



Businesses worldwide are increasingly focusing on environmental, social and governance (ESG) concerns and their potential financial impact. Such concerns incorporate environmental risks including weather events, social risks such as vulnerability to strikes, and governance risks such as corporate mismanagement. But ESG issues can also present opportunities for companies – such as those brought about by governmental policy change or regulations.

Crucially, where the credit impact of these risks and opportunities are visible and material, rating actions may follow. And as governments and investors become increasingly conscious of the impact of climate change and changing public behaviour, the associated ESG risks and op-

portunities emerge as increasingly relevant for a company and its credit profile.

A material impact

Two case studies serve to demonstrate how advancements to the decarbonization agenda can have a real impact on company operations and credit profiles.

An environmental factor was behind the revision of Vattenfall AB's outlook to stable from negative in June 2017.

First – regulatory changes in Sweden and Germany around nuclear waste led to the sale of lignite assets.

Second – Vattenfall AB increased its commissioned capacity from the expansion in wind production under different supportive subsidy schemes. These two factors informed our ratio-



nale for the positive ratings action as the sale of lignite assets reduced the company's exposure to negative political intervention – as well as to merchant power prices and carbon dioxide emissions.

In October 2015, both governmental and environmental factors played a part in our decision to downgrade Volkswagen AG to "A-/A-2". Negative credit consequences came to pass shortly after the company's admission that it had installed software in 11 million diesel-powered vehicles designed to manipulate exhaust emission tests. This breach of US environmental law – and the material deficiencies in Volkswagen AG's management and governance, and general risk management framework – represented a significant reputational and financial risk over the medium term.

Both rating actions can be categorized under the Task Force on Climate-related Financial Disclosures' (TCFD) definition of "policy and legal risk" – which looks at how policies that either (1) constrain contributions to climate change or (2) promote adaptation to climate change, can impact a company's financials.

However, between 2015 and 2017, most environmental and climate factors (E&C) cited in our ratings actions fitted into the TCFD's definition of "physical risk" – that is, weather-event- driven (acute) or longer-term shifts (chronic) in climate patterns.

The upside

However, the fourth most prevalent E&C factor affecting rating changes also represents an opportunity: "Energy source", as defined by the TCFD. According to the International Energy Agency (IEA), to meet global emissionreduction goals, countries will need to transition a major percentage of their energy generation to low-emission alternatives. These include wind, solar, wave, tidal, hydro, geothermal, nuclear, biofuels, and carbon capture and storage. And now - for the fifth year in a row - investments in renewable energy capacity have exceeded investments in fossil fuel generation.

The trend toward decentralized clean energy sources, rapidly declining costs,

improved storage capabilities, and subsequent global adoption of these technologies is significant, and we are seeing companies take advantage of this changing dynamic.

Notably, of the 106 rating changes from 2015 to 2017 for which an E&C factor played a role, 44% of the changes were positive and 56% were negative. In our first two-year lookback published in 2015, only 21% of E&C-driven actions resulted in a positive change. This suggests that environmental factors such as climate change can also bring new business opportunities for companies. See Figure 1.

Although it's difficult to draw conclusions about possible causes (due to the sample size, among other reasons), one explanation may be that more companies have improved E&C risk mitigation. Or they may be benefitting from changes in environmental policy, and other market and energy trends resulting from action against climate change.

Not all ESG factors are equal

Compared to E&C factors, social factors may appear less material to credit ratings. Indeed, only 42 research updates cited a social factor as a key element of the rating or outlook. But crucially, nearly 75% were in the negative direction. Of these negative actions, more than half were downgrades, while the rest were split between negative outlook revisions and negative CreditWatch placements. Evidently, though social risks may impact

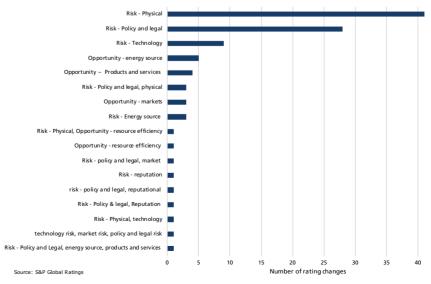
fewer credit ratings than E&C factors, they present more risks than opportunities for credit quality.

Further insights can be gleaned when we break down the social factor category into two types: internal social factors and external social factors. Over our review period, we found that internal social factors – namely human capital and safety management – are more likely to affect companies' credit quality.

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Indeed, these two internal social factors led to almost two-thirds of all ratings actions in which social factors were key. Of these actions, a majority were in the negative direction, typically through direct operational disruptions. The number of cases where human capital and safety management led to a rating change in the positive direction were limited – and most of these cases followed a previous negative rating action.







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Such internal factors, however, can be more directly mitigated than external social factors, such as social cohesion and changing consumer behavior, which are less within the company's control and, therefore, can be more difficult to manage directly.

Change afoot

With the rising need to identify and disclose ESG risks and opportunities, S&P Global Ratings has committed to continuing to report on how it integrates ESG concerns as part of its credit analysis. In addition, we are also in the final stages of testing ESG Evaluation, which is distinct from our credit ratings.

The proposed Evaluation aims to score an entity's relative exposure and long-term preparedness to risks and opportunities arising from its natural and social environment, as well as the quality of its governance. We expect that the ESG Evaluation analysis will provide additional or complementary insights to the treatment of ESG factors when we apply our credit rating methodologies.



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