GRESB®
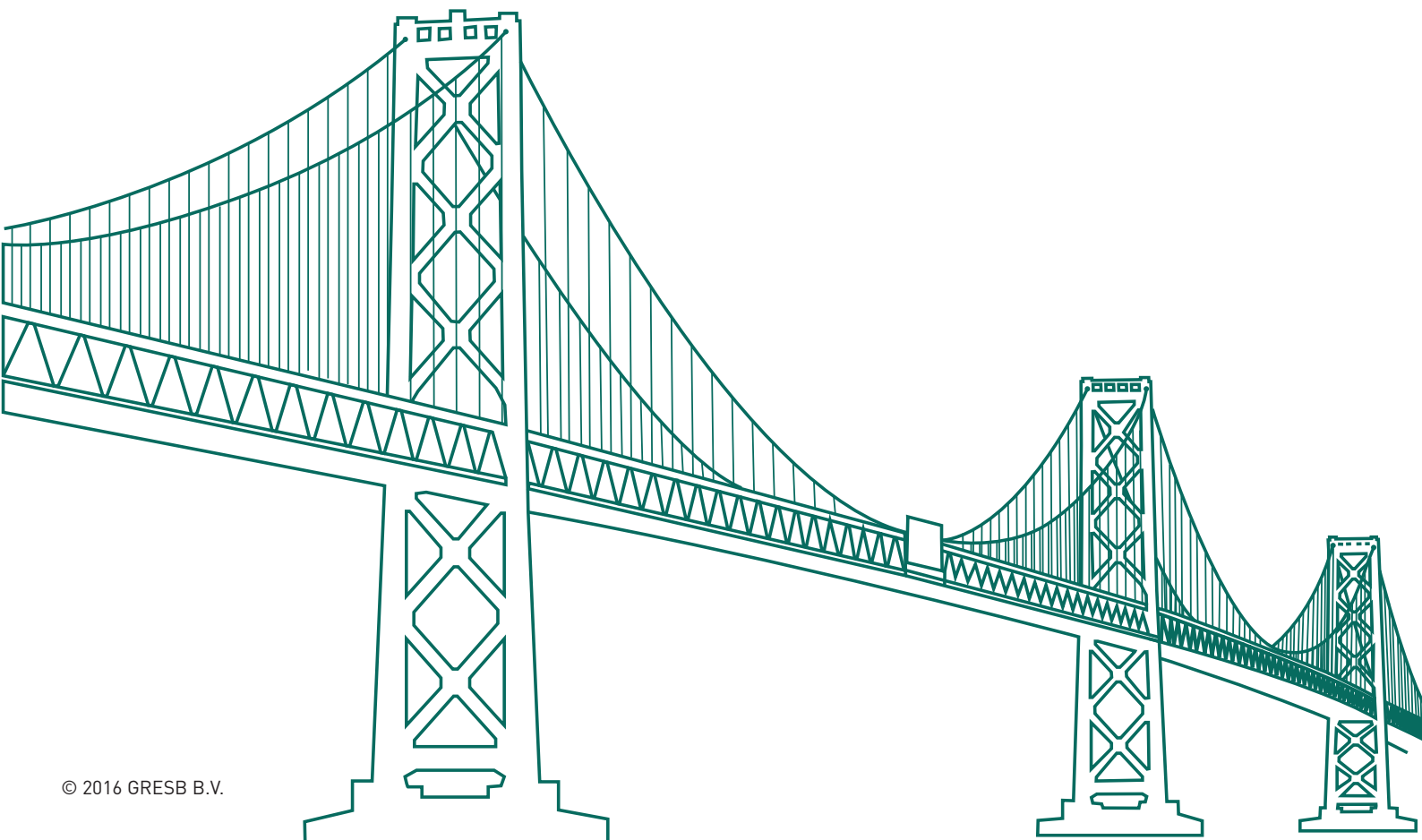## INFRASTRUCTURE

2016 Report

Infrastructure is the foundation and connective tissue of society. With urbanization continuing and the global middle class rising, the world is facing a significant need for the services provided by infrastructure: energy, water, mobility, and much more. At the same time, humanity is facing the biggest challenge of its time in climate change and its potentially devastating consequences. Infrastructure stands central in this challenge. The next generation of infrastructure must deliver needed services and protect human health and the environment. The global capital market has an important role to play in guiding this balancing act by establishing clear performance expectations and engaging with investments to improve performance over time. This role naturally aligns with the capital market's fiduciary duty: as capital commitments can span decades, understanding long-term risk is critical for prudent investment. This report presents the data of the first globally applicable, investor-focused assessment of environmental, social, and governance (ESG) management and performance for infrastructure assets and funds. The initiative has been inspired and guided by 10 leading institutional investors. The GRESB Infrastructure assessment has been embraced by almost 200 infrastructure assets and funds in its first year. The new assessment provides unprecedented transparency for investors to make more informed decisions, and infrastructure companies and funds to improve their ESG performance. This new information will accelerate a critical market transformation by recognizing and rewarding infrastructure funds and assets that demonstrably contribute to a low-carbon, resilient society.

