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SMS Sustainable Infrastructure Thematic Classification

A transparent investment framework for identifying companies supporting global sustainable infrastructure development in a way that balances economic, environmental and social objectives.

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1. Introduction

Since 2018, SMS has been leveraging its decades of experience in sustainable investing and climate and environmental policy to develop a proprietary, forward-looking analytical framework that focuses on the impact potential of companies and their role in the "high-care, low-carbon" economy of tomorrow.

In 2020, SMS decided to build upon its extensive analytical work to create a transparent investment framework for identifying and scoring publicly listed companies that are developing and applying innovative and impactful solutions to tackle the world's most pressing climatic and environmental challenges. The result was the creation of the **SMS Environmental Impact Opportunities Thematic Classification** which launched in April 2021.

Building on this initial work and further research conducted between the period from May 2021 to October 2022, the **SMS Circular Economy Enablers Thematic Classification** was launched in November 2022.

Separate to the taxonomy-aligned work described above, we have been researching and developing a long-term investment thesis on the broader theme of infrastructure. Following extensive research conducted between the period from August 2022 to March 2023, the **SMS Sustainable Infrastructure Thematic Classification** was launched in March 2023.

2. About Us

SMS Financial Technologies Inc ("**Sustainable Market Strategies**" or "**SMS**") is an independent sustainability intelligence firm that provides thematic research and market insights to a global audience of asset owners, investment managers and public policy decision makers.

Our research caters to portfolio managers, sustainability teams and C-suite executives in the investment, regulatory and policy space. Our publications are news and data-driven and provide in-depth sustainable investment strategies across all asset classes. We also support our clients through bespoke projects at the nexus of thematic research and investment strategy.

Since its creation in 2018, SMS has published over 250 investment research notes on sustainable investment themes, analysing the technological, strategic and financial potential of over 1,500 public and private companies in order to find the winners of the transition to a more sustainable economy currently underway.

Our world-class team brings together extensive experience in capital markets, investment research, money management, economics, policy, academic research and sustainable investing.

The company is headquartered in Montreal, Canada.

FÉLIX A. BOUDREAULT, M.ENG., MBA
Managing Partner

Sustainability / ESG Research / Quantitative Finance / Policy

Félix-A. Boudreault is an engineer-MBA with close to 20 years of professional experience in energy, environmental policy and sustainable finance. After working in Africa for a few years, Félix joined Environment and Climate Change Canada where he was Director of International Climate Change Negotiation and Chief of Staff to the Deputy Minister. Between 2015 and 2018, Félix worked for think tanks, private companies, and international organizations such as the OECD and IFC.

LENKA MARTINEK
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Lenka is an investment strategist with over 20 years of professional experience in research and capital markets. Lenka worked for 15 years as a strategist for BCA Research, the leading provider of independent global macro investment research. She then worked as a portfolio manager in the CIO office of one of Canada's largest pension funds. She holds a bachelor's degree in economics and a master's in management and sustainable development at HEC Montréal.

FRANÇOIS BOUTIN-DUFRESNE
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François is an economist and investment strategist with almost 20 years of international experience in policy-making, capital markets, sustainable finance and development finance. He held roles at the International Monetary Fund, the Government of Canada and, most recently, in capital markets. He is currently affiliated with HEC Montréal, where he teaches economics and finance at MBA/Executive levels.

FRANÇOIS BOURDON, FSA, CFA, PRM
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François is an investor and investment team leader with a vast experience in multiple asset classes ranging from fixed income and equities to absolute return and hedge fund strategies. As the former Global CIO of Fiera Capital, Canada's largest independent asset manager, he also developed private and public alternative strategies in real estate, infrastructure, agriculture, commodities and more recently, impact investing.

3. The Infrastructure Investment Thesis

Adequate infrastructure is vital for any thriving or developing community, as it provides the physical and digital structures that support society. As world leaders work to address the challenges of climate change and rising inequality, investing in appropriate infrastructure has never been more important. New infrastructure is needed to adapt to the energy transition as we move away from fossil fuels. The International Energy Agency[1] estimates that, to meet Net Zero, infrastructure investment needs to exceed USD 1 trillion annually by 2030. Furthermore, climate adaptation upgrades to airports, railways and other infrastructure are going to be increasingly important as temperature levels rise. The effect of record temperatures in the UK in July 2022 are a prime example of this, as a raft of public infrastructure, including rail, water and electricity were placed under severe strain from the heat.[2] Infrastructure also plays a role in addressing social inequity through improvements in education and healthcare, as well as expanding access to the internet and digital services for the world's most underserved populations. The consequences of the digital divide became particularly apparent during the COVID-19 pandemic.[3]

Global policymakers have taken note and recently announced programmes such as "Build Back Better World" initiative (which is a G7 initiative that aims to reduce the USD 40 trillion infrastructure funding gap), the European Commission's "NextGenEU" plan (a European plan launched in June 2021 to support member states invest in sustainable and resilient infrastructure) as well as the US government's Infrastructure Investment and Jobs Act, known as the "Bipartisan Infrastructure Bill", signed into law in November 2021.

