

2019

Measuring Sustainability Disclosure

Ranking the World's Stock Exchanges

About this report

This report is the eighth instalment of an annual series that tracks the extent to which the world's publicly traded companies are disclosing the seven sustainability indicators; employee turnover, energy, greenhouse gas emissions (GHGs), injury rate, personnel costs, waste and water. The analysis is conducted at the level of individual stock exchanges – 49 in total – and is based on disclosure rates according to Refinitiv, Global Reporting Initiative, CDP and Corporate Knights research for the year 2017 (the most recent time period for which the majority of data has been disclosed), growth in disclosure rates on a trailing five-year basis (2013–17) and disclosure timeliness.

About Corporate Knights

Corporate Knights is a media, research and financial information products company based in Toronto, Canada, focused on promoting an economic system where prices fully incorporate social, economic and ecological costs and benefits, and market participants are clearly aware of the consequences of their actions.



About Aviva plc

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Powered by CDP

CDP is a global non-profit that drives companies and governments to reduce their greenhouse gas emissions, safeguard water resources and protect forests. To achieve this, CDP leverages investor influence to motivate companies to disclose and manage their environmental impacts. These corporate disclosures form the basis of CDP's data, which underpins ESG research and analysis across financial markets.



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Notes

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Foreword

As an insurer, Aviva knows that an unsustainable planet is an uninsurable planet. And as part of the global financial system we have both the means, and the responsibility, to help set the world on a more sustainable path.

The entire economy needs to change quickly for there to be any hope of achieving the ambitions set by the Agenda 2030 and the Paris Agreement. In part this depends on everyone having access to the right information about how individual companies are contributing.

Global stock exchanges are central to encouraging the disclosure of accurate information from the companies that list with them, which is why we have been involved with Corporate Knights to publish these rankings since 2012.

We would like to thank Corporate Knights for this excellent report. It shows that despite the increasing demand for more environment, social and governance data, disclosure rates for the seven indicators used in this study are flat-lining.

We will continue to make the case that policy-makers, regulators and the other members of the financial system need to get the right incentives in place to help capital flow to where the world needs it. In particular, there is a role for the International Organization of Securities Commissions, the global setter of standards for the securities sector as a whole, to develop globally consistent listing rules. Only then will investors have access to the consistent high-quality information they need.

Aviva has long been challenging stock exchanges to do more on disclosure about sustainability. We are proud to have been a founding partner of the Sustainable Stock Exchange initiative and we remain committed to playing an active role in the future, for all our futures.

Maurice Tulloch

Chief Executive Officer
Aviva plc



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Ranking the world's stock exchanges

This report is part of an annual report series published by Corporate Knights providing a ranking of the world's major stock exchanges, based on an evaluation of the sustainability disclosure of their listed companies. In an effort to expand the sample size and include more exchanges in the ranking, the methodology of this 2019 report has been revised compared to the previous 2018 report. The sample of companies used in this report is composed of 6,261 large listed companies (revenues of at least \$1 billion), which is a substantial increase from the 2,600 companies included in the previous year's report. Of these 6,261 companies, 68% were traded on stock markets in developed economies and 32% in emerging economies. The information was collected from four ESG databases: CDP, Corporate Knights, Global Reporting Initiative and Refinitiv.

Stock exchanges from UN member States were included in this report if they had at least 10 companies over the \$1 billion revenue threshold. Based on these criteria, 49 stock exchanges were eligible for inclusion in the ranking.

The evaluation of corporate sustainability disclosure was based on seven quantitative indicators of corporate ESG performance: GHG emissions; water use; energy use; occupational safety (injury rate); waste; payroll, and employee turnover.

The stock exchanges were scored in three categories:

- disclosure rate (how many of the seven indicators were reported by their listed companies);
- growth (in ESG disclosure among issuers compared with previous years); and
- timeliness (how quickly the data was published by issuers relative to the reporting period). The results of the ranking are shown in Table 1, with stock exchanges listed in order of disclosure score. A detailed methodology is provided in the Appendix.

