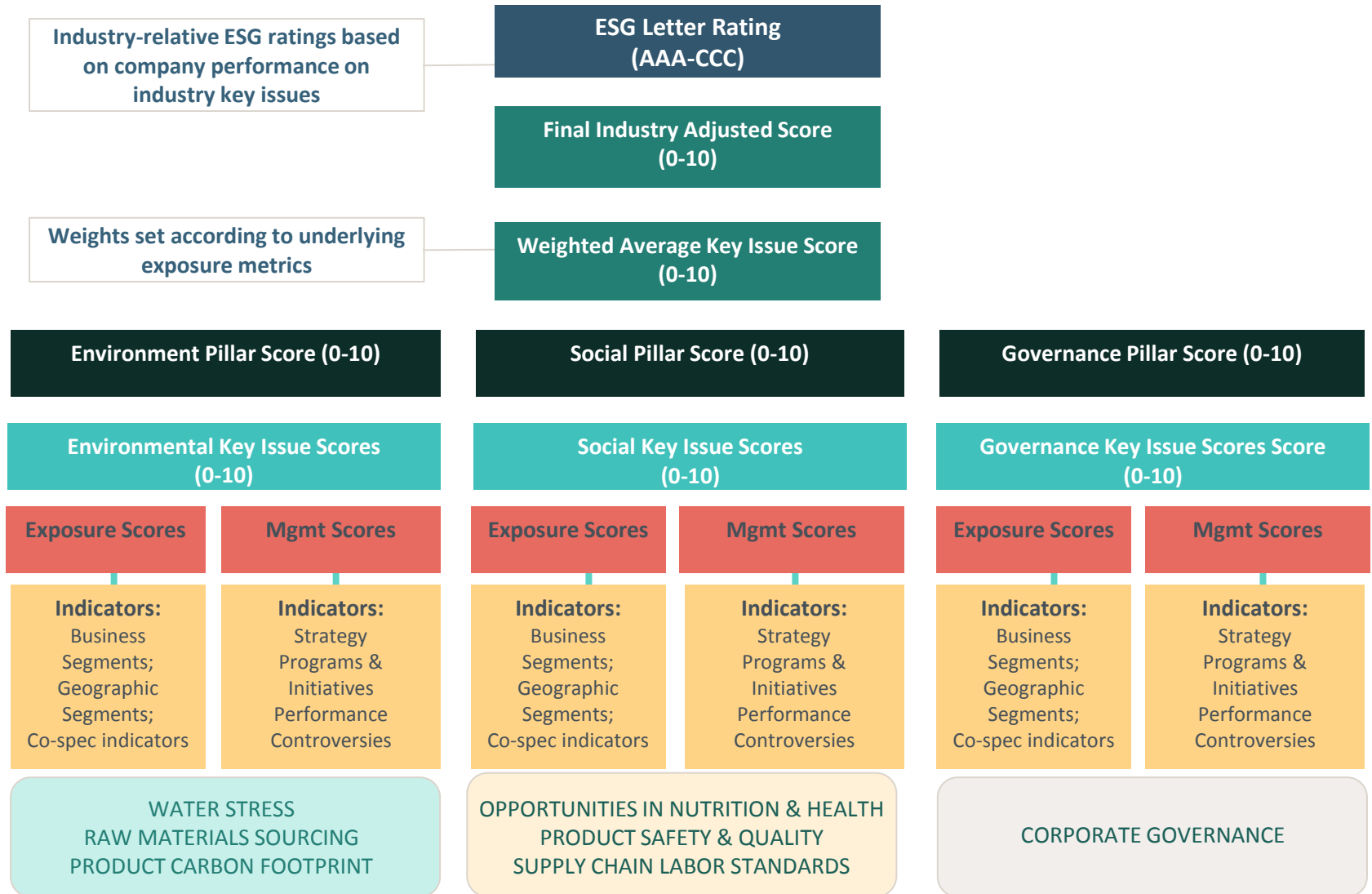
- ✓ Policy: Child Labor
- ✓ Policy: Wages & Hours
- ✓ Compliance Audits
- ✓ Corrective Action Plan
- ✓ Engagement with NGOs

**1,500** Suppliers  
Production in **Bangladesh**  
**300,000** Units  
**\$20bn** Revenue at Risk

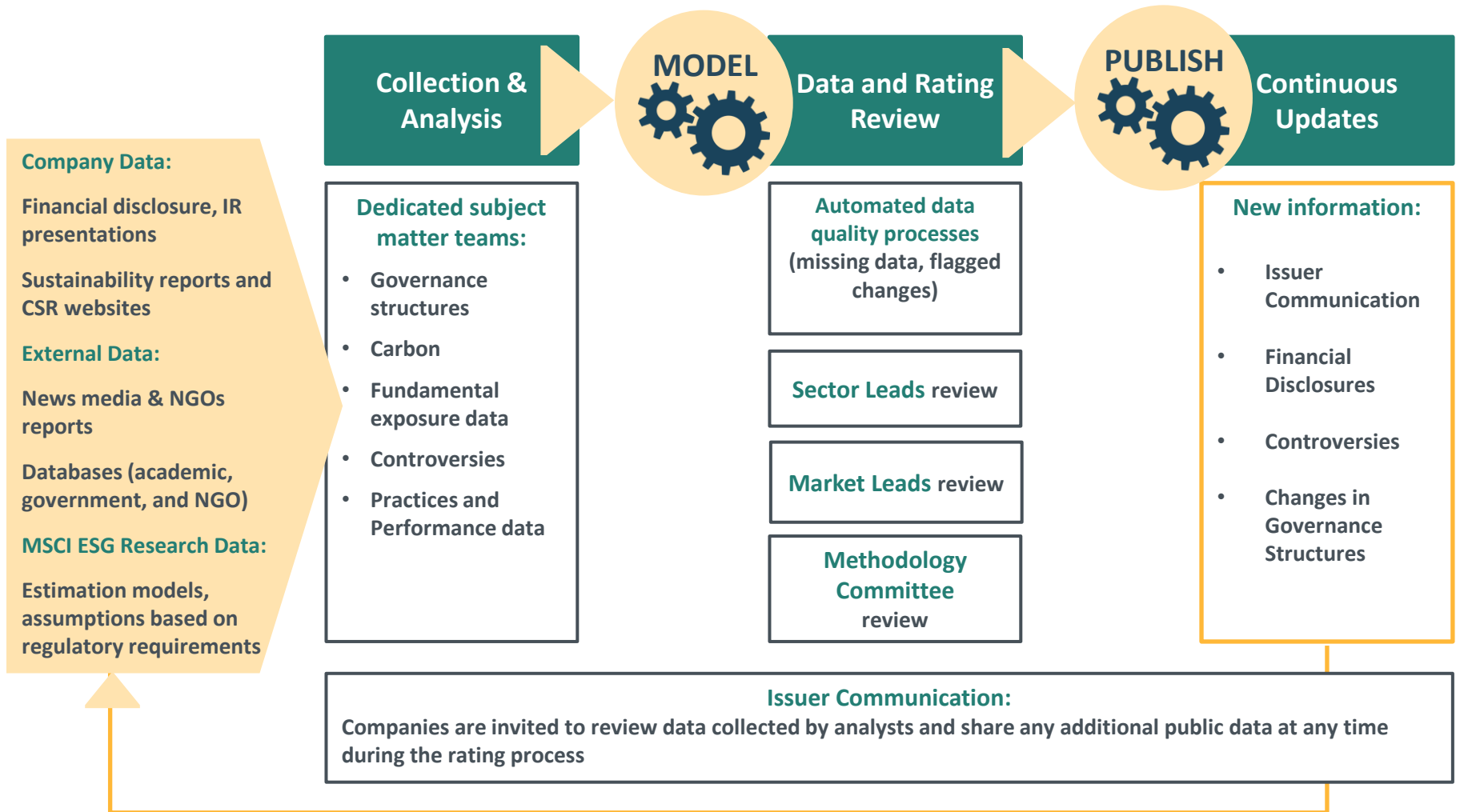




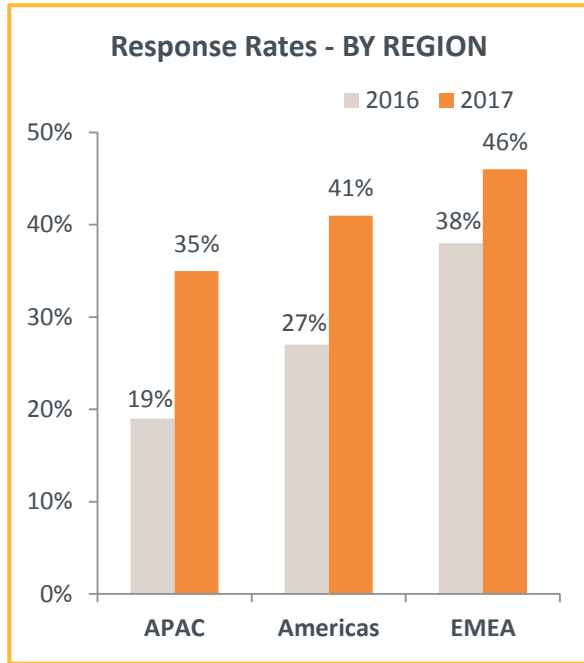
# HOW THIS FITS INTO THE ESG RATING



# MSCI ESG RATING PUBLICATION PROCESS

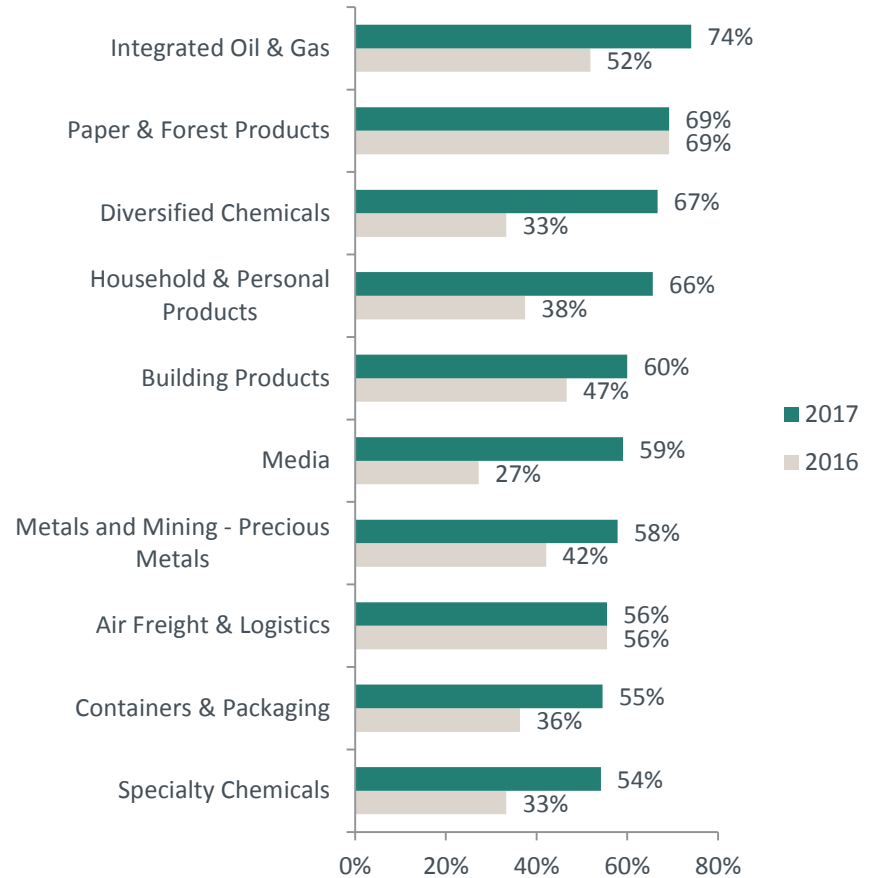


# RESPONSE RATES UP ACROSS THE BOARD



MSCI ACWI Index, ESG Ratings only  
Source: MSCI ESG Research – ESG Issuer Communications

