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GRESB Head of Americas

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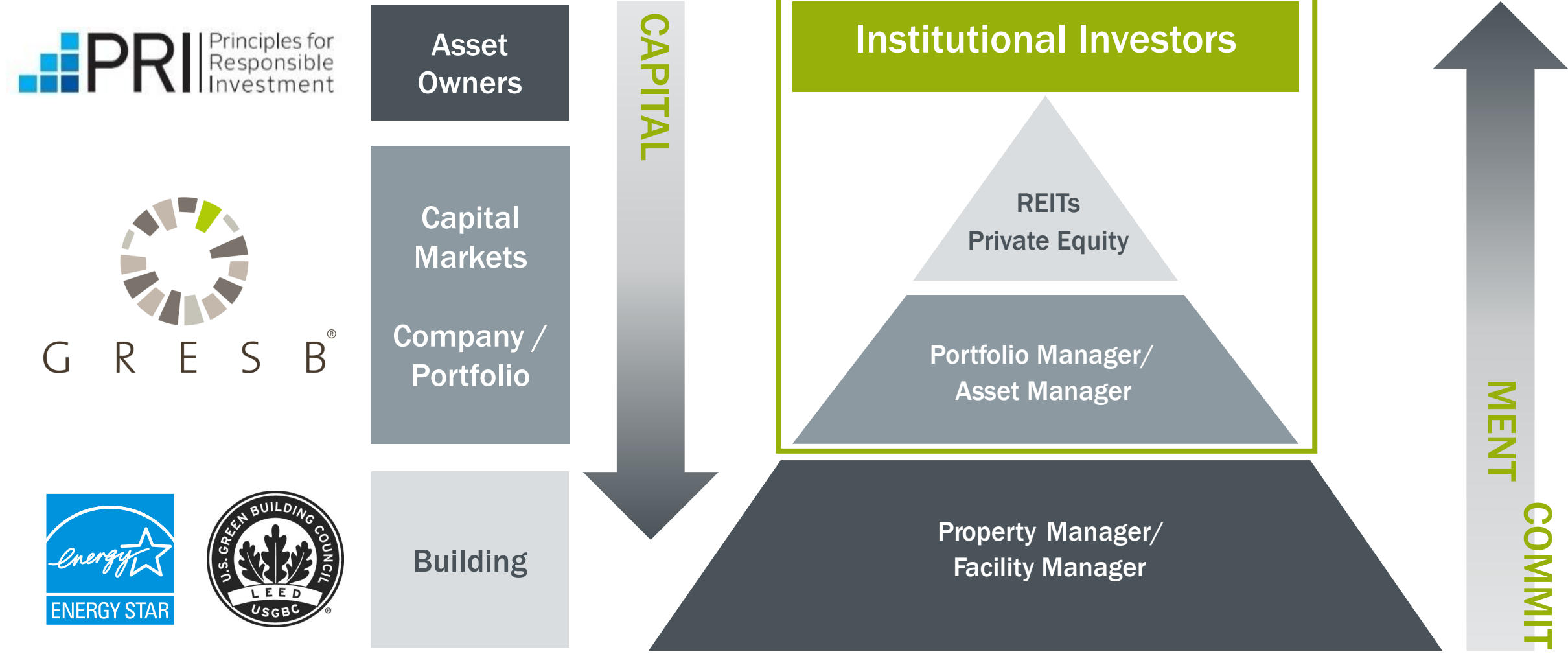
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Sustainability Engagement Drivers

ESG in the capital markets





Enhance and protect **shareholder value** by assessing and empowering sustainability practices in the **real asset sector**