Disclosure Performance

Disclosure performance measures the proportion of an exchange's large listings that disclosed the seven key sustainability performance indicators (employee turnover, energy, GHG emissions, injury rate, payroll, water, waste) in 2017. Nasdaq Helsinki tops the disclosure performance ranking for the second year in a row with excellent disclosure rates across all indicators. Among environmental indicators, the Finnish companies did especially well in disclosing energy use and GHG emissions, which were disclosed by 32 of the 36 companies evaluated within the scope of the analysis. BME Spanish Stock Exchanges and Euronext Paris kept their place in the top five, with Euronext Lisbon and Johannesburg Stock Exchange emerging as newcomers to the top five exchanges. The top 10 includes three exchanges from emerging markets: Bolsa de Varoles de Colombia, the Stock Exchange of Thailand (SET) and the Johannesburg Stock Exchange (JSE).

It is also important to highlight the ranking of Euronext Paris with its fairly large group of companies. Of the 146 companies listed on Euronext Paris, 72% reported their GHG emissions in 2017. This is significantly higher than the average disclosure rate of 41% for large¹ publicly traded companies across the world.

Disclosure Growth Performance

The issuers of Bolsa de Comercio de Buenos Aires led the pack in disclosure growth with an average compound annualized growth rate (CAGR) of 41% from 2013 to 2017. Disclosure increased significantly among issuers on the Argentinian exchange especially for employee turnover, energy, waste, and GHG; all had a 2013–2017 CAGR of 57%. To illustrate: in 2013, none of the 19 companies listed on the exchange reported employee turnover, energy use, or waste. In 2017, each indicator was reported by six companies

¹ Annual revenues exceeding \$1 billion.

What is notable is the sheer size of the second and third best growth performers: the Hong Kong Stock Exchange (342 large companies) and the Shanghai Stock Exchange (445 large companies). The Hong Kong Stock Exchange went from a GHG disclosure rate of 18% in 2013 to 42% in 2017, which means that 85 companies started disclosing this indicator in the span of four years.

Disclosure Timeliness Performance

The timeliness score is measured by observing the gap (number of days) between the end of the fiscal year² of the company and the release date of ESG data contained in its sustainability-related or integrated report. The timeliness of sustainability disclosure is critical for market feedback loops to function.

The issuers of Nasdaq Copenhagen were the fastest disclosers with an average lag of only 73 days between the end of the fiscal year and the release of annual sustainability data; 66% of the companies in the exchange had disclosed their sustainability data within five months of year-end. The issuers of Nasdaq Stockholm and the Stock Exchange of Thailand also performed well in this metric, with an average timeliness of 98 and 105 days, respectively, compared to the research universe average of 164 days.

Table 1: Ranking the world's stock exchanges based on ESG disclosure of issuers

Rank	Stock Exchange	Disclosure Rate	Disclosure Growth	Disclosure Timeliness (days)
1	Nasdaq Helsinki	80.6%	3.6%	126
2	BME Spanish Stock Exchanges	77.7%	2.3%	181
3	Euronext Lisbon	73.8%	3.7%	205
4	Euronext Paris	68.6%	2.2%	190
5	Johannesburg Stock Exchange	68.1%	0.0%	N/A
6	Borsa Italiana	66.3%	10.7%	149
7	Euronext Amsterdam	64.9%	6.6%	134
8	Bolsa De Valores De Colombia	64.6%	11.8%	124
9	Stock Exchange of Thailand	60.3%	8.5%	105
10	Nasdaq Stockholm	60.0%	5.1%	98
10	Nasdaq Copenhagen	60.0%	2.1%	73
11	Australian Securities Exchange	59.4%	2.9%	124
12	Oslo Børs ASA	56.7%	7.3%	106
13	Euronext Brussels	56.6%	3.6%	128
14	Wiener Boerse	55.4%	7.6%	171
15	London Stock Exchange	55.4%	1.5%	135
16	Deutsche Börse AG	54.6%	5.9%	163
17	SIX Swiss Exchange	53.4%	2.3%	136
18	Athens Exchange	53.2%	2.8%	262
19	B3 Brasil	51.4%	-0.5%	168
20	Toronto Stock Exchange	48.5%	0.8%	159
21	Warsaw Stock Exchange	47.6%	8.0%	172
22	Bursa Malaysia	47.6%	14.8%	135

