FitchRatings

ESG Relevance Scores and Credit Ratings

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February 18, 2022

ESG Credit Research & Analysis –
Fitch Ratings Suite of ESG Products

ESG-integrated Credit Research & Analysis

Short-term → Long-term

ESG Relevance Scores

- ESG Relevance Scores articulate the level of influence an environmental, social or governance issue has had on a credit rating decision.
- ESG Relevance Scores are forward looking and based on the base case forecasts for the credit ratings of entities and transactions
- Fitch Ratings' credit analysts systematically evaluate ESG credit considerations incorporated in its ratings methodologies
- The scores cover Environmental, Social and Governance (E, S and G, respectively) risks under a transparent sector based, cross-asset, global framework
- Sector based templates provide clear articulation of credit relevant ESG risks

Sector / Entity / Transaction

ESG Vulnerability Scores

- Credit risk analysis based on a credible downside credit risk scenario whereby climate change is limited to 2 degrees of warming by 2050
- Vulnerability scores provide a time series comparative risk score of credit risk vulnerability for sectors, entities within a sector, and debt instruments
- Time-profiled scores at regular intervals from 2025 to 2050. Unique granular view for investors looking to manage longer term ESG credit risks
- Based on the UN-backed Principles for Responsible Investment's Inevitable Policy Response scenario, refined and adjusted for the in-depth sector knowledge of Fitch's rating analysts

Sector / Entity / Transaction

www.fitchratings.com/esg

Medium-term

ESG Research

- Dedicated global ESG Research team based across 3 continents who cover thematic and cross-sector ESG credit risk, as well as supporting credit analysts with themed issuer and transaction specific research
- Thematic reports analysing ESG themes at a macro-level, a sector level, and an entity / transaction level with an emphasis on how they are likely to affect sectors and entities from a credit perspective
- The ESG Research team prioritize emerging ESG themes that are most material and likely to disrupt industries and business models

Sector / Thematic

Pure ESG Analysis & Reports

Short-term → Medium-term

ESG Ratings

- Holistic ESG analytical tools that help market players to discriminate the ESG quality of financial instruments and companies/issuers

3 main pillars:

- ESG Entity Rating, with ESG peer comparison tool
- ESG Instrument Rating (bond and loan) for both framework and conventional bonds and loans. Financial instrument assessment which takes account of the ESG credentials of the issuer as well as the debt instrument to produce an absolute comparative grade for every piece of debt issued.
- ESG Framework Rating for Green / Social / Sustainability / Sustainability-linked bonds and loan

Entity / Transaction

www.sustainablefitch.com

ESG Relevance Scores –
Intersection Between ESG and Credit Risk

- Which ESG risks are relevant for different industry sectors
- Which ESG risks are having an impact in rating decisions for individual issuers
- Which ESG risks have actually resulted in rating action
- Score assignment is under an ESG framework, not included in rating criteria
- Does not measure ESG merit (e.g. we are not measuring the level of good or bad behavior)

ESG Relevance Scores –
Intersection Between ESG and Credit Risk

Credit Risk

Credit Rating Assignments Reflect Sector-Specific Rating Criteria

Tax Supported Rating Criteria - States/Local Governments

Key Risk Drivers
- **Revenue Framework** – Growth Prospects/Legal Ability to Increase
- **Expenditure Framework** – Pace of Growth/Flexibility of Expenditure Items
- **Long-Term Liability Burden** – Liabilities in Relation to Economic Base
- **Operating Performance** – Financial Resilience/Budget Management

Revenue Supported Rating Criteria – Enterprise Sectors

Key Risk Drivers
- **Revenue Defensibility** – Revenue Source Characteristics/Service Area Characteristics/Rate Flexibility
- **Operating Risk** – Operating Cost Burden/Capital Planning and Management
- **Financial Profile** – Leverage Profile/Liquidity Profile