GRESB Reporting Framework

Annual ESG disclosure for real asset portfolios

2009



Assesses the ESG performance of property companies, fund managers and developers

2015

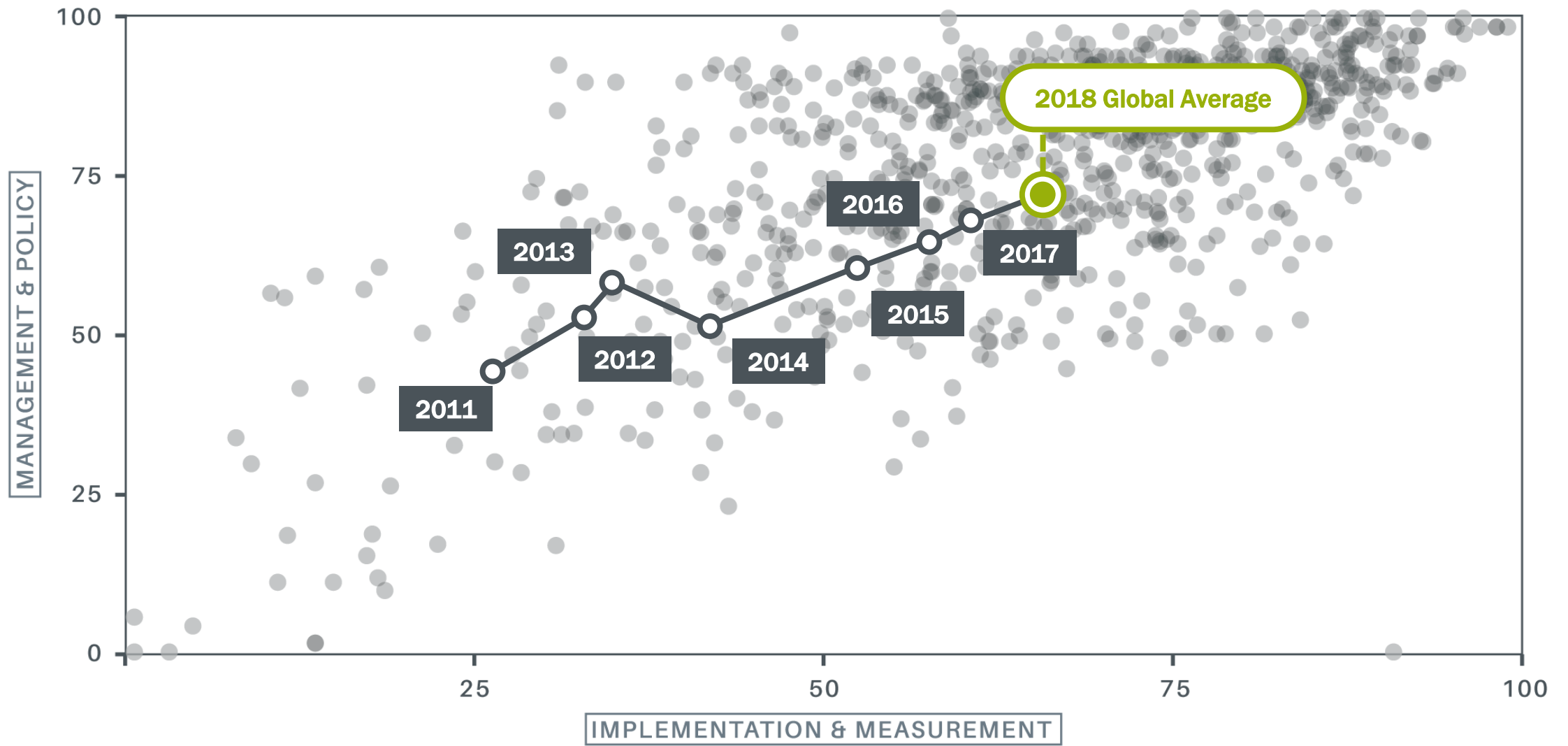


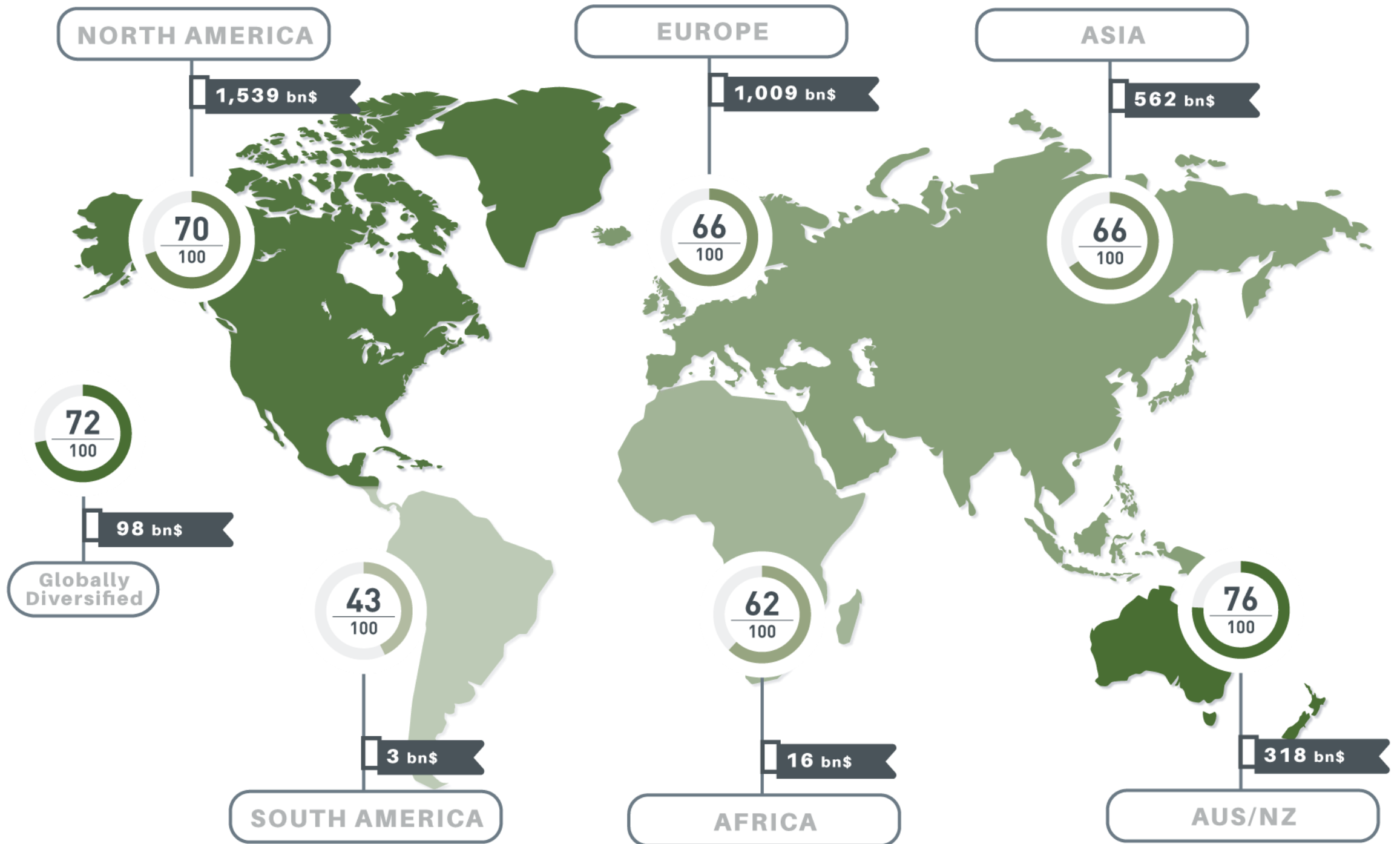
Assesses ESG performance of real estate lenders

2016



Assesses the ESG performance of infrastructure assets and portfolios







YEARS 1 - 3

YEARS 2 - 5

YEARS 3+

COMPLIANCE

CURIOSITY

COMPETITION

RISK
MANAGEMENT

BUSINESS
VALUE



G R E S B[®]



2018 RESULTS

Sustainable Real Assets



75 funds (+17%)
280 assets (+75%)



62 countries



24 sectors



Funds: \$100bn+
Assets: \$500bn+

(GAV)