² In the Corporate Knights methodology, fiscal years are defined as those under which the majority of the months in the company's fiscal year falls. For example, fiscal years ending July–Dec 2018 are treated as calendar 2018 and fiscal years ending Jan–June 2019 are treated as calendar 2018.

Rank	Stock Exchange	Disclosure Rate	Disclosure Growth	Disclosure Timeliness (days)
23	Santiago Stock Exchange	47.1%	7.4%	160
24	Singapore Exchange	45.9%	8.6%	163
25	Mexican Stock Exchange	44.3%	4.8%	151
26	Borsa Istanbul	44.2%	4.8%	247
27	Hong Kong Stock Exchange	43.5%	26.1%	168
28	New Zealand Exchange	42.9%	10.6%	N/A
29	Moscow Exchange	39.9%	5.2%	248
30	Philippine Stock Exchange	37.8%	13.4%	175
31	Bolsa de Comercio de Buenos Aires	36.8%	40.9%	188
32	Dubai Financial Market	35.7%	15.2%	212
33	Korea Exchange	35.1%	-1.9%	N/A
34	Tokyo Exchange	34.3%	-6.0%	171
35	Irish Stock Exchange	32.5%	-2.2%	N/A
36	Indonesia Stock Exchange	32.1%	-0.8%	N/A
37	Bombay Stock Exchange/National Stock Exchange of India	28.5%	-7.3%	201
38	Tel Aviv Stock Exchange	28.2%	-0.7%	260
39	Bolsa de Varoles de Lima	26.1%	16.2%	132
40	New York Stock Exchange	25.4%	-0.8%	199
41	Shanghai Stock Exchange	24.2%	19.6%	N/A
42	Nasdaq	19.3%	-0.7%	199
43	Saudi Stock Exchange	18.8%	8.5%	140
44	Shenzhen Stock Exchange	18.1%	16.6%	N/A
45	Ho Chi Minh City Stock Exchange	16.3%	1.3%	N/A
46	Nigerian Stock Exchange	15.7%	0.0%	N/A
47	Karachi Stock Exchange	14.3%	0.0%	N/A
47	Korea Exchange (KOSDAQ)	14.3%	0.0%	N/A

Additional Analysis: indicator, sector, size and location

Indicator analysis

Of the seven indicators tracked in this report, payroll is the most widely disclosed indicator in 2017 by a significant margin (Figure 1). Payroll was reported by 85% of the 6,261 companies observed; this is likely connected to the widely used IFRS accounting standard that mandates the disclosure of 'employee benefits' under section IAS 19.³ After payroll, GHG was the next most disclosed indicator with a disclosure rate of 41%, followed by energy (33%) and water (28%).

As noted in previous years, the flat-lining of ESG disclosure growth continues. Over the 2013–2017 time period, every indicator experienced negligible growth measured in disclosure rate (Figure 1) and in the absolute number of disclosing companies (Figure 2). Employee turnover had the greatest compound annualized growth rate of 9.2%. In 2013, 15%, of all the companies in the research universe reported employee turnover - in 2017, 22% did. However, the CAGR of every other indicator stayed in low single-digits with waste disclosure growth stalling and GHG disclosure falling slightly. GHG disclosure spiked in 2015 with 2,609 companies (41.7%) disclosing it, with the number falling to 2,583 companies (41.3%) reporting it in 2017. This number is also slightly lower than in 2013, when 2,591 of companies disclosed GHG emissions.

³ BDO. (2018). *ASPE – IFRS*.