ESG Relevance Scores –
Intersection Between ESG and Credit Risk

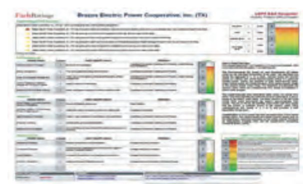
ESG General Issues
Sector Comparative

ENVIRONMENTAL		SOCIAL		GOVERNANCE	
USPF State & Local Governments; International Local and Regional Governments (IPF)	**Revenue Sectors (Includes Infra and IPF GRE's)**	**USPF State & Local Governments; International Local and Regional Governments (IPF)**	**Revenue Sectors (Includes Infra and IPF GRE's)**	**USPF State & Local Governments; International Local and Regional Governments (IPF)**	**Revenue Sectors (Includes Infra and IPF GRE's)**
GHG Emissions & Air Quality	GHG Emissions & Air Quality	Human Rights and Political Freedoms	Human Rights, Community Relations, Access & Affordability	Political Stability and Rights	Management Strategy
Energy Management	Energy Management	Human Development, Health and Education	Customer Welfare - Fair Messaging, Privacy & Data Security	Rule of Law, Institutional & Regulatory Quality, Control of Corruption	Governance Structure
Water Resources and Management	Water & Wastewater Management	Labor Relations & Practices	Labor Relations & Practices	International Relations and Trade	Group Structure
Biodiversity and Natural Resource Management	Waste & Hazardous Materials Management; Ecological Impacts	Public Safety and Security	Employee Wellbeing	Creditor Rights	Financial Transparency
Natural Disasters and Climate Change	Exposure to Environmental Impacts	Demographics Trends/Population Demographics (IPF)	Exposure to Social Impacts	Data Quality and Transparency	

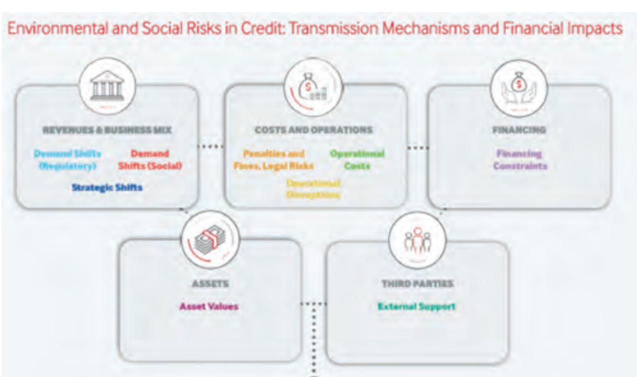
ESG Relevance Scores –
Intersection Between ESG and Credit Risk

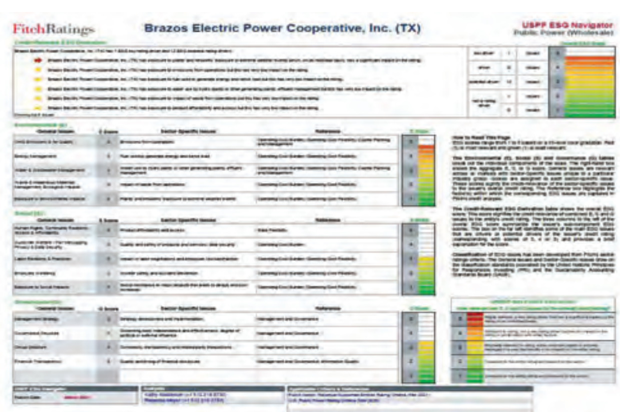
ESG Relevance Scoring Definitions

LOWEST RELEVANCE		NEUTRAL	CREDIT-RELEVANT TO ISSUER	
1	2	3	4	5
Irrelevant to the entity rating and irrelevant to the sector.	Irrelevant to the entity rating but relevant to the sector.	Minimally relevant to rating, either very low impact or actively managed in a way that results in no impact on the entity rating.	Relevant to rating, not a key rating driver but has an impact on the rating in combination with other factors.	Highly relevant, a key rating driver that has a significant impact on the rating on an individual basis.



Positive ESG impact in noted by assigning a [+] to a '4' or '5' ESG.RS.





ESG Relevance Scores

General Issues => Sector Specific Issues => Credit Relevance

Tax Supported

Environmental (E)

General Issues	E Score	Sector-Specific Issues	Reference
GHG Emissions and Air Quality	3	Emissions and air pollution as constraints on economy and revenue growth; enforcement/compliance with governmental/regulatory standards	Combined Burden of Debt and Unfunded Pension Liabilities in Relation to Resource Base; Growth Prospects for Revenues Without Revenue-Raising Measures
Energy Management	3	Impact of energy resources management on economy and governmental operations, including enforcement/compliance with governmental/regulatory standards	Combined Burden of Debt and Unfunded Pension Liabilities in Relation to Resource Base; Growth Prospects for Revenues Without Revenue-Raising Measures
Water Resources and Management	3	Water resource availability impacts on economy and governmental operations, including enforcement of governmental/regulatory standards	Combined Burden of Debt and Unfunded Pension Liabilities in Relation to Resource Base; Growth Prospects for Revenues Without Revenue-Raising Measures
Biodiversity and Natural Resource Management	3	Impact of natural resources management on economy and governmental operations	Combined Burden of Debt and Unfunded Pension Liabilities in Relation to Resource Base; Growth Prospects for Revenues Without Revenue-Raising Measures
Natural Disasters and Climate Change	3	Impact of extreme weather events and climate change on economy, governmental operations and policy related to natural disasters treatment	Combined Burden of Debt and Unfunded Pension Liabilities in Relation to Resource Base; Financial Resilience Through Downturns

