

ESG Materiality Map

Engineering And Construction

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Physical climate risk and human capital-related factors - working conditions and workforce health and safety - are among the most material factors. Waste and recycling and biodiversity and resources use are examples of factors currently more material for stakeholders than credit.

This report does not constitute a rating action



Sustainable Finance

Luisina Berberian

Madrid
luisina.berberian
@spglobal.com

Credit Ratings

Robyn Shapiro

New York
robyn.shapiro
@spglobal.com

Contributors

Lai Ly

Paris
lai.ly
@spglobal.com

Pierre Georges

Paris
pierre.georges
@spglobal.com

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In line with the research report “[Materiality Mapping: Providing Insights Into The Relative Materiality Of ESG Factors](#),” published on May 18, 2022, S&P Global Ratings is publishing research on the ESG materiality map for the engineering and construction sector. We provide an illustration of our current view of the relative materiality of certain environmental and social (E&S) factors, from both the stakeholder and credit perspectives, for the sector. The materiality map does not represent any new analytical approach to the treatment of E&S factors in our credit ratings. See our ESG criteria for more information on how we incorporate the impact of ESG credit factors into our credit ratings analysis.

Engineering And Construction Sector

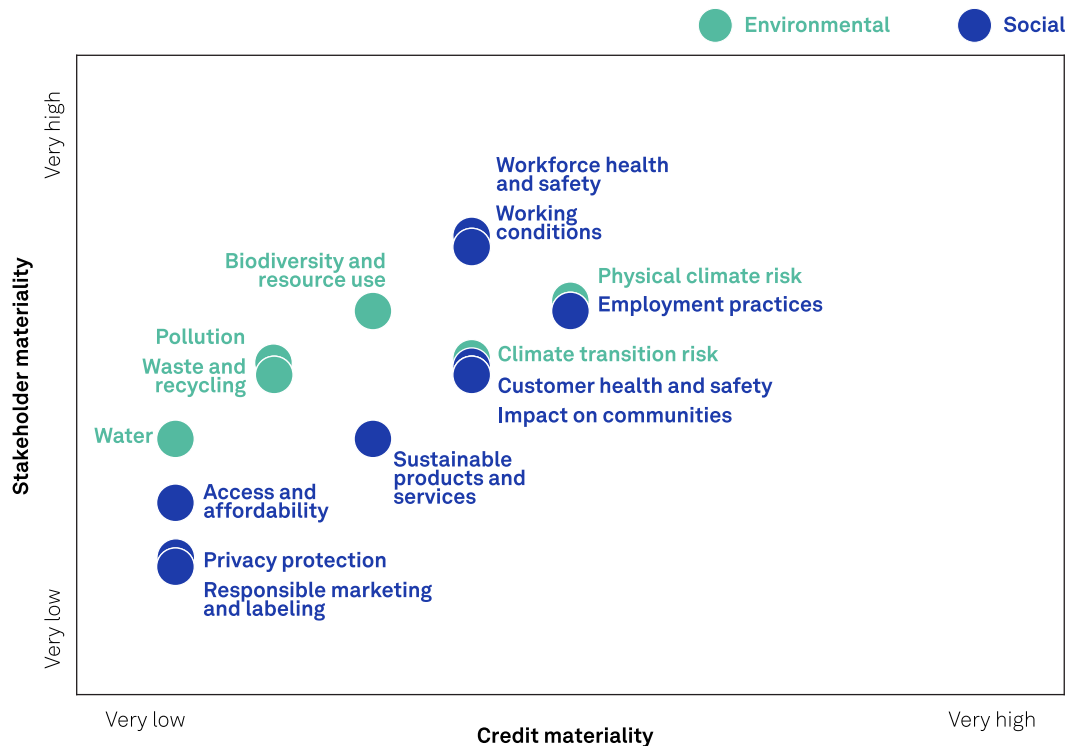
Engineering and construction (E&C) sector mostly includes construction companies, with a portion providing engineering, design, maintenance, and other related services that support various building and infrastructure projects. The sector consists of infrastructure construction, nonresidential building construction, engineering services, building subcontractors, and construction-related professional services.

Key Takeaways

- Social factors, notably those related to human capital, are most material for the E&C sector. They include working conditions, particularly in the construction industry, employment practices (due to the importance of attracting and retaining qualified workforce), and workforce health and safety.
- Physical climate risk is becoming more material as E&C companies will be required to design or construct assets that can withstand increasingly extreme weather and adapt foundations, structures, and materials to shifting climate patterns. This could affect fixed-price contracts more over time if not properly accounted for in contract terms.
- Key factors with higher stakeholder materiality than credit include biodiversity and resource use, and waste and recycling. While these factors are material for stakeholders due to the significant waste generation and land use during construction works, they tend to be well managed and have so far not translated into material credit risk.

