

Impact Metrics

HEALTHY ECOSYSTEMS: A FOCUS ON POLLUTION



HEALTHY ECOSYSTEMS: A FOCUS ON POLLUTION

As sustainable or ESG investing continues to grow, investors require reliable and robust data to understand and report on the social and environmental impacts of their holdings and portfolios. Sustainalytics' Impact Metrics solution provides a broad set of data on impacts associated with companies' products and services, as well as their operations. Our approach to impact is guided by our Impact Framework, which includes six impact themes pictured below aligned to the UN Sustainable Development Goals (SDGs).

This report showcases some of our research within the Healthy Ecosystems theme. Healthy Ecosystems as shown in Sustainalytics' Impact Framework is primarily linked to UN Sustainable Development Goals (SDG).

SDG 14 – Life below water







SDG 15 – Life on land

SDG 6 – Clean water & sanitation (With an expanded linkage)

SDG 9 – Industry, innovation & infrastructure

SDG 12 – Responsible consumption and production.

Morningstar Sustainalytics' Impact Framework

ENVIRONMENTAL THEMES			SOCIAL THEMES		GOVERNANCE THEME
 <p>Climate Action The global effort to curb the Earth's temperature rise and cope with unavoidable consequences</p>	 <p>Healthy Ecosystems Safeguarding of ecologically sound environments on land, air and water</p>	 <p>Resource Security Positively impacting natural resources through efficient use and circular economies</p>	 <p>Basic Needs Addressing the basic needs of humans, including access to food, housing, healthcare, clean water, and energy</p>	 <p>Human Development Promoting human capabilities and progress through education, employment opportunities, and healthcare</p>	 <p>Fair Business Conduct A baseline for social and environmental themes</p>
UN SDGs					
<p>7 Affordable and Clean Energy</p> <p>9 Industry, Innovation and Infrastructure</p> <p>11 Sustainable Cities and Communities</p> <p>13 Climate Action</p>	<p>2 Zero Hunger</p> <p>3 Good Health and Well-Being</p> <p>6 Clean Water and Sanitation</p> <p>6 Industry, Innovation and Infrastructure</p> <p>12 Responsible Consumption and Production</p> <p>14 Life below Water</p> <p>15 Life on Land</p>	<p>2 Zero Hunger</p> <p>6 Clean Water and Sanitation</p> <p>7 Affordable and Clean Energy</p> <p>11 Sustainable Cities and Communities</p> <p>12 Responsible Consumption and Production</p>	<p>2 Zero Hunger</p> <p>3 Good Health and Well-Being</p> <p>6 Clean Water and Sanitation</p> <p>7 Clean and Affordable Energy</p> <p>11 Sustainable Cities and Communities</p> <p>16 Peace, Justice and Strong Institutions</p>	<p>4 Quality Education</p> <p>5 Gender Equality</p> <p>7 Affordable and Clean Energy</p> <p>8 Decent Work and Economic Growth</p> <p>9 Industry, Innovation and Infrastructure</p> <p>10 Reduced Inequalities</p> <p>11 Sustainable Cities and Communities</p>	<p>8 Decent Work and Economic Growth</p> <p>9 Industry, Innovation and Infrastructure</p> <p>11 Sustainable Cities and Communities</p> <p>16 Peace, Justice and Strong Institutions</p> <p>17 Partnership for the Goals</p>

What is a Healthy Ecosystem?

Sustainalytics' Healthy Ecosystem Impact theme is concerned with safeguarding of ecologically sound environments on land, air and water. While it does not include GHG emissions and water consumption as these are covered under other themes, it does look at the impact of pollution on the environment.

What is an Impact Metric?

An impact metric is a quantitative measure of an environmental or social outcome attributable to a company's activities. Companies through their activities may cause either direct or indirect, and positive or negative impacts. Every impact metric is either

a useful measure of, or proxy for, measuring a company's impact on at least one of Sustainalytics' Impact Themes and the SDGs.

In this factsheet we will cover Nitrous Oxides (NOx) Emissions, NOx Emission intensity, Sulphur Oxides (SOx) Emissions, SOx Emission intensity and the revenues derived from activities that contribute to Healthy Ecosystems as a % of revenue.

High concentrations of NOx & SOx contribute towards issues such as eutrophication and increased acidity in the environment. At extremely high levels, it can affect human health and contribute to the formation of ecosystem pollutants.

Impact Metrics for Healthy Ecosystems

NOx Emissions: The volume of NOx emissions from sources owned or controlled by the entity. Unit of measure: Metric Tonnes.

NOx Emissions Intensity: The volume of NOx emissions per Million USD of revenue from sources owned or controlled by the entity.