Nils Kok, CEO GRESB

GRESB Infrastructure Founding Members

In the context of the ambitious goals set by the COP-21 agreement in Paris, the development and operation of infrastructure projects will play an important role in the ultimate achievement of CO_2 reductions by individual countries. An increased interest from institutional investors in "sustainable infrastructure" - infrastructure that is low carbon, climate resilient and socially inclusive - can already be observed. The interest will not just be in sustainable infrastructure; the focus on the Environmental, Social and Governance (ESG) performance of the broader infrastructure market is also likely to increase. According to a recent Preqin survey, 52% of institutional investors, such as banks, insurance companies, pension funds, and sovereign wealth funds, now consider ESG factors when investing in infrastructure funds, a higher percentage than for private equity, real estate, or investments in natural resources.

In 2014, a group of 10 global institutional infrastructure investors, representing $1.5 trillion in assets under management, came together to address the critical question of how to develop a global sustainability benchmarking tool for infrastructure assets and funds. Their objective was to develop a framework for systematic assessment, objective scoring, and peer benchmarking of the ESG performance of infrastructure investments. This group of forward-looking investors recognized the lack of such a global standard and became the founding members of GRESB Infrastructure.

GRESB, established in 2009, is an industry-driven organization committed to assessing the ESG performance of real assets globally, including real estate portfolios (public, private and direct), real estate debt portfolios, and infrastructure. More than 250 members, including some 60 pension funds and their fiduciaries, use GRESB data in their investment management and engagement process, with a clear goal to optimize the risk/return profile of their investments.

The result of the collaboration between the 10 founding institutional infrastructure investors and GRESB, the GRESB Infrastructure Assessment, was released on April 1, 2016. This globally applicable benchmarking and reporting framework is designed to meet an institutional investor's dual need: an assessment that aims to uncover ESG risks and opportunities alongside a benchmark comparison highlighting ESG performance metric differentials among operating investments. The GRESB Infrastructure Assessment is split into an Assessment for infrastructure funds and an Assessment for infrastructure assets or operating companies. It has an initial focus on existing infrastructure (greenfield assets will follow in 2017) and covers a broad range of business activities.

The aggregated data of the inaugural GRESB Infrastructure Assessment are published in this report. A total of 51 infrastructure funds and 134 infrastructure assets participated in the 2016 GRESB Infrastructure Assessment. The data cover 53 countries across six continents. Reporting funds and assets carry out a variety of business activities such as the operation of ports, airports, toll roads, conventional and renewable energy, and social infrastructure.

The main findings of the 2016 GRESB Infrastructure investment include:

- The overall ESG performance of funds is strong, but particularly at the fund indicator level. Performance leaves significant room for improvement when it comes to the ESG performance of the underlying assets.
- The average GRESB Score for infrastructure assets is low and scores show a wide dispersion across infrastructure types.
- The data for infrastructure assets demonstrate a strong variation in average GRESB Scores per region. Assets that are diversified by region achieved the highest ESG scores and assets in Australia and New Zealand achieve relatively high scores as well.
- Managing environmental risks is key for most infrastructure business activities, as demonstrated by a high level of adoption of environmental policies.
- Reporting on environmental performance indicators is not common practice yet. This is reflected in relatively low average scores for this aspect.
- Aspect scores are on average highest for the Implementation aspect, and lowest for the aspect Certification & Awards.

Acknowledgements

Contents

Structure

GRESB Infrastructure is one Assessment with two complementary components: the Fund Assessment and Asset Assessment. The Fund Assessment contains ten indicators focused on management and the investment processes. The Asset Assessment is organized around eight core Aspects, including Management, Policy & Disclosure, Risks & Opportunities, Implementation, Monitoring & Environmental Management Systems, Stakeholder Engagement, Performance Indicators and Certifications & Awards. These Aspects include 32 indicators.

Process

Funds and assets participated in the GRESB Infrastructure Assessment from April 1 2016 to July 15 2016. Fund participants completed Entity and Reporting Characteristics, 10 indicators and an Asset table. Asset participants completed Entity and reporting Characteristics and 32 indicators. Participants are required to answer a question with a basic yes/no answer for each indicator. Participants can optionally provide (17) additional information and evidence.

Data quality

Information provided by funds or assets is subject to GRESB's multi-level validation process. The purpose of data validation is to encourage and ensure submission of high quality information, and is an important element of GRESB's roadmap to investment grade data. Following the submission deadline and prior to analyzing the data, GRESB validates participants' input data. In 2016 this process continued from the closing of the Assessment period on July 15 until the mid-September. The GRESB Infrastructure Assessment follows the three-layer validation process that was established by GRESB in 2015.

All Participants Check

- Checks on all Fund and Asset Assessment participants
- Validation per question with a secondary review system
- Focus on open fields including third-party organization names, assurance, audit, certification and verification standards and 'other' answers provided to Assessment questions

Validation Plus

- Validation Plus of data based on random sampling of participants. In 2016 23% of participants were sampled for validation plus.
- Validation per participant with a secondary review system
- Document review of all optional supporting evidence
- Review of tables and examples

Site Visits

- Random selection of participants within regions. In 2016, 9 participants were selected.
- In-depth review of the Assessment and optional supporting evidence
- Focus on supporting evidence, performance indicators, business activities and the process of participation

GRESB Infrastructure Data Resources

GRESB Infrastructure Investor Members and participants can use the data and information provided by GRESB to better understand immediate sustainability risks, to engage with the management of their investments, to take advantage of ESG-related investment opportunities and to report to stakeholders.

Scorecards - All GRESB Infrastructure Assessment participants will receive a Scorecard with a summary of their overall performance and information on each GRESB Indicator (for funds) or Aspect (for assets).

Benchmark Reports provide an in-depth analysis of a participant's sustainability performance. They contain question-by-question analyses and peer group comparisons for each of the sections in the GRESB Assessment.

