S&P Global Ratings

How We Incorporate Environmental Risks in Our Credit Ratings

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ESG in Credit Ratings

S&P's view of how ESG risks and opportunities are reflected in our credit ratings

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ESG Principles Criteria: General Principles of ESG Factors & Ratings

Environmental factors

- Climate transition risks
- Physical risks
- Natural capital
- Waste and pollution
- Other environmental factors

Social factors

- Health and safety
- Social capital
- Human capital
- Other social factors

Governance factors

- Governance structure
- Risk management, culture, and oversight
- Transparency and reporting
- Other governance factors

Principle One

Our long-term issuer credit ratings do not have a pre-determined time horizon.

Principle Two

The current and potential future influence of ESG credit factors on creditworthiness can differ by industry, geography, and entity.

Principle Three

The direction of and visibility into ESG credit factors may be uncertain and can change rapidly.

Principle Four

The influence of ESG credit factors may change over time, which is reflected in the dynamic nature of our credit ratings.

Principle Five

Strong creditworthiness does not necessarily correlate with strong ESG credentials and vice versa.

ESG--Environmental, social, and governance. Source: S&P Global Ratings.

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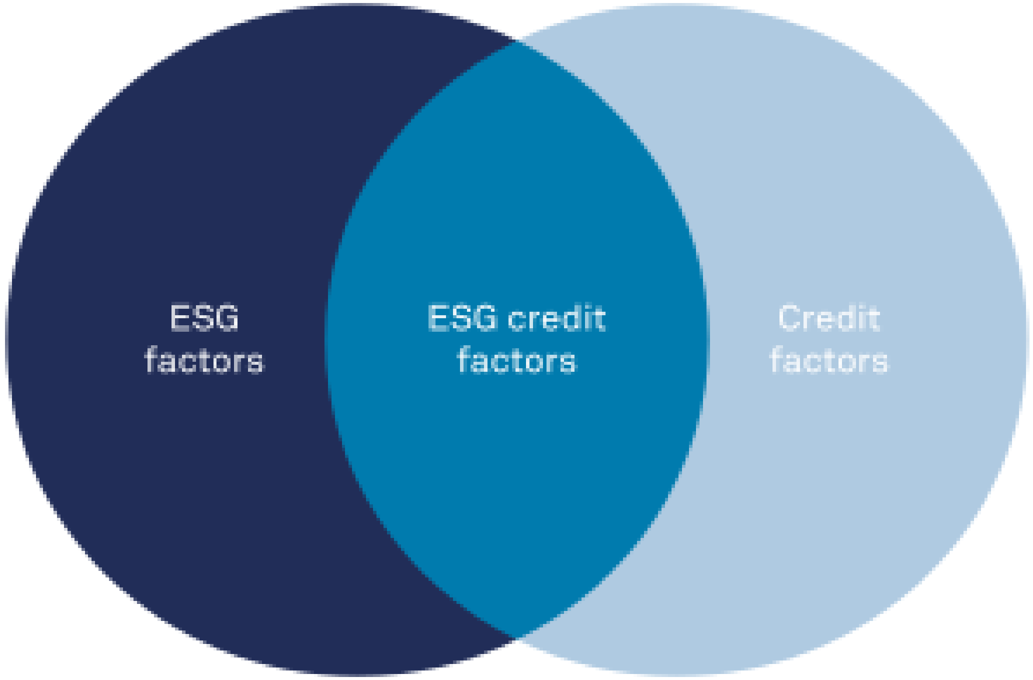
ESG In Credit Ratings: Materiality Drives the Influence

The materiality of ESG factors varies by sector and region and may or may not be relevant in our rating analysis