SOx Emissions: The volume of SOx emissions from sources owned or controlled by the entity. Unit of measure: Metric Tonnes.

Healthy Ecosystems Percentage of Revenue:

The percentage of an entity's revenue from products and services contributing to Healthy Ecosystems, such as related pollution prevention, treatment and remediation and sustainable agriculture, food production and forestry.

HEALTHY ECOSYSTEMS

What do companies disclose when it comes to Healthy Ecosystems?

- Industrials, Consumer Discretionary, Financials and Materials sectors have the highest levels of company disclosure.

Healthy Ecosystems Metrics	% Reported	Total Sample Size (number of companies)
NOx Emissions	13.4%	11,684
SOx Emissions	12.7%	11,684

Source: Sustainalytics, as of January 2023

How do companies perform on Healthy Ecosystems?

The analysis provided below is based on the companies that reported the data out of the total sample size. These companies spanned 11 different industries. Below we highlight the key insights we find across the 4 operational metrics

NOx & SOx Emissions

As seen in this graph, two of the top three sectors that emit the highest amounts of NOx emissions also contribute to SOx emissions (Industrials & Utilities).

NOx Emissions:

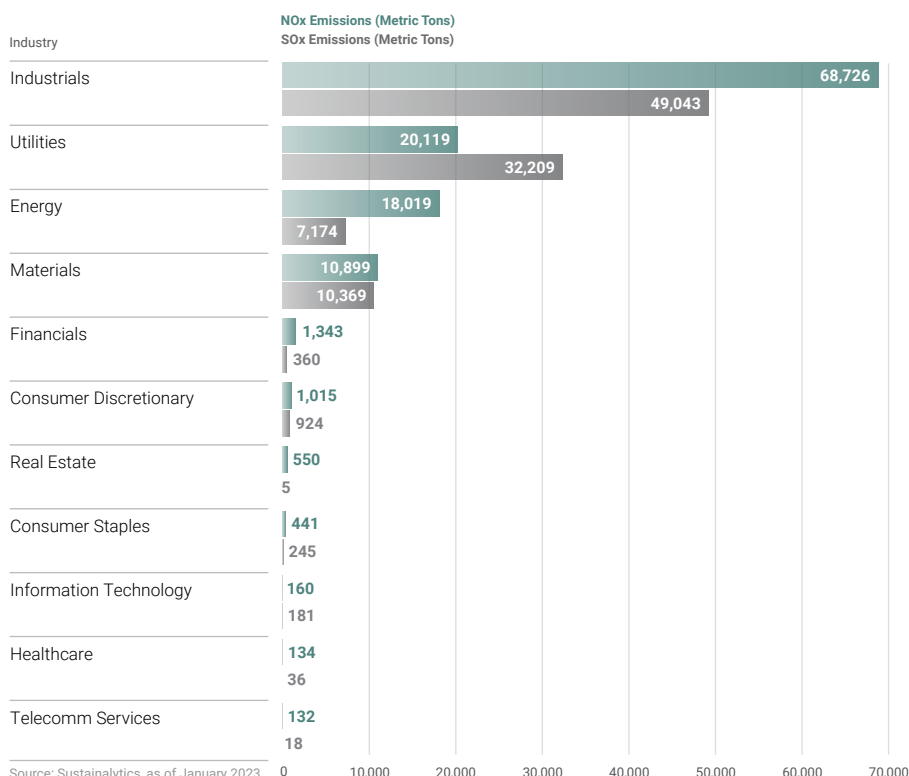
The top three sectors which report the highest average amount of total NOx emissions are the industrials (68K MTs), Utilities (20K MTs) and Energy (18K MTs) sectors and contribute to 84.4% of the total emissions across all reporting industries.

In contrast, Telecommunication Services (132 MT), Healthcare sectors (134 MT) & Information Technology (160 MTs) contribute the least towards the total NOx emissions.

SOx Emissions:

The top three sectors which report the highest amount of total SOx emissions are the Industrials (49K MTs), Utilities (32 K MTs) and Materials (10K MTs) sectors. These 3 industries contribute to 94.3% of the total emissions across all reporting industries, while companies across Real Estate (5 MT), Telecommunication Services (17.9 MT) & Healthcare (36 MT), sectors contribute the least towards the total SOx emissions.

Average NOx & SOx Emissions per Sector



Source: Sustainalytics, as of January 2023
 Sample size: 1560 (NOx Emissions);
 1486 (SOx Emissions) companies

HEALTHY ECOSYSTEMS

How do companies perform on Healthy Ecosystems? (cont.)

NOx & SOx Emissions Intensity

The top three sectors that emit the highest amount of NOx and SOx per US\$ invested vary as seen in the chart to the right.