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Sustainable Real Assets



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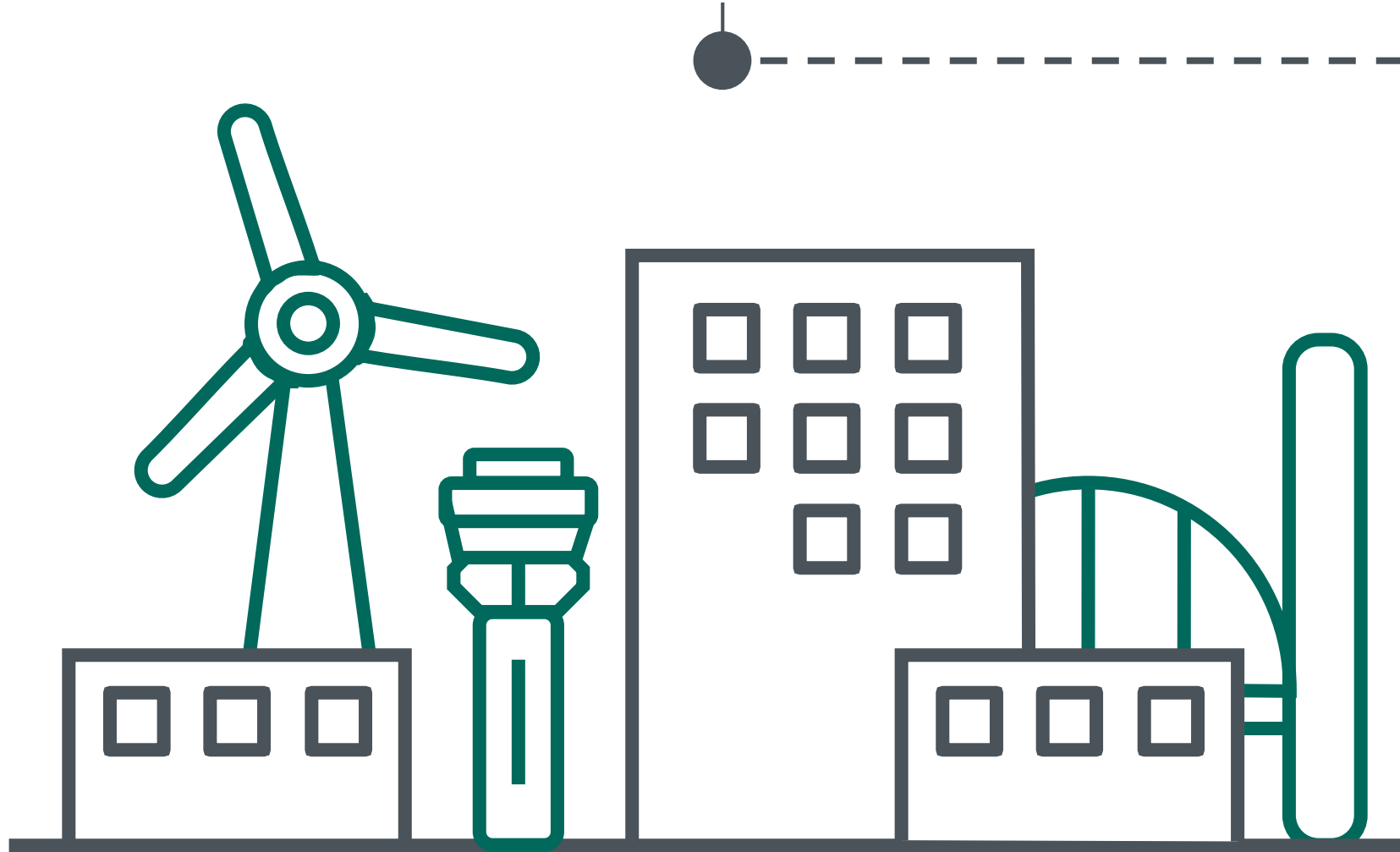
24 sectors



**Funds: \$100bn+
Assets: \$500bn+**

(GAV)