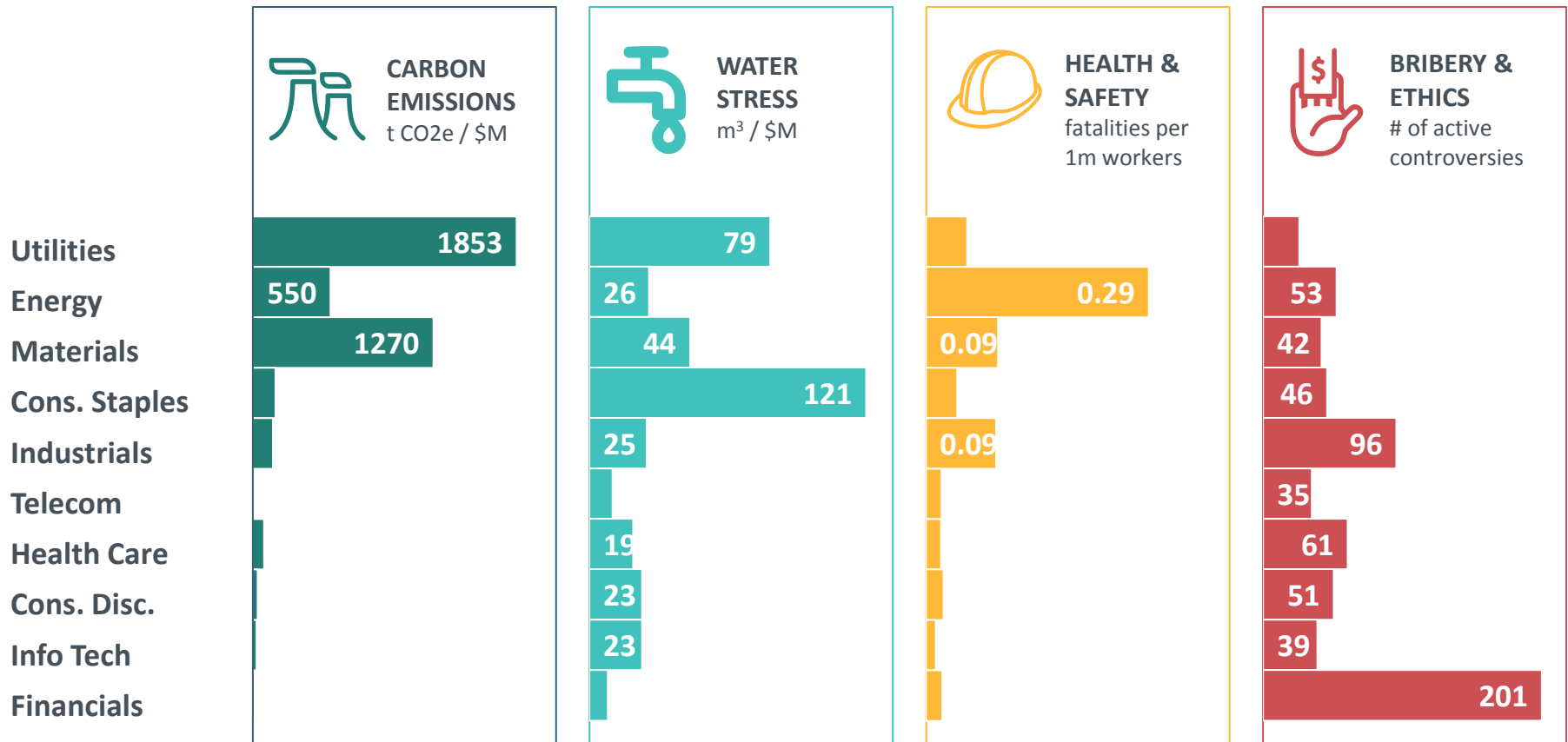
## Response Rates - BY INDUSTRY



MSCI ACWI Index, ESG Ratings only  
Source: MSCI ESG Research – ESG Issuer Communications

# HOW TO CHOOSE?

## WHICH ESG ISSUES ARE SIGNIFICANT?

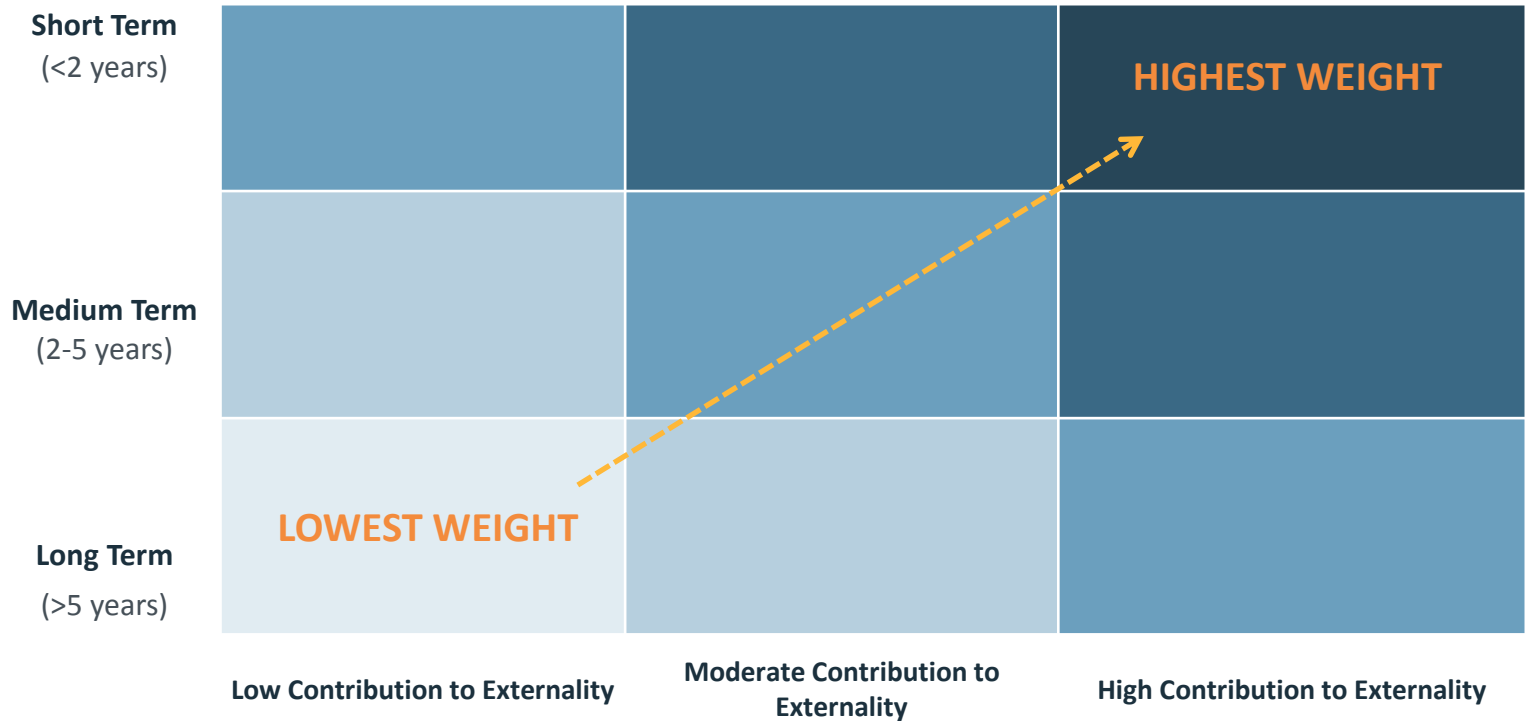


Source: MSCI ESG Research

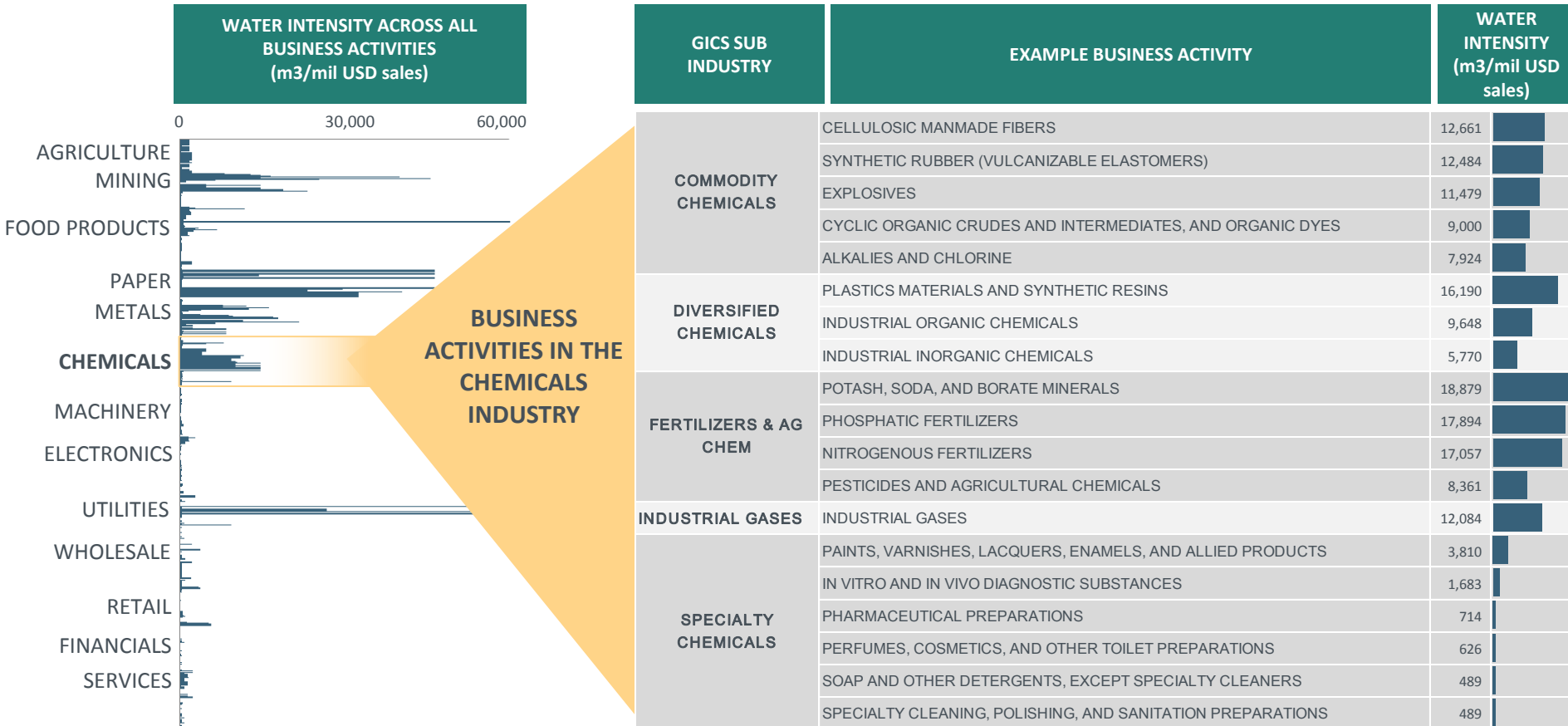
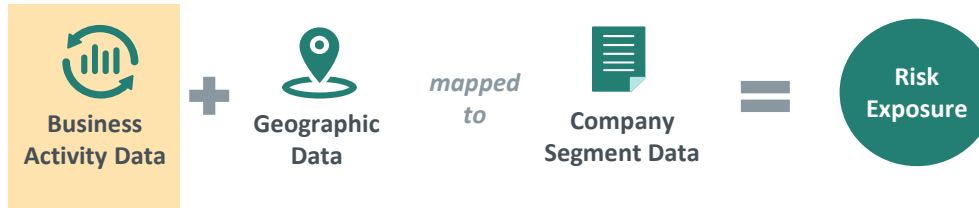
# CALCULATING KEY ISSUE WEIGHTS

## Key Issue Weights Are Based On:

- Industry's contribution to externality vs. other industries
- Time horizon of risk factor for that industry
- Number and significance of other issues assessed



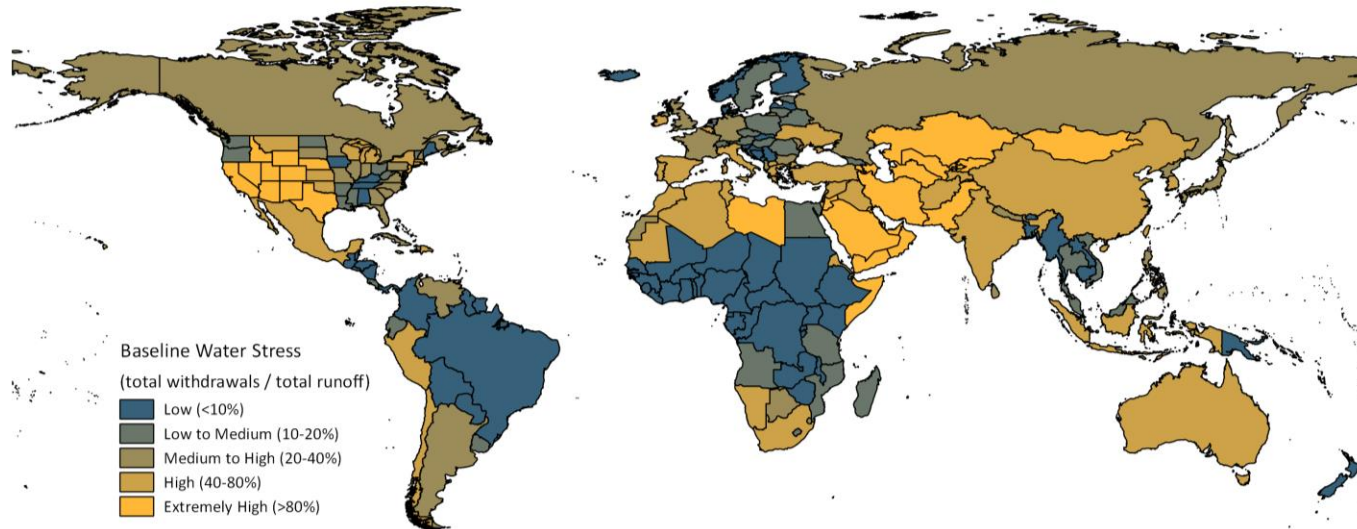
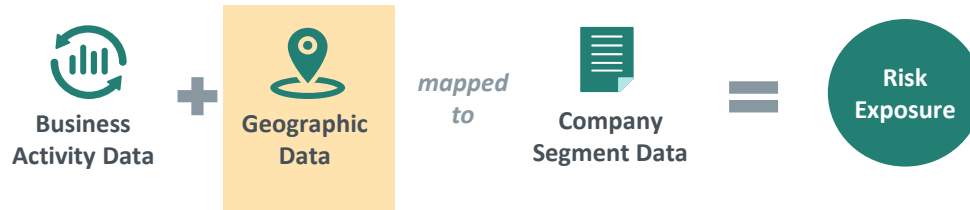
# ASSESSING ESG RISK EXPOSURE



