

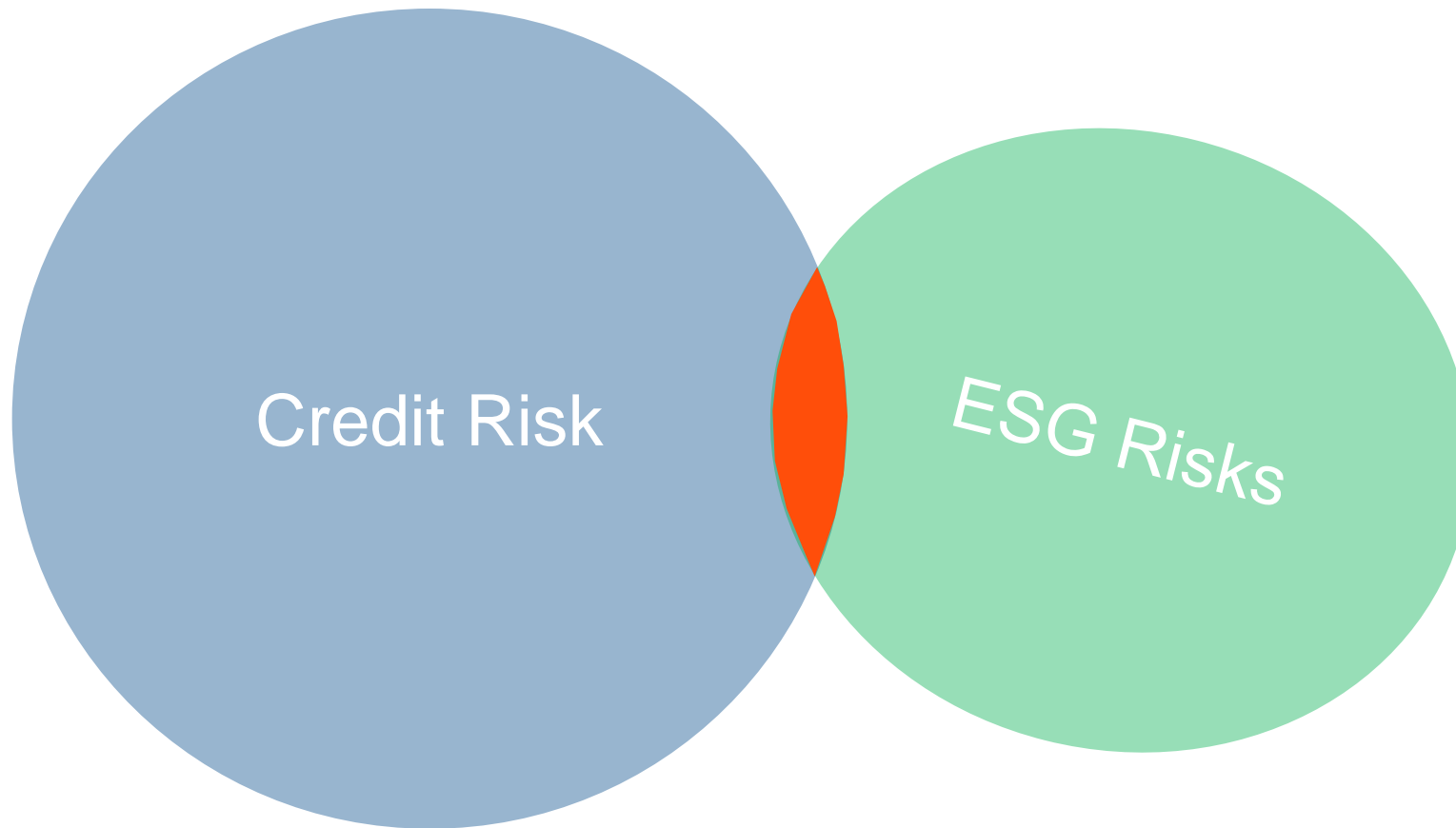


# Environmental, Social and Governance Risks

## Integration and Transparency In Ratings

Fernanda Rezende, Diretora Sênior Corporates  
Abril 2019

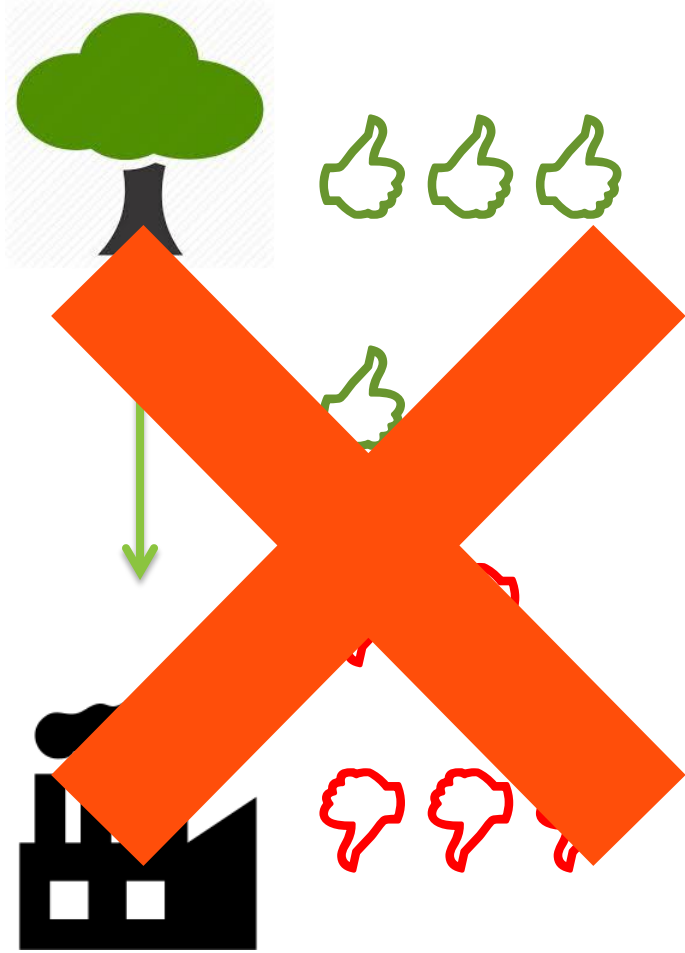
**Fitch**Ratings



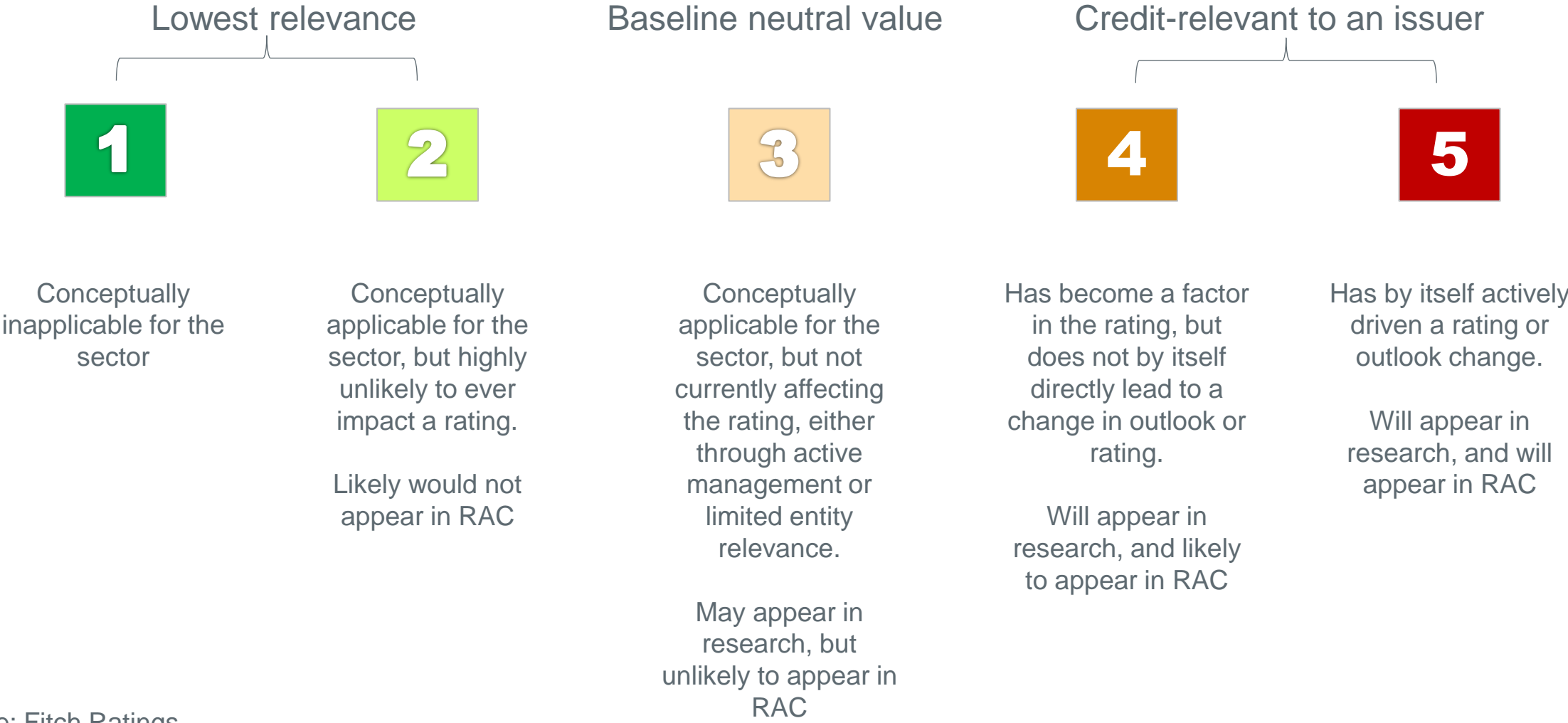
- Which specific ESG risks are potentially relevant for each issuer's credit profile.
- Which ESG risks are relevant for different sectors, and even countries or regions.
- Which ESG risks have risen to a level where they are an active factor in the rating decision, on an issuer-by-issuer basis.
- Which ESG risks actually led to a rating change.