MORE INFRASTRUCTURE



REAL ASSETS

Regulatory environment

**Long-term investment in
illiquid assets**

Importance for society

Opportunities

**Sustainable infrastructure
source of deal flow**

**Anticipating changing
regulations and
developments**

**Investors want to understand the non-financial risks that
can severely impact returns and reputation**

Investor Members



Fund Manager, Asset Operator and Company Members

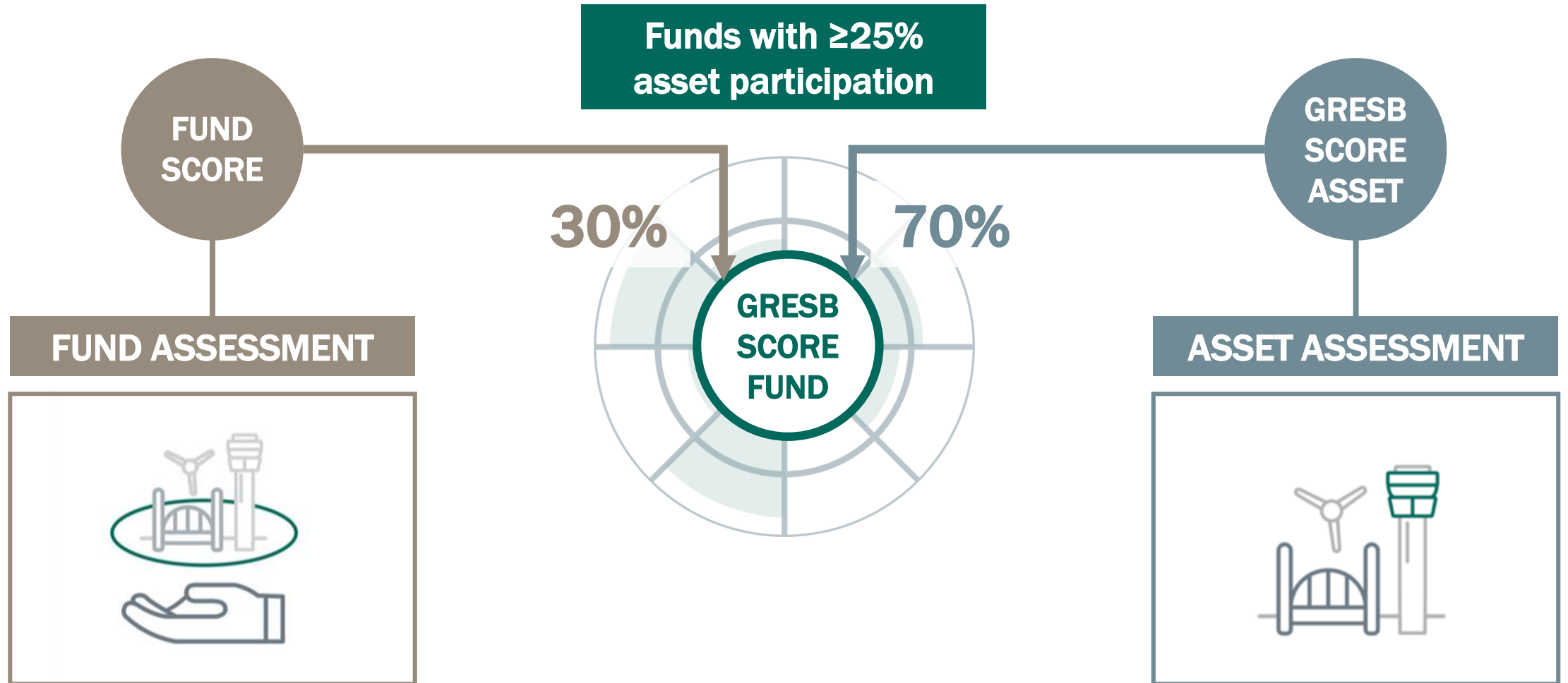




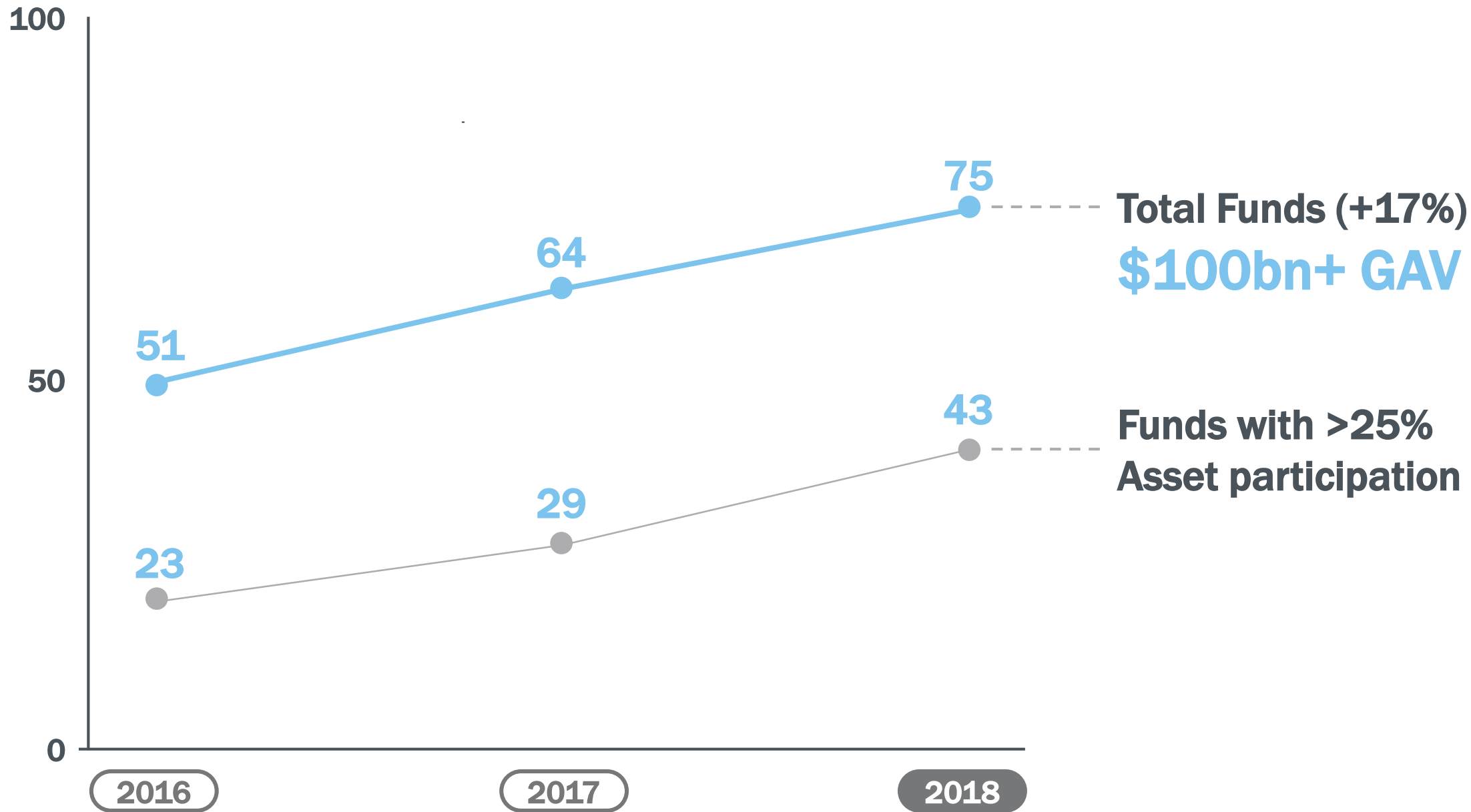
G R E S B[®]
INFRASTRUCTURE

Assessment Framework

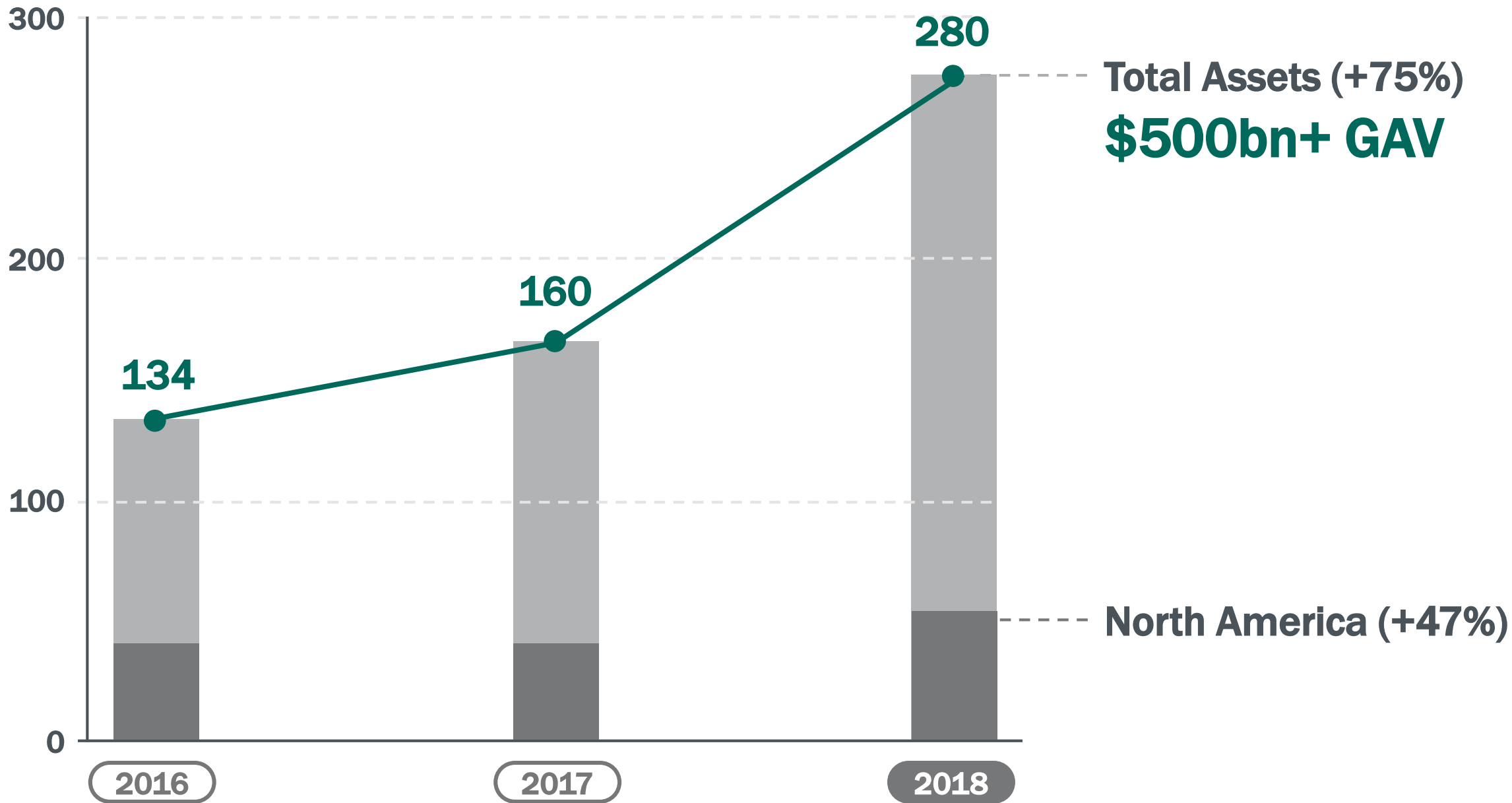
Two complimentary assessments



No OF PARTICIPANTS



No OF PARTICIPANTS





G R E S B[®]
