ESG INVESTING

ESG Integration into funds and ETFs

July, 2018

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CONTENTS

- **ESG Overview**
  - Myths
  - Trends
  - Aims
- **In Action**
  - Equifax, Facebook, VW
  - Indexes
  - ETFS
- **Wealth Management**
- **ESG 101**

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MSCI:
A GLOBAL INDEX POWERHOUSE

97 of top 100
global investment managers are MSCI clients[1]

850+
ETFs based on MSCI indexes, more than any other index provider[2]

USD 10.5 trillion
in assets benchmarked to MSCI Indexes[3]

180,000
Indexes calculated daily

10,000
in real time

99.96%
accuracy rate[4]

95%
of US pension fund assets invested in global equities are benchmarked to MSCI[5]

RECENT AWARDS

MSCI has been recognized with **Index Provider of the Year Awards** by various organizations:

- **Pensions Age** (2016)
- **ETF.com** (2015; awarded in 2016)
- **Structured Retail Products Awards** (2016)
- **Hedgeweek Awards** (2016)
- **ETF Risk Rankings** (2015)
- **Structured Products Awards** (2015)
- **European Pensions Awards** (2015)
- **Mondo ETF Awards** (2015)

[1] Based on P&I AUM data as of December 2014 and MSCI clients as of December 2015.
[2] As of June 30, 2016; 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.
[3] As of December 31, 2015, as reported on March 31, 2016 by eVestment, Morningstar and Bloomberg.
[4] Accuracy calculated based on the number of corrections performed over total number of securities or data points covered.
[5] As of June 2015, according to Intersec LLC.

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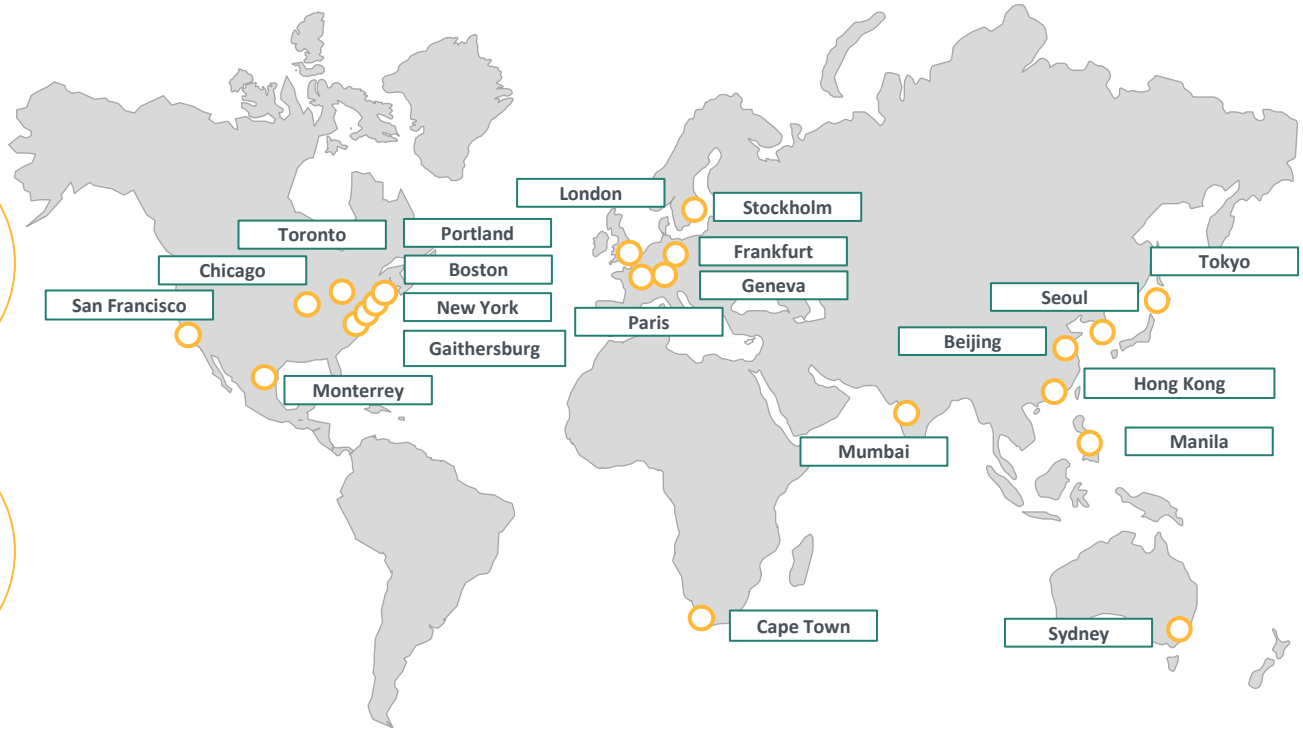
ESG EXPERTISE AND LOCAL PRESENCE

185+
ESG analysts[1] (325+ FTE[2])

1200+
clients

46 TOP **of 50**
Global asset managers[3]

900+
ESG equity & fixed income indexes use MSCI ESG Research ratings and data



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[1] Direct and allocated FTEs. Source: MSCI ESG Research as of April 2018
2 Includes full time employees and allocated staff performing non-investment advisory tasks
[2] Based on latest P&I AUM data and MSCI clients as of December 2017

FAKE NEWS?