W&S Revenue (example)

Environmental (E)

General Issues	E Score	Sector Specific Issues	Reference
GHG Emissions & Air Quality	2	Emissions from operations	Operating Risk
Energy Management	[illegible]	Energy use in operations	Operating Risk
Water & Wastewater Management	3	Water use in operations; water utilities' financial targets for water quality, leakage, and usage	Operating Risk
Waste & Hazardous Materials Management; Ecological Impacts	3	Impact of events including pollution incidents; discharge compliance	Operating Risk
Exposure to Environmental Impacts	2	Exposure to extreme weather events (e.g. risk of drought and flooding)	Operating Risk; Asymmetric Risk Factors

Environmental Risks

Illustrative by Sector

State and Local Governments

Water Resources and Management

- The risk that pervasive water pollution or inadequate utility infrastructure lead to a public health crisis. Such crises could result in costly litigation, revenue and population loss, and impede economic growth.
- The risk that insufficient water supply forestalls economic development.

Natural Resource Management

- The risk that a significant reliance on cyclical natural resource markets (oil, gas, coal) results in sharp swings in economic performance, tax base and population loss, and variable financial performance.

Natural Disasters and Climate Change

- The risk that an issuer is unprepared for a natural disaster (hurricane, wildfire, flood, earthquake, drought) exemplified by insufficient liquidity, inadequate zoning, or a faulty disaster recovery plan, amongst other considerations. Unpreparedness can result in loss of tax base and revenues and higher expenditures.
- The risk that an escalation in natural disasters, sea level rise or higher temperatures will result in property damage and increased expenditures, and prove detrimental to economic and financial performance.

Revenue Sectors

Water & Wastewater Management

- The risk that an issuer's direct water use, consumption and wastewater general may be influenced by availability and quality of and competition for water resources.
- Addresses management strategies with respect to water efficiency and supply.

Waste & Hazardous Materials Management, Ecological Impacts

- The risk that issuer's generation of waste may cause harm to humans and the environment.

Exposure to Environmental Impacts

- The risk that assets owned or controlled are vulnerable to physical impacts of climate change.
- Relates to an issuer's ability to adapt to frequency and severity of extreme weather, shifting climate and the physical impacts of these changes.

Environmental Risks

Illustrative Cross-Sector Risks

Greenhouse Gas Emissions and Air Quality

- The risk that an issuer's management of regulatory risks and environmental compliance for its direct (Scopes 1 and 2) GHG emissions impacts either operational performance or capital program. Faulty management of these risks can lead to both reputational damage as well as penalties and fines for non-compliance
- The risk that changes in emissions standards results in higher operating costs and decreased economic activity in local jurisdictions as key industries pivot to address national global warming targets
- The risk that increased scrutiny on key employers such as those in energy-intensive industries, mining, utilities, transportation, or auto production, related to emissions standards or product demand results in reduced economic activity and/or stranded assets
- The risk that poor air quality deters future economic development or results in costly litigation

Energy Management

- The risk that shifts in fuel and energy sources that support an issuer's own operations, or that of its community, results in financial and operational disruption. This includes shifts in suppliers and along the supply chain (Scope 3)
- The risk that these shifts results in an escalation of capital expense, as issuers must respond to changes in energy standards and availability
- The risk that shifts in energy source availability impacts energy intensive industries, potentially deterring economic development

ESG Relevance Scores

Environmental Risks - Extract of Analyst Commentary

State and Local Governments

State of Alaska

Alaska has an Environmental, Social and Governance (ESG) Relevance Score of '4' for **Biodiversity and Natural Resource Management** due to its exposure to the impact of natural resources management on the economy and governmental operations - which, in combination with other factors, has a negative impact on the credit profile and is relevant to the rating in conjunction with other factors.

Dare County, North Carolina

Dare County has an ESG Relevance Score of '4' for **Natural Disasters and Climate Change** due to the county's exposure to extreme weather events, including hurricanes and coastal flooding, which can impact the county's financial operations and has a negative impact on the credit profile, and is relevant to the rating in conjunction with other factors.