These initiatives invariably call for investment in sustainable infrastructure projects.[4] The Build Back Better World initiative, for example, has specific considerations for climate and social improvements. The NextGenEU plan is offering investments of over EUR 800 billion for a "healthier, greener and more digital" Europe, with 40% of the total allocated to climate initiatives and 26% to digital improvements.[5] Moreover, America's USD 1.2 trillion infrastructure fund has a climate focus, with USD 65 billion allocated to power infrastructure and USD 7.5 billion allocated to EV charging stations. Another USD 55 billion is allocated to water projects, while digital infrastructure will receive USD 65 billion for improved broadband access. This favorable policy backdrop provides a boost for new infrastructure assets.

From an investment perspective, inclusion of infrastructure assets in a portfolio offers diversification and defensive, inflation-hedging properties. These attributes are largely innate to large infrastructure projects and could offer higher returns. Such attributes can also serve to complement sustainable investments in other parts of a well diversified portfolio.

[1] IEA, "Net Zero by 2050", May 2021. Available at: https://www.iea.org/reports/net-zero-by-2050
[2] World Economic Forum, "Climate change: Can water, rail and electricity systems cope with rising temperatures?", July 2022. Available at: https://www.weforum.org/agenda/2022/07/united-kingdom-climate-change-infrastructure-britain-heatwave
[3] World Economic Forum, "COVID-19 exposed the digital divide. Here's how we can close it", January 2021. Available at: https://www.weforum.org/agenda/2021/01/covid-digital-divide-learning-education/
[4] White House, "FACT SHEET: President Biden and G7 Leaders Launch Build Back Better World (B3W) Partnership", June 2021. Available at: https://www.whitehouse.gov/briefing-room/statements-releases/2021/06/12/fact-sheet-president-biden-and-g7-leaders-launch-build-back-better-world-b3w-partnership/
[5] Deutsche Wealth, "Future European infrastructure: investing in change and resilience", December 2022. Available at: https://www.deutschewealth.com/content/dam/deutschewealth/cio-perspectives/cio-special-assets/future-european-infrastructure-investing/CIO-Special-Future-European-infrastructure-investing-in-change-and-resilience.pdf

4. Building Better: The Intersection of Infrastructure and Sustainability

As a foundational part of a prosperous community, infrastructure has a positive impact on the lives of the people it serves. Providing electricity and water, reliable transportation and access to health and education serves to improve quality of life and leads to higher productivity, resulting in economic growth that is inclusive. These social outcomes are positive, but sometimes result as an indirect consequence of infrastructure development rather than being the primary focus of the given project. In our view, the most impactful infrastructure is that which serves objectives that go beyond the provision of basic services and contributes both to long term economic growth whilst advancing environmental and social objectives.

To qualify as sustainable infrastructure, two elements must be satisfied. Firstly, a company's products and/or services must make a meaningful contribution to environmental and/or social objectives. Secondly, the company must conduct its business operations in a manner that mitigates relevant environmental, social and governance risks and, accordingly, does no harm to broader environmental or social objectives.

It should be noted that the relative contribution of each sub-sector of infrastructure to environmental and/or social objectives will vary. A major element in assessing that contribution is the geography of the infrastructure, specifically whether it is based in frontier, emerging or developing countries. Clearly, the installation of a brand new, economically empowering piece of infrastructure in a frontier market is more socially impactful, relatively speaking, than the upgrade of an existing piece of infrastructure in the developed world.

For the purposes of this Thematic Classification, we define environmental objectives in accordance with the six environmental objectives of the EU Taxonomy for Sustainable Activities:

1. Climate change mitigation
2. Climate change adaptation
3. The sustainable use and protection of water and marine resources
4. The transition to a circular economy
5. Pollution prevention and control
6. The protection and restoration of biodiversity and ecosystems

Meanwhile, we define social objectives in accordance with the most recent (draft) report[6] of the EU Taxonomy for Social Activities, released in February 2022. We caveat however that this plan has currently been indefinitely delayed. Our intention will be to update this Thematic Classification once the final report is released.