MSCI ESG
RATINGS

ESG INVESTING IS ETHICALLY AND POLITICALLY DRIVEN

ESG INVESTING HURTS PERFORMANCE

ESG IS A PASSING FAD

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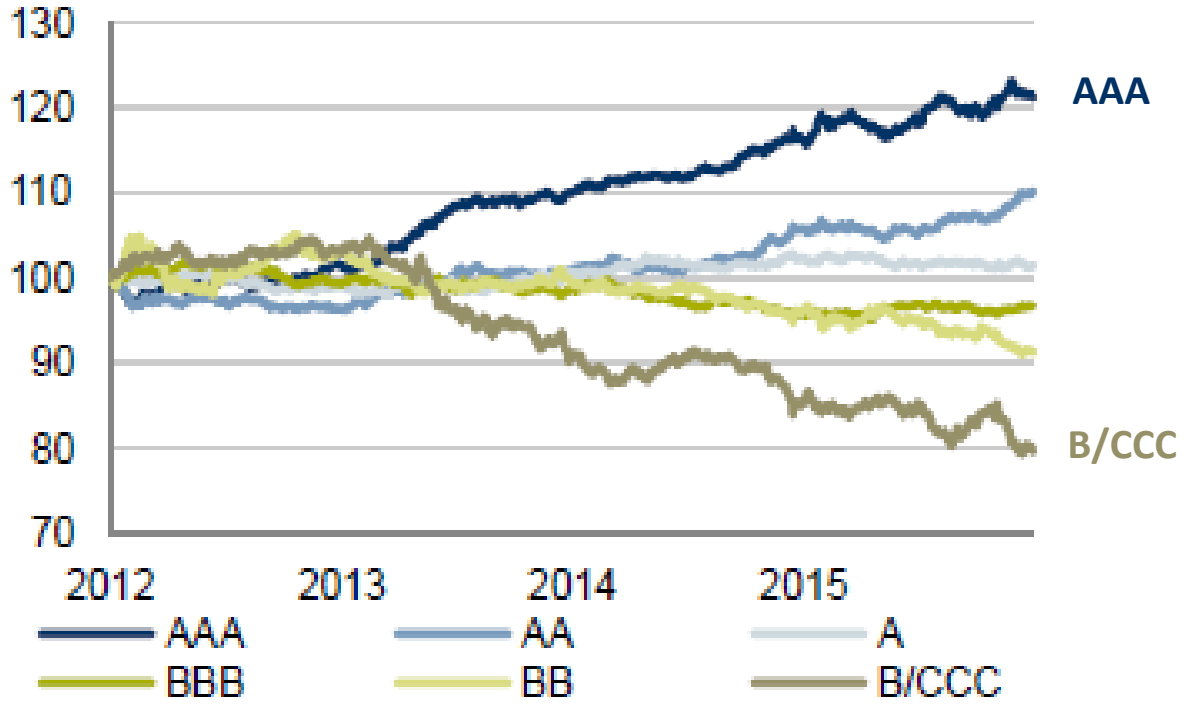
DOES ESG WORK? THE PERFORMANCE QUESTION

Relative performance per rating



Source: "Nordea Equity Research: Nordic Ideas" September 5, 2017. Authors: Elias Porse, Hugo Fredriksson, Carl Grapenfelt, Alexander Falt, Hemming Svensson

Recent Nordea study shows as much as 40% relative out-performance in 2012-15 of top vs. bottom ESG-rated companies. It also found consistent correlation between ESG ratings and operational metrics: companies with the top ESG ratings had higher ROE, ROCE and lower net debt/EBITDA than the market average.

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DOES ESG WORK? THE PERFORMANCE QUESTION

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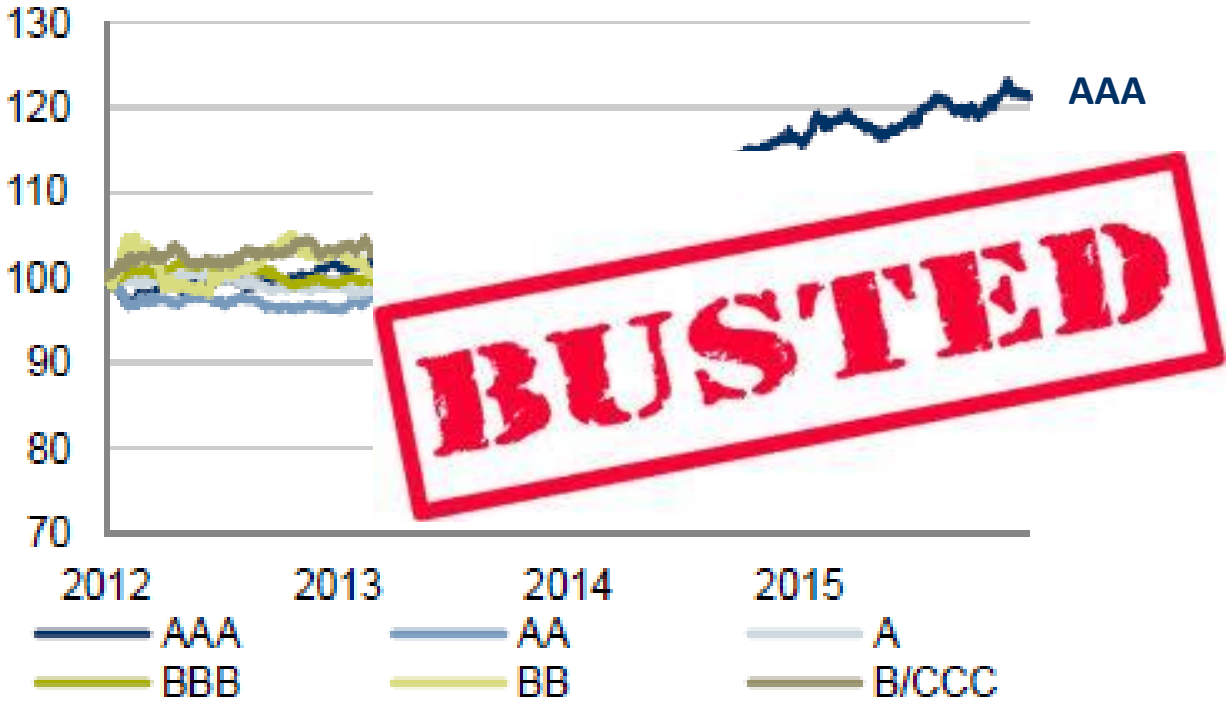

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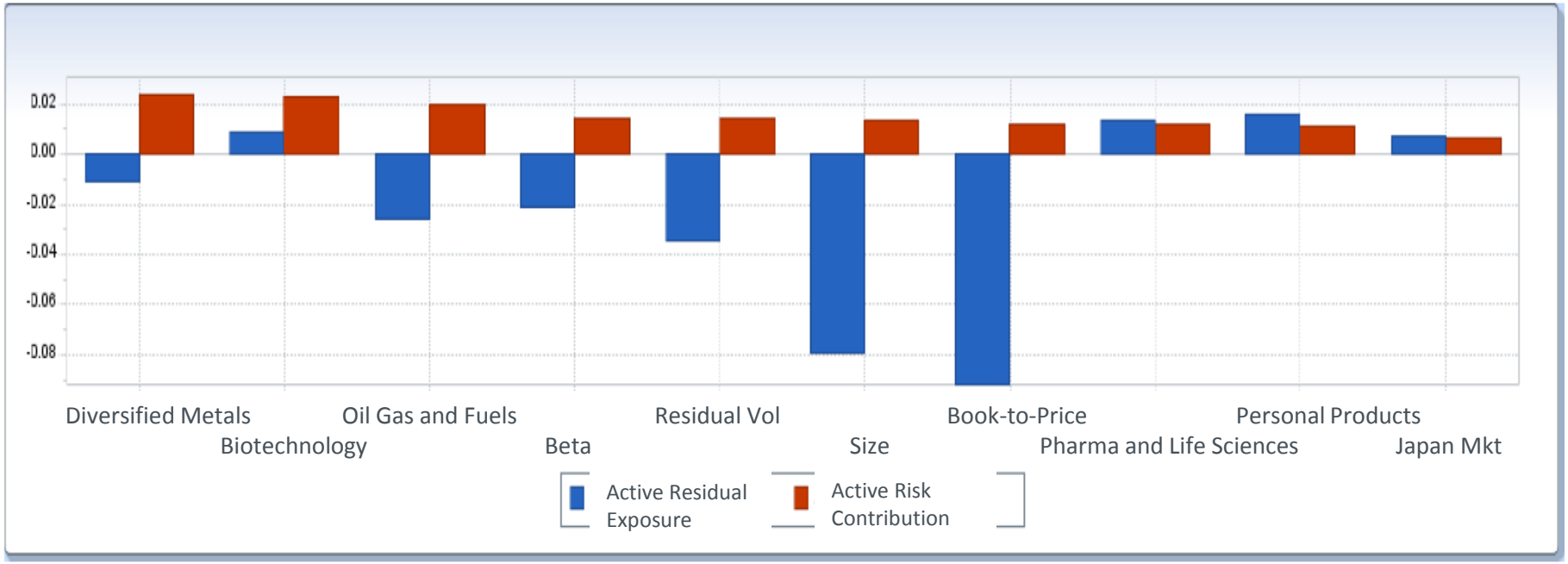
CHARACTERISTICS OF MSCI WORLD ESG INDEX