GRESB Portal - Investor Members can request access to GRESB data for all their investments in funds and assets. Investors can view and download individual Assessment and Benchmark Reports for each of their investments via the GRESB Member Portal.

Portfolio Analysis Tool - Investors can use the Portfolio Analysis Tool to compare results for a particular region or business activity. They can also perform portfolio analysis for self-selected groups of their investments, including application of weights and customized benchmarks.

The inaugural GRESB Infrastructure Assessment includes a total 185 reporting entities. This response can be broken down into infrastructure funds and infrastructure assets.

Fund Response

In 2016, 51 infrastructure funds participated in the GRESB Infrastructure Assessment. All responding funds are private funds. To receive an overall Fund Score, funds have to participate with at least 25% of their investments. Half of the reporting funds (24) participated with one or more of their asset investments. Categorizing funds based on sector focus, it is notable that most funds have a diversified sector focus (30). Funds that are not diversified focus on one or more of the following sectors: renewable energy (16), conventional energy (5), telecommunications (2), water resources (1), transportation (1), waste (2) and social infrastructure (4).

Asset Response

A total of 134 assets participated in the GRESB Infrastructure Asset Assessment.

The assets are located all over the world: 73 are located in Europe, 38 in North America, 21 in Australia and New Zealand and one in Africa.

Most assets participating in 2016 are privately owned (123), while a few are listed companies (3), governmental organizations (2) or other organizations (6).

These assets cover a broad range of business activities. The highest number of assets are active in energy generation (47), which can be broken down into 29 renewable generation assets and 16 conventional generation assets. The transport sector also has extensive coverage with a total of 28 of assets including 8 airports, 7 ports, 8 toll road operations and 4 other transport assets. Social infrastructure is another business activity with substantial participation (17). Other business activities included are energy transmission & distribution (16), telecommunications (9), water resource management (6), waste (1), diversified activities (4) and other (4).

2016 Response Rate by Region/Sector
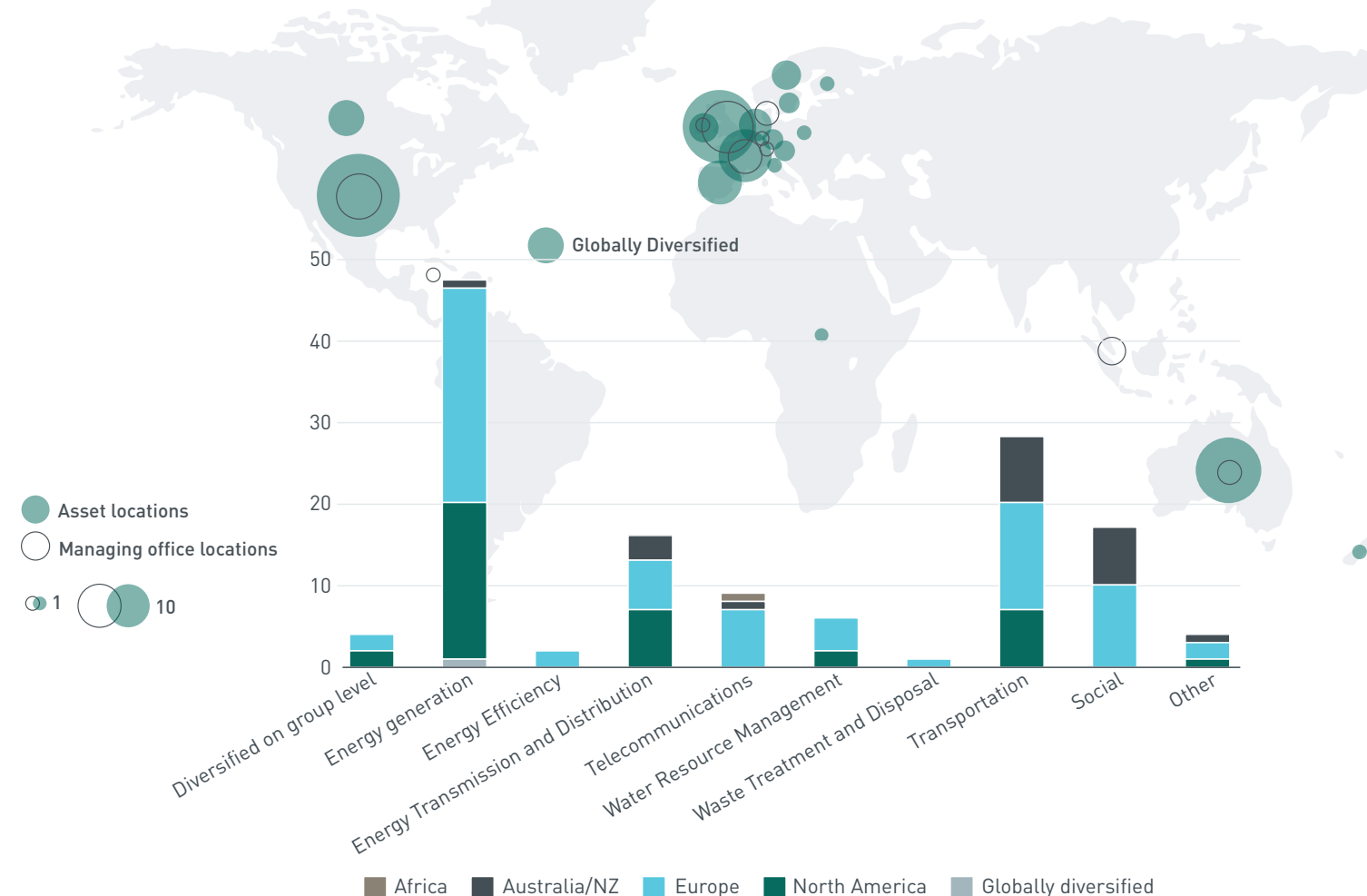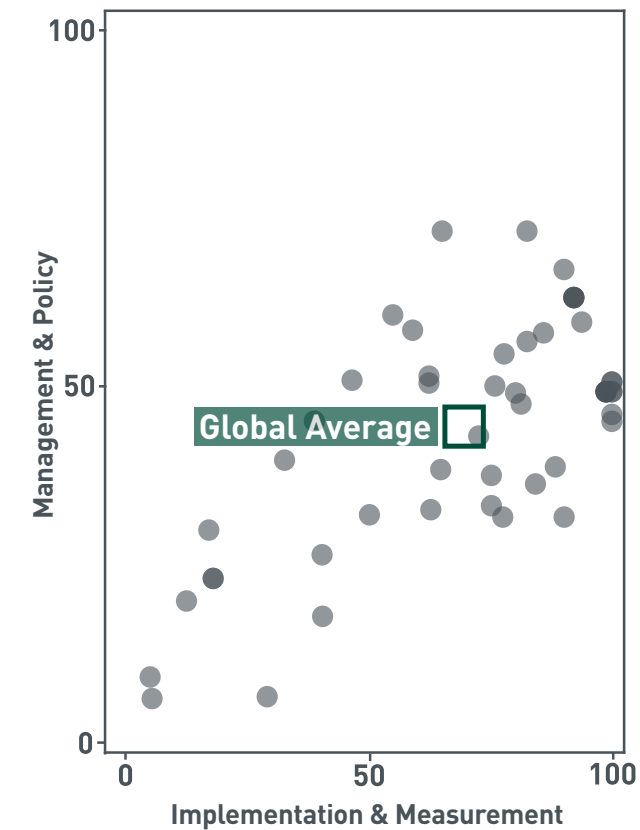
GRESB Model (Funds/Assets)