Source: Fitch Ratings

# We Are NOT Measuring Overall ESG Performance Of An Entity



# ESG – Relevance and Materiality to Rating



Source: Fitch Ratings



Environmental		Social		Governance	
EAQ	Greenhouse Gas Emissions/Air Quality	SCR	Community Relations & Social Access	GEX	Operational Execution
EFM	Energy & Fuel Management	SCW	Customer Welfare, Product Safety, Data Security	GGV	Governance Structure
EWT	Water & Wastewater Treatment	SLB	Labour Relations & Practices	GST	Group Structure
EHZ	Waste & Hazardous Materials	SEW	Employee Well-being	GTR	Financial Transparency
EIM	Exposure to Environmental Impacts	SIM	Exposure to Social Impacts		

# Example of Published ESG Relevance Score



**Credit-Relevant ESG Derivation**

Odebrecht Engenharia e Construcao S.A. has 2 ESG key rating drivers, 3 ESG rating drivers and 3 ESG potential rating drivers

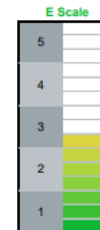
- Odebrecht Engenharia e Construcao S.A. has exposure to board independence risk which, on an individual basis, has a significant impact on the rating.
- Odebrecht Engenharia e Construcao S.A. has exposure to group transparency risk which, on an individual basis, has a significant impact on the rating.
- Odebrecht Engenharia e Construcao S.A. has exposure to product quality & safety risk which, in combination with other factors, impacts the rating.
- Odebrecht Engenharia e Construcao S.A. has exposure to strategic risk which, in combination with other factors, impacts the rating.
- Odebrecht Engenharia e Construcao S.A. has exposure to financial disclosure risk which, in combination with other factors, impacts the rating.
- Odebrecht Engenharia e Construcao S.A. has exposure to waste & impact management risk and third-party, sustainability certification assessment but this has very low impact on the rating.

Showing top 6 issues

				Overall ESG Scale	
key driver	2	issues	5		
driver	3	issues	4		
potential driver	3	issues	3		
not a rating driver	2	issues	2		
	4	issues	1		

**Environmental (E)**

General Issues	E Score	Sector-Specific Issues	Reference
GHG Emissions & Air Quality	2	Emissions and pollution from operations	Diversification & Market Position; Profitability
Energy Management	1	n.a.	n.a.
Water & Wastewater Management	1	n.a.	n.a.
Waste & Hazardous Materials Management; Ecological Impacts	3	Sustainable building practices including Green building credentials	Diversification & Market Position; Order Book and Revenue Visibility; Profitability; Financial Structure; Financial Flexibility
Exposure to Environmental Impacts	3	Operational disruptions from extreme weather events	Diversification & Market Position; Profitability; Financial Structure; Financial Flexibility



**How to Read This Page**

ESG scores range from 1 to 5 based on a 15-level color gradation. Red (5) is most relevant and green (1) is least relevant.

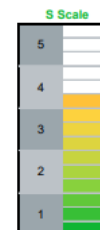
The Environmental (E), Social (S) and Governance (G) tables break out the individual components of the scale. The left-hand box shows the aggregate E, S, or G score. General Issues are relevant across all markets with Sector-Specific Issues unique to a particular industry group. Scores are assigned to each sector-specific issue. These scores signify the credit-relevance of the sector-specific issues to the issuing entity's overall credit rating. The Reference box highlights the factor(s) within which the corresponding ESG issues are captured in Fitch's credit analysis.

The Credit-Relevant ESG Derivation table shows the overall ESG score. This score signifies the credit relevance of combined E, S and G issues to the entity's credit rating. The three columns to the left of the overall ESG score summarize the issuing entity's sub-component ESG scores. The box on the far left identifies the [number of] general ESG issues that are drivers or potential drivers of the issuing entity's credit rating (corresponding with scores of 3, 4 or 5) and provides a brief explanation for the score.

Classification of ESG issues has been developed from Fitch's sector and sub-sector ratings criteria and the General Issues and the Sector-Specific Issues have been informed with SASB's Materiality Map.

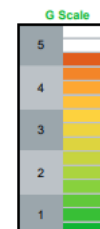
**Social (S)**

General Issues	S Score	Sector-Specific Issues	Reference
Human Rights, Community Relations, Access & Affordability	1	n.a.	n.a.
Customer Welfare - Fair Messaging, Privacy & Data Security	4	Product quality, defects or safety-related incidents	Diversification & Market Position; Order Book and Revenue Visibility; Contract Risk Management; Profitability; Financial Flexibility
Labor Relations & Practices	3	Impact of labor negotiations and employee (dis)satisfaction	Diversification & Market Position; Profitability; Financial Structure; Financial Flexibility
Employee Wellbeing	2	Worker safety and accident prevention	Diversification & Market Position; Order Book and Revenue Visibility; Profitability; Financial Structure; Financial Flexibility
Exposure to Social Impacts	1	n.a.	n.a.



**Governance (G)**

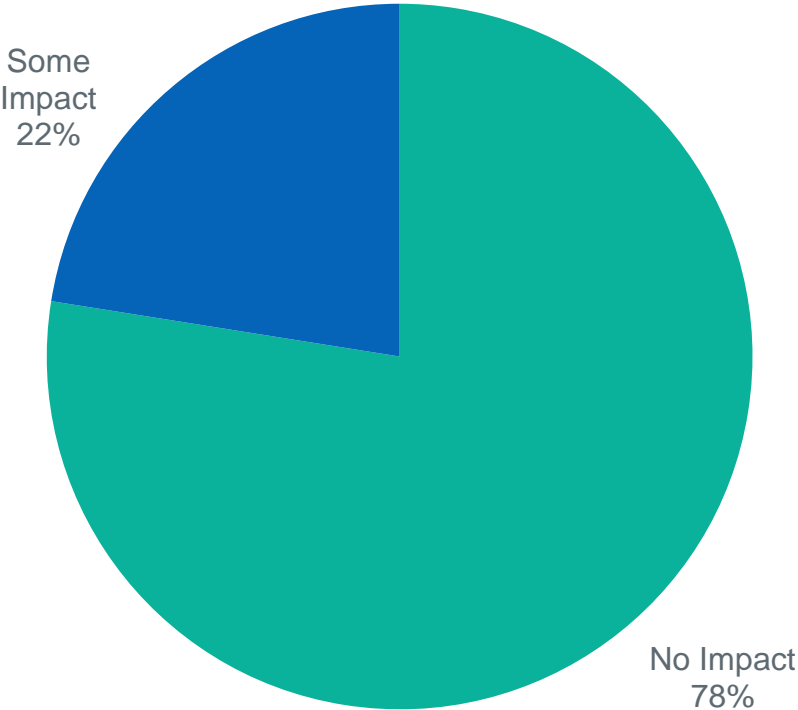
General Issues	G Score	Sector-Specific Issues	Reference
Management Strategy	4	Strategy development and implementation	Management and Corporate Governance
Governance Structure	5	Board independence and effectiveness; ownership concentration	Management and Corporate Governance
Group Structure	5	Complexity, transparency and related-party transactions	Management and Corporate Governance
Financial Transparency	4	Quality and timing of financial disclosure	Management and Corporate Governance