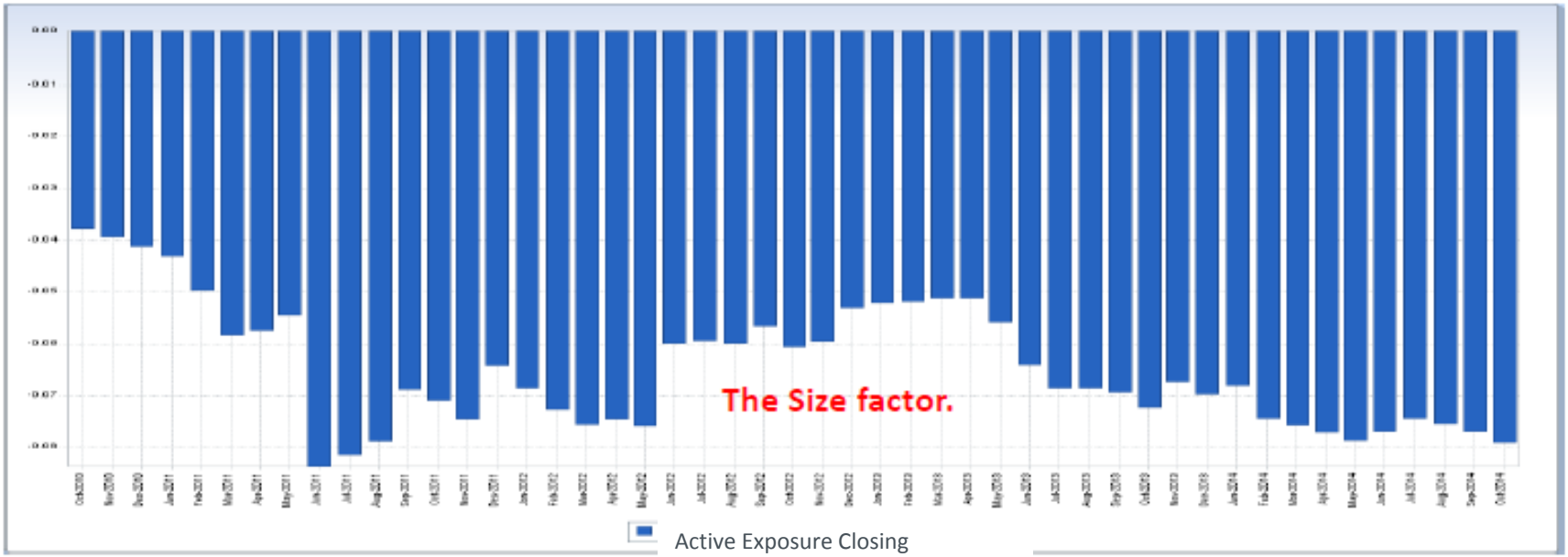
MSCI ESG RATINGS

Main contributing factors to tracking error – relative to MSCI World



MSCI WORLD ESG INDEX EXPOSURE OVER TIME

MSCI ESG RATINGS



Underweight Large Caps

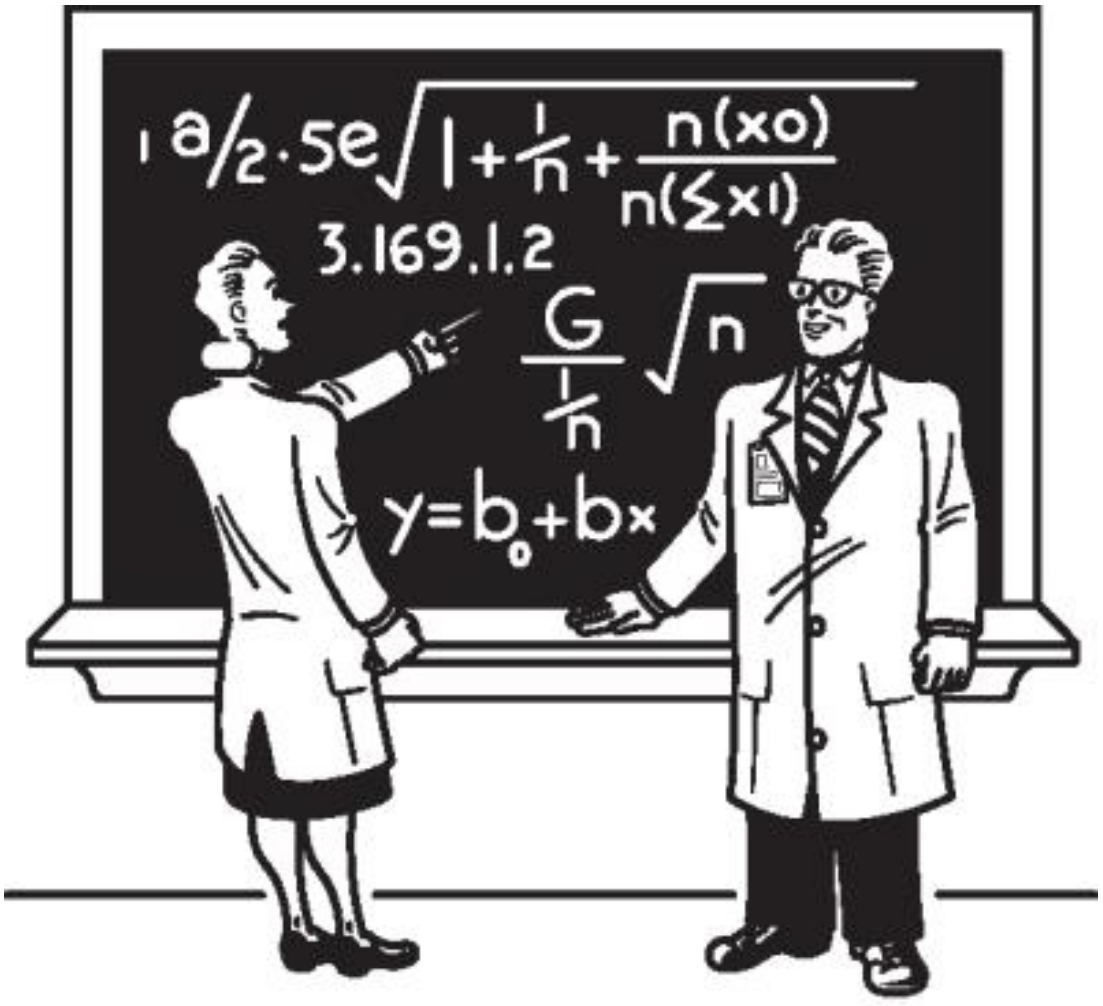
MSCI WORLD ESG INDEX EXPOSURE OVER TIME

MSCI ESG RATINGS

Underweight Large Caps

MSCI ESG RESEARCH – MYTH BUSTERS

MSCI ESG
RATINGS



Does G stand for force due to gravity or greed?

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MSCI ESG RESEARCH – MYTH BUSTERS

MSCI ESG
RATINGS

Does G stand for force due to gravity or greed?

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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

BETTER ANALYTICS

possible to measure what was previously unmeasurable

WHY ESG?

BEYOND TODAY'S HEADLINES

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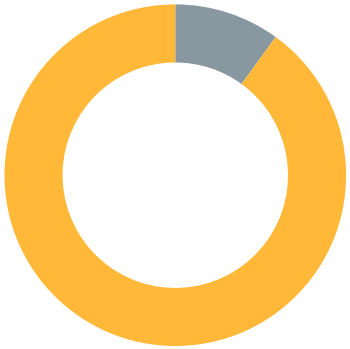
INVESTORS ARE CHANGING

$30 trillion

wealth transfer from baby boomers to 90 million millennials to take place over the next few decades [1]

67%