INFRASTRUCTURE

Fund Assessment

Funds Improving in Almost All Areas

11 Indicators in the Fund Assessment



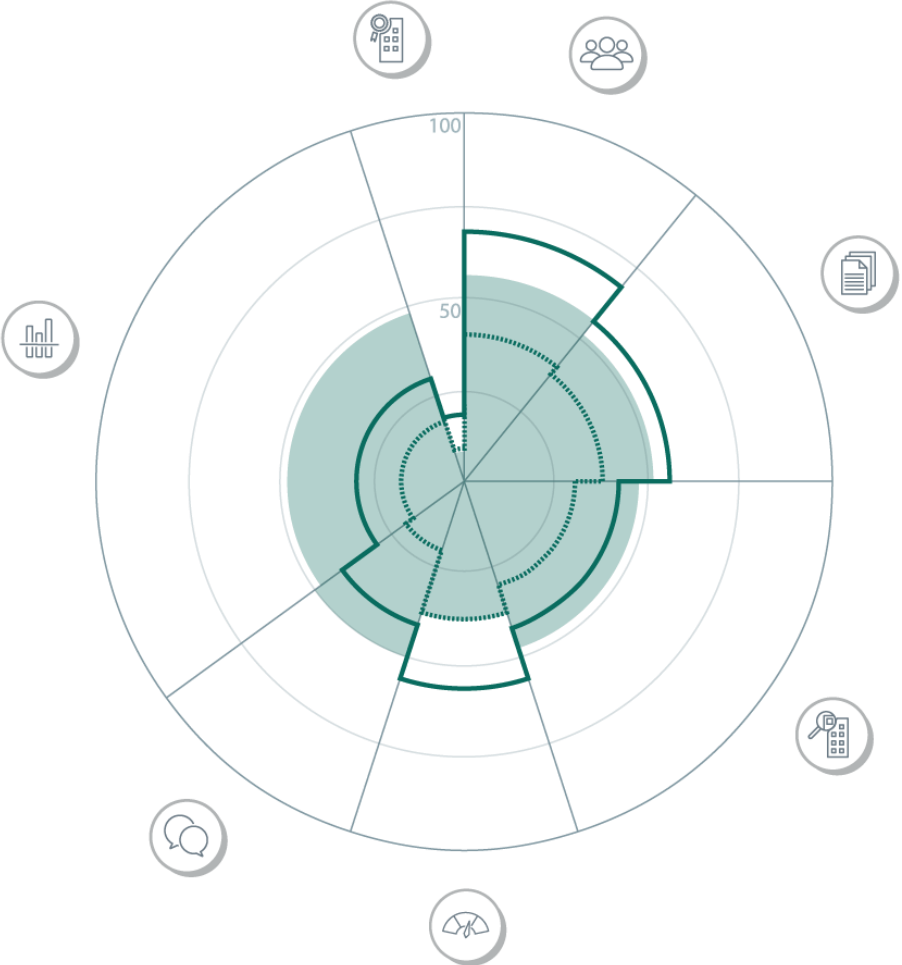


G R E S B[®]
INFRASTRUCTURE

Asset Assessment

GRESB Aspects

Global



-11

MANAGEMENT
57



-4

POLICY & DISCLOSURE
52



+8

RISKS & OPPORTUNITIES
47



-19

MONITORING & EMS
38



+9

STAKEHOLDER ENGAGEMENT
50



+19

PERFORMANCE INDICATORS
48



-11

CERTIFICATIONS & AWARDS
7

2018

2017

2016

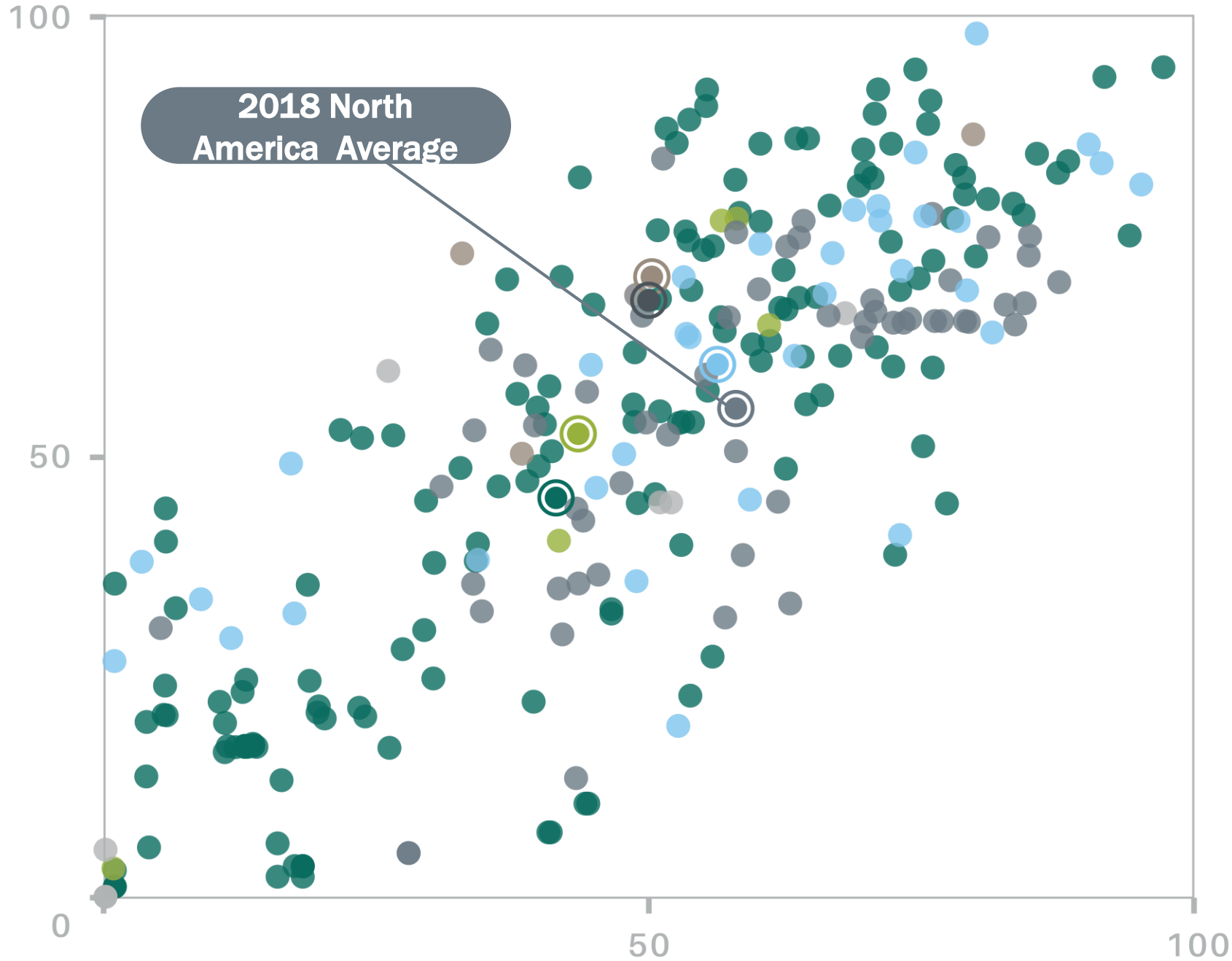


— decreased
compared
to 2017



— increased
compared to
2017

MANAGEMENT & POLICY



IMPLEMENTATION & MEASUREMENT

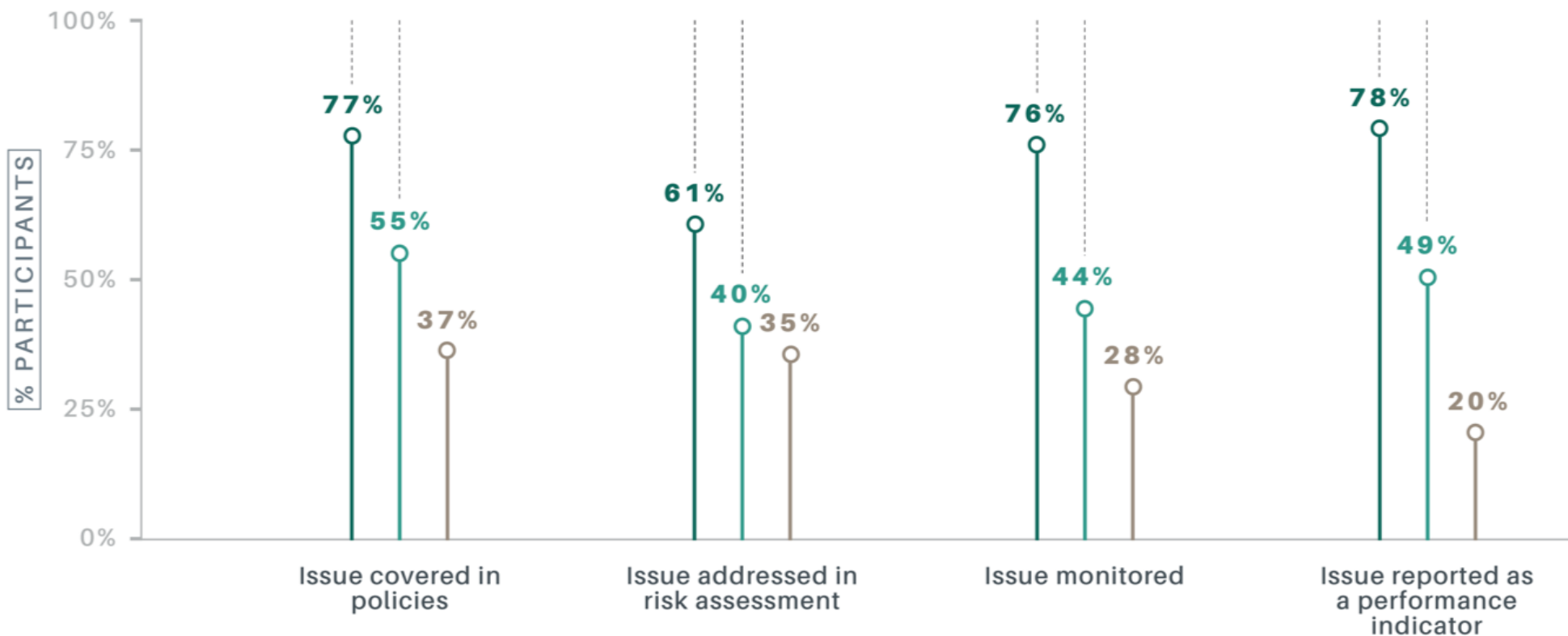
REGIONAL
AVERAGE SCORE



- AFRICA