See materiality map on the following page.

ESG Materiality Map For The Engineering And Construction Sector



The materiality map provides an illustration at a point in time, of our findings on the relative materiality of certain environmental and social (E&S) factors, from both the stakeholder and credit perspectives, for the sector. It does not represent any new analytical approach to the treatment of E&S factors in our credit ratings. See our ESG Criteria for more information on how we incorporate the impact of ESG credit factors into our credit ratings analysis. Source: S&P Global Ratings.

How To Read The ESG Materiality Map

The stakeholder materiality (Y axis) reflects our assessment of the relative level of impacts and dependencies of the sector on the environment, society, and economy.

The credit materiality (X axis) reflects our assessment of the relative level of potential and actual credit impact for the sector. The credit implications for the factors positioned on the left side to the middle of the X-axis would be more limited and absorbable. On the right side, there is higher potential for these implications to be more disruptive. We assess credit implications for an entity based on its individual characteristics.

To assess the materiality of E&S' factors we consider both the likelihood of the impact from a given factor, as well as the magnitude of the impact. The materiality of the factors varies depending on the perspective (stakeholder or credit) as well as the evolving and dynamic interactions between these two dimensions.

The main areas of the map:

- The upper-right quadrant displays the most material, on a relative basis, E&S factors identified for the sector from both a stakeholder and credit perspective.
- The upper-left quadrant presents factors that are more material from a stakeholder than credit perspective. These factors have the potential to become more material from a credit perspective.
- The bottom-left quadrant shows factors that are less material for both stakeholders and credit. Their materiality may evolve over time and this dynamic may not be linear.

Examples Of Material Factors

Below we provide the rationale of some of the material factors to illustrate the above findings.

Employment practices

Employment practices is one of the most material factors for the sector from both stakeholder and credit perspectives, given projects' cyclical nature, particularly for construction. Attracting, retaining and developing a highly skilled workforce is increasingly important, especially as the broader sector's digital capabilities advance. For employees, fair wages with appropriate benefits and training or career opportunities (for example, apprenticeships) are becoming increasingly material given competition from other sectors and the heavy reliance on temporary employees and subcontractors (where benefits and training standards can be lower). The sector is moderately unionized, and more so in developed countries, which upholds higher employment practices. Nevertheless, mismanaging employee relationships may result in strikes, but this is an infrequent occurrence. From a credit perspective, materiality is lower but regional labor shortages are possible and could cause project delays or cost overruns. In addition, labor cost inflation can erode margins, particularly for companies with less flexible cost structures or inability to pass on costs to customers. Relying on skilled labor and retaining it (including temporary employees) and particularly at expected cost levels, directly affects the profitability of construction projects, as labor can account for about one third of project costs.

Physical climate risk

Physical climate risk is one of the most material factors from both the stakeholder and credit perspectives, because of potential of damage to assets and disruptions to a large number of stakeholders and to operations. Severity of physical risks varies by region, but the fixed nature of construction projects heightens materiality. Chronic risks (changes in temperature, precipitation patterns, rising sea level) or acute risks (flooding, heat waves and/or wildfires) necessitate designing and building infrastructure that is resilient to known and projected climate hazards while severe weather events can add risks during construction phase. The likelihood of asset damage due to extreme weather increases without adaptation, more so in those regions exposed to climate hazards. From a credit perspective, E&C companies assume some weather-related delays to complete construction projects, which generally accommodates the financial impact of weather-related delays. However, more frequent and severe events can cause project cost overruns under fixed price contracts. We believe litigation risks can increase for the sector, particularly if cases emerge where projections of climate hazards have not been appropriately considered during the design and construction phases.

Working conditions

Working conditions is one of the most material factors, particularly from the stakeholder perspective. The sector's workforce, particularly lower skilled, in the construction industry is among the largest globally and is also highly vulnerable to labor and human rights impacts. Temporary and migrant labor are most at risk. In recent years, the construction industry and its labor recruitment practices have come under increasing scrutiny for conditions of forced labor. Further, from a value chain viewpoint, many materials commonly used in the sector (notably bricks, cement, and timber) are at the highest risk of being produced in some regions using forced labor. From a credit perspective, materiality is lower, with industry participants recognizing the right to collective bargaining and a moderately unionized workforce. However, failure to provide decent working conditions could cause reputational risk.