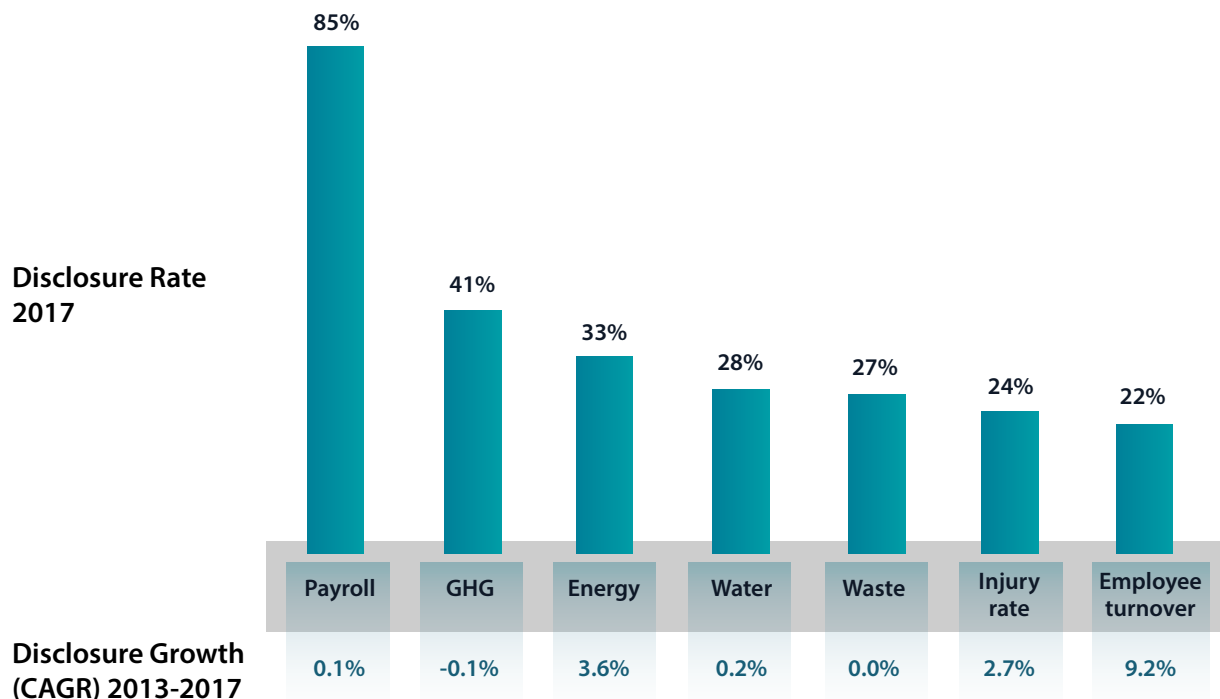
Given the surging interest of investors in sustainability data and host of significant ESG data disclosure initiatives including the Taskforce on Climate-related Financial Disclosures and Sustainability Accounting Standards Board, it seems counterintuitive that companies are not disclosing more ESG data.

There are two likely reasons for this:

- the change in economy make-up which has become more tech-heavy over the past economic cycle (tech companies tend to disclose less ESG information); and
- the increased scrutiny and accountability around ESG data, including litigation risks, has caused some companies to pull back on ESG transparency.

Figure 1: Corporate disclosure rates and growth rates for specific sustainability indicators

Percentage of all 6,261 companies in research universe disclosing the indicator for year 2017 and compound annualized disclosure growth rate (CAGR) 2013–2017.