1. Decent work (including for value-chain workers)
2. Adequate living standards and wellbeing for end-users
3. Inclusive and sustainable communities and societies.

From the aforementioned social objectives, 2 and 3 are the most relevant to infrastructure projects and, accordingly, these are the ones used to define the social objectives of this Thematic Classification.

[6] European Commission, "Final Report on Social Taxonomy", February 2022. Available at: https://commission.europa.eu/system/files/2022-03/280222-sustainable-finance-platform-finance-report-social-taxonomy.pdf

Additionally, we consider the role of infrastructure in supporting the United Nations Sustainable Development Goals (UN SDGs). Of the 17 SDGs, six have relevant links to infrastructure development, namely:

- SDG 3: Good Health and Wellbeing
- SDG 6: Clean Water and Sanitation
- SDG 7: Affordable and Clean Energy
- SDG 9: Industry, Innovation and Infrastructure
- SDG 11: Sustainable Cities and Communities
- SDG 17: Partnerships for the Goals

The next section explains how we define and then carve out sustainable infrastructure investments from a broader universe of infrastructure investments.

5. SMS Sustainable Infrastructure Thematic Classification

5.1 Introduction

The **SMS Sustainable Infrastructure Thematic Classification** (the "**Thematic Classification**") is a transparent and forward-looking classification framework which has been designed to identify publicly listed companies supporting global sustainable infrastructure development in a way that balances economic, environmental and social objectives. The Thematic Classification assesses companies on a relative basis according to their economic contribution (exposure) to infrastructure, the contribution (impact) of their products and services to environmental and social objectives in the regions in which they operate, their ESG performance and their financial strength.

In order to distinguish a "sustainable" infrastructure exposure from a broader, traditional infrastructure exposure, the traditional sectors of infrastructure have been assessed for their relative contribution to sustainable infrastructure development, i.e. their relative contribution to economic, environmental and social objectives in the regions in which infrastructure is placed (i.e. developed markets, emerging markets or frontier markets respectively). The result is that each traditional infrastructure sector has been assigned a level of contribution to sustainable infrastructure development, which is minimal, moderate, significant or high, and which varies according to geography. Accordingly, with the exception of fossil fuel infrastructure, which is excluded, all of the sub-sectors included in the **SMS Sustainable Infrastructure Thematic Classification** are expected to contribute to sustainable infrastructure development and therefore have a net positive impact on the UN Sustainable Development Goals and the environmental and social objectives of the EU Taxonomy, whether that contribution is minimal, moderate, significant or high – which is why they are included.

The resulting 12 sub-sectors of the **SMS Sustainable Infrastructure Thematic Classification** span four categories: Transportation Infrastructure, Environmental Infrastructure, Data and Telecom Infrastructure and Social Infrastructure. The categories and sub-sectors are presented in the proceeding sections.

The evaluation of each company's contribution to environmental and social objectives is performed on relative basis within each of the sub-sectors and forms part of our "double materiality" sustainability assessment.

The result of the classification process is the **SMS Sustainable Infrastructure Stock Universe** (the "**Stock Universe**") which includes publicly listed companies that have been thematically categorised

by Sustainable Market Strategies across the various categories and sub-sectors of the Thematic Classification.

5.2 Sector Exclusions

As noted above, the Thematic Classification includes many of the infrastructure categories and sub-sectors that are commonly found within traditional, broad infrastructure exposures. However, fossil fuel infrastructure such as fossil fuel utilities, including natural gas and pipelines, are excluded on the basis of "net impact" as the negative environmental and social impacts of fossil fuel infrastructure are deemed to outweigh positive economic benefits.

Additionally, companies must derive at least 50% of their revenues from one or more sub-sectors of the Thematic Classification to be eligible for consideration in the Stock Universe.

5.3 Classification Methodology

The investment theme of "Sustainable Infrastructure" aims to balance the economic, social and environmental aspects of infrastructure development. To achieve this, infrastructure projects are classified into four categories and 12 corresponding sub-sectors based on the functionalities and benefits they provide to society.

Each company's sub-sector is determined by reference to the sub-sector that it derives its revenue from. Where a company derives revenue from more than one sub-sector, it will be classified within the sub-sector from which it derives the largest proportion of its revenue.

5.3.1 Transportation Infrastructure

Transportation infrastructure is a crucial component of the overall infrastructure ecosystem and plays a vital role in supporting economic growth, improving accessibility and mobility and reducing the environmental impact of transportation.