The average score achieved in the Fund Assessment by the 51 participating infrastructure funds is 54.

23 out of 51 funds report not just on ESG practices at the fund level, but also on ESG performance of assets in the fund. The average overall GRESB Score of those 23 funds is 33 (out of 100) – this reflects the relatively low coverage of assets in funds, as well as the scores of reported assets.

Comparing the average score of underlying assets against the average score on the Fund Assessment, it is notable that asset scores generally decrease the overall GRESB Score. Only one responding fund achieved a weighted average Asset Score higher than 50, while two-thirds had a Fund Score higher than 50. The weighted average score of underlying assets is determined by the GRESB scores for the assets and the total weight of the assets that participate in the GRESB Infrastructure Assessment.

The outcomes of the GRESB Fund Assessment can be broken down into sub scores for the dimensions of Management & Policy (60% weight) and Implementation & Measurement (40% weight). The average score for Implementation & Measurement is 70 while the average score achieved for Management & Policy is just 44. Looking at the distribution of scores, the chart shows that approximately one-third of funds scores higher than 50 on both Management & Policy and Implementation & Measurement. Importantly, funds only score higher than 50 on Management & Policy if they score higher than 50 on Implementation & Measurement.

GRESB Model (Fund Scores)

The average GRESB Score for all assets reporting to the GRESB Infrastructure Assessment in 2016 is 28. Looking at the average scores per region, the scores show quite some variation:

- North America - 28
- Europe - 26
- Australia and New Zealand - 35
- Africa - 30
- Diversified - 43

The outcomes of the GRESB Infrastructure Asset Assessment are also reflected in sub scores for the dimensions of Management & Policy (45% weight) and Implementation & Measurement (55% weight). Effective Management & Policy forms the foundation for ESG outcomes, but should of course result in implementation action and operational performance to ultimately meet ESG objectives.

In the inaugural GRESB Infrastructure year, only 7 out of 134 participating assets achieved scores higher than 50 on both Management & Policy and Implementation & Measurement. Overall, assets achieved higher scores on Management & Policy indicators (34) than on Implementation & Measurement (24). Implementation & Measurement includes Aspects such as Performance Indicators and Certifications & Awards. The results show that participating assets generally achieved low scores on these Aspects.
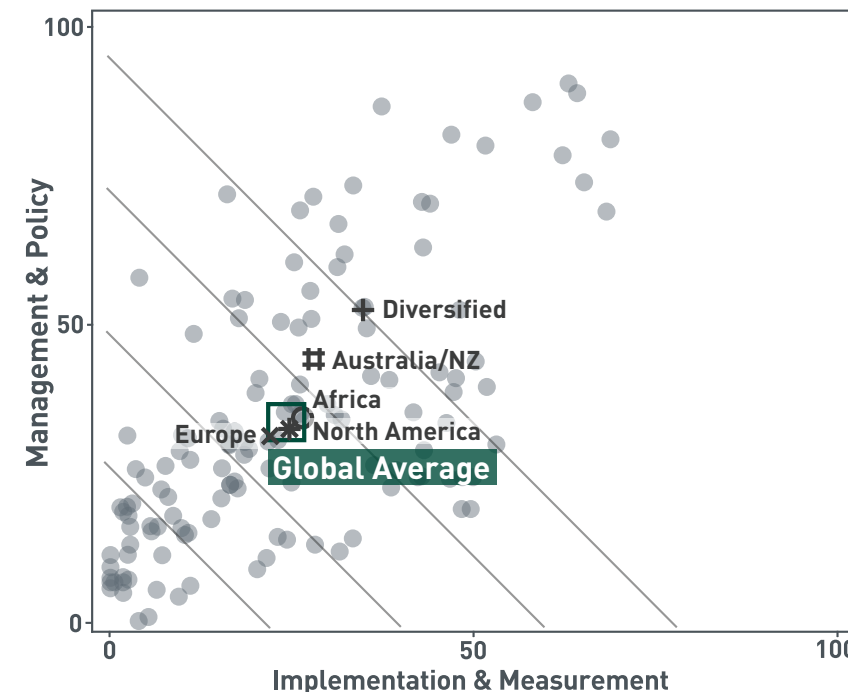
GRESB Aspects