- ASIA
- AU/NZ
- GLOBAL
- EUROPE
- NORTH AMERICA
- SOUTH AMERICA

Materiality Approach Strongly Supported

92% agreement with standard sector weightings



○ — HIGHLY RELEVANT ○ — RELEVANT ○ — NOT RELEVANT

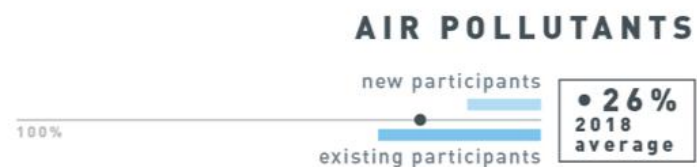
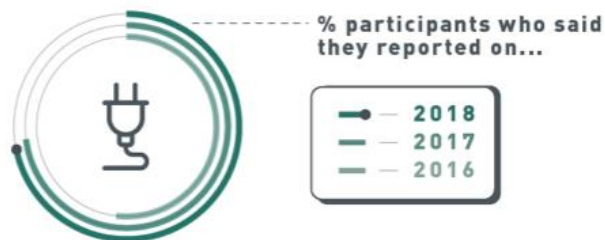


% AGREEMENT WITH
STANDARD SECTOR
WEIGHTINGS

92%

Reporting on ESG Performance

Strongly Affected by New Participants



WATER



BIO-DIVERSITY & HABITAT



GREENHOUSE GAS EMISSIONS

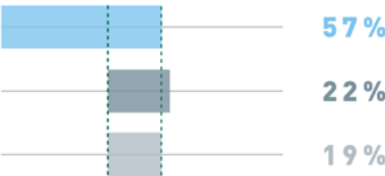


Intensity Metrics

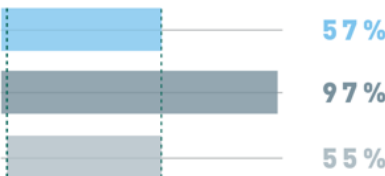
Towards Standard Performance Metrics

1. ENERGY

Energy intensity =
Energy Consumption / output
(MWh/output)