Water Intensity Data Sources: Company data from MSCI ESG Research, IERS Comprehensive Environmental Data Archive, Canadian Industrial Water Survey



# ASSESSING ESG RISK EXPOSURE

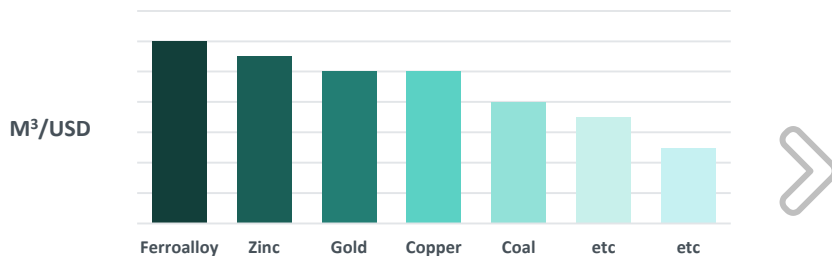
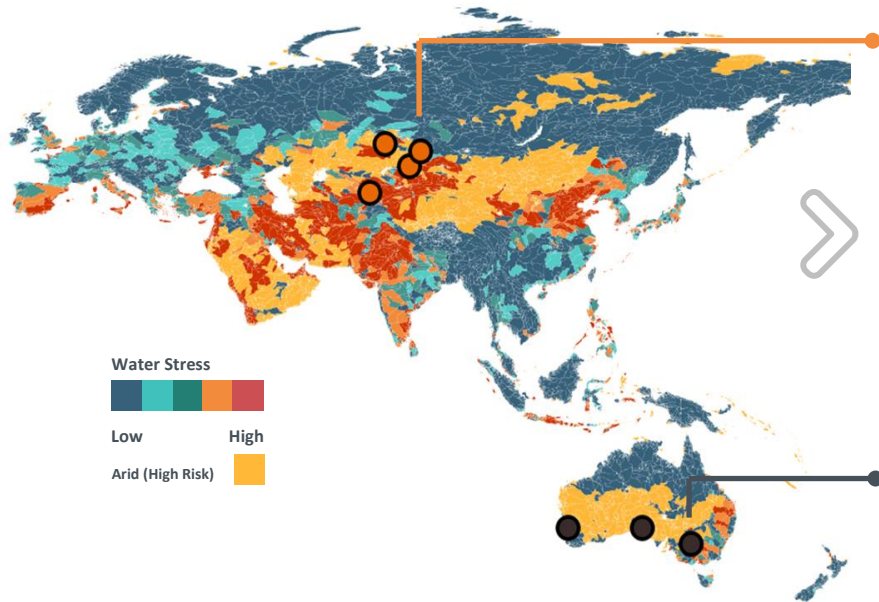


Source: Gassert, F., P. Reig, T. Luo, and A. Maddoc s. 2013. "Aqueduct country and river basin rankings : a weighted aggregation of spatially distinct hydrological indicators." Working paper. Washington, DC: World Resources Institute, November 2013. Available online at [wri.org/publication/aqueduct-country-river-basin-rankings](http://wri.org/publication/aqueduct-country-river-basin-rankings)

## Example Company:

GEOGRAPHIC SEGMENTS		
REGION	% OF ASSETS	WATER RISK
IOWA, LOUISIANA	4%	LOW
GERMANY	11%	MEDIUM
NETHERLANDS, FRANCE, OTHERS	23%	MEDIUM
TEXAS	53%	HIGH
MEXICO	3%	HIGH
ITALY	4%	HIGH

# ASSESSING ESG RISK EXPOSURE



Example:

## Kaz Minerals

MINE NAME:		Aktogay	Bozshakol	Bozymchak	East Region Operations
% of Operations		<b>29%</b>	<b>11%</b>	<b>2%</b>	<b>57%</b>
GEOGRAPHIC	WATER BASIN	Kazakhstan Balkhash	Kazakhstan Pavlodar	Kazakhstan Aral	Kazakhstan Ob
	WATER STRESS	<b>SEVERE</b>	<b>MEDIUM</b>	<b>SEVERE</b>	<b>LOW</b>
BUSINESS	BUSINESS ACTIVITY	Copper	Copper	Gold	Copper/ Zinc
	WATER INTENSITY	<b>HIGH</b> 5.99	<b>HIGH</b> 5.99	<b>HIGH</b> 6.03	<b>HIGH</b> 6.07

## Iluka Resources

MINE NAME:		Eucla	Murray	Perth
% of Operations		<b>34%</b>	<b>20%</b>	<b>44%</b>
GEOGRAPHIC	WATER BASIN	Australia Eucla	Australia Murray	Australia Perth
	WATER STRESS	<b>SEVERE</b>	<b>SEVERE</b>	<b>MEDIUM</b>
BUSINESS	BUSINESS ACTIVITY	Heavy Minerals	Heavy Minerals	Heavy Minerals
	WATER INTENSITY	<b>HIGH</b> 6.44	<b>HIGH</b> 6.44	<b>HIGH</b> 6.44

5.9

Risk Exposure Score

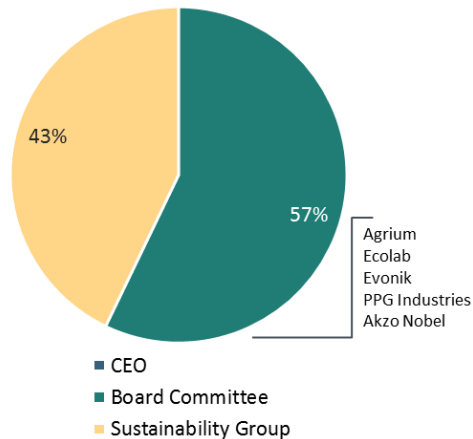
7.7

# ASSESSING RISK MANAGEMENT



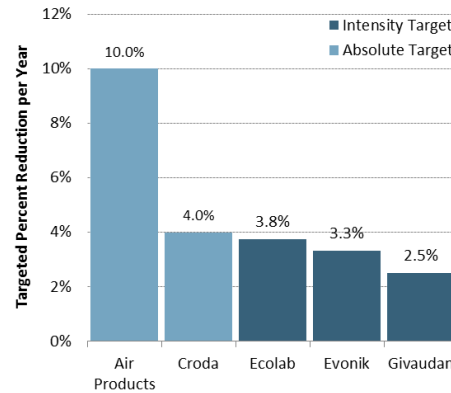
## POLICIES AND OVERSIGHT

ex: Highest Level of Water Oversight



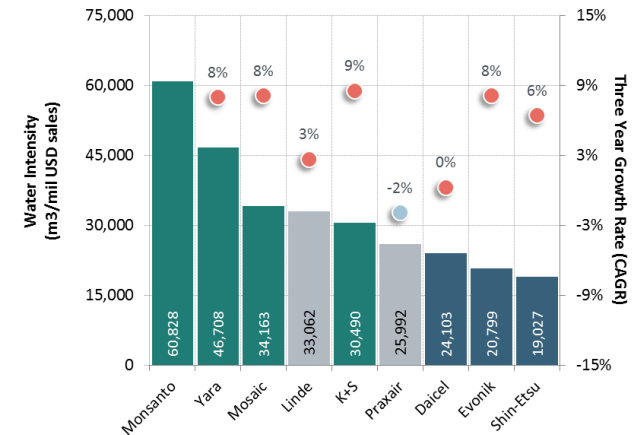
## TARGETS AND PROGRAMS

ex: Water Reduction Targets



## PERFORMANCE METRICS

ex: Water Withdrawal Intensity

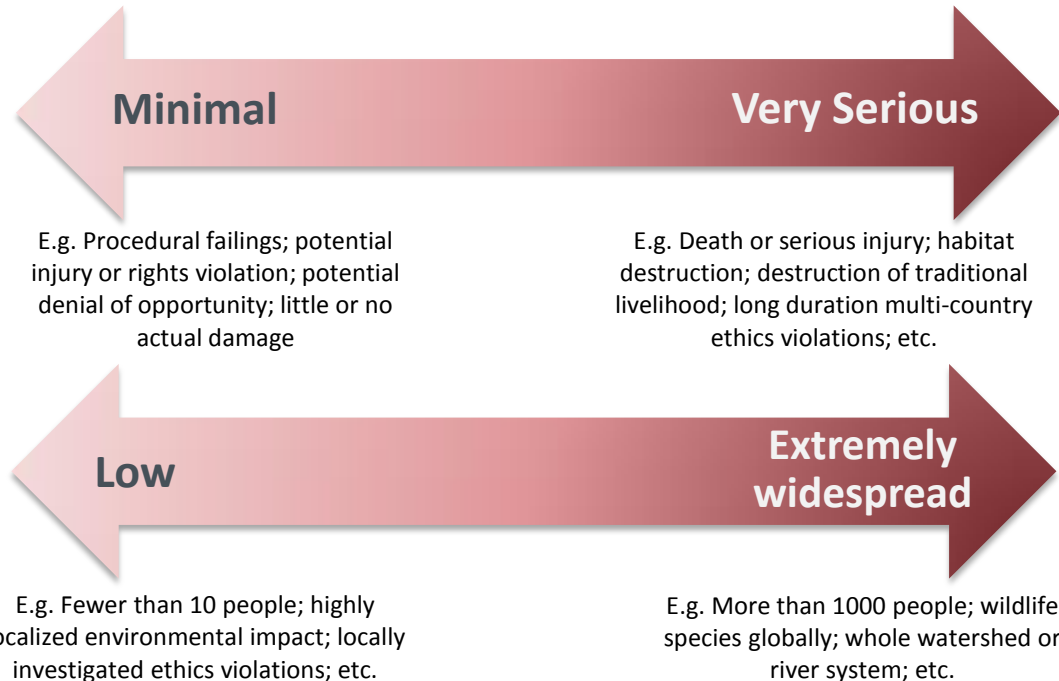
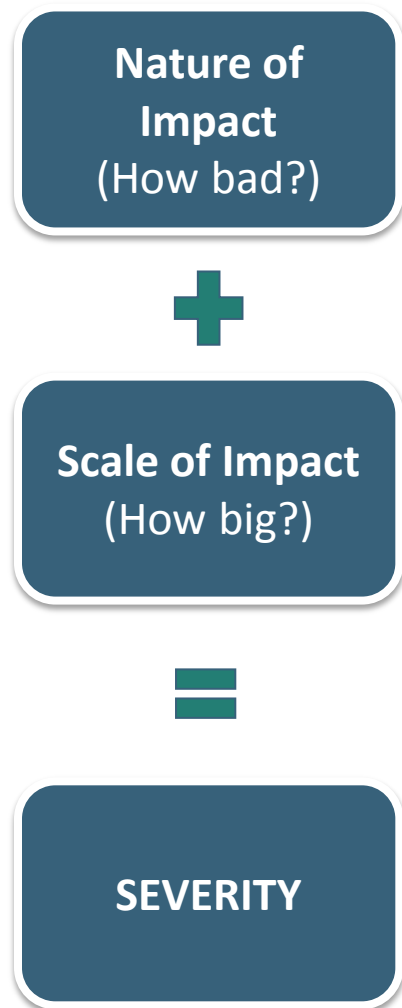


Management data points inform risk mitigation

Company data as of May 2016. Source: MSCI ESG Research

Controversies Deduction  
(-5 - 0)

# CONTROVERSY CASE ASSESSMENT: SEVERITY



	Very Serious	Serious	Medium	Minimal
Extr. widespread	Very Severe	Very Severe	Severe	Moderate
Extensive	Very Severe	Severe	Moderate	Moderate
Limited	Severe	Moderate	Minor	Minor
Low	Moderate	Moderate	Minor	Minor

# QUALITY REVIEW PROCESS



## Peer Review

- 7 Leads
- Peer edit all Severe and Moderate cases



## Analyst-Sub Committee

- 6 Senior Leads & Head of QA meets weekly
- Approves all new Severe cases
- Maintain documentation



## Controversies Methodology Committee

- 5 Senior Members + 2 Analyst members
- Meets weekly to review all changes to Red flags
- Reviews all Severe cases
- Review and approve methodology changes



## ESG Ratings Review Committee

- **Committee Members**
  - Head of Research
  - Head of New Product Development, Index
  - Head of Index Research
  - Head of ESG Ratings & Research
  - Head of ESG Corporate Relations
  - Head of ESG Methodologies
  - Head of ESG Fixed Income
- **Review and approve**
  - ESG Controversies Red Flags
  - Major Methodology Changes



# REVIEW AND UPGRADE PROCESSES

## Very Severe Controversies



Reviewed on an semi-annual basis



Assessment is upgraded or maintained



Requires Committee approval

## Severe Controversies



Reviewed on an annual basis



Assessment is upgraded or maintained



Requires Subcommittee approval

## Moderate Controversies



Reviewed when updated



Archived if no updates found after 3 years

## Minor Controversies



Archived after one year





# ESG DATA SOURCES

# COMMITMENT TO PUBLIC DATA



Only use publicly available information.  
No confidential data.