Aspect Scores

Taking a closer look at the Aspects, the results show a wide range of average scores. Implementation is the Aspect on which infrastructure assets achieve the highest scores (43). Other Aspects with high average scores include Management (42), Policy & Disclosure (39) and Monitoring & EMS (39). This finding demonstrates that assets are generally on track with embedding ESG management in their organizations.

In sharp contrast, most assets receive a low score on Certifications & Awards (9), reflecting that project-level and organizational-level ESG ratings are not often used yet. Assets achieve the second lowest scores on Performance Indicators (17). In the first year, Performance Indicators, including energy and water consumption, carbon emissions, etc., were scored based on coverage and the extent of information provided by participants. The low average score for Performance Indicators reflects that, even though quite some infrastructure assets have embedded ESG elements in their strategy, policies and processes, actual measurement of data and reporting is still in its infancy.

GRESB Model (Asset Scores)

FUND RESULTS - HIGHLIGHTS

ESG Indicators

Legend
0%
> 0 - 25 %
25 - 50 %
50 - 75 %
75 - 100%

Categories (top to bottom):
- ESG policy or policies
- Commitment to ESG leadership standards or groups
- Senior decision-maker on ESG issues
- ESG risks and/or opportunities in investment processes
- Collection of ESG management and performance information
- Analysis of ESG data
- Engagement with investments to improve ESG performance
- Communication of ESG performance
- Third-party review of ESG disclosure
- Communication of ESG-related misconduct or penalties

X-axis: % of entities (0% to 100%)

Policies

Policies are forward-looking indicators for ultimate ESG performance. ESG management sits high on the agenda of infrastructure fund managers. Only a small minority (4%) of the 51 funds that participated in the Fund Assessment did not have an ESG policy. Almost all funds (94%) achieved a scoring of 75% or higher on ESG policies. This means that multiple elements of E, S and G are included in their sustainability policies with the clear evidence to back this up. Leadership standards and groups such as UN Global Compact, PRI, Equator Principles and ILO Standards are widely adopted. Many funds (82%) support at least one of these standards or groups.

Three-quarters of GRESB Infrastructure participants communicated on their ESG performance, using a wide range of different reporting methods. Most frequent used form by funds are investor reports (49%) or standalone sustainability reports (37%), often at the organizational or fund manager level. Many funds do communicate on ESG performance, but received a lower scoring due to lack of evidence.

In general, ESG disclosure could improve. The results show that third-party review of ESG disclosure is not accustomed yet and although 84% of participants communicate on misconduct and penalties, many fail to provide evidence of a structured approach, and as such reduce their scoring.
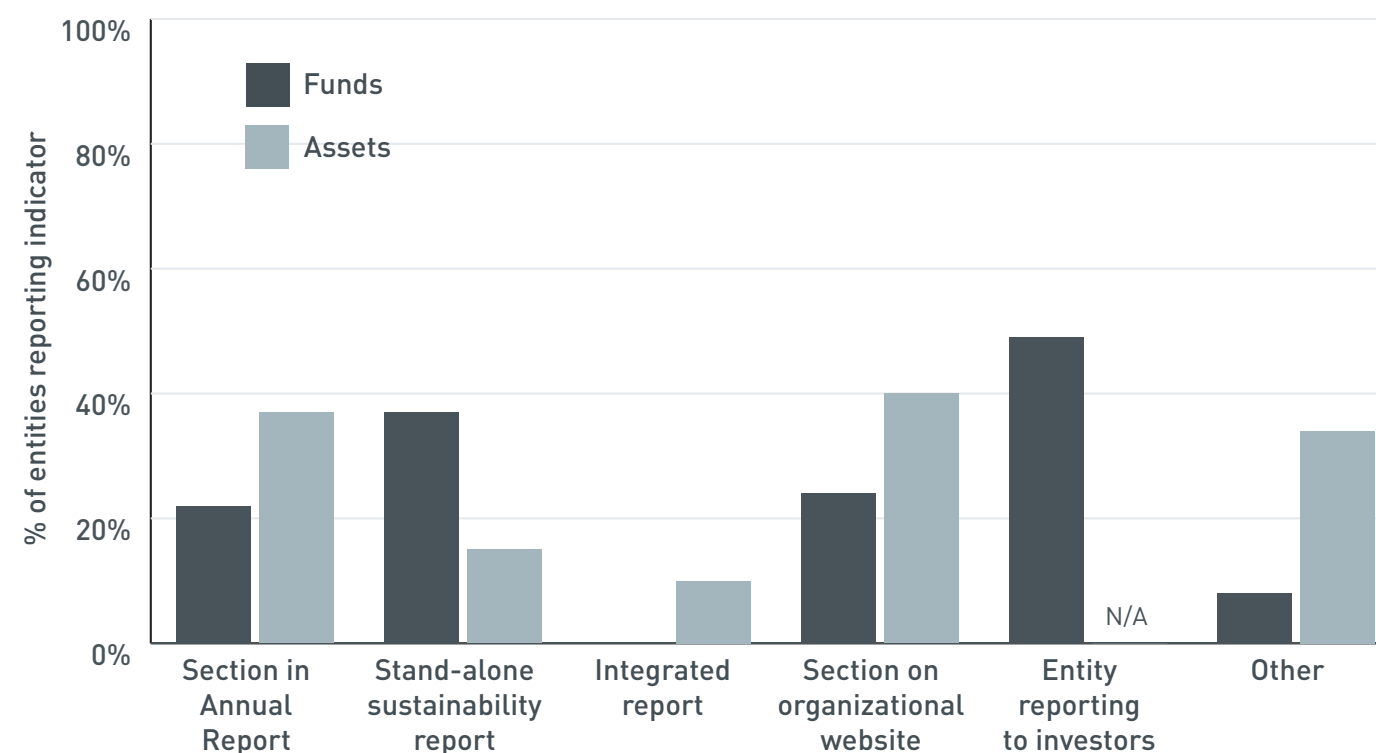
ESG Integration