Revenue Systems

Corpus Christi Combined Utility System, Texas

Corpus Christi's combined utility system has an ESG Relevance Score of '4' for **Waste & Hazardous Materials Management; Ecological Impacts**, which reflects the impact of waste including pollution incidents and/or discharge compliance, which has a negative impact on the credit profile in conjunction with other factors

Florida Keys Aqueduct Authority, Florida

FKAA has a score of '4' for **Exposure to Environmental Impacts** due to the potential for extreme weather events to have a detrimental impact on financial operations and the capital program. These factors will continue to be a feature for this credit, which have a negative impact on the credit profile and are relevant to the rating in conjunction with other factors.

Central Arizona Water Conservation District

CAWD has an ESG Relevance Score of '4', revised from '3' for **Exposure to Environmental Impacts** due to the ongoing drought lower in the Colorado River Basin and CAWCD's participation in the DCP that have the potential to impact the amount of water delivered and financial performance, which has a potentially negative impact on the credit profile and is relevant to the ratings in conjunction with other factors.

Social Risks
Illustrative by Sector

State and Local Governments

Human Development, Health and Education
- The risk that inadequate public health protocols and practices result in poor health outcomes, damaging future economic performance.

Labor Relations & Practices
- The risk that an issuer's inability to uphold commonly accepted labor standards or lack of diversity in its workforce, amongst other considerations, results in contentious labor relations or a fraught relationship between a government and its employees.

Public Safety and Security
- The risk that high crime rates and/or data breaches (cybersecurity) impair an issuer's economic growth, harm the populace, and impact future revenue and expenditure growth.

Demographic Trends
- The risk that weak demographic trends (population, income, GDP, educational attainment) result in anemic economic performance, reduced revenues and higher expenditures.

Revenue Sectors

Customer Welfare, Fair Messaging, Privacy and Data Security
- The risk that an issuer's systems or a customer's private data are breached or released without authorization. Such events could result in health or safety risks, litigation, and increased expenditures as the issuer works to mitigate the vulnerabilities that led to the breach.
- The risk that the product(s) offered by the issuer are of poor quality or do not meet societal expectations. Poor or unsafe products could result in health and safety risks, litigation, reduced revenues or increased expenditures.

Labor Relations & Practices
- The risk that an issuer's inability to uphold commonly accepted labor standards or lack of diversity in its workforce, amongst other considerations, results in contentious labor relations or a fraught relationship between a government and its employees

Employee Well Being
- The risk that an issuer is unable to crate and maintain a safe and healthy workplace environment.
- Addresses the ability to ensure physical and mental health of workforce through training, monitoring, regulatory compliance.

Governance Risks
Illustrative by Sector

State and Local Governments

Rule of Law, Institutional and Regulatory Quality, Control of Corruption
- The risk that ineffective management, political interference in day to day operations, or ineffectual policy formation and execution results in weak financial and operating performance or imperils populace safety. This includes crisis management and planning activities and appropriate workforce training.
- Perception of government officials and management is as critical as actual performance.

Creditor Rights
- Examines an issuer's willingness to service and repay its debt obligations. Considers the debt repayment culture, exposure to litigation that challenges the legitimacy of outstanding debt and considers the financial condition of the issuer as weak performance can impair debt repayment.
- Identified weaknesses in these areas can result in lower bond ratings and constrained market access.

Data Quality and Transparency
- Considers the timeliness, reliability, consistency and limitations of an issuer's financial and economic disclosure.
- Identified weaknesses in these areas can result in lower bond ratings, constrained market access and the potential for legal and/or regulatory actions.

Revenue Sectors

Management Strategy
- The risk that management is ineffective in creating a healthy business mix, maintaining efficient operations, and strengthening its market position
- Considers whether management is able to identify and manage risks or set and achieve targets. Weak governance can be reflected in the inability to define and execute a strategy

Governance Structure
- The risk that ineffective controls result in weak policy formation.
- Considers oversight of related party transactions, effectiveness of the board of directors, ownership concentration and key-person risk.