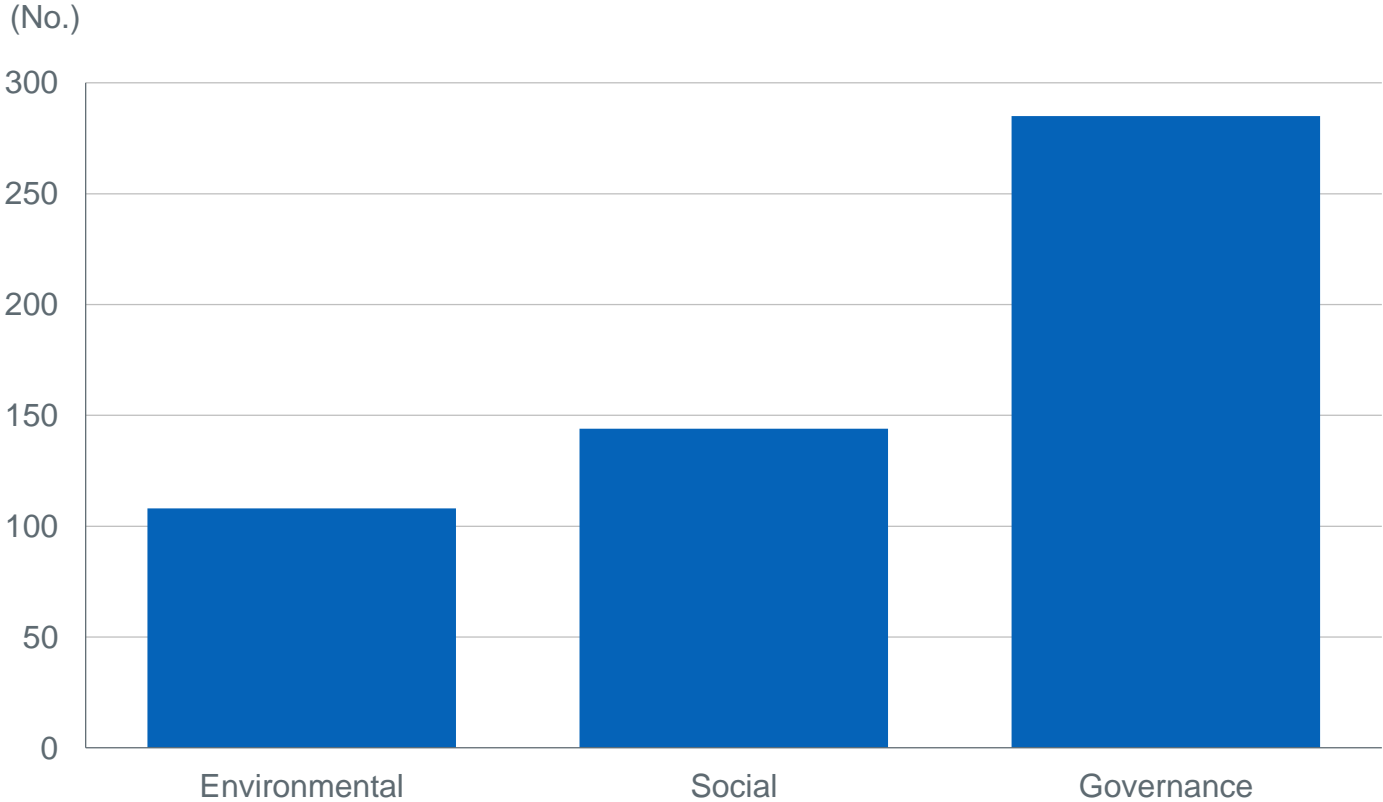
CREDIT-RELEVANT ESG SCALE	
How relevant are E, S and G issues to the overall credit rating?	
5	Highly relevant, a key rating driver that has a significant impact on the rating on an individual basis. Equivalent to "higher" relative importance within Navigator.
4	Relevant to rating, not a key rating driver but has an impact on the rating in combination with other factors. Equivalent to "moderate" relative importance within Navigator.
3	Minimally relevant to rating, either very low impact or actively managed in a way that results in no impact on the entity rating. Equivalent to "lower" relative importance within Navigator.
2	Irrelevant to the entity rating but relevant to the sector.
1	Irrelevant to the entity rating and irrelevant to the sector.