Due to the long-lived nature of infrastructure projects and their primary function, risks arising from ESG issues are potentially high. It is not surprising that integration of ESG elements has become common practice throughout the investment process; pre transaction, in decision making and in the asset management process. In line with ESG policies, 94% of responding funds take ESG issues into consideration at some stage during the investment process. Many of them (80%) achieved a scoring between 50% - 100%, reflecting the fact that the majority of participants that integrate ESG in the investment process can also provide clear written evidence. However, if we take a closer look at analysis of ESG data that is done by most funds (84%), just under half receives a score of 75% or higher leaving plenty of room for improvement.

ESG Disclosure Funds

Infrastructure investors increasingly demand ESG disclosure, which supports their commitment to ESG standards and reporting frameworks and may contribute to achieving ESG targets. Disclosure of ESG performance enables funds and assets to communicate both risks and opportunities.

ESG Disclosure Practices

Y-axis: % of entities reporting indicator (0% to 100%)

Legend: Funds (dark), Assets (light)

Categories: Section in Annual Report, Stand-alone sustainability report, Integrated report, Section on organizational website, Entity reporting to investors (N/A for Assets), Other

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ASSET RESULTS - ENVIRONMENTAL ISSUES

Achievement of Environmental Indicators

	Energy	GHG emissions	Waste	Water	Air pollutant emissions	Biodiversity and habitat protection
Policy or policies	60%	52%	51%	47%	43%	40%
Assess and mitigate risks	55%	57%	54%	46%	51%	43%
Performance Indicators	51%	34%	27%	31%	20%	14%

The fixed location of infrastructure assets make these investments vulnerable to environmental risks. The results show that managing environmental risks is key for most infrastructure business activities. Interestingly, while 81% of assets reporting to GRESB have formally adopted a policy or policies on environmental issues, even more (94%) conduct environmental risk assessments. This shows that, even some assets that have not formally adopted policies on environmental issues, in practice take these into account.

Policies

Clear policies on environmental issues form the foundation of effective ESG management. Environmental policies can be part of broader ESG policies or focused on a specific environmental issue. Topics covered by assets responding to GRESB are diverse; not one single topic is universally included.