Transportation infrastructure typically accounts for a significant proportion of public infrastructure investment. According to some estimates, transportation infrastructure, including highways, bridges, public transportation systems, ports and airports, can account for up to 50% of total public infrastructure spending.[7] This high level of investment reflects the importance of transportation infrastructure in improving the quality of life for people.

Transportation infrastructure plays a crucial role in supporting economic growth by providing efficient and accessible transportation facilities. The development of transportation infrastructure, such as highways, airports and ports, can improve connectivity and reduce transportation costs, which can encourage investment and support economic growth. Furthermore, the development of public transportation systems, such as rail and bus services, can improve mobility and accessibility for people, which can support economic development in urban areas.

Transportation Infrastructure includes:

1. **Passenger Transportation**: Passenger transportation infrastructure promotes sustainability by reducing the dependency on personal vehicles. The development of public transportation systems, such as rail, bus and bike-sharing services, can encourage people to shift from

[7] Congressional Budget Office 2019, American Society of Civil Engineers and the National Conference of State Legislatures 2019.

personal vehicles to more environmentally friendly modes of transportation. This can significantly reduce air pollution and greenhouse gas emissions, as personal vehicles are a major contributor to air pollution and carbon emissions. Another way passenger transportation infrastructure promotes sustainability is by improving accessibility and mobility for people. The development of efficient public transportation systems can help reduce traffic congestion and improve mobility for people who cannot afford personal vehicles. Additionally, the development of pedestrian and bike-friendly infrastructure can encourage people to walk or cycle for short trips, which can also reduce traffic congestion and improve air quality.

2. **Ports**: Ports, as gateways for international trade, play a crucial role in creating economic opportunities and promoting sustainability by improving the efficiency of supply chains and reducing the environmental impact of shipping. The development of eco-friendly port infrastructure, such as renewable energy systems and waste management systems, can help reduce the carbon footprint of ports and improve the sustainability of global trade. Additionally, the development of smart port systems, such as real-time cargo tracking and automated cargo handling, can also improve the efficiency of port operations and reduce energy consumption.

3. **Airports**: Airport infrastructure can have a positive economic, social, and environmental impact by facilitating international trade and tourism, creating job opportunities, improving mobility and connectivity for local communities, promoting understanding between diverse cultures, and reducing carbon emissions through sustainable practices. For emerging and frontier markets, investing in airport infrastructure can be particularly beneficial as it can help address the lack of infrastructure while improving connectivity and attracting foreign investment and tourism. Moreover, emerging and frontier markets have an opportunity to implement sustainable airport infrastructure from the outset, which can minimize their impact on the environment while still achieving economic development.

4. **Toll Roads**: Toll roads are an important part of public infrastructure, as they can provide an alternative route for vehicles that are willing to pay a fee for a faster trip, thus reducing traffic congestion. When assessing the sustainability performance of toll road operators, a few criteria should be taken into consideration. These include investments in renewable energy sources to power their operations, implementation of congestion pricing strategies to reduce traffic congestion, investment in electric vehicle charging stations along their roads, use of recycled materials in the construction of their roads, support of carpooling and public transportation, development of green infrastructure to reduce water runoff and improve air quality, measures taken to reduce noise pollution and engagement with local communities to ensure their needs are being met. All these criteria can help ensure that toll roads are operated sustainably and responsibly in order to reduce their environmental and social impact.

5. **Freight Rail Transportation**: Freight rail transportation infrastructure plays a crucial role in promoting sustainability by providing an efficient and environmentally friendly mode of transportation for goods. For instance, the development of efficient rail systems, such as intermodal rail networks, can encourage companies to shift from trucking and shipping to more environmentally friendly modes of transportation. This can significantly reduce air pollution and greenhouse gas emissions, as trucking and shipping are major contributors to air pollution and carbon emissions. Moreover, the development of efficient rail systems can reduce transportation costs and improve the reliability of supply chains, which can have a positive impact on the economy. Finally, freight rail transportation infrastructure can also

promote sustainability by incorporating energy-efficient and ecofriendly technologies (e.g. use of electric or hybrid trains can significantly reduce the carbon footprint of rail systems). The development of smart rail systems, such as real-time cargo tracking and automated cargo handling, can also improve the efficiency of rail systems and reduce energy consumption.