of Millennials believe investments "are a way to express social, political, and environmental value" (vs. 36% of Baby Boomers)[2]



90%

of millennials want to grow their allocations to responsible investments in the next five years[3]

[1] Source: Accenture. The "Greater" Wealth Transfer – Capitalizing on the Intergenerational Shift in Wealth, 2012: http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture-CM-AWAMS-Wealth-Transfer-Final-June2012-Web-Version.pdf
[2] *Source: US Trusts' Insights on Wealth and Worth 2014*
[3] Source: FactSet's HNWIs' Vision for the Wealth Management Industry in the Information Age *http://solutions.factset.com/smart-wealth-ebook*

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WHY ESG?

ACADEMIC STUDIES HIGHLIGHT FINANCIAL IMPLICATIONS

Higher cost of capital

for poor ESG performers, including loan debt, bond debt, and cost of equity.

Higher volatility

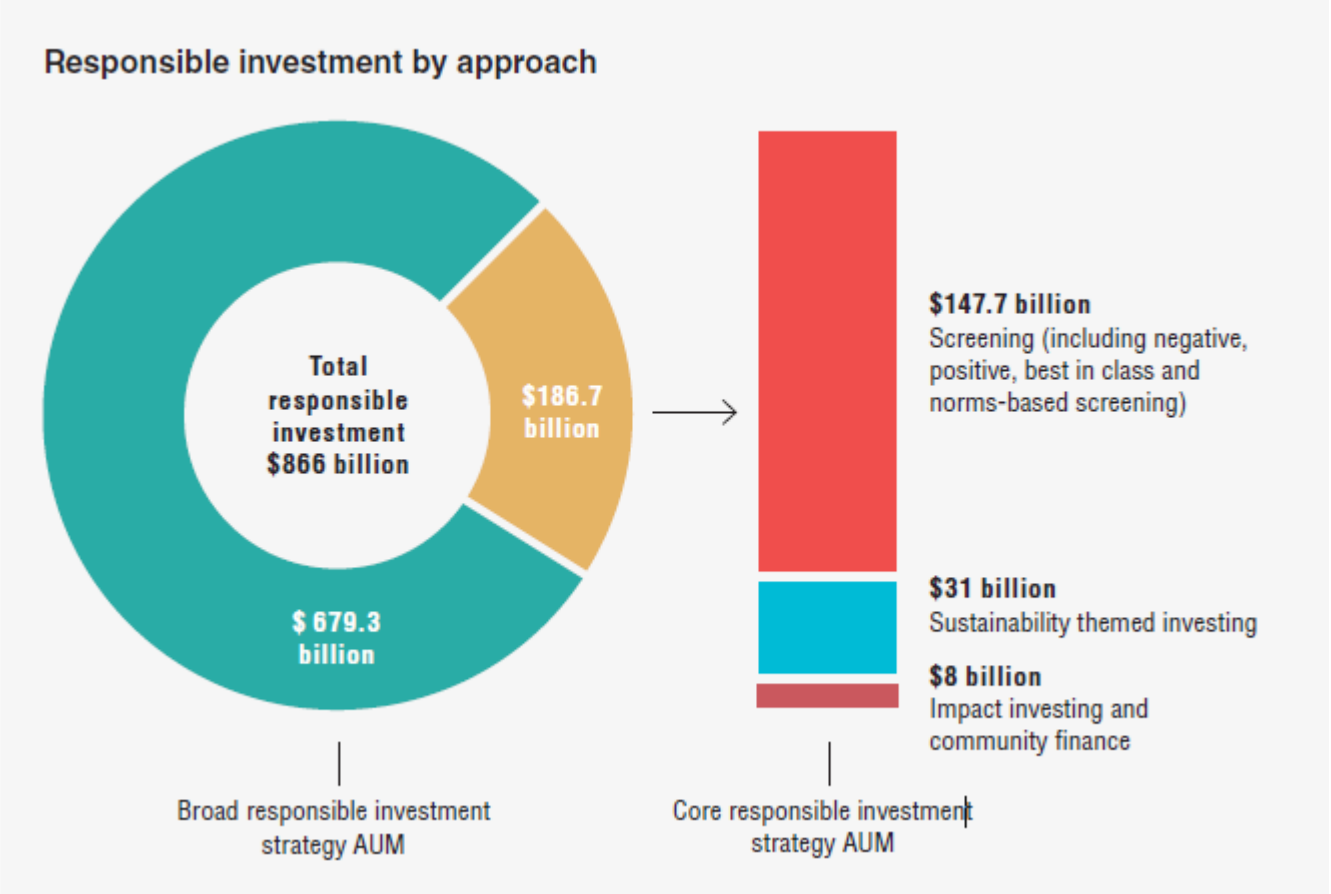
for poor ESG performers and after ESG events such as spills, labor strikes, and fraud.

Accounting irregularities and performance

linked to ESG and broad governance factors.