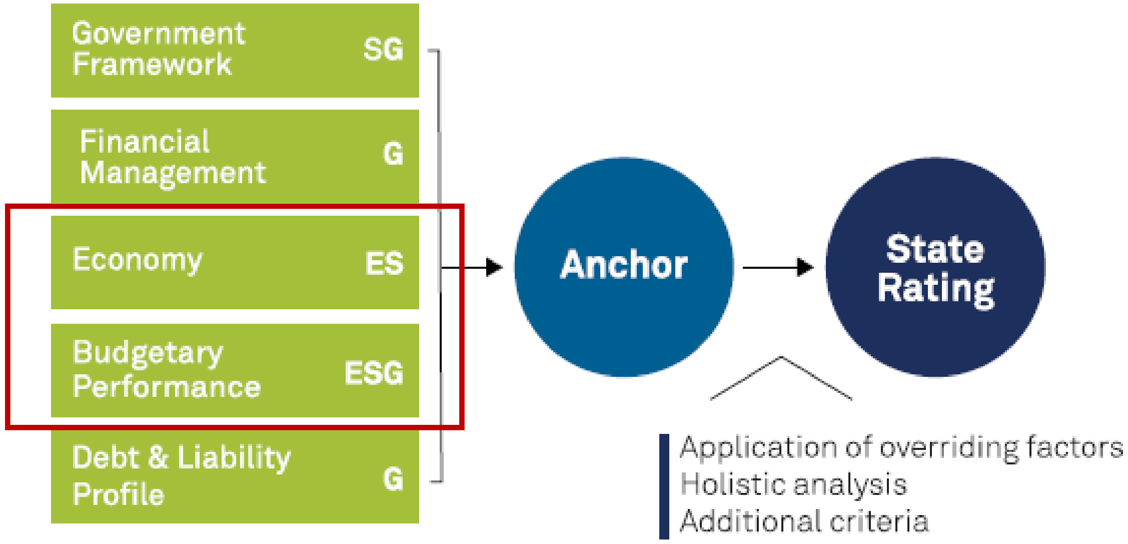


ESG--Environmental, Social, and Governance. Source: S&P Global Ratings.

- ESG factors incorporate an entity's impact from, and effect on the natural and social environment and the quality of its governance.
- **Not all ESG factors materially influence creditworthiness**.
- **ESG credit factors** are those ESG factors that can **materially influence the creditworthiness** of a rated entity and for which we have **sufficient visibility and certainty** to include in our rating analysis.

ESG Risks and Opportunities: Within our Criteria Frameworks

U.S. States



Climate transition risks
- Costs or benefits from transitioning to net-zero away from carbon-based energy supply
- Policy or regulatory changes related to managing carbon and curtail greenhouse gas emissions

Physical risks
- Acute (i.e., increased severity of extreme weather events such as hurricanes, flooding, wildfires, and drought and their impact on water supply, economic or service areas, and facilities and/or infrastructure)
- Chronic (i.e., longer-term shifts in climate patterns including precipitation and temperature that may result in chronic heat and cold waves and their impact on water supply, economic or service areas, and facilities and/or infrastructure, as well as sea level rise)
- Natural disasters (e.g., earthquakes, tornados)

Natural capital
- Water scarcity or supply limitations that affect operations or an entity's economic base or service area
- Biodiversity and land use related to development patterns in protected or preserved areas

Waste and pollution
- Environmental considerations relative to sewer overflows; consent decrees stemming from pollution issues
- Impact of environmental regulations related to water or wastewater

Source: S&P Global Ratings.

Through the ESG Lens 3.0: The Intersection of ESG Credit Factors and U.S. Public Finance Credit Factors, published March 2, 2022

ESG Risks and Opportunities: Transparency is Key

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Summary:

Minnesota; Appropriations; General Obligation

Environmental, social, and governance factors

While Minnesota is experiencing acute environmental physical risks stemming from climate change, including the statewide drought and wildfire in its remote northeastern corner, we do not view them as immediate risks to the state's credit rating. In addition, the state is working to assess and mitigate these risks by funding climate vulnerability assessments and resiliency planning, tree planting, cover crops, and water runoff management. Furthermore, the state's aging population and age-dependency ratio are somewhat higher than the U.S., and the gap between Minnesota and the nation is growing, which we view as a long-term social risk that could hinder economic growth and increase service costs. Other than the state's aging population, it compares favorably to the U.S. on other social and demographic factors. Given Minnesota's strong budget management, we expect it will continue to incorporate this social risk into its long-term fiscal plans. We view the state's governance risks as being in line with the sector standard.

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