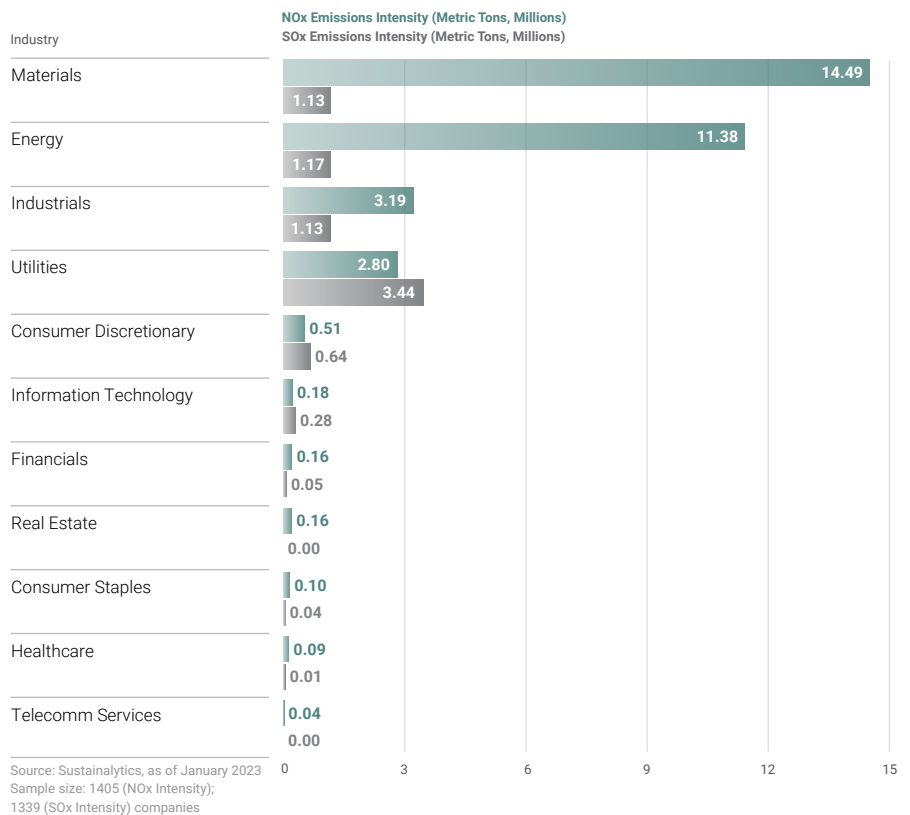
NOx Emissions Intensity:

When it comes to total NOx intensities, the Materials (14.5k MT/US\$m), Energy (11.4k MT/US\$m), and Industrials (3.2k MT/US\$m) sectors measure the highest. In contrast, companies across Telecommunication Services (0.04 MT/US\$m), Healthcare (0.09 MT/US\$m) & Consumer Staples (0.1 MT/US\$m) sectors contribute the least towards the total NOx emissions intensity.

SOx Emissions Intensity:

Regarding total SOx intensities, the Utilities (3.4 MT/US\$m), Energy (1.2 MT/US\$m) and Materials (1.1 MT/US\$m) sectors measure the highest. In contrast, companies across Real Estate (0.002 MT/US\$m), Telecommunication Services (0.004MT/US\$m) & Healthcare (0.01MT/US\$m) sectors contribute the least towards the total SOx emissions intensity.

Average NOx & SOx Emissions Intensity



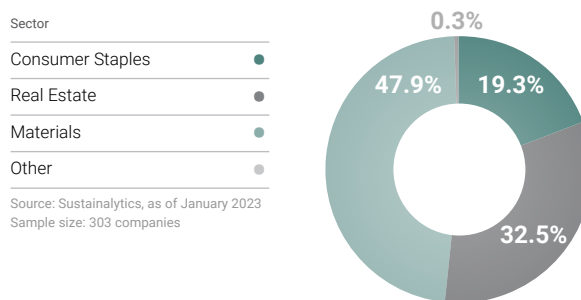
How do companies perform on Healthy Ecosystems? (cont.)

There are only a few companies (~1%) within our research universe whose business models involve addressing Healthy Ecosystems. The top three sectors which report the highest average amount of revenue derived from products and services contributing to Healthy Ecosystem are the Materials (47.9%), Real Estate (32.5%), and Consumer Staples (19.3%) sectors.