Most common used elements in environmental policies of infrastructure assets are energy (60%), GHG emissions (52%) and waste (51%). Less than half of the assets included biodiversity and habitat (40%) in environmental policies. Other topics included are hazardous materials spill, sound pollution and use of natural resources and raw materials.
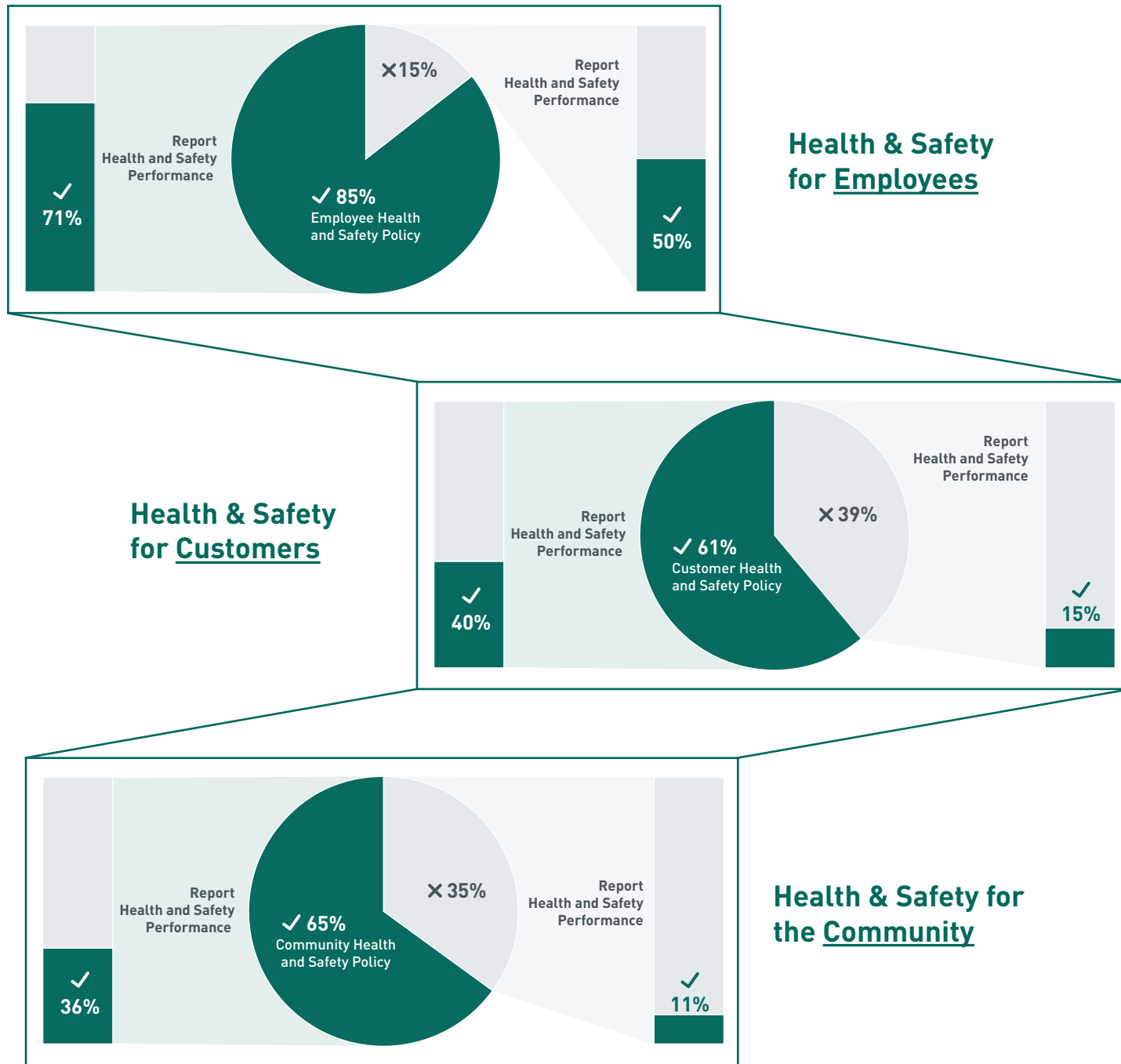
Risk Assessment

Risk assessment, mitigation planning and implementation of action plans are effective ways to manage environmental risks. Similar to environmental policies, the most common elements included in environmental risk assessments are energy (55%) and GHG emissions (57%). The high level of adoption of environmental risk assessment is unfortunately not reflected in the scoring due to lack of evidence. Less than half of the assets or infrastructure companies that indicated to assess and mitigate risks actually provided evidence.

Environmental Performance Indicators

Although carbon footprinting and energy management are at the forefront of many governmental policies, actual measuring and reporting of environmental performance indicators is not a common practice in the infrastructure investment industry. Of those assets reporting environmental performance indicators, 51% provided metrics on energy and 34% on GHG emissions. It is notable that, even though the topics of waste, water, air pollutant emissions and biodiversity and habit were included in policies and risk assessments, only a very limited number of organizations provided metrics.

ESG Disclosure Assets

Compared to infrastructure funds, the same percentage (76%) of infrastructure assets communicate on ESG performance. The preferred way to communicate is through a section in the website (40%). 68% of reporting assets use other ESG communications channels, including specific reporting to the board, investors and to regulatory authorities.

Health & Safety for _Employees_

✗ 15% Report Health and Safety Performance

✓ 85% Employee Health and Safety Policy

✓ 71% Report Health and Safety Performance

✓ 50%

Health & Safety for _Customers_

✗ 39%

✓ 61% Customer Health and Safety Policy

Report Health and Safety Performance

✓ 40% Report Health and Safety Performance

✓ 15%

Health & Safety for the _Community_

✗ 35%

✓ 65% Community Health and Safety Policy

Report Health and Safety Performance

✓ 36% Report Health and Safety Performance

✓ 11%

Every company should ensure the health, safety and welfare of its employees, customers, contractors and other stakeholders who may be affected by its activities. Creating healthy and safe working conditions is therefore embedded in legislation in many countries.

Health and safety issues are recognized as an important social risk across the different infrastructure business activities included in the 2016 GRESB Infrastructure Assessment. Health and safety of employees is included by 85% of infrastructure assets in their policy or policies on social issues. Health and safety of customers and health and safety of the community is included by 61% and 65% of the assets with a policy on social issues.

Health and safety performance indicators are provided more frequently than any of the environmental performance indicators. Interestingly, even without formal policies concerning health and safety of employees in place, the performance indicators are still often reported by the participating assets: 50% of assets without a formal policy provided one or more performance metrics, as compared to 71% of participants that have a policy in place. A similar observation can be made for health and safety indicators regarding customers and the community.

Health and safety metrics reported typically include fatalities, reportable injuries, lost time injuries, medically treated injuries, crash rates and crash injuries.

Asset Scores

The GRESB Infrastructure Asset Assessment is structured into 8 Aspects with 32 underlying indicators. The score for each Aspect is the sum of the scores of the underlying indicators, equally weighted. The overall GRESB Asset score combines weighted scores of the 8 Aspects and is expressed as a percentage – from 0 to 100. The scoring is calculated using an automated system without manual intervention after data validation is completed.