## Relevance to Issuer Portfolio



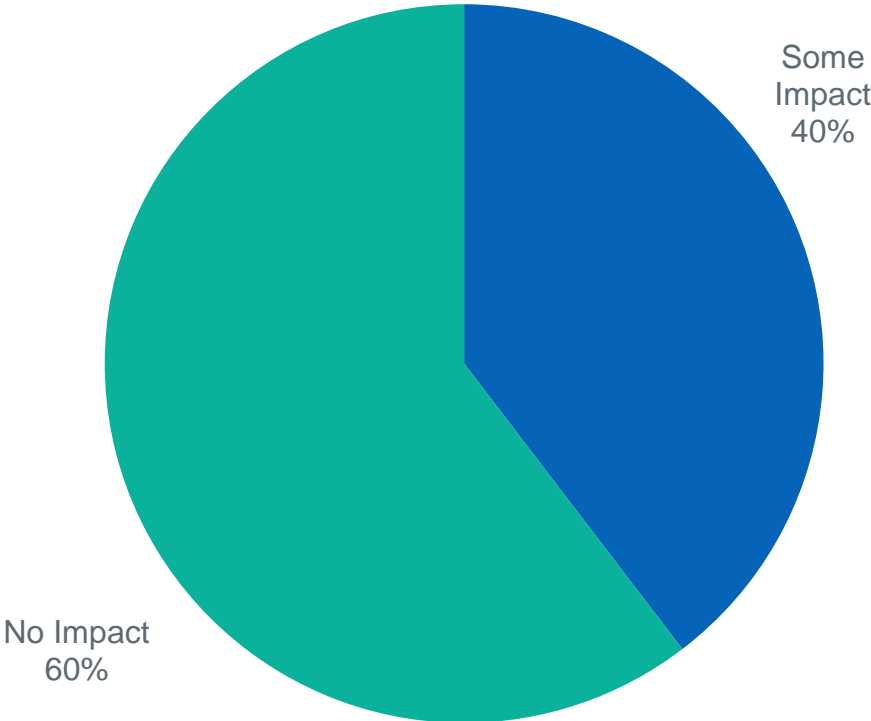
## ESG Elements Driving Issuer Credit Impact (ESG Score of 4 or 5)