Out of the 303 companies with revenue exposure:

- 11.9% of companies across all sectors generated greater than 75% of their revenue from products and services contributing to Healthy Ecosystem.
- 28% of companies in the Materials sector generated greater than 75% of their revenue from Healthy Ecosystem Services.
- 8.7% of companies in the Consumer Staples sector generated greater than 75% of their revenue from Healthy Ecosystem Services.
- 1.8% of companies in the Industrials sector generated greater than 75% of their revenue from Healthy Ecosystem Services.
- 9.1% of companies in the Energy sector generated greater than 75% of their revenue from Healthy Ecosystem Services.
- 82.5% of companies across all sectors generated less than 50% of their revenue from products and services contributing to Healthy Ecosystem.

Industry Split of Companies with Healthy Ecosystems Revenue Exposure



HEALTHY ECOSYSTEMS

How Can These Metrics Be Used?



Select

Impact and SDG Thematic Investments

Use the metrics to identify companies that have the most impact in terms of emissions as well as intensity. You can also understand which companies in your portfolio contribute the least towards these metrics.



Manage

Performance Monitoring

Monitor the performance of your holdings in relation to Healthy Ecosystems and air pollution. Determine trends and evaluate performance improvements over time.



Report

Portfolio Reporting On Impact Data

Report on the Healthy Ecosystems characteristics of your holdings or portfolio, as well as your portfolio's average revenue contribution to Healthy Ecosystems.



Engage

Stewardship Strategy Development

Differentiate poor or lagging performers from leading companies. Build engagement strategies targeted at improving Healthy Ecosystems impact within poor-performing organizations.

ABOUT MORNINGSTAR SUSTAINALYTICS

Morningstar Sustainalytics is a leading ESG research, ratings and data firm that supports investors around the world with the development and implementation of responsible investment strategies. For more than 30 years, the firm has been at the forefront of developing high-quality, innovative solutions to meet the evolving needs of global investors. Today, Morningstar Sustainalytics works with hundreds of the world’s leading asset managers and pension funds who incorporate ESG and corporate governance information and assessments into their investment processes. The firm also works with hundreds of companies and their financial intermediaries to help them consider sustainability in policies, practices, and capital projects. With 17 offices globally, Morningstar Sustainalytics has more than 1,800 staff members, including more than 850 analysts with varied multidisciplinary expertise across more than 40 industry groups. For more information, visit www.sustainalytics.com.



Learn more at www.sustainalytics.com or email at contact@sustainalytics.com

Europe:

Amsterdam (+31) 20 205 00 00
 Copenhagen (+45) 32 72 52 81
 London (+44) 20 3514 3123
 Frankfurt (+49) 69 3329 6555
 Paris (+33) 1 184880642
 Stockholm (+46) 8 505 323 33

Americas:

Boston (+1) 617 603 3321
 New York (+1) 212 500 6468
 Toronto (+1) 416 861 0403

Asia Pacific:

Sydney (+61) 2 8320 9436
 Tokyo (+81) 3 4510 7979

Copyright ©2023 Sustainalytics. All rights reserved.

The information, methodologies, data and opinions contained or reflected herein are proprietary of Sustainalytics and/or content providers, intended for internal, non-commercial use and may not be copied, distributed or used in any other way, including via citation, unless otherwise explicitly agreed in writing. They are provided for informational purposes only and (1) do not constitute an endorsement of any product or project; (2) do not constitute investment advice, nor represent an expert opinion or negative assurance letter; (3) are not part of any offering and do not constitute an offer or indication to buy or sell securities, to select a project or make any kind of business transactions; (4) are not an assessment of the issuer's economic performance, financial obligations nor of its creditworthiness; (5) are not a substitute for

a professional advice; (6) past performance is no guarantee of future results; (7) have not been submitted to, nor received approval from, any relevant regulatory bodies.

These are based on information made available by third parties, subject to continuous change and therefore are not warranted as to their merchantability, completeness, accuracy, up-to-dateness or fitness for a particular purpose. The information and data are provided 'as is' and reflects Sustainalytics' opinion at the date of its elaboration and publication. Sustainalytics nor any of its content providers accept any liability for damage arising from the use of the information, data or opinions contained herein, or from the use of information resulting from the application of the methodology, in any manner whatsoever, except

where explicitly required by law. Any reference to content providers names is for appropriate acknowledgement of their ownership and does not constitute a sponsorship or endorsement by such owner. A list of our content providers and their respective terms of use is available on our website. For more information visit <http://www.sustainalytics.com/legaldisclaimers>. Sustainalytics may receive compensation for its ratings, opinions and other deliverables, from, among others, issuers, insurers, guarantors and/or underwriters of debt securities, or investors, via different business units. Sustainalytics has put in place adequate measure to safeguard the objectivity and independence of its opinions. For more information visit Governance Documents or contact compliance@sustainalytics.com.