Financial Transparency
- Considers the timeliness, reliability, consistency and limitations of an issuer's financial and nonfinancial reporting
- Identified weaknesses in these areas can result in lower bond ratings, constrained market access and the potential for legal and/or regulatory actions

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Maryland GFOA Winter Conference:
ESG in Credit Ratings for Maryland Local Governments

Nora Wittstruck
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S&P Global Ratings - US Public Finance

Feb. 18, 2022

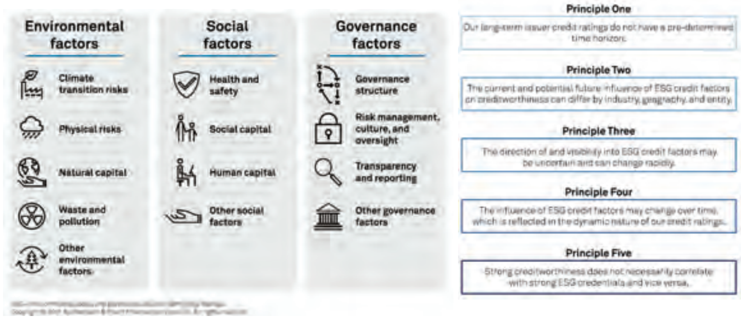
S&P Global
Ratings

ESG in Credit Ratings

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

S&P Global Ratings

ESG Principles Criteria: General Principles of ESG Factors & Ratings



ESG In Credit Ratings: Materiality Is Key

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.
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- 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

Through the ESG Lens 2.0: A Deeper Dive Into U.S. Public Finance Credit Factors, published April 28, 2020

ESG Risks/Opportunities: House View for Maryland Local Governments

Environmental	Social	Governance
Chronic and Acute Physical Risks	Demographics/Affordability	Risk Management/Oversight

Exposure to Extreme Weather (-)
Long-Term Sea Level Rise (-)

Demographics (+)
Affordability (+/-)

Risk management (+)

U.S. Local Governments Credit Brief: Maryland Counties and Municipalities, published Dec. 21, 2021

ESG Risks/Opportunities: Positive, Negative, Neutral Effect on Credit Profiles

Social Capital

Demographics	Effect on Credit Profiles
Population Growth	Economic Expansion & Development (+)
Above Average Income Levels v. U.S.	Revenue Raising Flexibility (+)
Affordability	Housing Costs, Services, Facilities, & Infrastructure (-)

Human Capital

Workforce Concerns	Effect on Credit Profiles
Retirements	Key Person Risk; Training (-)
Public Safety Recruitment	Higher Renumeration and Retention (-)
Employment Competition	Open Skilled Positions - Cyber/Technology (-)

Health & Safety

Direct Impact from Pandemic	Effect on Credit Profiles
Limited Leisure & Business Travel	Collections below forecast for some revenue sources (-)
Transition to remote work	Technology purchases and software enhancements (-)
Hybrid working environment	Affect on commercial property values (-)

Appendix

Focus on Thought Leadership

Transparency of how ESG Credit Factors affect credit ratings

ESG Credit Factors: Our Outlook for 2022

Climate Transition Risks:

- U.S. and Global policy directives towards net-zero will likely accelerate risks for U.S. Public Finance issuers, particularly public power entities.

Physical Risks:

- Climate change has led to more frequent and severe physical climate risks that challenge credit quality for muni issuers. In addition, we believe insurance costs stemming from large losses could dampen long-term economic growth for some regions.

Human Capital:

- The 'Great Resignation' had led to widespread labor shortages and could challenge recruitment and renumeration leading to higher operating costs, particularly for health care entities that were already experiencing clinician burnout as a result of the pandemic.

Transparency and Reporting:

- Multiple disclosure initiatives underway will likely take hold in 2022 resulting in a higher bar for climate risk disclosure for municipal issuers.

ESG in U.S. Public Finance Credit Ratings: 2022 Outlook and 2021 Recap, published Nov. 29, 2021

ESG Briefs: A Clear and Concise Credit View of a Specific ESG Credit Factor

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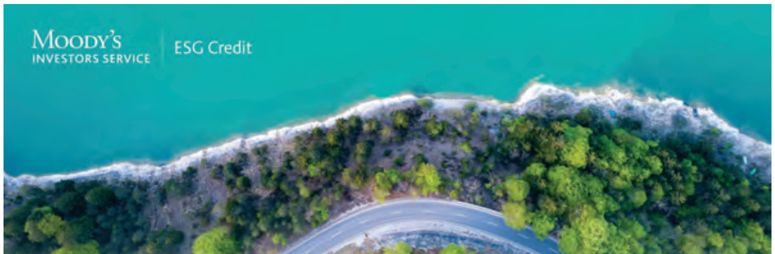


State and Local Governments – US

ESG Issuer Profile Scores and Credit Impact Scores Distribution

ESG Scores

June, 2021

Four Components to MIS Integration of ESG

New ESG scores will assist in transparently and systematically demonstrating the impact of ESG on credit ratings

Credit Ratings & Research

How is ESG integrated into credit ratings?