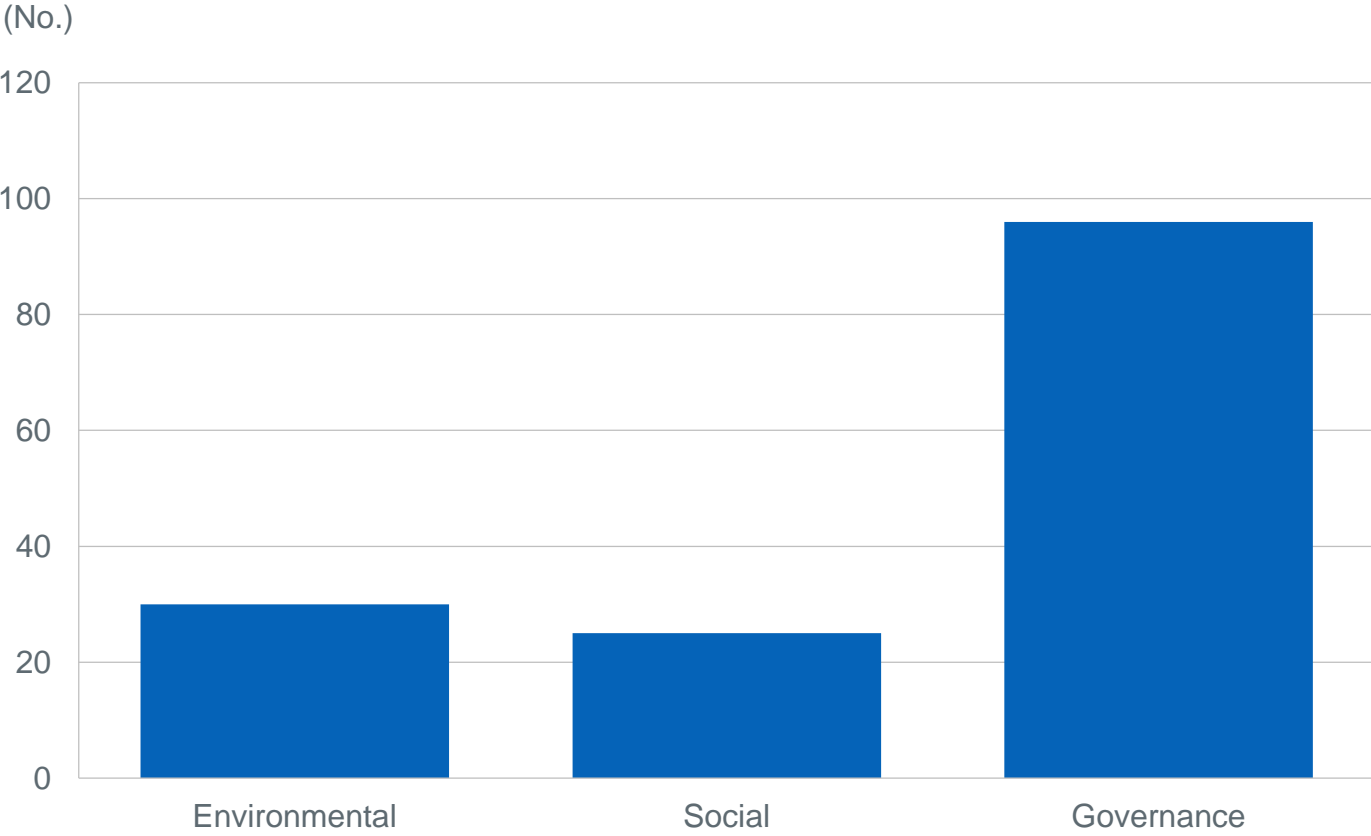
Source: Fitch Ratings



## Relevance to Issuer Portfolio



## ESG Elements Driving Issuer Credit Impact (ESG Score of 4 or 5)



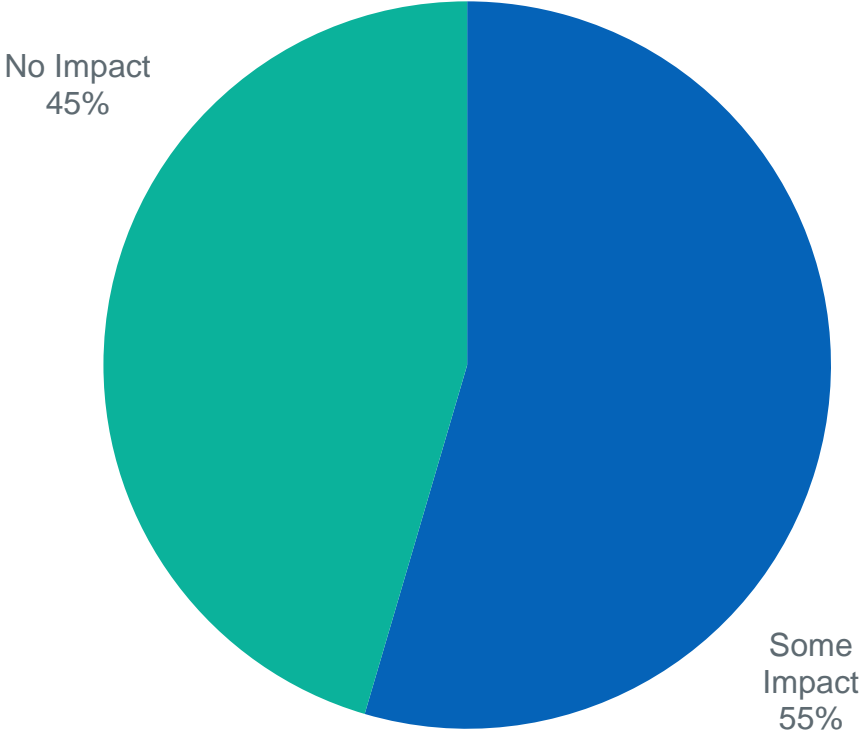
Source: Fitch Ratings



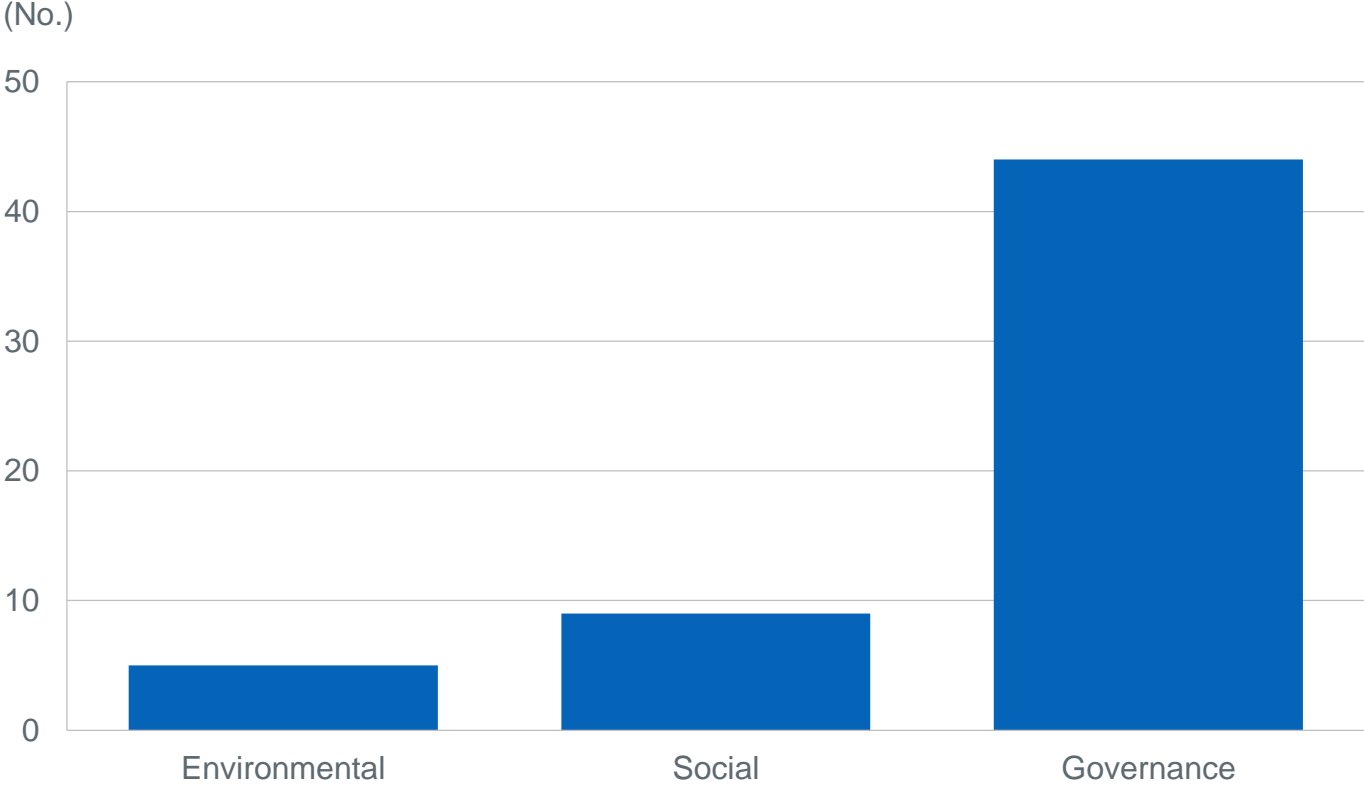
# ESG Relevance Summary: Brazilian Corporates (55 Issuers)