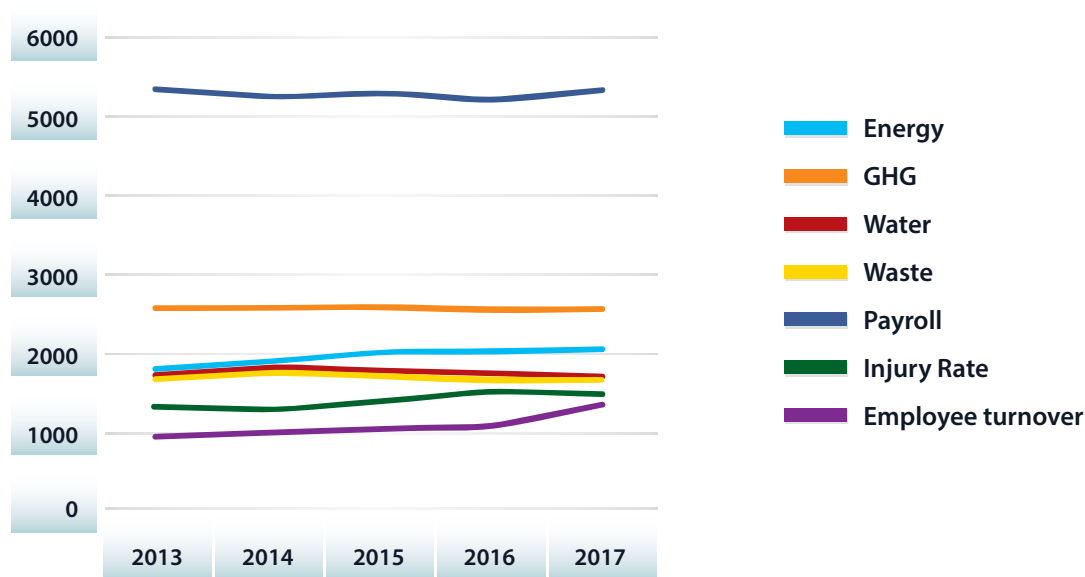
In terms of the absolute number of companies disclosing (Figure 2), only injury rate and employee turnover disclosure increased meaningfully by 152 and 400 companies, respectively. Some disclosure increases can be found in certain stock exchanges due to regulatory requirements. For example, since 2013, the United Kingdom has required listed companies to report their annual GHG emissions.⁴ The London Stock Exchange's GHG disclosure increased from 181 reporting companies (78%) in 2013 to 210 companies (91%) in 2017. In the European Union, a 2014 directive requires large companies to disclose non-financial information, including environmental and social responsibility policies.⁵ Average GHG disclosure in stock markets in the EU rose from 64% in 2013 to 73% in 2017, and average energy use disclosure in the EU increased from 49% in 2013 to 59% in 2017. Despite these developments, and despite the fact that investors and stakeholders are increasingly demanding environmental and social disclosure from companies, the disclosure rates of the seven key sustainability metrics have not increased significantly at a global scale — a phenomenon that started as early as 2013 when annual disclosure growth rates dropped to the low single-digits.⁶

⁴ Carbon Trust. (2019). *Mandatory Carbon Reporting*.

⁵ European Commission. (n.d.) *Non-financial reporting*.

⁶ IIRC. (2018). *State of Sustainability and Integrated Reporting 2018*.

Figure 2: Number of companies that disclose the first-generation sustainability indicators, 2013–2017