Traceability of information is highly important.



No stock questionnaires.  
No general interviews.

## MSCI ESG DATA SOURCES:

**100 + specialized datasets** [government, NGO, proprietary models]

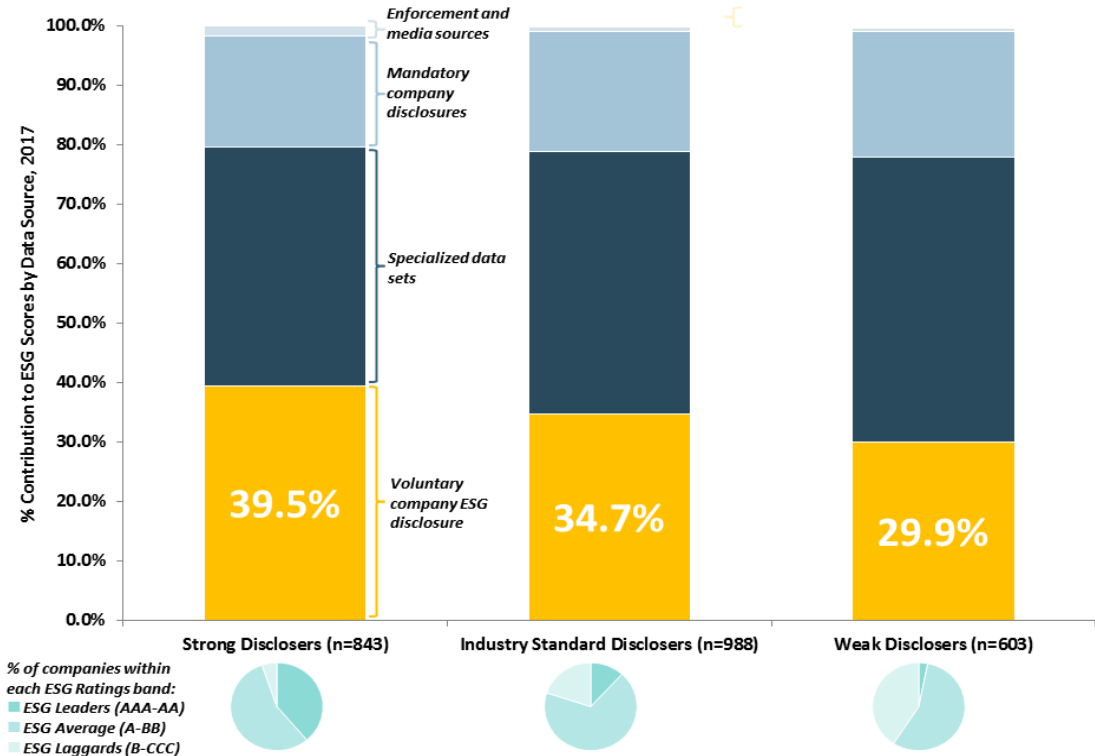
**Company disclosure** [10-K, sustainability report, proxy report]

**1,600+** global and local media sources monitored daily



# NOT SOLELY RELIANT ON VOLUNTARY CORPORATE DISCLOSURE

Fully 35% of any given company ESG rating, on average, is composed of scores that rely on what a company has disclosed through voluntary sources.

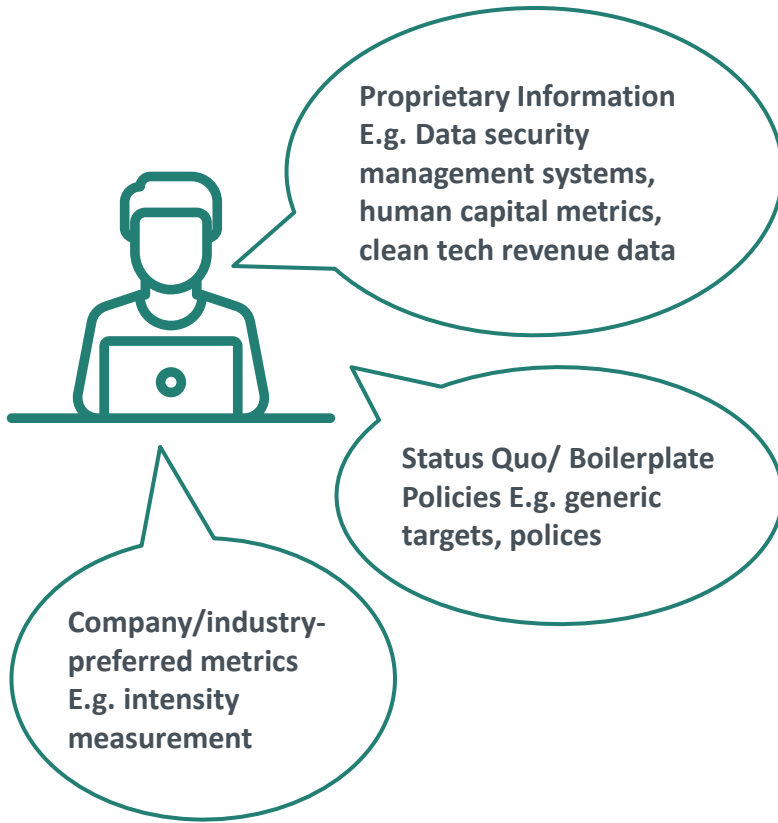


2,434 constituents of the MSCI ACWI Index as of November 30, 2017  
 Source: MSCI ESG Research;

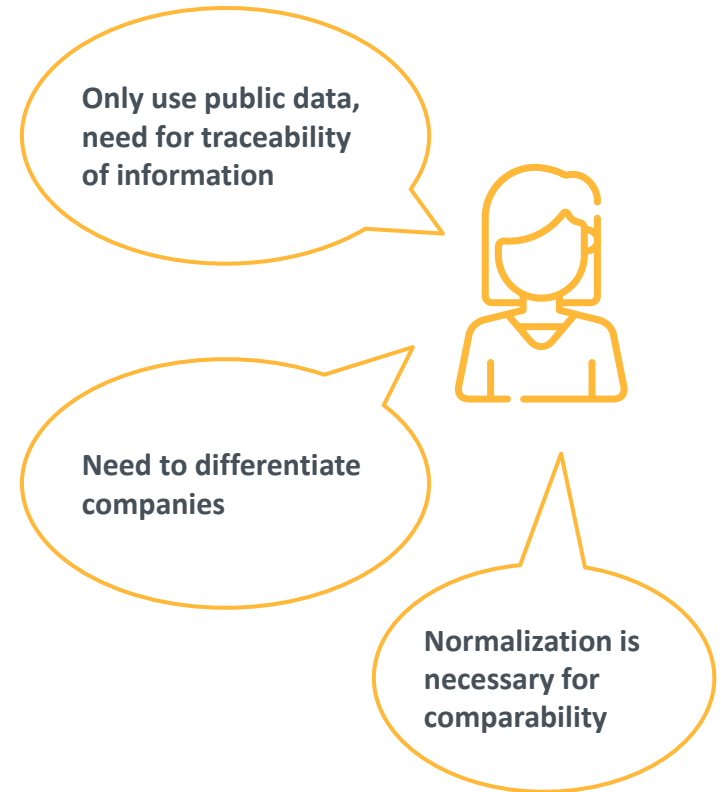
# COMMON CHALLENGES IN CORPORATE DISCLOSURE

## What are companies saying?

### Company Data Challenge



### MSCI ESG Research Assessment Challenge



# THE MSCI ESG ISSUER COMMUNICATIONS MODEL

## INDEPENDENT

- No solicited ESG Rating
- Dedicated team focusing solely on issuers' communications

## CONSISTENT

- Systematic outreach to all companies
- Standard data review process

## TRANSPARENT

- Logging of all interactions with issuers
- Availability of MSCI assessment and underlying data to companies at no cost

# ESG ISSUER COMMUNICATIONS



# ISSUER COMMUNICATIONS TEAM 2018



VM

VERONIQUE  
MENO

Executive Director  
(Paris, FRANCE)

*Global Head of Issuer Communications  
&  
Stakeholder Engagement*



SS

SAMANTHA  
SUE PING

Vice President  
(Toronto, CANADA)

*Global Head of Issuer Communications*



MA

MIZUKI  
AWANO

Senior Associate  
(Tokyo, JAPAN)

*Issuer Communications APAC Lead*



JM

JASMINE  
MEHTA

Associate  
(London, UK)

*Issuer Communications EMEA Lead*



IU

IMRAN  
USTAD

Vice President  
(Mumbai, INDIA)

*Issuer Communications Operations  
Lead*



KS

KOMAL  
SOLANKI

Senior Associate  
(Mumbai, INDIA)

*Issuer Communications Operations*



AA

ASTRA  
ASPERA

Analyst  
(Manilla, PHILIPPINES)

*Issuer Communications Operations*



JS

JINISHA  
SHRIMALI

Analyst  
(Pune, INDIA)

*Issuer Communications Operations*

# EDUCATING COMPANIES – RESOURCES AND EVENTS



**MSCI**

**MSCI JAPAN EMPOWERING WOMAN INDEX (WIN) FAQ FOR CORPORATE ISSUERS**

MSCI ESG Issuer Communications Team  
January 2018

MSCI ESG RESEARCH FAQ FOR CORPORATE ISSUERS | JANUARY 2018

exchange rate used, for data review, we are primarily concerned with the accuracy of the information (e.g. Scope 1-3 carbon emissions). See Question 5.6.

For certain governance data (e.g., statutory pay, audit fees), we collect and show this information in local currency in the ESG Governance Metrics report, although it is currently displayed in USD in the ESG Ratings report.

**METHODOLOGY QUESTIONS**

**HOW CAN WE ACCESS THE METHODOLOGY FOR THE VARIOUS ESG RESEARCH REPORTS?**

The full methodology documents for our various core research products are typically only accessible to clients, not to the general public. However, an Executive Summary of the methodology for our flagship ESG Ratings research is available here: <https://www.msci.com/research-approach/esg-ratings-methodology/ESG-Ratings-2017>

In 2018, we will be working to add additional methodology summaries for other research products. The existing full ESG reports also provide considerable information about our methodology.

**MSCI**

**FAQ FOR CORPORATE ISSUERS**

**MSCI ESG RESEARCH: FAQ FOR CORPORATE ISSUERS**

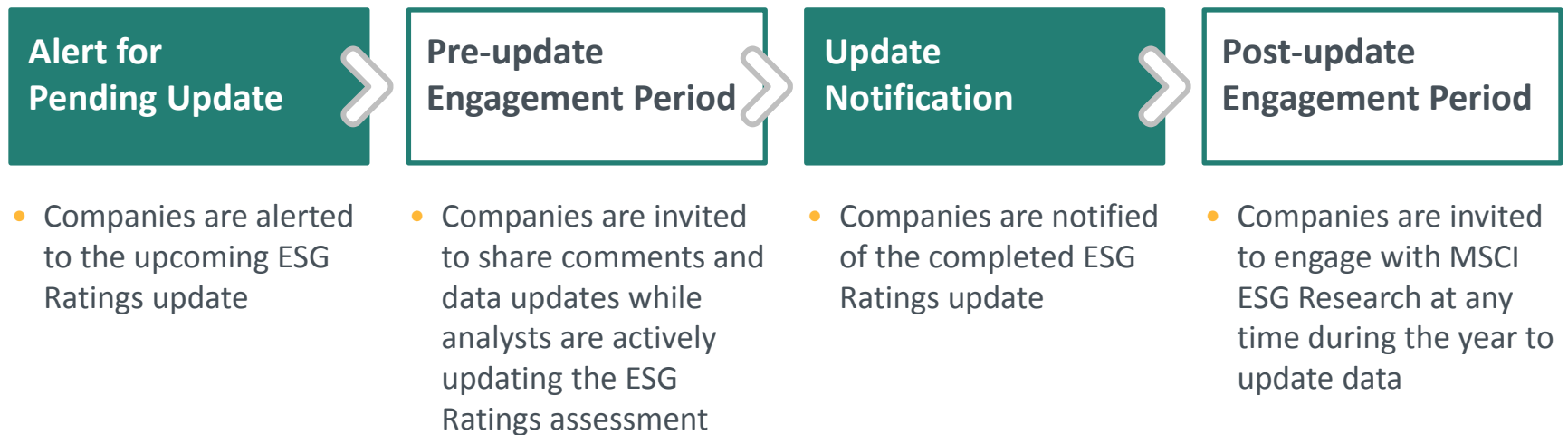
ESG Issuer Communications Team  
January 2018