Sources: Chava, 2011; 20+ studies, both academic and industry; Lansilahti, 2012; Credit Suisse; Deutsche Bank; MSCI ESG Research, et al.; Huang, 2010; Bhagat and Bolton, 2008; Cremers et al., 2005; Deutsche Bank, 2012; ISS, 2011; et al.

RESPONSIBLE INVESTMENTS AUSTRALIA
$866 BILLION (55.5%) OF ALL ASSETS IN 2017



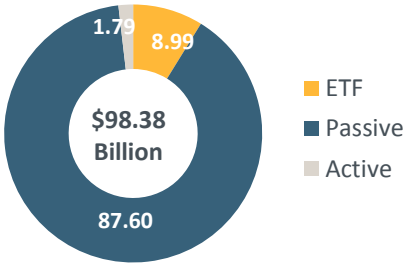
Source: Responsible Investment Benchmark Report 2018 Australia

500%+ GROWTH IN AUM (ETF AND PASSIVE)

LINKED TO MSCI ESG INDEXES SINCE 2013

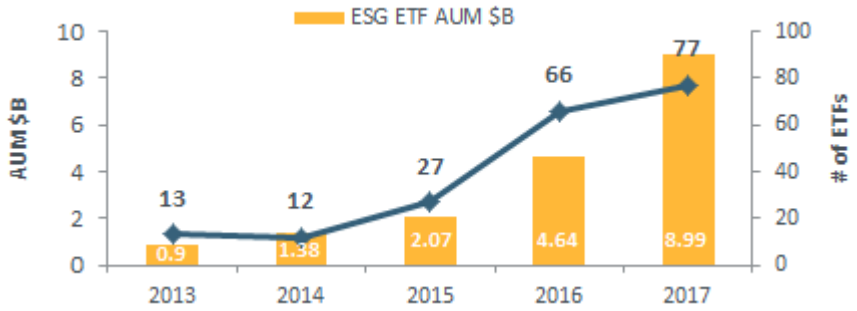
Total Assets Benchmarked to MSCI ESG Indexes[2]

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



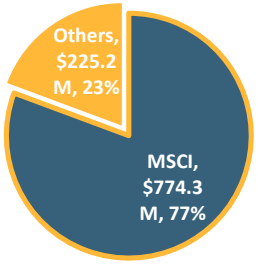
#1 in no. of ETFs and ETF assets linked to ESG Indexes[1]

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



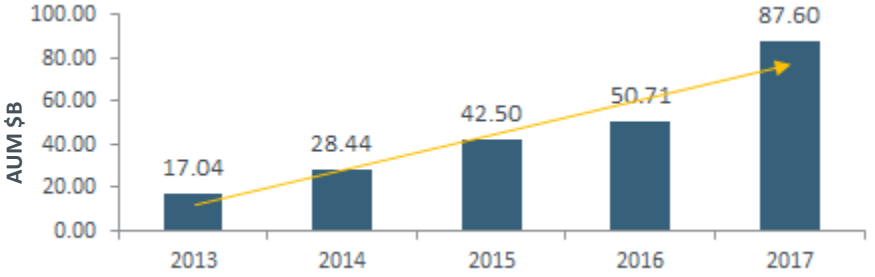
1 index provider of Low Carbon ETFs globally (as of Q4 2017)[1]

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



Passive - Growth of AUM[3]

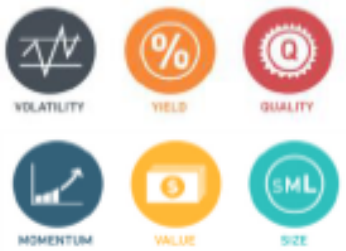
As of Q4 2017, 73% growth YOY in passive AUM tracking MSCI ESG indexes



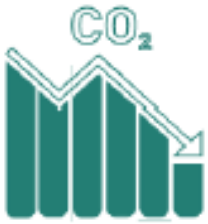
[1] As of Dec 2017; defined as each share class of an exchange traded fund, as identified by a separate Bloomberg ticker. Only primary listings, and not cross-listings, are counted.
[2] as of Dec 2017, based on Bloomberg, Morningstar and MSCI data. Active AUM includes data as of Sept, 2017 reported in Dec, 2017 by eVestment. Data excludes mandate or policy benchmark related assets
[3] 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.

GOAL IS TO HELP INVESTORS

Improve Investment Strategies



Improve risk, return and ESG profile in existing strategies



Reduce carbon footprint of existing portfolio

Grow Business

Report on ESG profile of funds vs. benchmark

Create products on themes such as Governance, Diversity or Climate change

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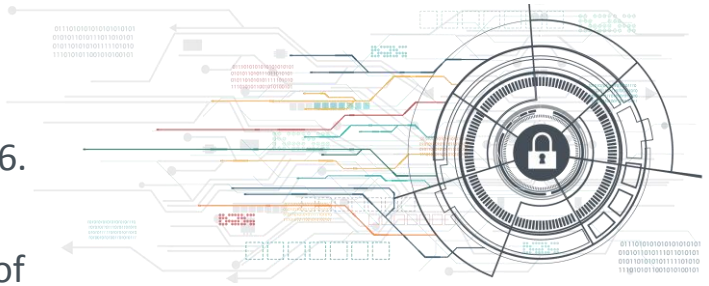
ESG IN ACTION

CASE STUDY: EQUIFAX

ESG Ratings for Equifax highlighted key data breach risks in Aug 2016.

Equifax had the lowest possible MSCI ESG Rating score and a score of 0/10 in the Privacy & Data Security Key Issue (lowest possible score).



AUG 2016

- MSCI ESG Research downgraded Equifax to "CCC" (lowest possible rating)

DEC 2016

- **Excluded from MSCI ESG Leaders Index**
- Class Action over credit reporting and unfair competition, moderate product safety and quality

JAN 2017

- USD 6.3 million penalty over alleged misleading claims related to credit score services, moderate marketing and advertising

SEP 2017

- Equifax confirms cybersecurity breach, compromising personal information of up to 143 million customers
- CEO, Richard Smith resigns