5.3.2 Environmental Infrastructure

Environmental infrastructure is a sub-set of broader infrastructure that is focussed on the green transition and, accordingly, has the objective of providing essential services such as energy and water to society in a manner that leads to improved environmental outcomes for the regions in which it is based. Renewable energy systems, for example, enable a substantial reduction in CO_2 emissions, while water infrastructure is essential for providing water for human consumption, agricultural and industrial use and waste management infrastructure is essential for both achieving greater circularity, and preserving value, within the economy and reducing pollution and water contamination.

Environmental Infrastructure includes:

1. **Renewable Energy Utilities and Transmission**: Renewable energy utilities and transmission infrastructure contributes to overall sustainability by providing clean, renewable energy sources. Transmission infrastructure is used to move electricity from the point of generation to where it is ultimately used. This helps to reduce the need for new power plants and can even help to integrate renewable energy sources into the existing grid. Overall, renewable energy utilities and transmission infrastructures are key components of a sustainable energy system. They help to reduce air and water pollution, reduce our reliance on fossil fuels and provide a sustainable source of energy.

2. **Water Utilities**: Water and wastewater utilities are key contributors to overall sustainability. Water utilities are responsible for providing clean, safe drinking water to households and businesses, while wastewater utilities provide efficient treatment of wastewater. Both services are essential for maintaining drinking water quality, as well as for ensuring public health and safety. Investment in water and wastewater utilities is also important for environmental sustainability. These utilities reduce water contamination and reduce water loss due to leakages. This helps to conserve water and reduce water wastage. In addition, wastewater treatment systems reduce the number of pollutants released into the environment, reducing the risk of water contamination. Overall, water and wastewater utilities provide clean, safe drinking water to households and businesses, while also reducing water contamination and water wastage. Investment in these areas is essential for protecting public health and the environment.

3. **Waste Management**: Proper waste management is essential for reducing the amount of waste that is sent to landfills and other disposal sites. This helps to reduce air, soil and water pollution, protect natural resources and reduce greenhouse gas emissions. Waste management systems also help to reduce the amount of energy and resources used for waste disposal. By reducing the amount of waste sent to landfills, we can reduce the amount of energy and resources needed for waste disposal. This helps to reduce energy costs and reduce our reliance on finite resources.

5.3.3 Data and Telecom Infrastructure

Data and Telecom infrastructure is essential for a sustainable economy because it enables the efficient flow of data and information that is needed to support business decision-making and transactions.

Data infrastructure can be used to optimise economic processes, analyse economic trends and develop predictive models that can be used to inform economic policies and strategies. It can also be used to monitor and track the performance of businesses and markets and to identify areas of opportunity. Data infrastructure is critical for understanding the effects of economic policies and decisions and for providing the evidence needed to support effective decision-making. By providing a platform for data sharing and collaboration, data infrastructure can enable better communication between stakeholders, allowing for better informed decisions that can lead to more sustainable economic outcomes.

Data and Telecom Infrastructure includes:

1. **Data Centers**: Data centers are a critical component of data infrastructure because they provide the physical resources needed to store and process data. Data centers also provide a platform for cloud computing, which allows organisations to access data and applications from a remote location. When designing and constructing data centers, there are important environmental and social considerations to consider. Data centers can be energy intensive, consuming substantial amounts of electricity for cooling and computing. To reduce energy consumption and its associated environmental impacts, data centers can be designed to be more energy efficient. Additionally, data centers can have a significant impact on the local environment, so careful consideration must be given to the location of the facility to minimise any potential impacts. Data centers can also be designed to be more socially and economically responsible, by providing jobs and services to the local community and by using renewable energy sources.

2. **Telecom Infrastructure**: Telecommunications infrastructures enable faster communication, which can help to increase efficiency and productivity. They can also be used to connect people in remote areas, allowing them to participate more fully in the global economy. From an environmental perspective, telecommunications infrastructures can help reduce the need for physical infrastructure, such as roads and railways, which can lead to a reduction in carbon emissions. From a social perspective, telecommunications infrastructures can help to bridge the digital divide, connecting people in remote areas and providing them with access to digital resources. This can help to reduce poverty and inequality and enable people to participate more fully in the global economy.

5.3.4 Social Infrastructure

Social infrastructure is essential for a sustainable and fair economy. It provides the necessary resources and services that enable people and communities to lead healthy, safe and productive lives. Having access to quality social infrastructure helps to promote economic growth and reduce inequality by providing individuals and communities with the resources and services they need to succeed. This means that those with the greatest needs can have access to the resources and services they need to succeed. This helps to promote social mobility and prevents people from falling through the cracks.