JANUARY 2018

## Examples of 2018 ESG Issuer Events

- *ESG Corporate Seminar, Tokyo*
- *MSCI ESG Indexes: Keeping up with your investors' investment strategy , Boston*
- *How investors are integrating ESG: What companies need to know, London and Paris*
- *Enquête sur les relations entre entreprises et organismes de notation extra-financière, Medef-Afep-Cliff-C3D, Paris*

# OUR PROCESS: ESG RATINGS DATA VERIFICATION PROCESS





# ISSUER RESOURCES

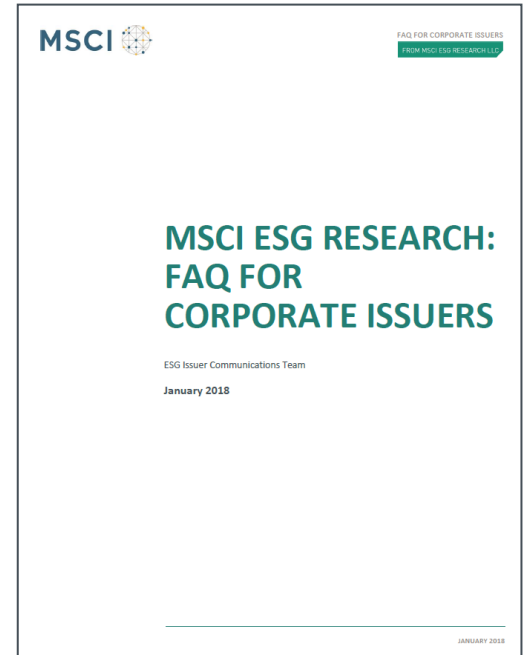
- **DEDICATED ONLINE PORTAL FOR CORPORATE ISSUERS AVAILABLE NOW**
- **COMING SOON! METHODOLOGY INSIGHTS, PODCASTS, WEBINARS, AND MORE!**

Issuer Communications Portal: <https://esgicp.msci.com/>


WEBSITE: <https://www.msci.com/for-corporate-issuers>

For QUERIES RELATED TO MSCI ESG RESEARCH:  
[esgissuercomm@msci.com](mailto:esgissuercomm@msci.com)

For INDEX RELATED QUERIES: [clientservice@msci.com](mailto:clientservice@msci.com)







How does ESG affect risk and return?

What tools do we need to implement ESG strategies?

How do we create ESG investment products?  
How will clients evaluate us on ESG?

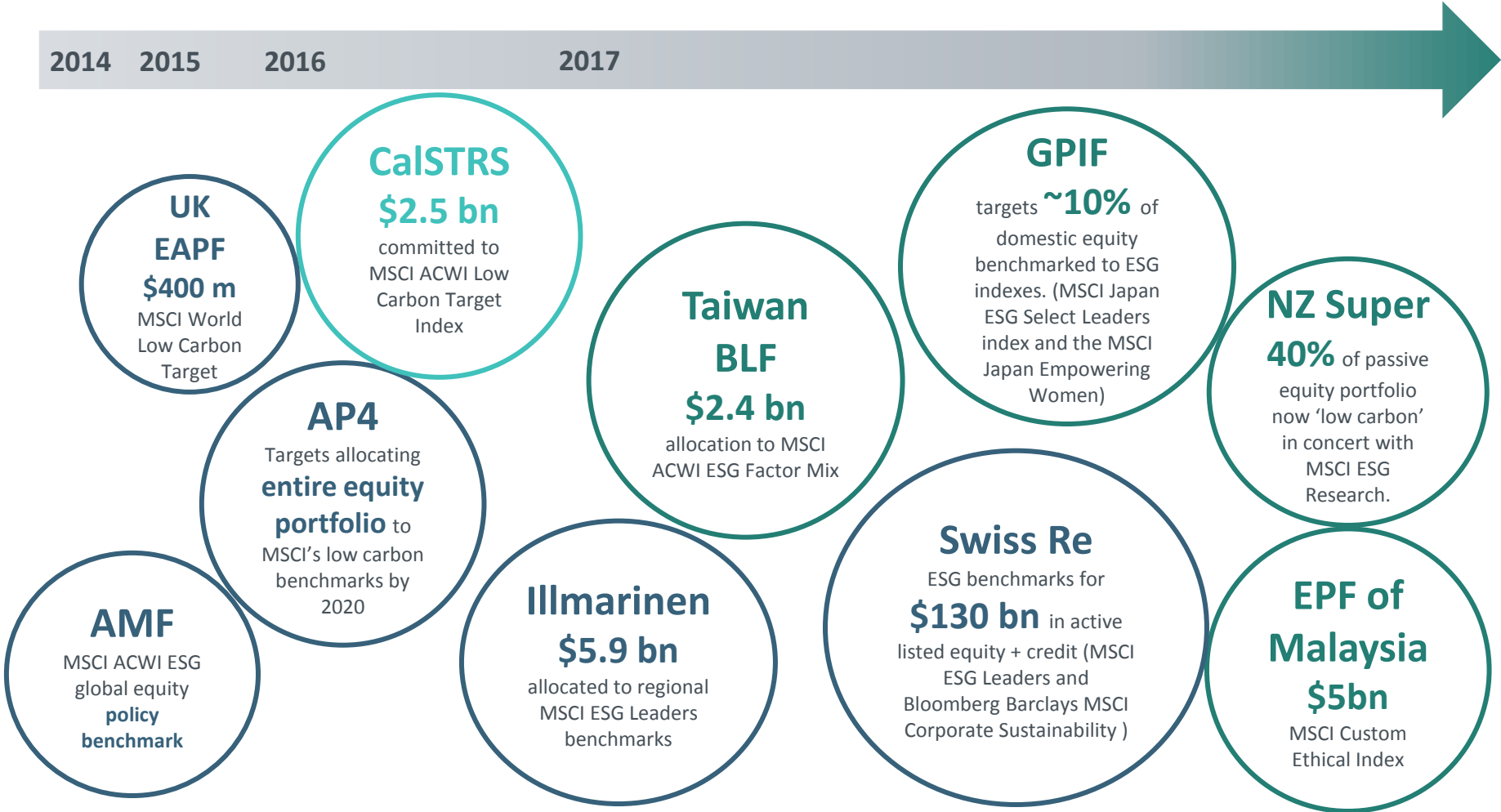
Clients are asking about ESG – where do we start?

# WHAT YOU NEED TO KNOW ABOUT MSCI ESG INDEXES

# FEW FACTS AND TRENDS

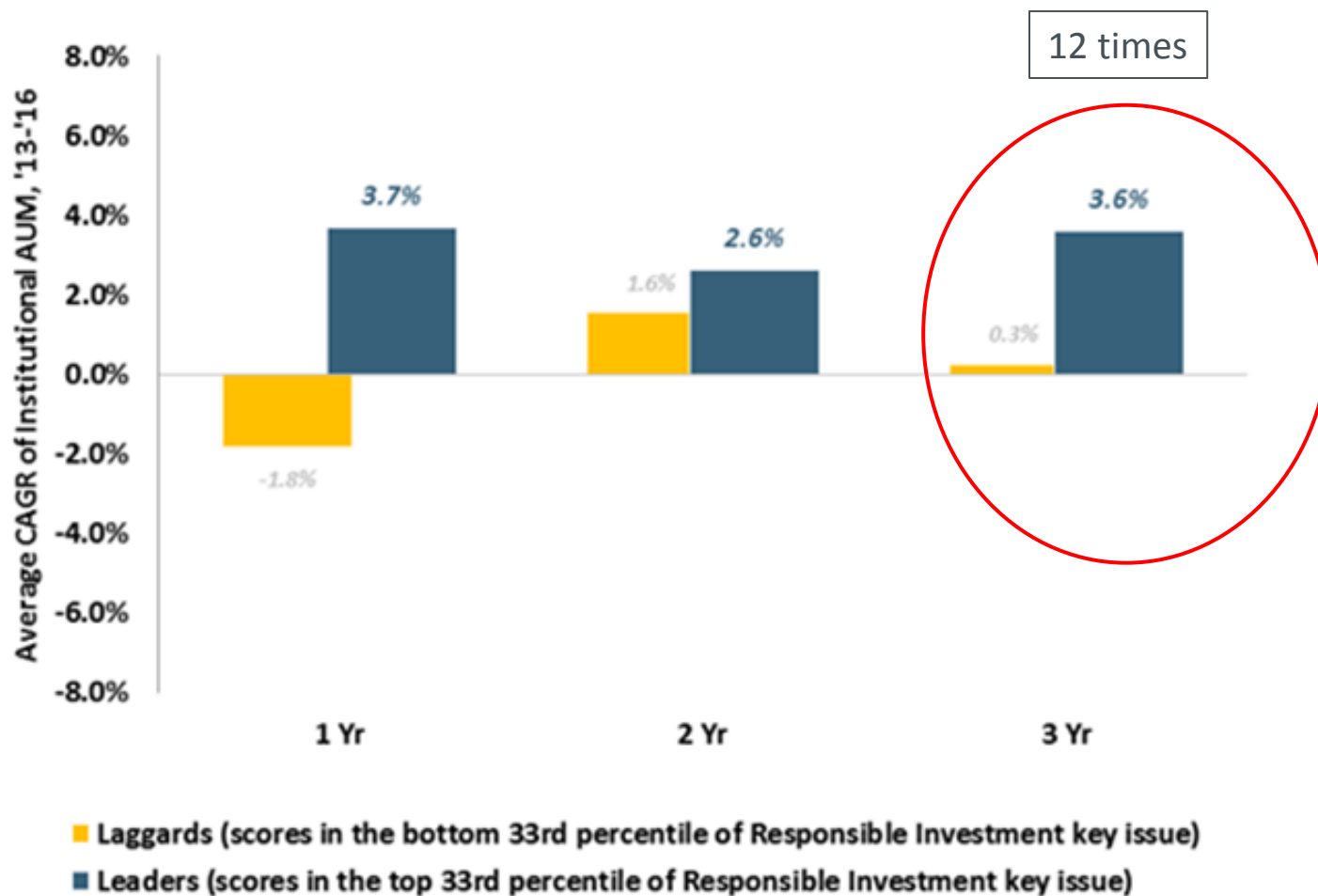
# ASSET OWNER ADOPTION OF MSCI ESG INDEXES

Several Global Asset Owners have selected MSCI ESG Indexes, with over \$170B allocated in recent years\*



\*based on publically available information in press releases published from 2014 to date

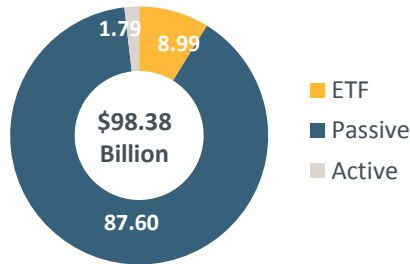
# FUND MANAGERS WITH HIGHEST ESG SCORES GATHERED MOST ASSETS



# 500%+ GROWTH IN AUM LINKED TO MSCI ESG INDEXES SINCE 2013

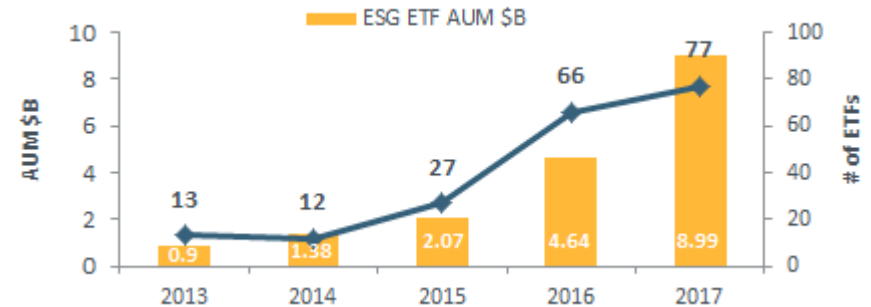
## MSCI ESG Indexes<sup>2</sup>

Over **USD 98 Billion** in institutional, retail and exchange-traded fund assets are benchmarked to MSCI ESG Indexes, growing **68%** from Q1 2017



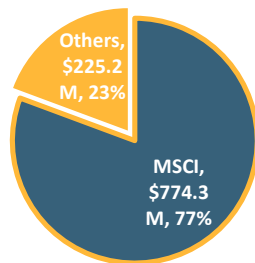
## ESG Indexes<sup>1</sup>

As of Q4 2017, **94%** growth YOY in ETF AUM tracking MSCI ESG indexes



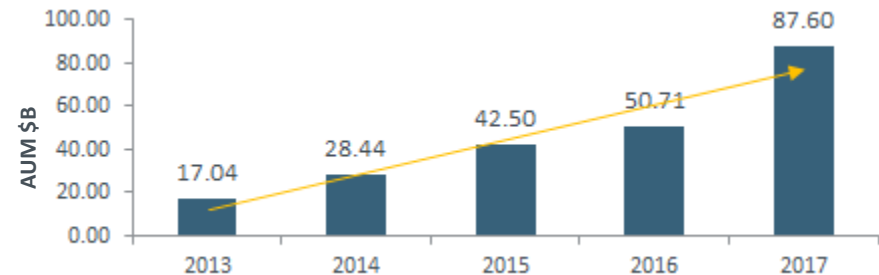
## # 1 index provider of Low Carbon ETFs globally (as of Q4 2017)<sup>1</sup>

Represent **81%** of the total equity ETF assets in carbon themed ETFs growing 230% since their launch in 2014



## Passive - Growth of AUM<sup>3</sup>

As of Q4 2017, **73%** growth YOY in passive AUM tracking MSCI ESG indexes



<sup>1</sup> As of Dec 2017; defined as each share class of an exchange traded fund, as identified by a separate Bloomberg ticker. Only primary listings, and not cross-listings, are counted.