ESG factors taken into consideration for all credit ratings. Greater transparency in PRs, as well as Credit opinions. Credit Impact Score (CIS) is an output of the rating process that indicates the extent, if any, to which ESG factors impact the rating of an issuer or transaction.

ESG Scores

How is a specific issuer exposed to ESG risks/benefits?

Issuer Profile Scores (IPS) are issuer-specific scores that assess an entity's exposure to the categories of risks in the ESG classification from a credit perspective. IPSs, where available, are inputs to credit ratings.

ESG Classification

What is ESG?

Our classification reports describe how we define and categorize E, S and G considerations that are material to credit quality. New environmental classification sharpens focus on physical climate risks.

Heat Maps

Is ESG material to credit quality?

Heat maps provide relative ranking of various sectors along the E and S classification of risks.

ESG Classification System Incorporates Credit Relevant Considerations

Our assessment of ESG risks is framed by the classification

Environmental	Social – Private sector	Social – Public sector	Governance – Private sector	Governance – Public sector
Physical climate risks	Customer relations	Access to basic services	Financial strategy & risk management	Institutional structure
Carbon transition	Demographic and societal trends	Demographics	Management credibility & track record	Policy credibility and effectiveness
Water management	Human capital	Education	Organizational structure	Budget management
Waste and pollution	Health and safety	Health and safety	Board structure, policies & procedures	Transparency and disclosure
Natural capital	Responsible production	Housing	Compliance & reporting	
		Labor and income		

Source: Moody's Investors Service

E, S and G Issuer Profile Scoring Scale

Assessed on a five point scale from positive to negative exposure

	Score	Definition
POSITIVE	E-1 S-1 G-1	Issuers or transactions with a Positive E or S issuer profile score typically have exposures to E or S issues that carry material credit benefits. For G, issuers or transactions typically have exposure to G considerations that, in the context of their sector, positions them strongly, with material credit benefits.
NEUTRAL-TO-LOW	E-2 S-2 G-2	Issuers or transactions with a Neutral-to-Low E or S issuer profile score typically have exposures to E or S issues that are not material in differentiating credit quality. In other words, they could be overall slightly credit-positive, credit-neutral, or slightly credit-negative. An issuer or transaction may have a Neutral-to-Low score because the exposure is not material or because there are mitigants specifically related to any E or S risks that are sufficient to offset those risks. Issuers or transactions with a Neutral-to-Low G issuer profile score typically have exposure to G considerations that, in the context of their sector, positions them as average, and the exposure is overall neither credit-positive nor negative.
MODERATELY NEGATIVE	E-3 S-3 G-3	Issuers or transactions with a Moderately Negative E or S issuer profile score typically have exposures to E or S issues that carry moderately negative credit risks. These issuers may demonstrate some mitigants specifically related to the identified E or S risks, but they are not sufficiently material to fully offset the risks. Issuers or transactions with a Moderately Negative G issuer profile score typically have exposure to G considerations that, in the context of the sector, positions them below average and the exposure carries overall moderately negative credit risks.
HIGHLY NEGATIVE	E-4 S-4 G-4	Issuers or transactions with a Highly Negative E or S issuer profile score typically have exposures to E or S issues that carry high credit risks. These issuers may demonstrate some mitigants specifically tied to the E or S risks identified, but they generally have limited effect on the risks. Issuers or transactions with a Highly Negative G issuer profile score typically have exposure to G considerations that, in the context of their sector, positions them weakly and the exposure carries overall highly negative credit risks.
VERY HIGHLY NEGATIVE	E-5 S-5 G-5	Issuers or transactions with a Very Highly Negative E or S issuer profile score typically have exposures to E or S issues that carry very high credit risks. While these issuers or transactions may demonstrate some mitigants specifically related to the identified E or S risks, they are not meaningful relative to the magnitude of the risks. Issuers or transactions with a Very Highly Negative G issuer profile score typically have exposure to G considerations that, in the context of their sector, positions them very poorly and the exposure carries overall very high credit risks.

Source: Moody's Investors Service

What the Moody's ESG scores are, and are not?