Social Infrastructure includes:

1. **Health Care**: Health care infrastructure is of paramount importance for the current demographic context. Hospitals, clinics, laboratories and other health care infrastructure provide access to vital medical services and treatments to people of all ages, backgrounds and abilities. It is through these facilities that people can access preventative care, diagnose and treat illnesses, receive vaccinations and seek mental health support. Having adequate health care infrastructure is essential to ensuring that the needs of the population are met in a timely,

efficient and cost-effective manner. It is also essential for providing access to health care services to underserved populations, such as those in rural or remote areas or those who are unable to access health care services due to financial constraints.

2. **Elderly Homes**: The importance of elderly homes in the current demographic context is immense. With an increasing aging population and a decreasing number of family members and friends who are available (or can afford) to provide direct support themselves, elderly homes are essential to ensure that care can be provided to the elderly on a collective basis. Having access to elderly homes provides seniors with a sense of dignity and independence. It also offers them the opportunity to socialise, engage with their peers and participate in recreational activities. This helps to promote physical and mental well-being and improve overall quality of life.

6. Scoring Methodology

Infrastructure forms the backbone of how our economies and communities work and is, as such, designed to be economically impactful. In recent years, we have seen an increased focus on ensuring that infrastructure contributes to environmental and social objectives as well.

Our scoring methodology for identifying top investable sustainable infrastructure companies involves a three-pronged approach, which includes two sustainability measures and a financial strength assessment. To assess sustainability, we evaluate a company's revenue sources related to social and environmental objectives, as well as the relationship between its operations and material ESG risks. We use a "double materiality" assessment to examine the effects of a business's operational performance on its bottom line, as well as the impact of its products and services on the wider world. This approach provides a more comprehensive assessment of a company's sustainability profile, compared to traditional ESG-only screening. When combined with the financial strength score – all three components being equally weighted – the result is a **Sustainable Infrastructure Score**.

(1) **Sustainability Adjusted Revenue Score**: the relative contribution of a company's products and services to environmental and/or social objectives. Accounts for ⅓ of the Sustainable Infrastructure Score.	**Double Materiality sustainability assessment**
(2) **ESG Materiality Score**: the relative ESG performance of each company. Accounts for ⅓ of the Sustainable Infrastructure Score.	
(3) **Financial Strength Score**: the relative financial strength of each company. Accounts for ⅓ of the Sustainable Infrastructure Score.	**Financial Materiality assessment**

6.1. Sustainability Adjusted Revenue Score

The first step to determining the Sustainability Adjusted Revenue Score involves mapping each company's revenue share, in percentage terms, to each of the relevant infrastructure sub-sectors in which the company operates. This is used to compute a "Revenue Score" for each company.

The second step involves adjusting each company's Revenue Score to reflect the extent to which those sub-sectors are contributing on a relative basis to the environmental and/or social objectives of the EU Taxonomy and the UN SDGs in the geographical regions they serve.

Accordingly, the assessment of the relative contribution (i.e. *impact*) of each sub-sector of the Thematic Classification to sustainable infrastructure, i.e. the contribution to environmental and/or social objectives of the EU Taxonomy and the relevant UN SDGs impacted, is region specific (i.e. developed market, emerging market or frontier market). The reason for this is that the regional focus of infrastructure development is a key determinant of environmental and social impact and the degree to which the UN SDGs are supported. Some infrastructure assets will be deemed to have a relatively high impact irrespective of the region where their economic activities are located (e.g. renewable energy infrastructure is likely to be highly impactful in all regions). On the other hand, some infrastructure activities will be deemed to have much greater impact if they are located in emerging or frontier markets (e.g. a water utility serving customers in Bangladesh would be more impactful, relatively speaking, than a water utility serving customers in the United Kingdom).

Finally, it is important to note that the adjustments are made at the level of each sub-sector and region rather than at the level of each company's unique set of products or services (i.e. all companies who have a proportion of their revenue attributable to the "Renewable Energy Utilities and Transmission" sub-sector and "Frontier Markets" would receive the same percentage impact adjustment to that proportion of their revenue). Accordingly, where a company is deriving revenues from multiple sub-sectors and regions (developed, emerging or frontier markets), its Sustainability Adjusted Revenue Score will reflect the weighted proportion of its revenue attributable to each of those respective sub-sectors and regions.