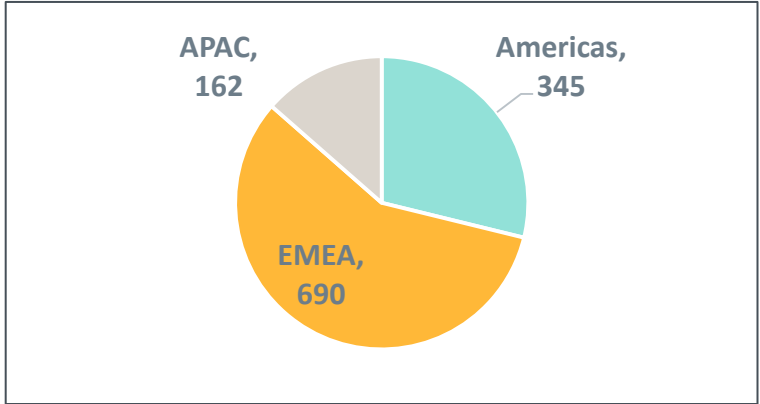
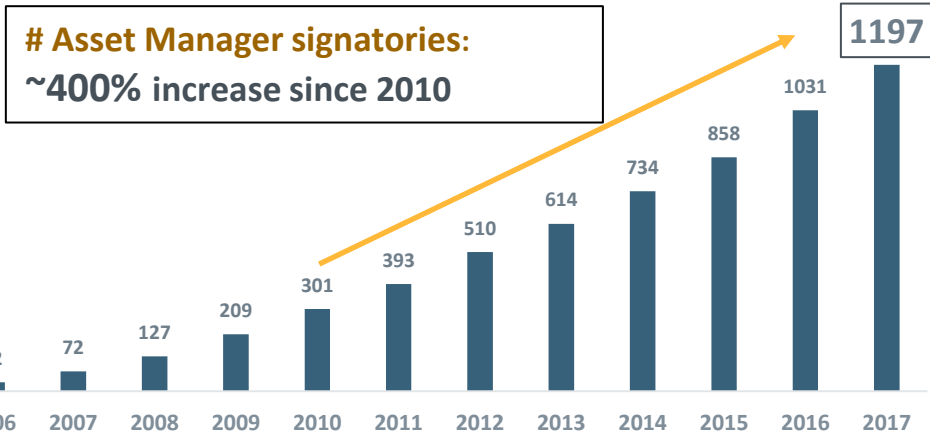
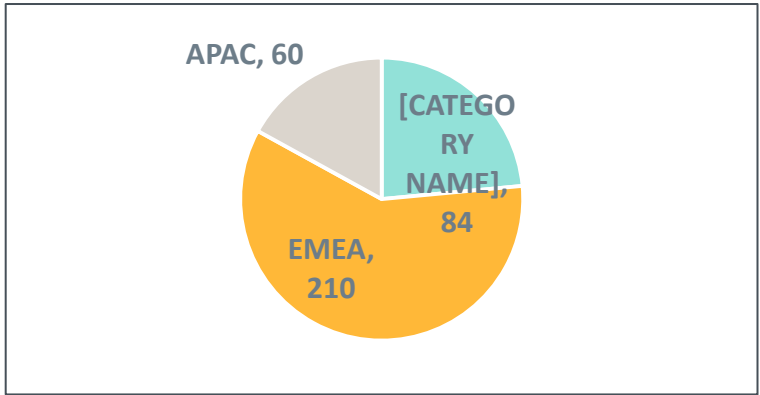
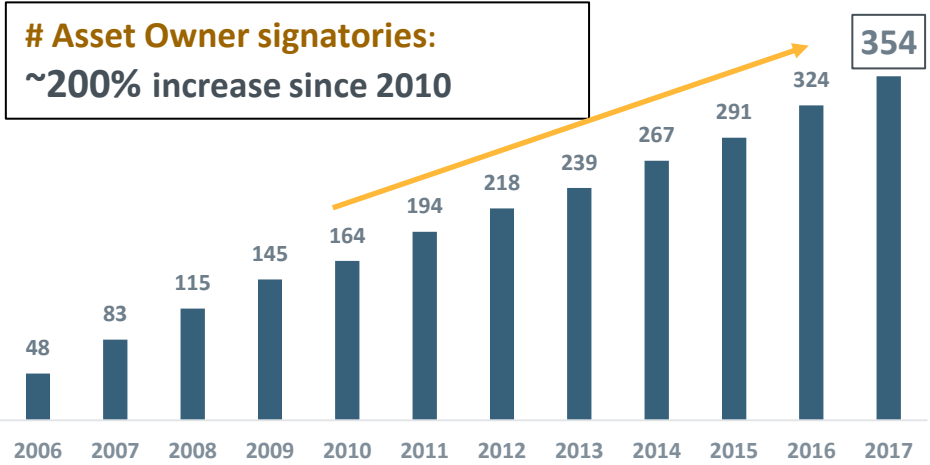
<sup>2</sup> as of Dec 2017, based on Bloomberg, Morningstar and MSCI data. Active AUM includes data as of Sept, 2017 reported in Dec, 2017 by eVestment. Data excludes mandate or policy benchmark related assets

<sup>3</sup> as of Dec 2017, based on passive AUMs directly collected by MSCI and reconciled with data from eVestment and Morningstar.

MSCI does not guarantee the accuracy of third party data.

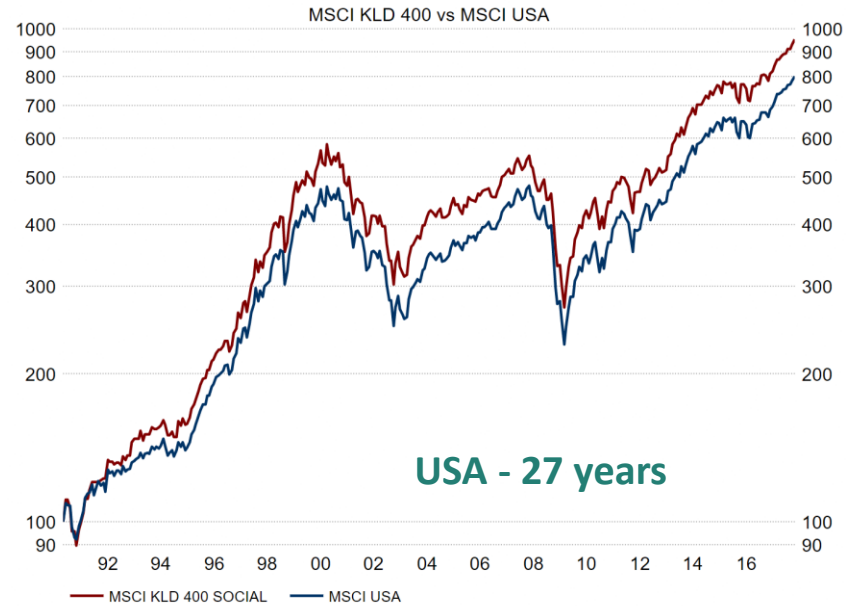
# ESG – INCREASED COMMITMENT FROM INSTITUTIONAL INVESTORS

~350% growth in UNPRI signatories since 2010 led by Asset Owners and Asset Managers



# THE “LIVE” ACID TEST

- The flagship MSCI ESG Indexes had positive or neutral performance relative to broad benchmarks since their inception date. No back tested data
- Positive relative performance over 27 years for the MSCI KLD 400
- Neutral relative performance over 10 years for the MSCI World ESG Leaders
- Positive relative performance over 4 years for the MSCI EM ESG Leaders

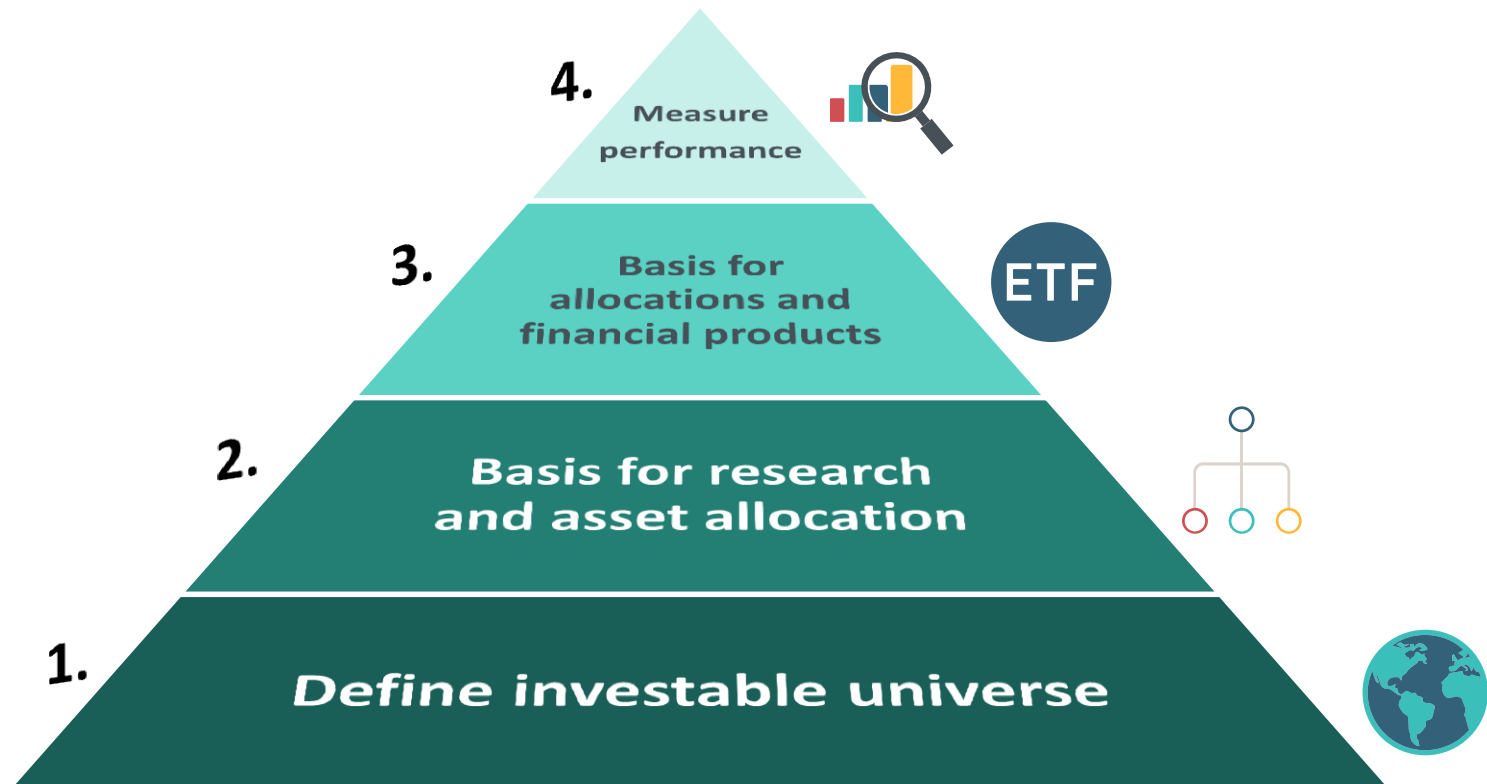


# MSCI ESG INDEXES



# DEFINITION OF A BENCHMARK

Typical functions of a benchmark:



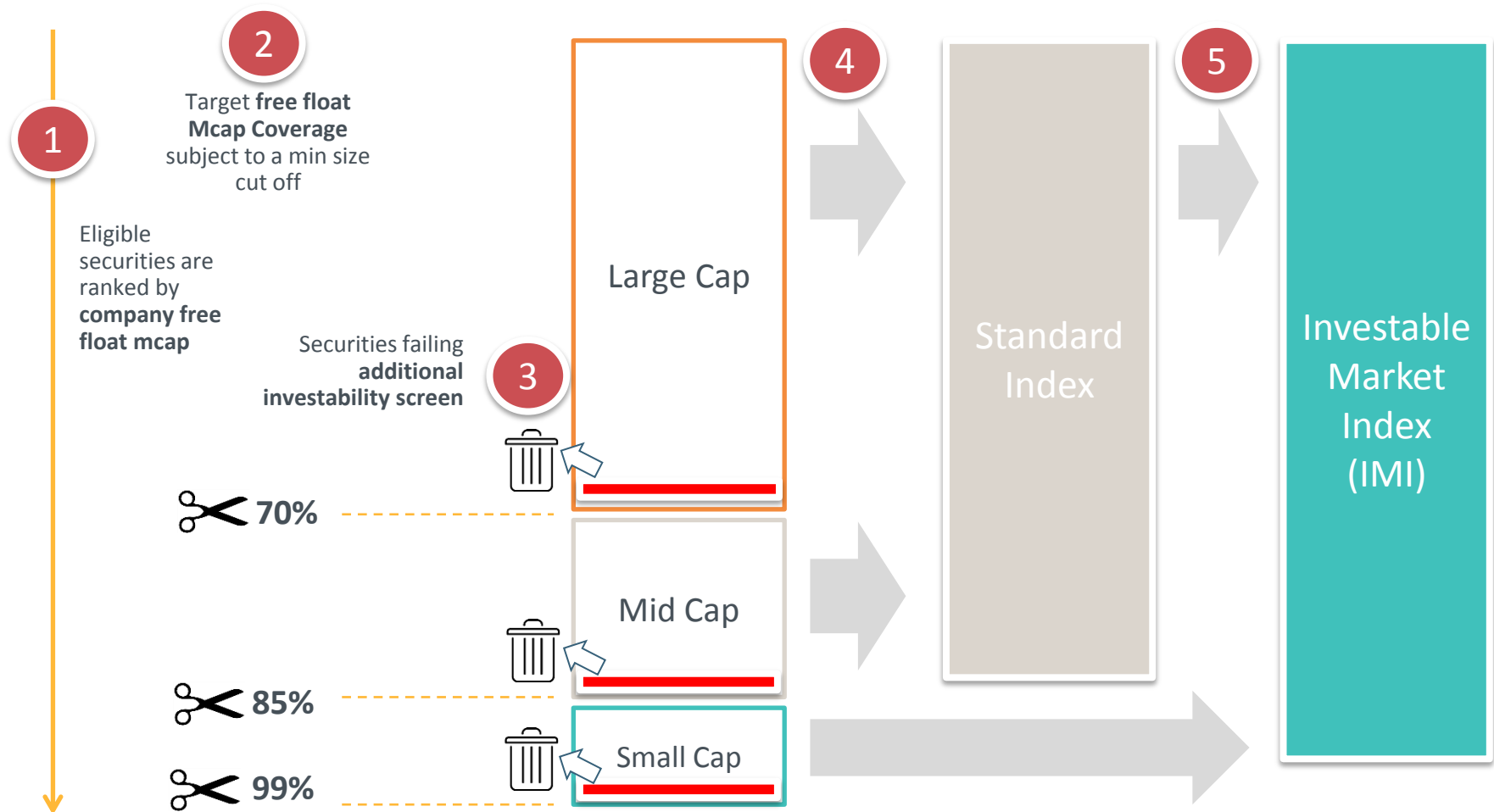
# THE GLOBAL OPPORTUNITY SET

**MSCI ACWI IMI Index offers a building block approach** with a rules-based, consistent and transparent methodology

MSCI ACWI & FRONTIER MARKETS INDEX										
MSCI ACWI INDEX						MSCI EMERGING & FRONTIER MARKETS INDEX				
MSCI WORLD INDEX			MSCI EMERGING MARKETS INDEX			MSCI FRONTIER MARKETS INDEX				
DEVELOPED MARKETS			EMERGING MARKETS			FRONTIER MARKETS				
Americas	Europe & Middle East	Pacific	Americas	Europe, Middle East & Africa	Asia	Americas	Europe & CIS	Africa	Middle East	Asia
Canada United States	Austria Belgium Denmark Finland France Germany Ireland Israel Italy Netherlands Norway Portugal Spain Sweden Switzerland United Kingdom	Australia Hong Kong Japan New Zealand Singapore	Brazil Chile Colombia Mexico Peru	Czech Republic Egypt Greece Hungary Poland Qatar Russia South Africa Turkey United Arab Emirates	China India Indonesia Korea Malaysia Pakistan Philippines Taiwan Thailand	Argentina	Croatia Estonia Lithuania Kazakhstan Romania Serbia Slovenia	Kenya Mauritius Morocco Nigeria Tunisia WAEMU <sup>2</sup>	Bahrain Jordan Kuwait Lebanon Oman	Bangladesh Sri Lanka Vietnam
MSCI STANDALONE MARKET INDEXES <sup>1</sup>										
				Saudi Arabia		Jamaica Panama <sup>3</sup> Trinidad & Tobago	Bosnia Herzegovina Bulgaria Ukraine	Botswana Ghana Zimbabwe	Palestine	

**This robust foundation** allows institutional investors to measure exposure to all sources of equity returns using a **single global framework**

# STARTING FROM EACH COUNTRY



# ELIGIBILITY CRITERIA FOR INDEX INCLUSION

## Basic

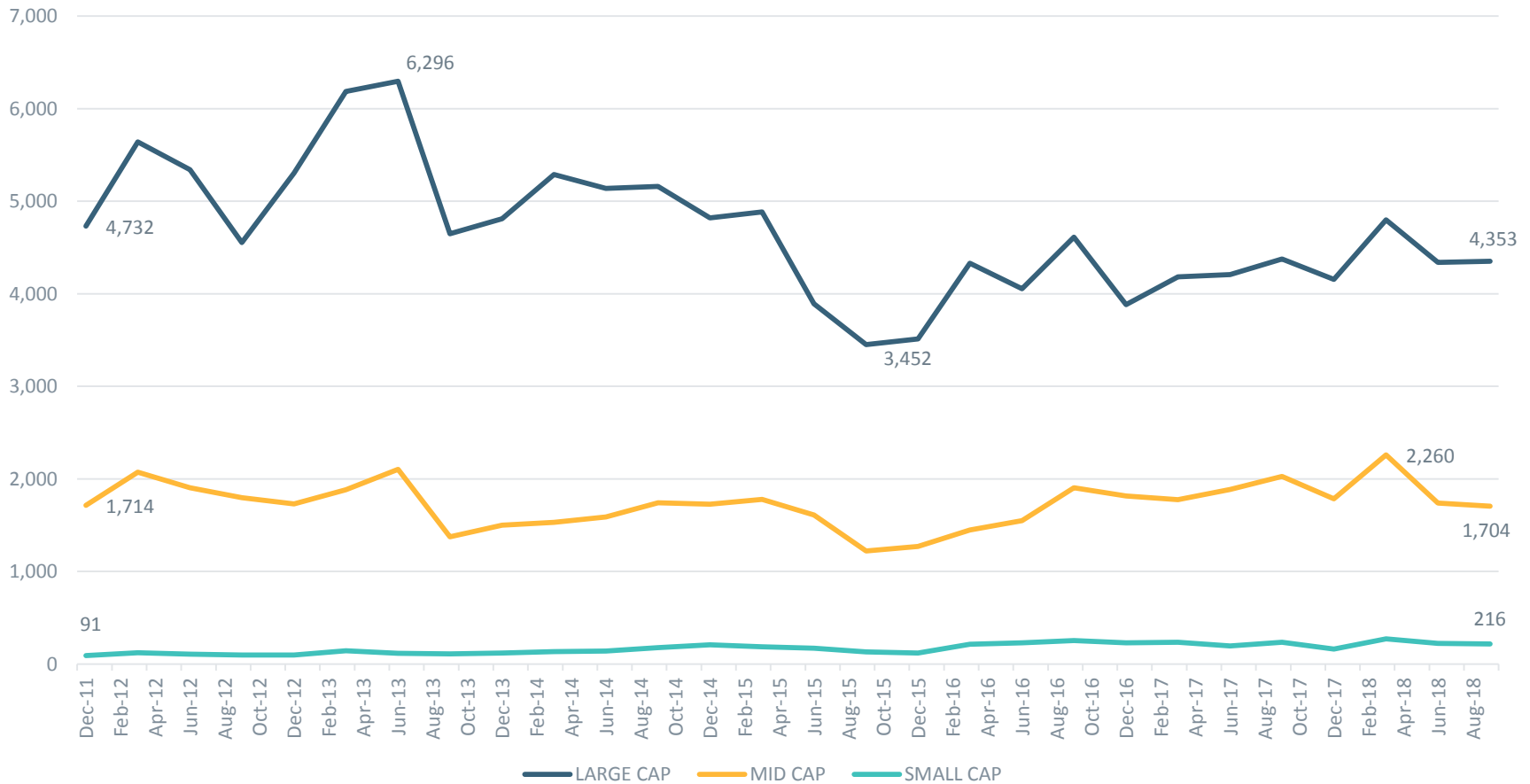
- **Liquidity:**
  - 12 month average traded value ratio: 15%
  - 3 month average traded value ratio: 15%
  - 3 month trading frequency: 80%
- **Free Float:**
  - Min 15%
- **Length of trading:**
  - Min 3 months

## Additional

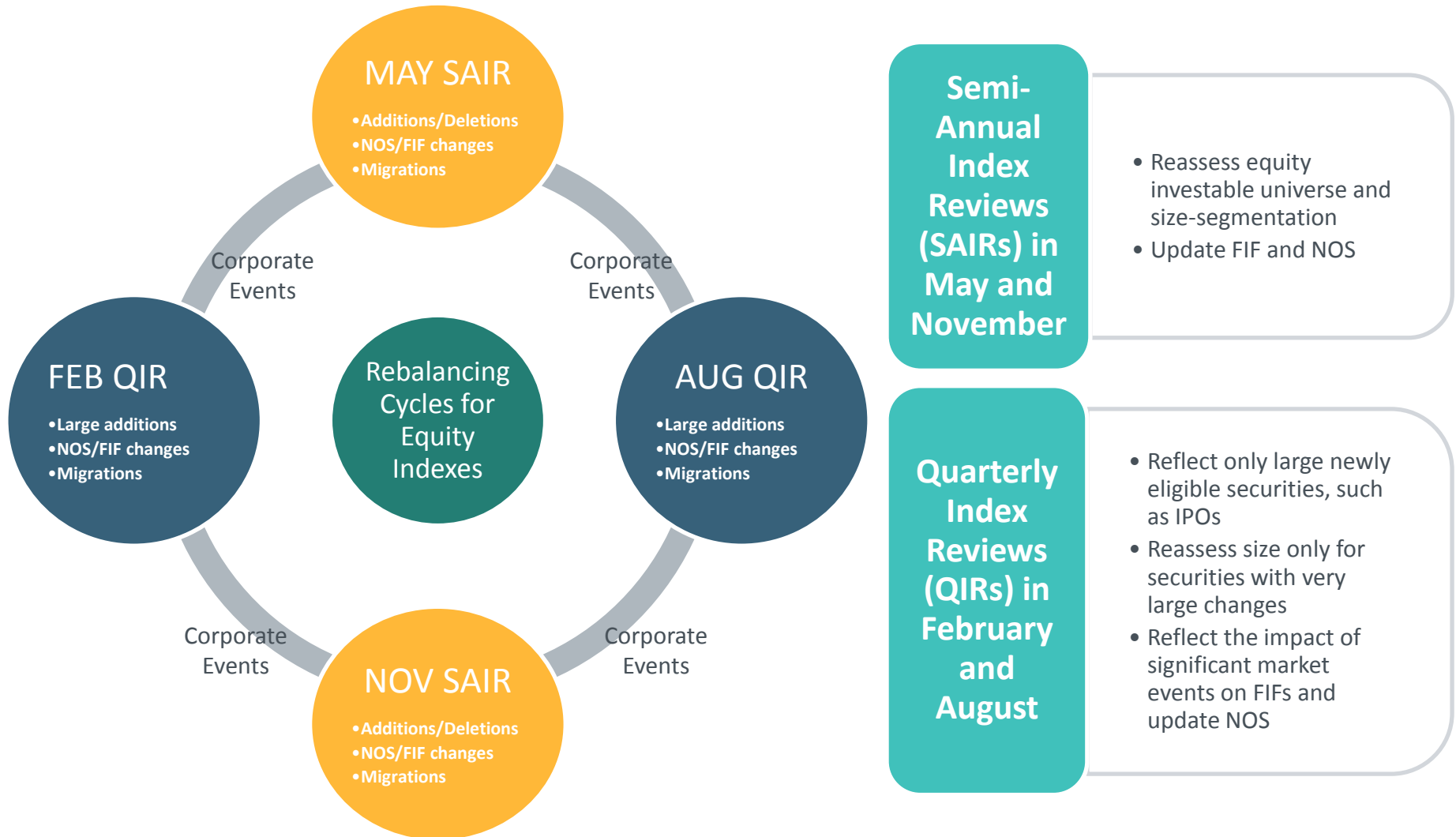
- **Size:**
  - Above full mcap min size cut off for each size segment **and**
  - Above free float mcap min size cut off for each size segment
- **Foreign room:**
  - Minimum 15% half weight, 25% full weight