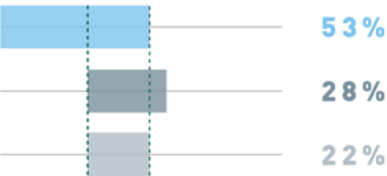


Energy intensity =
Energy Consumption / GAV
(MWh/\$)

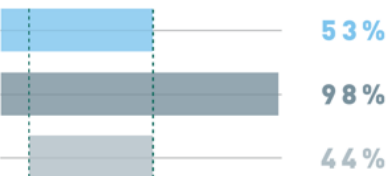


2. GHG EMISSIONS

GHG intensity =
GHG (scope 1 & 2) / output
(tCO2e/output)

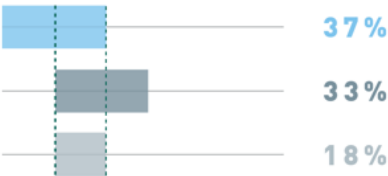


GHG intensity =
GHG (scope 1 & 2) / GAV
(tCO2e/\$)

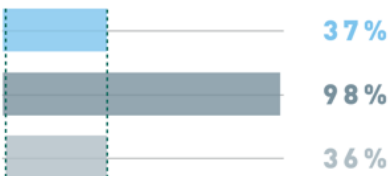


3. WATER

Water intensity =
Water Consumption / output
(ML/output)

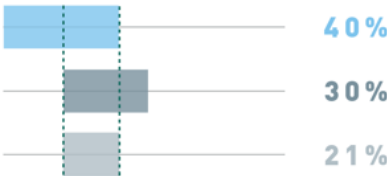


Water intensity =
Water Consumption / GAV
(ML/\$)

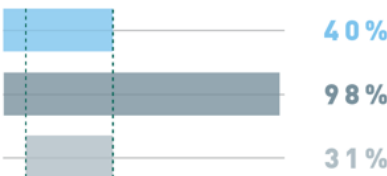


4. WASTE

Waste intensity =
Total Waste disposed / output
(Tonnes/output)



Waste intensity =
Total Waste disposed / GAV
(Tonnes/\$)