Sustainability Contribution Adjustment Framework

The table below sets out the sustainability contribution adjustment framework that is applied to each sub-sector and corresponding geographical region. It is a measure of the relative contribution (i.e. impact) of each sub-sector to sustainable infrastructure within each geographical region. To note that revenues from a Frontier Market will be considered having the same impact as from an Emerging Market but the revenue percentage will be multiplied by 1.15 to account for the impact difference an infrastructure project can have in a Frontier Market vs Emerging Market.

Categories and sub-sectors	Developed Markets	Frontier / Emerging Markets	Rationale for impact adjustment
1. Transportation Infrastructure			
1.1 Passenger Transportation	High	High	High environmental impact in both emerging and developed markets by reducing the dependency on personal vehicles and replacing short-haul flights. **Related EU Taxonomy Economic Activities:** *Infrastructure enabling low-carbon public transport, Passenger interurban rail transport* **Related UN SDGs:** 11.2, 9.1
1.2 Ports	Moderate	Significant	Higher socio-economic impact in emerging markets where ports act as gateways for international trade. **Related EU Taxonomy Economic Activities:** *Sea and coastal freight infrastructure* **Related UN SDG references:** 9.1, 17.11
1.3 Airports	Minimal	Moderate	Slightly higher socio-economic impact in emerging markets by providing connectivity and access to markets, supporting tourism and commerce, and creating jobs and investment opportunities. **Related EU Taxonomy Economic Activities:** *Low carbon airport infrastructure* **Related SDG references:** 9.1
1.4 Toll Roads	Minimal	Moderate	Slightly higher environmental and socio-economic impact in emerging markets due to reduce traffic congestion and associated air pollution. **Related EU Taxonomy Economic Activities:** *Infrastructure enabling low-carbon road transport* **Related UN SDG references:** 11.2

Categories and sub-sectors	Developed Markets	Frontier / Emerging Markets	Rationale for impact adjustment
1.5 Freight Rail Transportation	Moderate	Significant	Higher socio-economic impact in emerging markets where rail is a more reliable and a more environmentally friendly way to move goods. **Related EU Taxonomy Economic Activities:** *Infrastructure for rail transport, Freight rail transport* **Related UN SDG references:** 9.1, 17.11
2. Environmental Infrastructure			
2.1 Renewable Energy Utilities and Transmission	High	High	High for both emerging and developed markets for providing clean, renewable energy sources necessary for the transition to a low-carbon economy. **Related EU Taxonomy Economic Activities:** *Electricity generation using solar PV, concentrated solar power (CSP), wind, ocean technologies, hydropower, geothermal, bioenergy* *Transmission and distribution networks for renewable and low-carbon gases (e.g. hydrogen)* **Related UN SDG references:** 7.1, 7.2, 7.3, 7.a, 7.b
2.2 Water Utilities	Moderate	High	Significantly higher environmental and social (health) impact for a water utility in emerging countries by providing clean, safe drinking water to households and businesses. **Related EU Taxonomy Economic Activities:** *Water supply, Urban wastewater treatment* **Related UN SDG references:** 11.5
2.3 Waste Management	Significant	High	Slightly higher environmental impact in emerging countries as waste management is not as widespread. **Related EU Taxonomy Economic Activities:** *Collection and transport of non-hazardous and hazardous waste as a means for material recovery, Collection and transport of hazardous waste, Treatment of hazardous waste* **Related UN SDG references:** 11.6

3. Data and Telecom Infrastructure			
3.1 Data Centers	Minimal	Minimal	Minimal environmental and socio-economic impacts due to marginal role that data centers have on environment and social life. **Related EU Taxonomy Economic Activities:** *Data processing, hosting and related activities* **Related UN SDG references:** 9.c
3.2 Telecom Infrastructure	Moderate	Significant	Slightly higher environmental and socio-economic impacts based om improving access for target populations and/or areas to basic economic infrastructure such as telecommunications (including the internet) **Related EU Taxonomy Economic Activities:** *Promoting equality and inclusive growth via improving access for target populations and/or areas to basic economic infrastructure such as telecommunications (including the internet)* **Related UN SDG references:** 9.c, 17.6
4. Social Infrastructure			
4.1 Health Care	Significant	High	Slightly higher impact in emerging markets due to the general lack of health care services. **Related EU Taxonomy Economic Activities:** *Ensuring access to quality healthcare products and services including care services* **Related UN SDG references:** 3
4.2 Elderly Homes	Moderate	Significant	Slightly higher impact in emerging markets due to the general lack of health care services. **Related EU Taxonomy Economic Activities:** *Adequate living standards and wellbeing for end-users* **Related UN SDG references:** 3

Level of impact	**Corresponding adjustment (multiplier) applied to Revenue Scores**
High	100%
Significant	85%
Moderate	65%
Minimal	50%

6.2. ESG Materiality Score

The second pillar of the Sustainable Infrastructure Score is the ESG Materiality Score. Whether or not infrastructure-related economic activities of a particular company are economically, environmentally and/or socially impactful is also linked to the corporate behaviour and business operations of the relevant company. For example, the physical nature of hard infrastructure means that operational decisions relating to material procurement, resource management and installation can have significant environmental and social consequences and therefore pose existential ESG risk for companies.