# MINIMUM SIZE CUT OFF FOR MSCI THAILAND

## Minimum Full Mcap Size Cutoff for MSCI Indonesia (US\$bn)



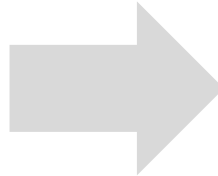
# MSCI INDEX REBALANCING



# ESG BENCHMARK DESIGN

## BROAD BENCHMARKS

ACWI



## ESG BENCHMARKS

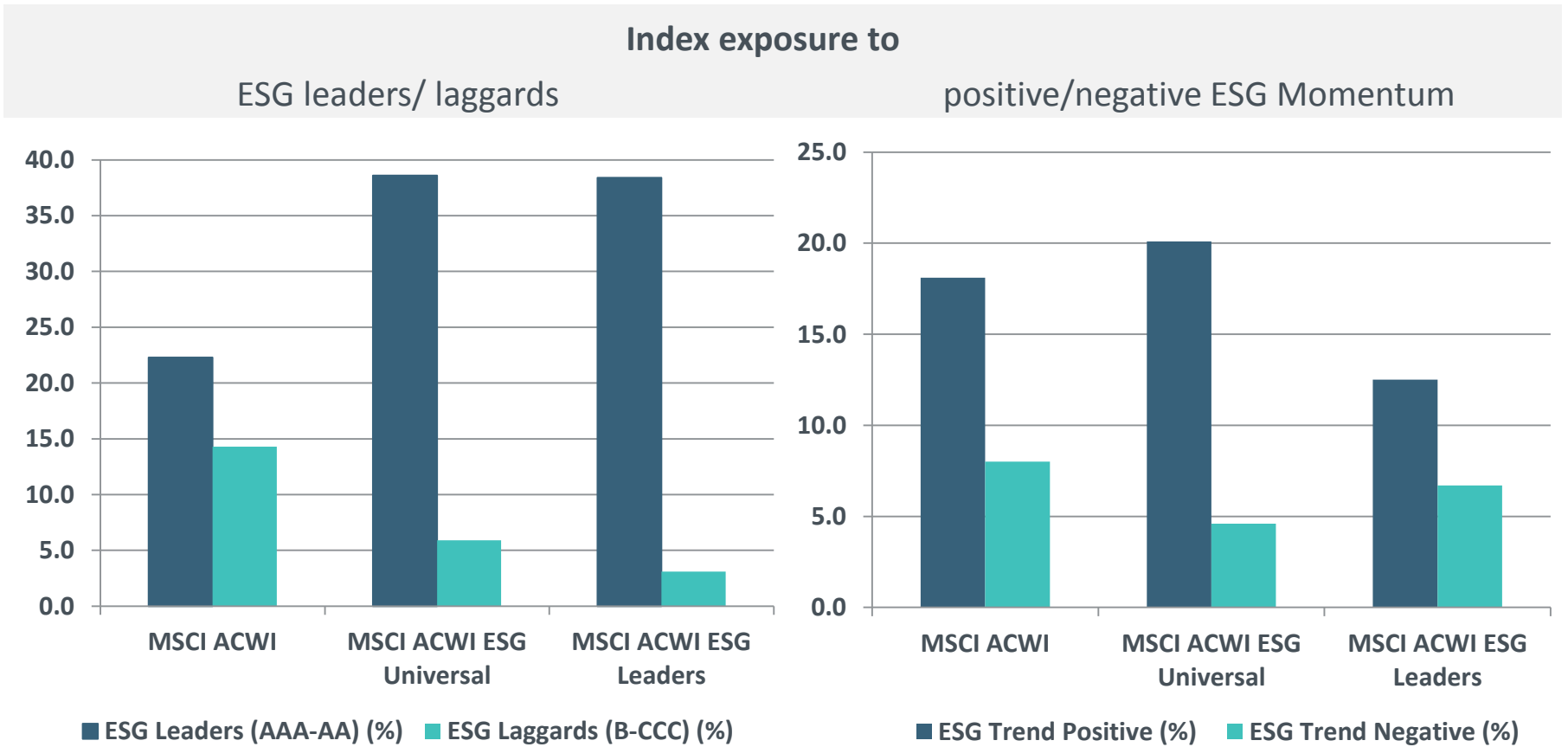
ACWI ESG  
UNIVERSAL



ACWI ESG  
LEADERS



# ESG RISK EXPOSURE: STOCK SPECIFIC RISKS

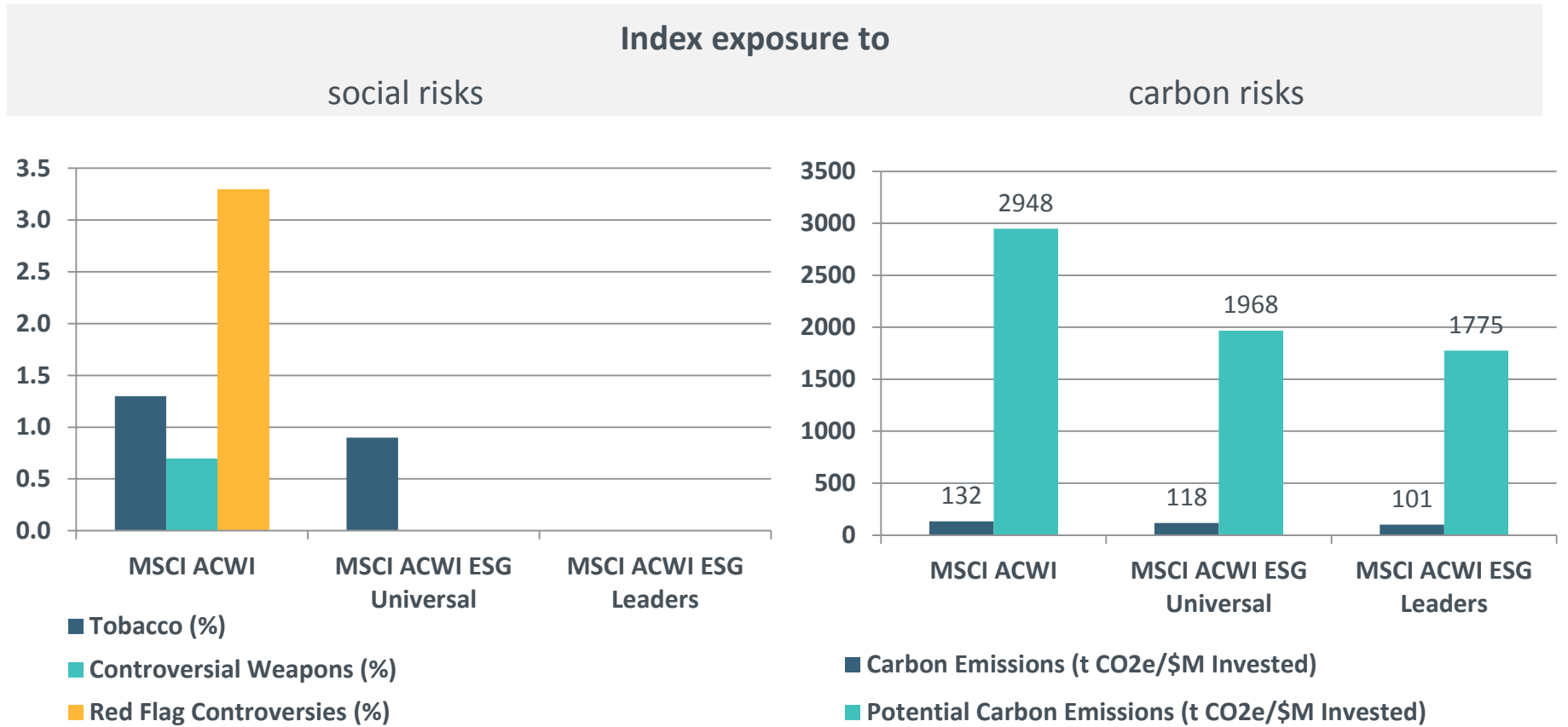


As of Dec. 31, 2017. Historical data for example purposes only. Past performance is not indicative of future results, which may differ materially.

ESG indexes have historically reduced exposure to ESG laggards and ESG downgrades



# ESG RISK EXPOSURE: SYSTEMIC AND SOCIAL RISKS



As of Dec. 31, 2017. Historical data for example purposes only. Past performance is not indicative of future results, which may differ materially.

ESG indexes have historically reduced exposure to social risks and carbon emissions

# BENCHMARKS FOR PERFORMANCE MEASUREMENT

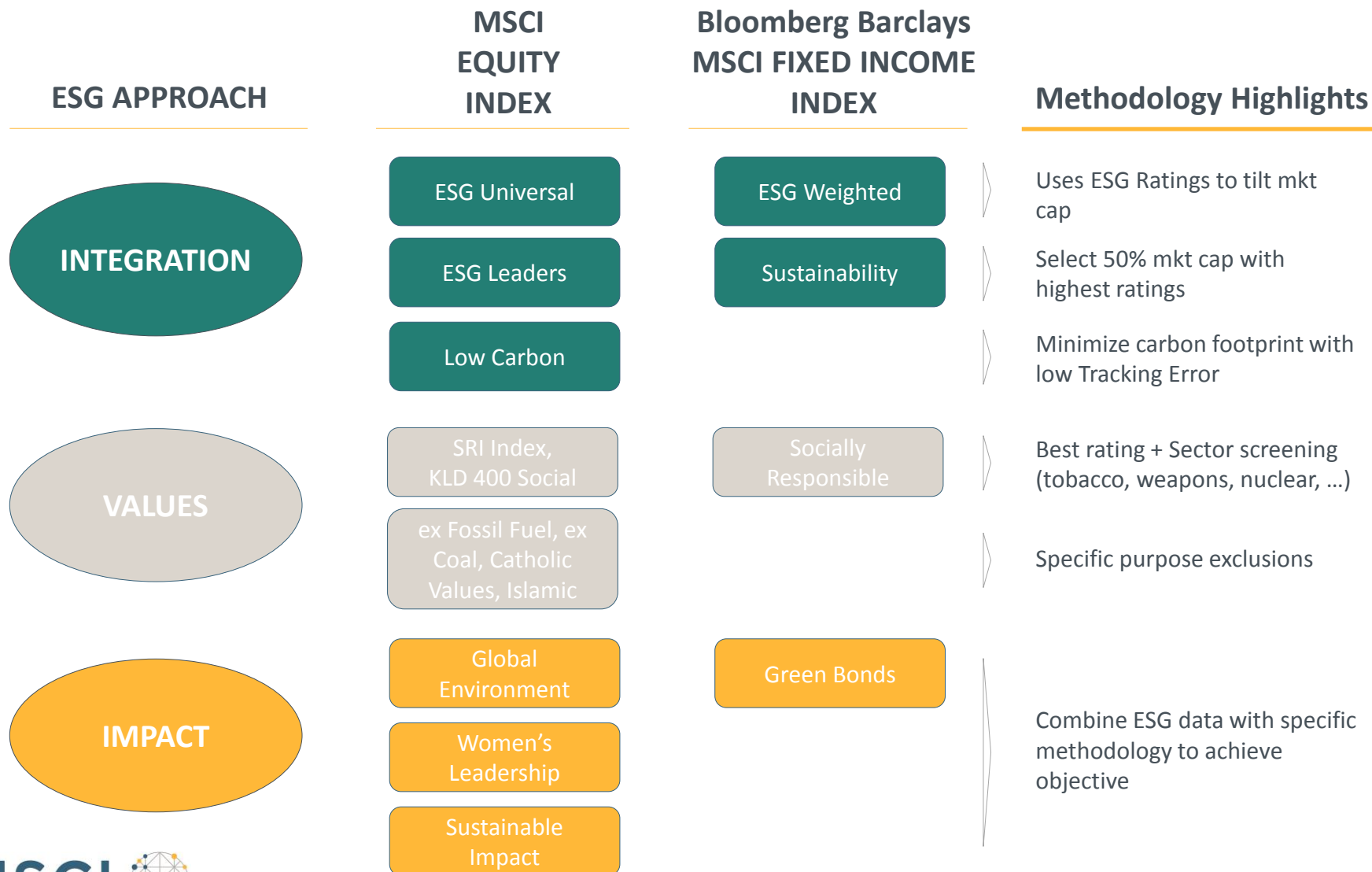
## Risk and performance overview

	MSCI ACWI Index	MSCI ACWI ESG Universal Index	MSCI ACWI ESG Leaders Index	
<b>Performance</b>				
Total return (%)	10.0	10.1	10.2	Slightly better risk-adjusted returns
Total risk (%)	13.1	12.9	12.7	
Sharpe ratio	0.74	0.75	0.78	
Tracking error (%)	0.0	0.1	0.3	
<b>Risk</b>				
VaR (95%)	-6.5	-6.4	-6.3	Lower levels of risk
CVaR (95%)	-8.4	-8.0	-8.0	
Max drawdown	22.9	21.9	21.3	
<b>Valuation</b>				
Price to Book	1.9	2.0	2.1	Higher levels of valuation
Price to Earnings	9.7	9.8	10.3	
ROE (%)	11.4	11.8	12.0	

Period: Aug. 31, 2010 to Dec. 31, 2017.

Historical data for example purposes only. Past performance is not indicative of future results, which may differ materially.

# ESG RATINGS DATA FEEDS INTO EQUITY AND FI ESG INDEXES



# Q & A



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