Personal information of up to
143 million customers
compromised

3 Equifax executives sold
USD 2 million
worth of shares, days after the cyberattack

Market value drops by
USD 5.5 billion
within 20 days of revelation

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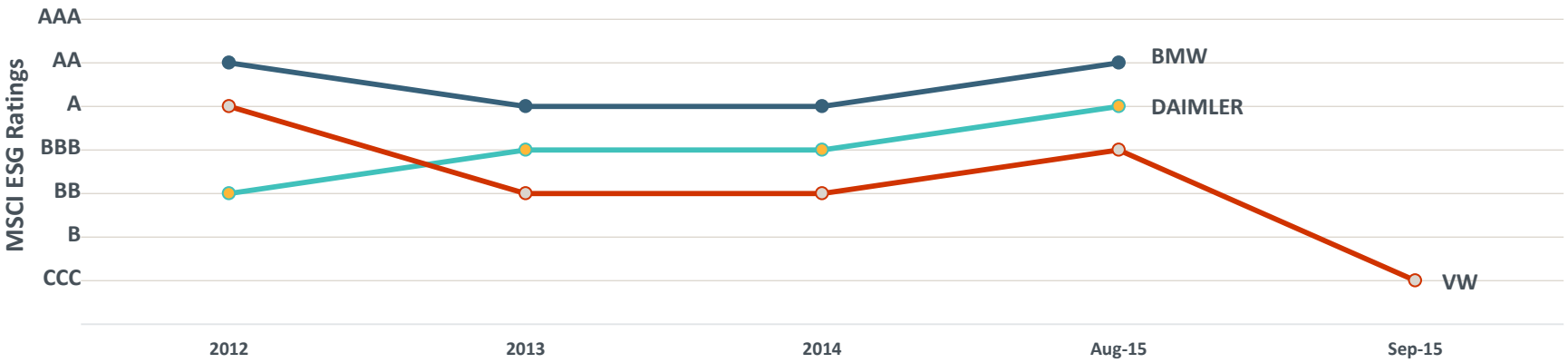
CASE STUDY: VOLKSWAGEN



2013 — 2015

Between 2013 and 2015

MSCI ESG Controversies flagged VW on controversies classified under the categories of product and service quality, bribery and fraud and collective bargaining

April 2015

VW's overall governance score was in the 28th percentile meaning it was lower than 72% of companies covered by MSCI ESG Research globally. It has been on a decline since last year

May 2015

VW was dropped from the MSCI ACWI ESG Leaders Index.
VW was not included in MSCI's Governance Indexes launched in April

August 2015

VW upgraded to 'BBB' from 'BB' because of proactive steps to lower the environmental impact of its products - reducing its vehicle fleet carbon emissions and recall rates in recent years

September 2015

Following the scandal VW further downgraded from **BBB to CCC** for MSCI ESG Ratings & from Yellow to Red Flag for MSCI ESG Controversies*

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For illustrative purposes only
*MSCI ESG Controversies flags controversy severity level at red, orange, yellow or green (most severe to no involvement).

CASE STUDY: FACEBOOK

Facebook Inc. has never been a constituent of the MSCI ACWI ESG Leaders Index or MSCI USA ESG Leaders Index

ESG SCORE CARD*

	WEIGHT	SCORE	QUARTILE
Environment	**5.0%**	**9.2**	
Carbon Emissions	5.0%	9.2	●●●
Social	**50.0%**	**2.1**	
Privacy & Data Security	28.0%	1.5	●
Human Capital Development	22.0%	2.8	●●
Governance	**45.0%**	**5.5**	
Corporate Governance	23.0%	6.0	●●●
Anticompetitive Practices	11.0%	3.7	N/A
Corruption & Instability	11.0%	6.4	●●●

March 27, 2018: MSCI has downgraded Facebook to BB on a AAA-CCC scale as of March 27, 2018. The previous rating of BBB highlighted our long standing concerns (since 2012).

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Source: https://www.msci.com/facebook-data-breach

WHAT IS ESG?

INVESTOR OBJECTIVE FRAMEWORK

FINANCIAL OBJECTIVES:

INTEGRATION

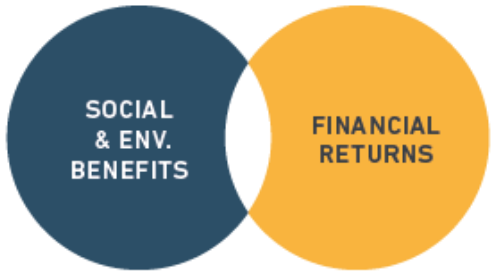
Incorporate ESG criteria to enhance long term return, manage ESG financial risk

BROADER GOALS:

VALUES

Align portfolio with investor's ethical or political values

IMPACT



Generate measurable social or environmental benefits as well as financial returns

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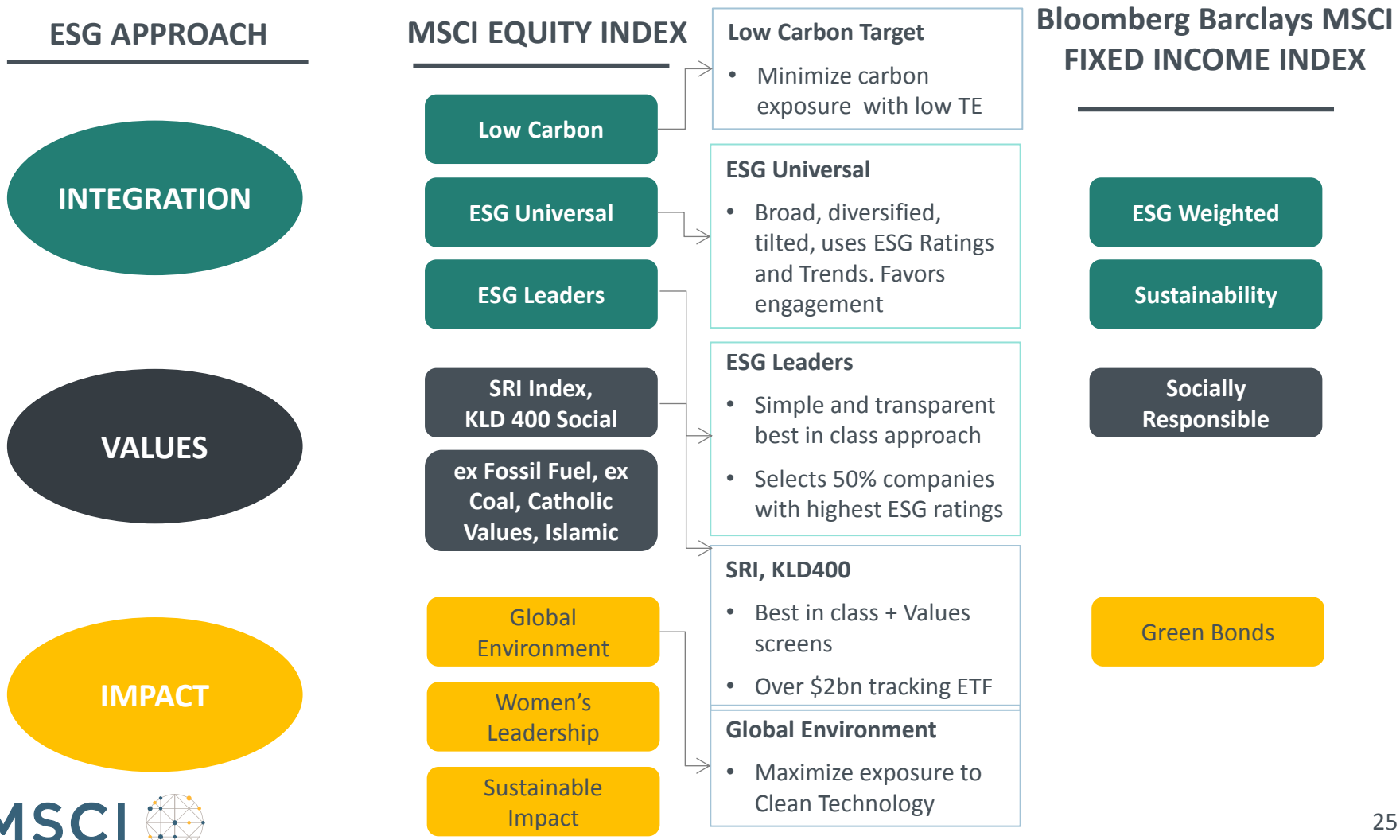
MSCI ESG INDEXES