The IPS scores incorporate:

- A credit perspective
- Analysis of ESG issues material to credit risk
- Emphasis on the most material credit risks
- Global and cross-sector comparability
- Management's actions to specifically address Issues
- ESG risks and opportunities

The IPS is not an opinion about:

- A company's sustainability performance
- The impact of sustainability practices on stakeholders
- The quality of a company's ESG disclosures
- Alignment with specific goals and targets such as the UN SDGs
- The impact of ESG on the credit rating. The CIS explains that

What the Moody's ESG scores are, and are not?

The CIS score:

- Reflects the impact of ESG on the credit rating
- Indicates the extent to which the credit rating would have been different in the absence of ESG issues
- Places ESG in the context of other rating considerations

The CIS score :

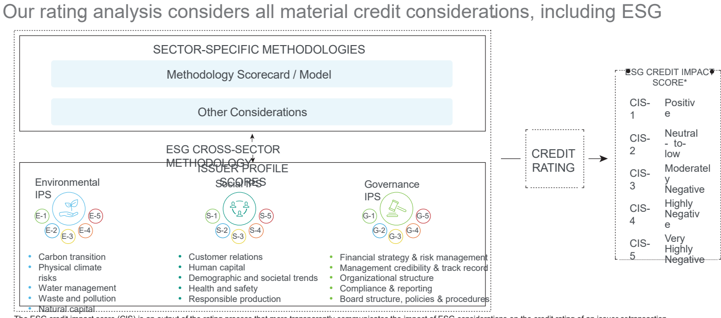
- Is not the combination of the E,S and G IPS scores
- Does not have a systematic relationship to the credit rating
  - i.e., a strong credit rating can go with a weak CIS score, and vice versa
- Does not have a systematic relationship to the IPS scores

ESG Credit Impact Score (CIS) Scale

	Score	Definition
POSITIVE	CIS-1	For an issuer scored CIS-1 (Positive), its ESG attributes are overall considered as having a positive impact on the rating. The overall positive influence from its ESG attributes on the rating is material.
NEUTRAL-TO-LOW	CIS-2	For an issuer scored CIS-2 (Neutral-to-Low), its ESG attributes are overall considered as having a neutral-to-low impact on the current rating; i.e., the overall influence of these attributes on the rating is non-material.
MODERATELY NEGATIVE	CIS-3	For an issuer scored CIS-3 (Moderately Negative), its ESG attributes are overall considered as having a limited impact on the current rating, with greater potential for future negative impact over time. The negative influence of the overall ESG attributes on the rating is more pronounced compared to an issuer scored CIS-2.
HIGHLY NEGATIVE	CIS-4	For an issuer scored CIS-4 (Highly Negative), its ESG attributes are overall considered as having a discernible negative impact on the current rating. The negative influence of the overall ESG attributes on the rating is more pronounced compared to an issuer scored CIS-3.
VERY HIGHLY NEGATIVE	CIS-5	For an issuer scored CIS-5 (Very Highly Negative), its ESG attributes are overall considered as having a very high negative impact on the current rating. The negative influence of the overall ESG attributes on the rating is more pronounced compared to an issuer scored CIS-4.

ESG Integration into Credit Analysis

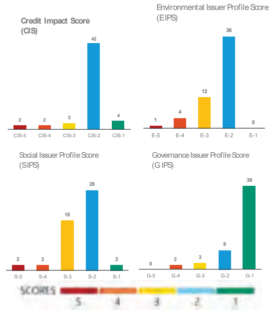
Our rating analysis considers all material credit considerations, including ESG



The ESG credit impact score (CIS) is an output of the rating process that more transparently communicates the impact of ESG considerations on the credit rating of an issuer or transaction.

US States IPS and CIS Scores indicate largely neutral to low impact of ESG but negative impact for territories

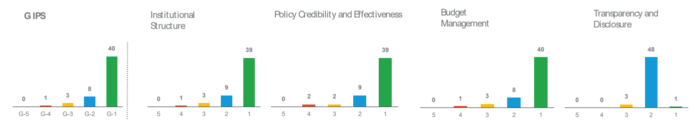
- » ESG factors have a neutral to low overall impact on US States but negative for the territories
- » Environmental risk is most often neutral to low but more negative for some
- » Social risks for states are positive to moderately negative; for territories, highly to very highly negative
- » Governance is a positive for most US States but negative for territories



Note: Distribution of companies scored to date.