Accordingly, it is important that a "double materiality" assessment is performed when conducting analysis on companies in the infrastructure sector, examining not only the economic contribution of a company's products and/or services to environmental and/or social objectives but also its unique ESG risk. Consequently, our ESG Materiality Score assesses a company's operational performance with respect to potential ESG factors that are relevant (i.e. material) to its industry.

6.3. Financial Strength Score

The Financial Strength Score is a proprietary indicator used to assess the financial characteristics of a company. Traditional infrastructure has a diversifying role in portfolios given its more defensive traits like inflation hedging and low beta from steady cash flows. To ensure a diversified list of companies, we use the Financial Strength Score as a metric to assess the economic profile of each company in the Stock Universe.

The score is broken down into the following sub-components:

- Profitability ratios:
  - ROE (Return on Equity)
  - EBITDA Margin (Earnings Before Interest, Taxes, Depreciation, and Amortization Margin)
  - EPS Growth Past 3Y (Earnings Per Share Growth Rate Past 3 Years)
- Valuation ratios:
  - P/E (Price-to-Earnings)
  - EV/EBITDA (Enterprise Value to Earnings Before Interest, Taxes, Depreciation, and Amortization)
- Risk ratios (leverage and volatility)
  - Total D/E (Total Debt-to-Equity)
  - Current Ratio
  - Quick Ratio
  - Beta 1Y (Beta - a measure of risk or volatility in relation to the overall market)
- Dividend-related ratios:
  - Dividend Payout Ratio
  - Dividend 3Y CAGR (Dividend 3-Year Compound Annual Growth Rate)

The sub-components are normalised at the company level against a broad list of infrastructure stocks. Sub-components are each worth between 5% and 12.5% of the total score. The scores of each sub-component are then added up to obtain each company's Financial Strength Score (0-100).

A detailed breakdown of how the Financial Strength Score is computed with company examples is provided on the SMS website: www.sustainablemarketstrategies.com/en/thematic/

7. Data Sources

To conduct our own research, we leverage both public sources and subscription-based datasets. Public sources consist of datasets provided by companies through their periodic reports (annual, semi-annual and quarterly reports), company presentations or official earnings conference call transcripts. We also engage directly with companies where clarification is needed with respect to publicly available disclosures. We also regularly consult with several environmental non-governmental organisations' websites including Corporate Knights' Global 100 ranking[8] and As You Sow's Carbon Clean 200 ranking[9].

Our subscription-based datasets include:

- FactSet's RBICS revenue categorisation module
- Refinitiv Eikon's Financial and ESG Modules
- CSRHub's ESG database
- Bloomberg's Financial, ESG and EU Taxonomy modules
- SASB Standards and Materiality Framework

It should be noted that our list of subscription-based datasets is not static. We expect this list to evolve and grow as newer and more specialised datasets become available.

8. Review Frequency

The Stock Universe is reviewed and updated on a semi-annual basis in March and September of each year. During each semi-annual review session, new companies and existing companies are reviewed, classified and scored in accordance with the methodology described in this document.

9. Governance

The Thematic Classification is maintained by Sustainable Market Strategies. Please note that we do not accept payments from companies or other third parties to include their companies in the Stock Universe.

If a company or prospective company (or professional advisor acting on behalf of the company) wishes to challenge its inclusion status, classification or score, supporting evidence must be sent to thematic@sustainablemarketstrategies.com. The reason for proposing the change to the company's inclusion status, classification or score must be stated and documentary evidence supporting the claim must be provided. In considering the claim, SMS reserves the right to only take into account publicly available information.

Any adjustments resulting from a change in a company's inclusion status, classification or score will be effective in line with the next scheduled semi-annual review. Under certain circumstances, SMS reserves the right to use discretion to effect the change sooner.

[8] Corporate Knights, 2023. Available at: https://www.corporateknights.com/rankings/global-100-rankings/2023-global-100-rankings/
[9] As You Sow, 2023. Available at: https://www.asyousow.org/report-page/2023-clean200