With over 900 ESG indexes developed in-house using our proprietary transparent methodology , you can choose the indexes that meet your ESG integration objectives



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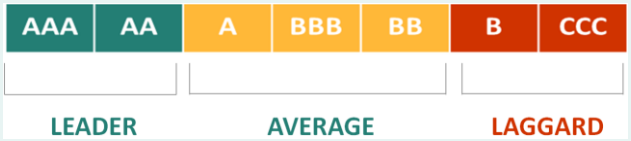
CONSTRUCTION OF ESG BENCHMARKS

Function	MSCI ESG Leaders
1. Base universe	MSCI World **Exclusions:** Alcohol, gambling, tobacco, weapons (≥ 50% revenues)
2. ESG Signal	**Use of ESG score only** 
3. Index methodology	• **Selection:** Best-in-class selection of top-rated 50% per GICS sector & region • **Weighting:** Market-cap weighted

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ESG INTEGRATION MAKES FINANCIAL SENSE…

- Mitigate short- and long-term ESG risk
- Meet their fiduciary obligations
- Mitigate Reputational risk
- Achieve risk-adjusted performance that match or exceed market cap indexes in most markets

May 2011 to September 2017

MSCI Index	ACWI	ESG Universal	ESG Leaders
Total Return %	8.3	8.7	8.6
Total Risk %	12.3	12.0	11.9
Return/Risk	0.67	0.72	0.73
Sharpe Ratio	0.64	0.69	0.70
Active Return %		0.4	0.4
Tracking Error %		1.0	1.0
Information Ratio		0.45	0.37
Hist. Beta	1.0	0.97	0.96
# Stocks	2,457	2,017	1,149
Turnover %	2.8	14.1	9.2
Price to Book	1.9	2.0	2.1
Price to Earnings	16.7	16.8	17.4
Dividend Yield %	2.6	2.7	2.6
ESG Score	5.5	6.3	6.6

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ETFS: ESGI

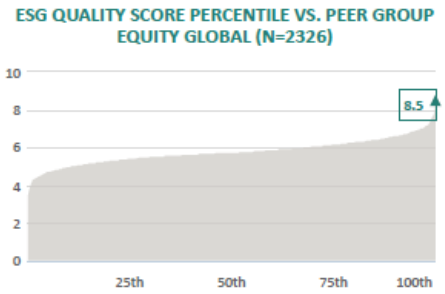
ESG Fund Metrics Report

VanEck Vectors MSCI International Sust Eq ETF

REPORT DATE:
JUNE 15, 2018

PEER percentile
100th/100

GLOBAL percentile
99th/100

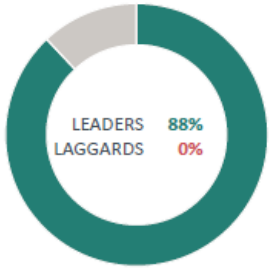


	FUND	PEER AVG
ENVIRONMENTAL SCORE	7.1	5.5
SOCIAL SCORE	6.0	4.7
GOVERNANCE SCORE	6.2	5.3

The ESG Quality Score measures the ability of underlying holdings to manage key medium to long-term risks and opportunities arising from environmental, social, and governance factors. The ***VanEck Vectors MSCI International Sust Eq ETF*** receives a high score of 8.5 out of 10, and has 88% exposure to ESG leaders and 0% exposure to ESG laggards. It ranks in the 100th percentile within the ***Equity Global*** peer group and in the 99th percentile within the global universe of all funds in coverage.

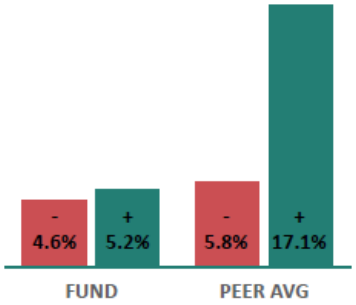
ESG Policy: Yes
ISIN: AU0000001356
Asset Class: Equity
Domicile: Australia
Peer Group: Equity Global
Holdings Count: 210
ESG Coverage: 99.5%
Holdings as of: April 30, 2018

EXPOSURE TO ESG LEADERS & LAGGARDS



ESG Leaders are companies with an ESG rating of AAA or AA (best in class). ESG Laggards are companies with an ESG Rating of B or CCC (worst in class).

EXPOSURE TO POSITIVE & NEGATIVE TREND

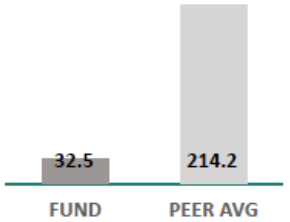


Companies with negative (- downgrade) and positive (+ upgrade) ESG rating trend compared to their previous ESG rating.

WEIGHTED AVERAGE CARBON INTENSITY

(t CO2e/$M Sales)

-85% VS PEER AVG



Measures a fund's exposure to carbon intensive companies. The figure is the sum of security weight multiplied by the security Carbon Intensity.

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WEALTH MANAGEMENT

WEALTH HOLDERS ARE ASKING DIFFERENT QUESTIONS

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ESG INVESTING ACROSS WEALTH MANAGEMENT

Client	Use case	ESG Trends
Home office	➢ Product creation ➢ Portfolio reporting ➢ Due diligence	• Incorporating ESG into the due diligence process to assess ESG characteristics of funds • Educating advisors on ESG investing • Tools to help advisors work with their clients
Financial Advisor	➢ Goal Planning and Advice ➢ Adding ESG into asset allocation models ➢ Reporting on ESG risk and impact	• Increasing interest from clients to align the investments with their values and to invest with impact • 83% of individual investors say that "personal values are somewhat or very important in making investment decisions"[1] • Transparency and reporting on ESG provides opportunity to deepen client relationships, increase retention, and attract new assets

[1] Some on Wall Street are making a new bet on investors' consciences. CNBC. 17 March 2017.