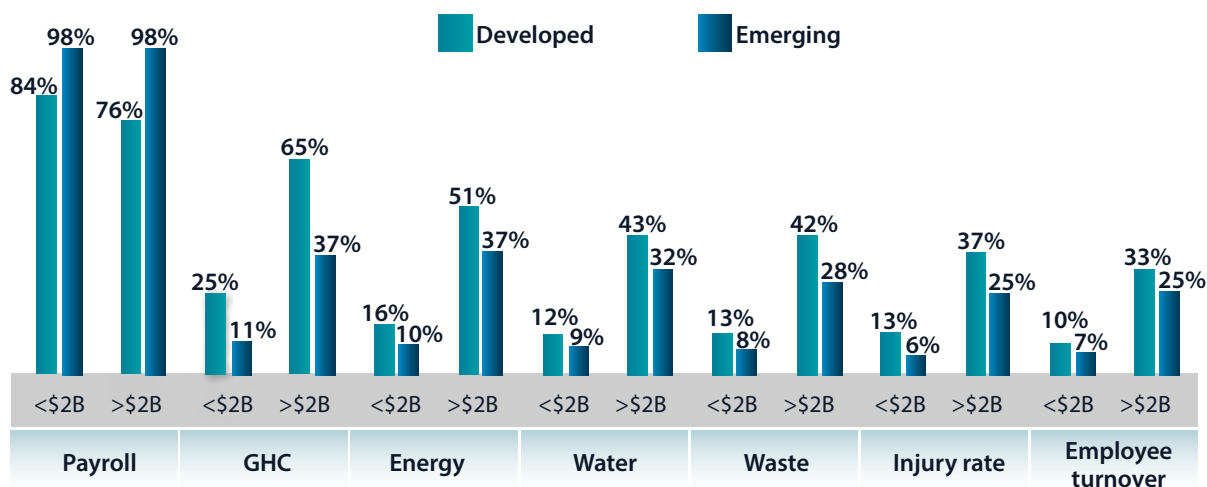


Company size analysis

Company size is the most significant determining factor in disclosure rates. Large companies (in this part of the analysis defined as companies with market capitalization greater than \$2 billion) disclose more than small companies (Figure 3). In every metric, large companies have higher disclosure rates in both developed and emerging economies. The most significant difference can be seen again in the disclosure of GHG emissions, with a 65% disclosure rate among large companies in developed economies, compared to a 25% disclosure rate among small companies in developed economies. The only metric where both large and small companies reported in an almost equally diligent manner is payroll.

Companies in emerging economies tended to disclose significantly fewer of the seven key metrics, with the exception of payroll, compared to those in developed economies. Payroll was the only indicator that was disclosed at a higher rate in emerging markets than in developed markets. The starkest difference can be seen in the greenhouse gas disclosure of large companies; 65% of companies in developed economies report on it compared to 25% in emerging economies.

Figure 3: Disclosure rates by level of development of home country and size of company in terms of US\$ market capitalization



Sector analysis

Eleven sectors were identified in the research universe using the Global Industry Classification Standard (GICS). Companies in the consumer discretionary sector were by far the worst performers, disclosing at the lowest rate in six out of seven indicators (Figure 4). In comparison, the utility industry was a leader in every indicator except payroll. The rest of the sectors disclosed the seven indicators to a fairly similar extent, with the finance sector leading in payroll and the energy sector along with the utilities sector in injury rate disclosure.

59% of the companies observed did not disclose their GHG emissions in 2017. In only one sector (utilities) did more than 50% of the companies disclose emissions. Disclosure rates ranged from 33% in the consumer discretionary sector to 53% in the utility sector.

Figure 4 Disclosure rates per GICS sector, 2017

GICS Sector	Energy	GHGs	Water	Waste	Payroll	Injury Rate	Employee turnover
Communication Services	37%	44%	26%	31%	86%	24%	32%
Consumer Discretionary	23%	33%	19%	19%	83%	15%	12%
Consumer Staples	30%	39%	26%	24%	88%	22%	16%
Energy	33%	40%	32%	28%	69%	40%	26%
Financials	39%	46%	29%	28%	90%	17%	33%
Health Care	38%	47%	32%	32%	82%	26%	21%
Industrials	30%	40%	24%	24%	86%	23%	18%
Information Technology	32%	44%	28%	28%	87%	20%	18%
Materials	41%	45%	38%	36%	88%	37%	25%
Real Estate	37%	38%	34%	29%	82%	24%	24%
Utilities	52%	53%	39%	37%	82%	40%	35%

Conclusion

A total of 6,261 publicly listed companies were analyzed and 49 stock exchanges were included in this year's ranking. Nasdaq Helsinki was noted for being home to the most extensive disclosers of sustainability data, Nasdaq Copenhagen was lauded for disclosure speed, and the Bolsa de Comercio de Buenos Aires was highlighted for disclosure growth. Europe-based exchanges remain the leaders in overall sustainability reporting performance, occupying seven out of the top ten spots in this year's ranking. Stock Exchange of Thailand's ninth place in this year's ranking comes from strong performance on both disclosure rates and disclosure timeliness. The presence of the Bolsa De Valores De Colombia and Johannesburg Stock Exchange in the top ten show that sustainability reporting is taking hold in emerging countries.