## Relevance to Issuer Portfolio



## ESG Elements Driving Issuer Credit Impact (ESG Score of 4 or 5)



Source: Fitch Ratings

# ESG Relevance Summary: Developed and Emerging Markets

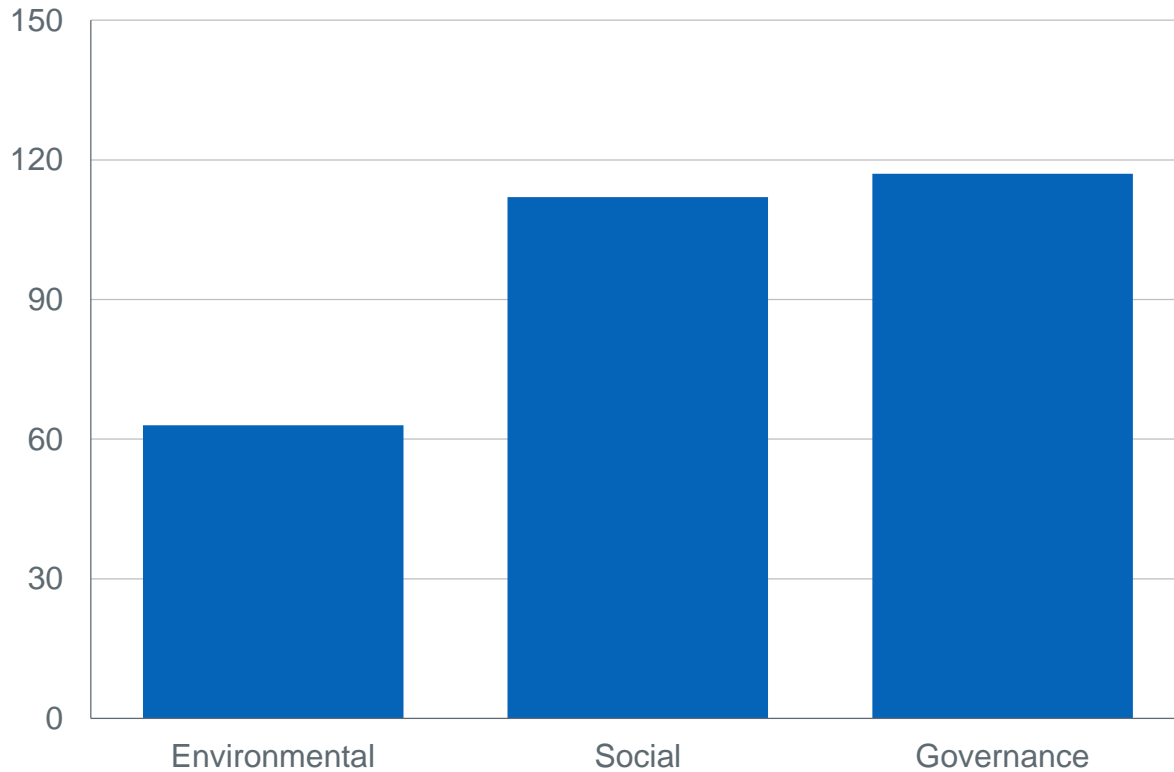


## Developed Markets

### ESG Elements Driving Issuer Credit Impact

(ESG Score of 4 or 5)

(No.)