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ESG PORTFOLIO SUMMARY REPORT

MSCI ESG PORTFOLIO SUMMARY REPORT

REPORT DATE: February 28, 2018

Portfolio
ESG Sample Portfolio

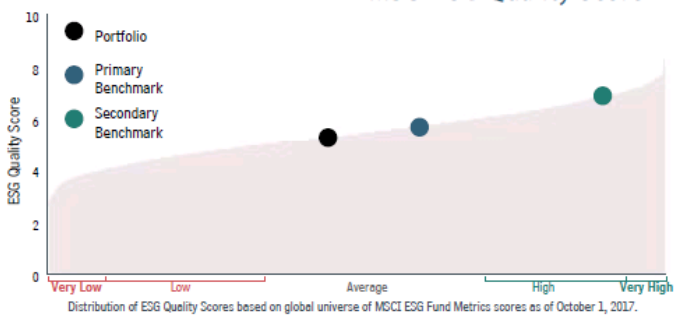
Primary Benchmark
MSCI World

Secondary Benchmark
MSCI World ESG Leaders

Summary ESG Assessment of Portfolio Holdings

ESG Quality	Average 7.9% below benchmark
ESG Ratings Distribution	Laggards 3.6% above benchmark Leaders 5.2% below benchmark
ESG Momentum Distribution	Downward 3.7% above benchmark Upward 7.8% above benchmark

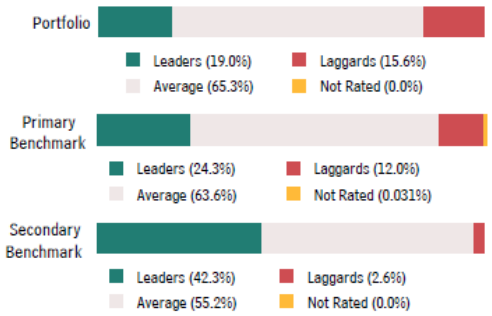
MSCI ESG Quality Score



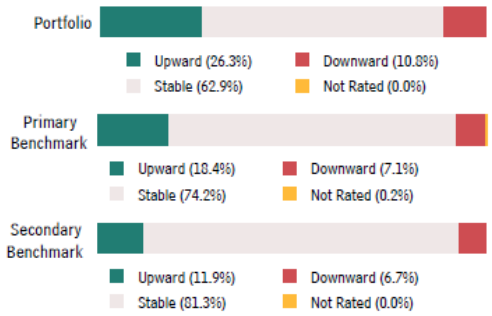
Distribution of ESG Quality Scores based on global universe of MSCI ESG Fund Metrics scores as of October 1, 2017.

Portfolio Score: 5.23
Primary Benchmark Score: 5.68
Secondary Benchmark Score: 6.83

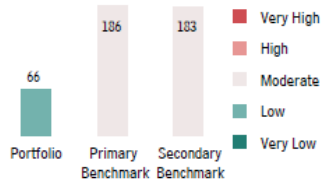
ESG Ratings Distribution



ESG Ratings Momentum

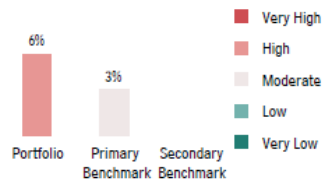


Carbon Risk
(t CO2e/$m sales)



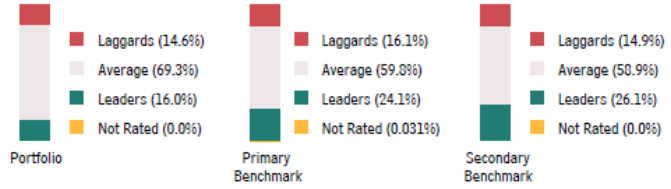
Low Carbon Risk
64.3% less than benchmark

Reputational Risk
(Very Severe Controversy Exposure)



High Reputational Risk
2.6% greater than benchmark

Governance Risk
(Global Percentile)



Laggards 1.4% less than benchmark
Leaders 8.0% less than benchmark

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Page 1 of 3

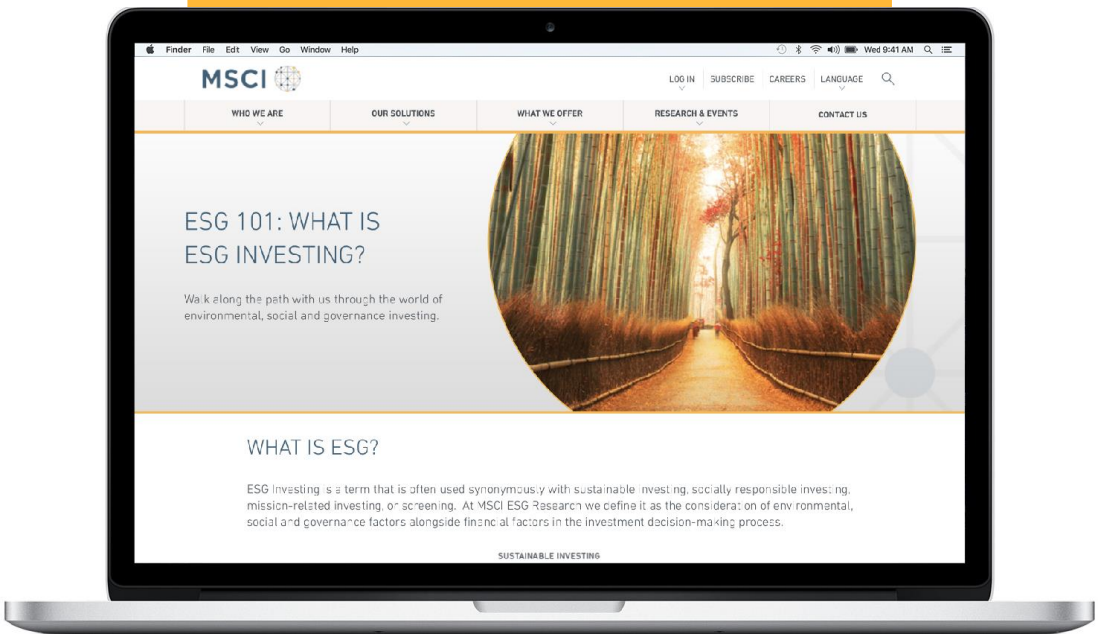
ESG101.COM

AN INTERACTIVE ONLINE RESOURCE TO LEARN ABOUT ESG INVESTING

TOPICS COVERED

1. What is ESG Investing and it's evolution from exclusionary screening to ESG integration
2. Three common ways investors may approach ESG
3. Drivers of demand for ESG from institutional investors, wealth managers and millennials
4. Research on ESG's historical relationship with returns
5. Case studies on how ESG has been used to identify ESG risks and opportunities

"A great starting point for anyone." - Dave Nadig, CEO, ETF.com



RESOURCES AVAILABLE FOR DOWNLOAD INCLUDE

- ❑ Research studies on ESG and performance
- ❑ Thematic insights covering executive compensation, gender diversity and climate change
- ❑ And more!

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