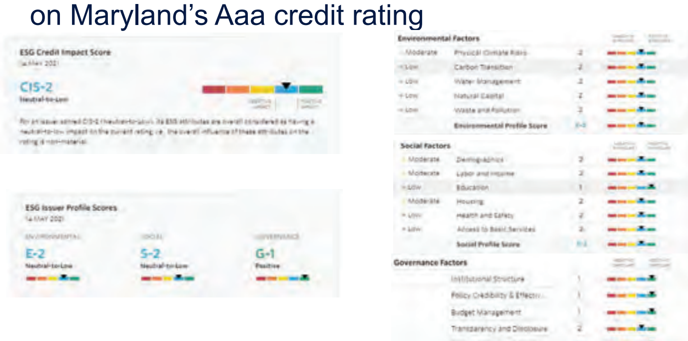
Governance Issuer Profile Score (G IPS)

US States



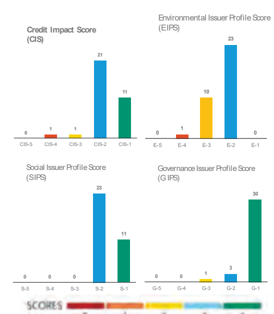
Source: Moody's Investors Services

ESG considerations have a "neutral to low" impact on Maryland's Aaa credit rating



US Counties IPS and CIS Scores indicate largely neutral to low impact of ESG

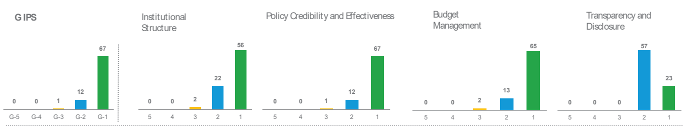
- » ESG factors commonly have a neutral to low overall impact on US Counties credit quality
- » Environmental risk is most often neutral to low or moderately negative
- » Social risk tends to be neutral or positive
- » Governance risk is mostly positive for US Counties



Note: Distribution of companies scored to date.

Governance Issuer Profile Score (G IPS)

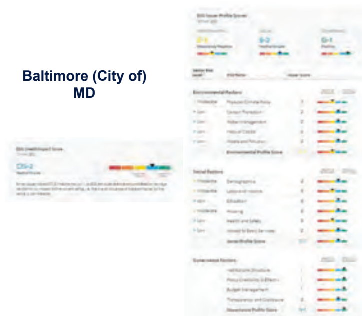
US Counties



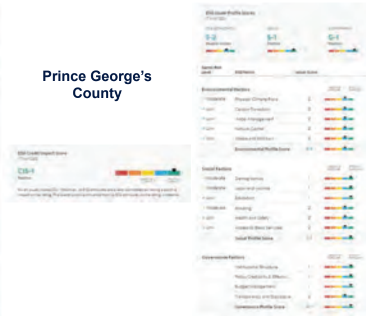
Source: Moody's Investors Services

ESG considerations have a "positive" to "neutral to low" impact on large MD local governments

Baltimore (City of) MD

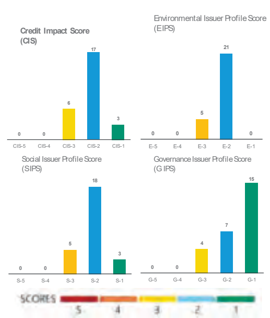


Prince George's County



US Cities IPS and CIS Scores indicate largely neutral to low impact of ESG

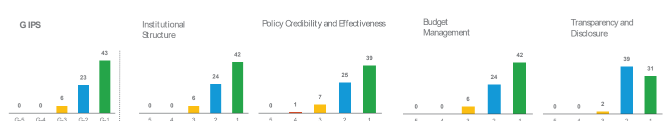
- ESG factors commonly have a neutral to low overall impact on US cities credit quality
- Environmental risk is most often neutral to low, moderately negative at worst
- Social risk tends to be neutral to low
- Governance is largely positive, moderately negative at worst for most US cities



Note: Distribution of companies scored to date.

Governance Issuer Profile Score (G IPS)

US Cities



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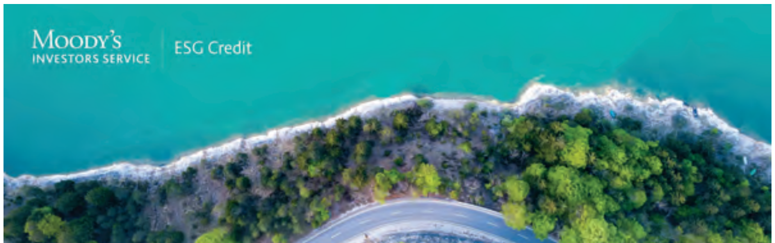

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