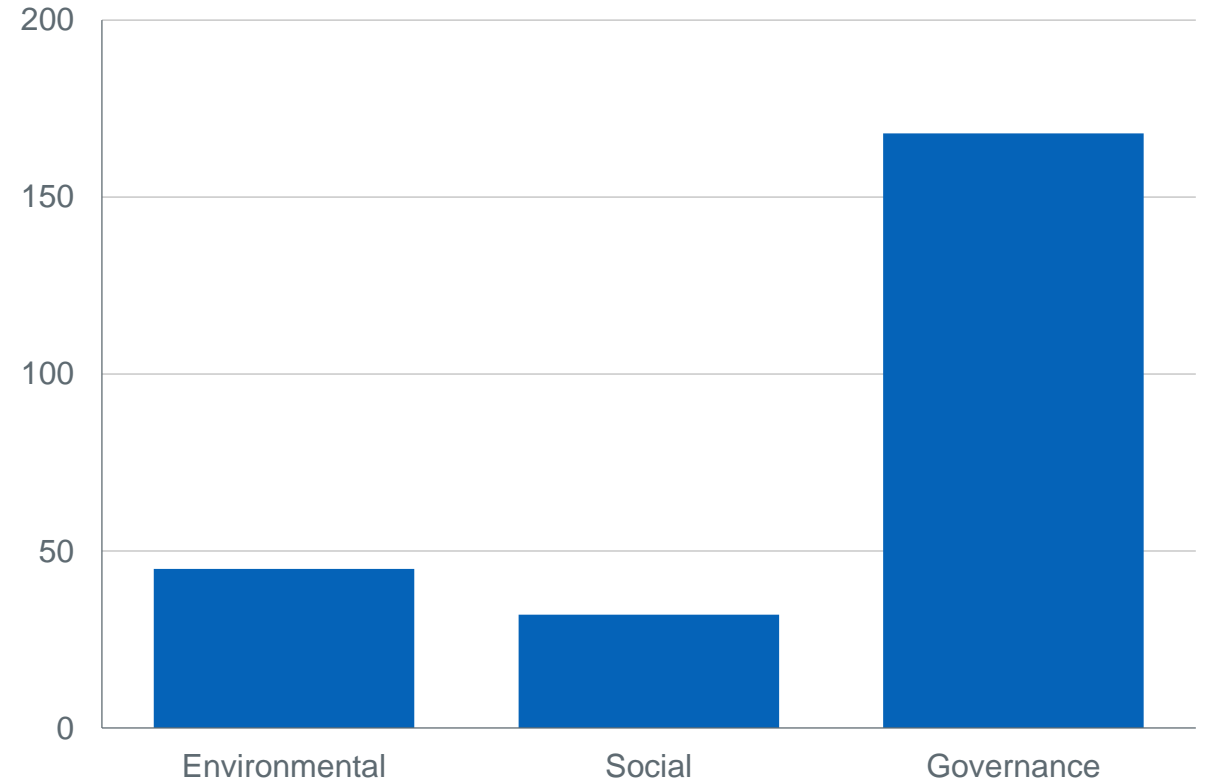
Source: Fitch Ratings

## Emerging Markets

### ESG Elements Driving Issuer Credit Impact

(ESG Score of 4 or 5)

(No.)



# Vale – Rating Action and ESG Considerations

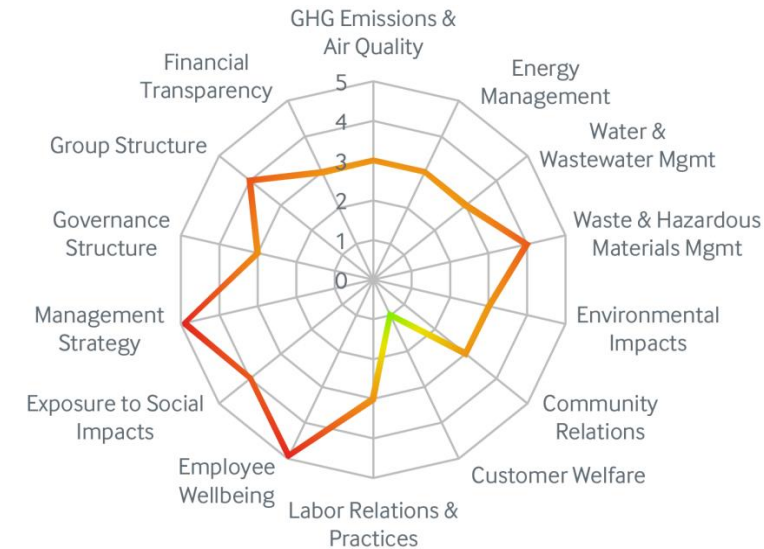


Downgraded to “BBB-” / RWN following disaster:

- Material ESG shortcomings
- Expectation of substantial fines and reparation payments
- Additional capital expenditures and lost production

## ESG Considerations:

- Poor management of tailing dam risk
- Dangerous work conditions
- Additional cost for waste and hazardous materials management
- Increased resistance to mining industry and future projects



## Credit-Relevant ESG Derivation

Source: Fitch Ratings

### Overall ESG

Vale S.A. has 2 ESG key rating drivers, 3 ESG rating drivers and 8 ESG potential rating drivers

- ➔ Worker safety and accident prevention
- ➔ Strategy development and implementation
- ➔ Total amount of tailings and mineral processing waste produced; management of tailings dams
- ➔ Social resistance to major projects or operations that leads to delays and cost increases
- ➔ Complexity, transparency and related-party transactions
- ➔ Regulatory Risk - emission standards

Showing top 6 issues

Category	Count	Issues	Overall ESG Score
key driver	2	issues	5
driver	3	issues	4
potential driver	8	issues	3
not a rating driver	0	issues	2
	1	issues	1



FitchRatings

Vale S.A.

ESG Relevance:



Corporates Ratings Navigator  
Mining

Factor Levels	Business Profile				Financial Profile			Issuer Default Rating			
	Sector Risk Profile	Operating Environment	Management and Corporate Governance	Scale of Operations	Cost Position of Key Operations	Diversification and Country Risk	Mine Life		Profitability	Financial Structure	Financial Flexibility
aaa											AAA
aa+											AA+
aa											AA
aa-											AA-
a+	█				█		█				A+
a	█				█		█	█			A
a-	█				█		█	█	█		A-
bbb+				█					█	█	BBB+
bbb				█				█	█	█	BBB
bbb-	█	█		█					█	█	BBB-
bb+			█								BB+
bb			█								BB
bb-			█								BB-
b+			█								B+
b			█								B
b-	█	█									B-
ccc+											CCC+
ccc											CCC
ccc-											CCC-
cc											CC
c											C
d or rd											D or RD

Source: Fitch Ratings.

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