Despite rapid growth in some individual markets, globally the disclosure rates for all seven indicators have flatlined, a phenomenon identified as early as 2013 when annual growth rates in disclosure came in at low single-digits. There has been a proliferation of both voluntary and mandatory regulations to encourage corporate sustainability disclosure around the world and these have, for the most part, been successful in achieving their stated goals. However, the near zero growth in sustainability disclosure identified in this report suggests that new approaches are needed to spur sustainability reporting anew, especially among those companies that have never published any quantitative sustainability performance data. Stock exchanges, governments, regulators and corporate reporters are encouraged to come together to find solutions to the hurdles that still exist in preventing corporations from engaging in sustainability reporting and hence contribute to the attainment of the UN SDGs.

Appendix: Methodology overview

Below is the detailed methodology for ranking exchanges, based on the ESG reporting of their listed enterprises.

Aspect	Explanation
Unit of analysis	Large publicly traded companies, defined as companies with revenue of US\$1 billion and above for the fiscal year 2017. The total was 6,261 companies.
Level of aggregation	The 6,261 large companies were aggregated according to the stock exchange on which their shares are primarily traded. Stock exchanges with less than 10 large companies are removed from this study in order to maintain statistical significance. A total of 49 stock exchanges remained after applying the above filter.
Data source	Corporate Knights, CDP (for GHG emissions only), Global Reporting Initiative (timeliness information only), and Refinitiv.
Key performance indicators	<p>The 49 stock exchanges included in this study were assessed using three measures of performance:</p> <p>i) The Disclosure Score: The Disclosure Score measures the proportion of an exchange's large listings that disclosed the seven following sustainability performance indicators in 2017. The indicators are equally weighted in terms of their contribution to the Disclosure Score.</p> <ul style="list-style-type: none"> - Energy use - Carbon emissions - Water use - Waste generated/recycled - Rate of injuries/number of fatalities - Rate of employee turnover - Personnel costs <p>For each of the indicators, the percentage of large companies (revenue > \$US1 billion) that disclosed the indicator for 2017 is determined. A stock exchange's disclosure rate is an average of the disclosure rate for each of the seven indicators.</p> <p>ii) The Disclosure Growth Score: The Disclosure Growth Score measures the growth rate in the proportion of an exchange's large listings that disclosed the above seven sustainability performance indicators over the 2013–2017 period.</p> <p>For each of the indicators, the compound annual growth rate (CAGR) is calculated for the period 2013–17. A stock exchange's disclosure growth score is an average of the growth rate for each of the seven indicators.</p> <p>iii) The Disclosure Timeliness Score: The Disclosure Timeliness Score measures how quickly an exchange's large listings report sustainability data to the market after the end of their fiscal year. This is based on a sample of GRI Standards reports that have been verified by the reporters to be included on the GRI website. The data was exported on August 22, 2019. Timeliness is determined as the number of days between the reporting period end and the release date for each company is calculated and the average for each country is obtained. Reports published in the years 2016, 2017, 2018 and 2019 are included in this analysis. Countries with less than five observations do not receive a disclosure timeliness score. The following link can be used to access the latest list of all the reports verified by the reporters: https://www.globalreporting.org/reportregistration/verifiedreports</p>
Historical data	The Disclosure Score is based on data for the year 2017. The reason for this 'gap' is data completeness. Companies' fiscal year-ends vary, and many companies still take more than 12 months after their fiscal year to disclose their sustainability data. As of August 2019, 2017 is the most recent time period for which the majority of companies engaged in sustainability reporting have disclosed their results.