% participants reporting numerator

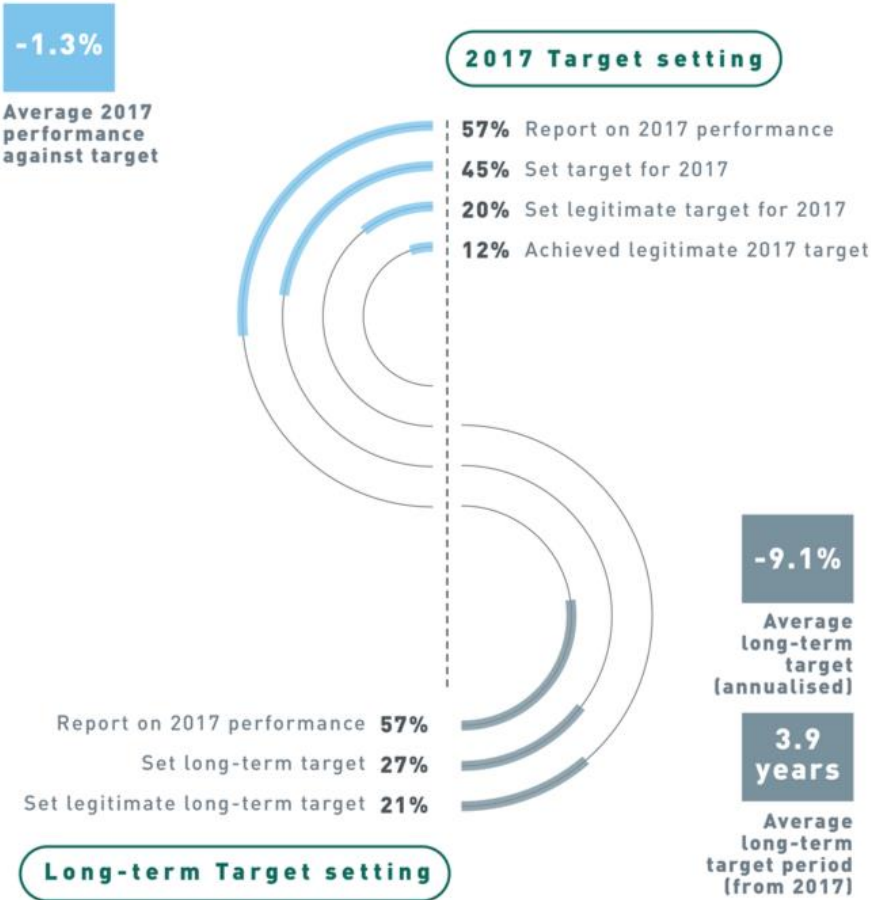
% participants reporting denominator

% participants able to report on intensity

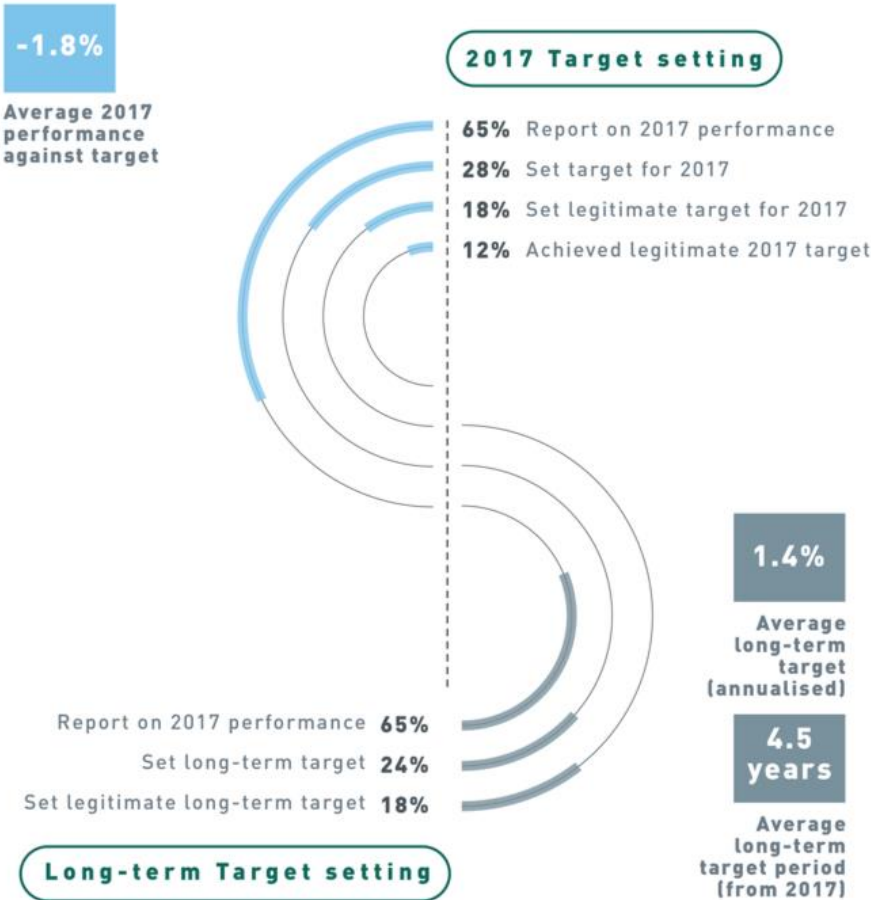
Performance Targets

Room for Improvement

ENERGY CONSUMPTION



GHG EMISSIONS (SCOPE 1 & 2)



Fund - Sector Leaders

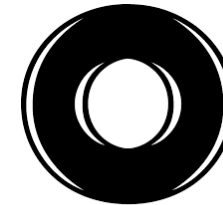
Sector Diversified



Renewable Power
Generation



Other Sectors



MACQUARIE

Europe



Globally Diverse



Other Regions



Asset - Sector Leaders

Transport

Transurban

Transport - Airports

Adelaide
Airport

Transport - Ports

ABP

Transport - Rail

ALPHA α TRAINS

Transport - Roads

Transurban

Social Infrastructure


mirova
Responsible Investing
HELIOS

Social - Health


Opal
specialist aged care

Social - Education


mirova
Responsible Investing
UDICITE

Data Infrastructure

TOWERCOM

Asset - Sector Leaders

Energy Resources



Network Utilities



Power Generation X- Renewables



Renewable Power Generation



Solar Power



Wind Power



Other-Sectors



Diversified





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