Workforce health and safety

Workforce health and safety is material for stakeholders and credit. Construction projects can expose workers to heightened safety risks from use of heavy machinery, falls, hazardous chemicals, and other potentially dangerous situations, translating into fatality and injury rates that are high relative to other sectors. The U.S. Bureau of Labor Statistics reported the construction sector represented 23% of all fatal occupational injuries in the private industry in 2020 (second highest only after trade, transportation, and utilities). In 2019, more than one fifth (22.2 %) of all fatal work accidents in the European Union took place within the construction sector, as per Eurostat. The reliance on temporary employees and subcontractors also pose risks as safety protocols can be more lax. From a credit perspective, E&C companies bear costs related to health and safety of their employees to further reduce already low safety incident rates for rated companies, which we view as an ongoing cost of business in this industry. These companies typically have satisfactory training, policies, and standards, particularly in developed markets. This eases the influence on credit quality because strong safety practices reduce the potential for fines, penalties, or contingent liabilities from legal or regulatory actions.

Climate transition risk

The sector's material contributions to global climate change largely involve the embedded carbon in key materials like steel and concrete and the GHG emitted during the project use phase, which varies widely. Clients are more focused on lowering their GHG emissions, making climate transition risk an important stakeholder consideration. Credit impacts would most likely come from project demand shifting toward customer end markets with lower carbon emissions. These trends influence creditworthiness, as demand for renewables projects grows, displacing demand for projects related to more polluting assets. This could benefit topline revenues for contractors with capabilities in renewables end markets and those with green building practices. Conversely, entities could be exposed to reputational risks with certain customers if they participate in the most carbon-intensive projects. However, we also believe there could be additional execution issues (such as unanticipated costs or delays, increased R&D costs and risk) for new services projects with more disruptive, low-carbon technologies, that have limited track record and for contractors with less experience.

Impact on communities

Impact on communities is a material factor for stakeholders, especially for large infrastructure construction projects. Some projects require significant land use and at times cross through rural communities and conflict areas, and in densely populated areas that may require voluntary or involuntary resettlement. Construction and infrastructure can enhance economic and social development, but they can also be highly disruptive because of noise, air emissions, water discharge, and harmful waste, among others, which can lead to local community pushback. Development that affects local neighborhoods also brings the risks of driving up the cost of living or otherwise disrupting the cultural fabric of a community, creating further community opposition. From a credit perspective, these factors indirectly affect E&C companies, as their clients tend to take on these responsibilities through the permitting process and contractual terms generally cover E&C companies for such risks, including project cancellation. Additionally, E&C company clients have often sorted these issues by the time a project is awarded to a contractor and scheduled to proceed, thereby further limiting the effect on E&C companies.

What is our approach to research on the ESG materiality map?

Referring to the research report “[Materiality Mapping: Providing Insights Into The Relative Materiality Of ESG Factors](#),” published on May 18, 2022, this research is built on the ESG materiality concept that considers ESG issues as material when they could affect stakeholders, potentially leading to material direct or indirect credit impact on entities. It considers that all businesses, through their activities and interactions, impact and depend, directly or indirectly, on stakeholders such as the environment (natural capital), society (human and social capital), and economy (financial capital). Using this ESG materiality concept, S&P Global Ratings has worked toward identifying a common, global, cross-sector set of E&S factors that we believe are material to stakeholders, and either are already, or have the potential to become, credit material for entities. The materiality map we propose provides an illustration at a point in time, of our findings on the relative materiality of those factors, from both the stakeholder and credit perspectives.

How does the sector ESG materiality map relate to credit ratings or ESG evaluations?

The sector materiality map is a visual representation of the factors that we consider impactful to the sector from a stakeholder and credit perspective for the purposes of this research. It does not represent any new analytical approach to the E&S factors in our credit ratings.

The relative materiality of the factors indicated on the materiality maps may inform the E&S Risk Atlas scores and the weights of the E&S factors used in ESG evaluations.

They may also inform our discussions with issuers on those factors’ existing or potential credit materiality.

Related Research

- [Materiality Mapping: Providing Insights Into The Relative Materiality Of ESG Factors](#), May 18, 2022
- [Environmental, Social, And Governance Principles In Credit Ratings](#), Oct. 10, 2021
- [ESG Evaluation Analytical Approach](#), Dec. 15, 2020

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