Fund Scores

The overall GRESB Fund score is based on a combination of the Fund Assessment score and the weighted average of GRESB Asset Assessment scores and can be calculated if at least 25% of the underlying assets participate. The average weighted asset score is calculated based on the information provided in the Fund Assessment Asset table.

The Fund Assessment score is the aggregate score of the 10 indicators, equally weighted. If less then 25% of the underlying assets participate, the fund will only receive a Fund Assessment score and not an overall GRESB Fund score.

> 30% * Fund Score
> + 70% * (% assets responding * weighted average Asset Score)
> = GRESB Score

General Scoring Concepts

The purpose of the GRESB Infrastructure scoring model is to create meaningful differentiation within peer groups. Indicators, with the exception of Performance Indicators, consist of three levels that are scored:

- Response to a Yes/No question - Yes answers will receive 20% of the indicator score.
- Additional Criteria - Selecting more criteria results in a higher score with a maximum of 80% of the indicator score.

- Evidence: Providing evidence is optional. If provided and (partially) accepted it has a multiplier effect on the sum of the scores for a yes answer and selected criteria. If evidence is accepted for all criteria selected, a maximum of 100% of the indicator score can be achieved. If evidence was partially accepted for criteria selected, a maximum score of 65% of the indicator score can be achieved. If evidence was not accepted a maximum of 30% can be achieved.

Performance Indicators and tables are scored based on:

- Coverage: Entities are required to provide data for at least one metric per Performance Indicator and for at least the reporting year. Entities may submit up to five years of historic data, up to three targets for future years and report several metrics per Performance Indicator. Entities are required to provide at least one row for tables other than for Performance Indicators
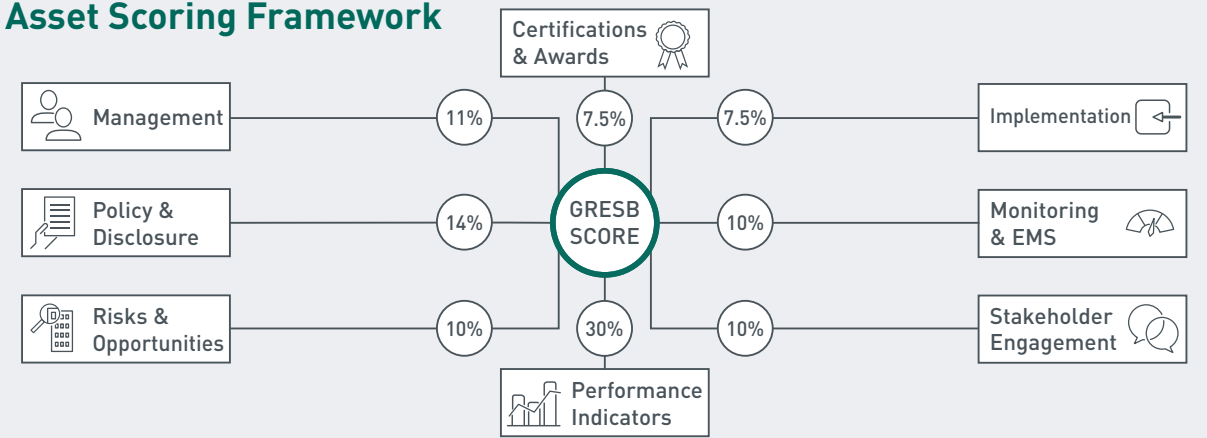
Implementation of Scores

The outcomes of the GRESB Infrastructure Assessment are reflected in the overall GRESB Score. Sub-scores for the dimensions of Management & Policy (45% weight) and Implementation & Measurement (55% weight) are calculated and visualized in the GRESB Model to evaluate an entity's performance relative to its peer group on these dimensions.

GRESB Rating

The GRESB Rating is an overall measure of how well ESG issues are integrated into the management and holdings of infrastructure funds and assets. The rating is calculated relative to the global performance of reporting entities.

G R E S B ★★★★★ 2016

GRESB Asset Scoring Framework

Certifications & Awards

Management — 11% — 7.5% — 7.5% — Implementation

Policy & Disclosure — 14% — **GRESB SCORE** — 10% — Monitoring & EMS

Risks & Opportunities — 10% — 30% — 10% — Stakeholder Engagement

Performance Indicators

GRESB Infrastructure Founding Members

GRESB Infrastructure Members

GRESB Infrastructure Global Partner

GRESB Infrastructure Premier Partner

CSR DESIGN

Participating Fund Managers

3i Investments plc

Aberdeen Fund Managers Limited

Alinda Capital Partners

AMP Capital

Aquila Capital

Ardian

Argo Infrastructure Partners LLC

Bouwfonds Investment Management

CIM Group

Copenhagen Infrastructure Partners

Cube Infrastructure Managers

Deutsche Alternative Asset Management (Global) Limited

Energi 30

Equitix

Harbert Fund Advisors, Inc

Hastings Funds Management

Hg Pooled Management Limited

IL&FS Investment Managers and Standard Chartered Bank

Investment Fund for Developing Countries

J.P. Morgan Investment Management, Inc.

Macquarie Infrastructure and Real Assets

Mirova

Morgan Stanley Infrastructure Inc.

NIBC Infrastructure Partners I B.V.

Oaktree Capital

Partners Group

Piramal Enterprises Limited

UBS Asset Management

About GRESB

$7.6 trillion

Institutional capital represented by 58 GRESB Investor Members

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