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Managing ESG Risks in the Aviation Industry

As environmental, social and governance-related issues continue to be a focus of Investors and other stakeholders, we expect to see industry participants continuing to Explore innovative ways to reduce their carbon emissions and mitigate ESG risks, say Kevin Lewis, Bart Biggers and Heather Palmer, attorneys with Sidley Austin

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COVID-19 has left many of us reminiscing about travel—flights to family or foreign locations, and even work trips have taken on a rosy glow. The past few years have brought another concept into sharper focus—a goal of bluer skies and greener pastures through reduced carbon emissions. Investors, shareholders, employees, customers and other stakeholders are increasingly focused on aviation companies managing environmental, social, and governance (ESG) risks, including climate change and carbon emissions. In recent years, ESG-related issues in aviation have received ever-growing global attention, with Europe in particular focusing on air travel carbon emissions. Even



Courtesy photos

Kevin Lewis, co-managing partner of Sidley Austin's Houston office, Bart Biggers, partner in Sidley Austin's Dallas office and Heather Palmer, partner in Sidley Austin's Environmental and Energy practices in Houston.

with COVID-19 significantly curtailing air travel, airlines continue to focus on managing ESG risks. As customers steadily return to the skies, key considerations for the aviation industry to enhance their ESG strategies will include the scope of their carbon emissions, technological advances in aircraft and engine design, alternative fuel development, and the use of carbon credits

or offsets to mitigate carbon emissions.

When a company seeks to reduce its carbon footprint as part of a broader ESG strategy, it will typically prepare a greenhouse gas (GHG) emissions inventory quantifying and classifying the company's GHG emissions. GHG emissions are categorized into three scopes: Scope 1 covers direct emissions from owned

or controlled sources (e.g., fuel combustion from aircraft and fleet vehicles) – these constitute the largest portion of GHG emissions in the aviation industry, accounting for approximately 2% of global emissions. Scope 2 covers indirect emissions from consumption of purchased electricity, and Scope 3 covers all other indirect, uncontrolled emissions occurring in a company's value chain (e.g., employee commuting or business travel). While most aviation initiatives are aimed at reducing Scope 1 aircraft emissions, industry participants are finding opportunities to reduce Scope 2 emissions through energy efficiency initiatives, and Scope 3 emissions through improved designs and processes.

Fortunately, airlines and aircraft manufacturers are firmly united in the goal to reduce emissions by reducing fuel consumption. The practicalities of new aircraft acquisition and aircraft retrofitting present both opportunities and difficulties for achieving reduced emissions. Substantial progress continues to be made in aircraft design that leads to reduced emissions through lower fuel

consumption, directly reducing Scope 1 emissions. These design improvements encompass hulls made from lightweight but strong composite materials and the development of winglets, sharklets and raked wingtips. As aircraft efficiency has continued to improve, emissions have generally been reduced by double digits for each new aircraft type when compared to the generation of aircraft that it replaced.

Utilizing less carbon intensive manufacturing processes as well as shorter or digitized supply chains, can reduce Scope 3 emissions. The difficulty in achieving these reductions stems from the overlap of the lengthy design and development timeline for a new aircraft—typically 4-8 years, depending on whether the aircraft is a redesign of an existing aircraft (e.g., the Boeing 777-300ER) or an altogether new aircraft (e.g. the Airbus A350XWB)—on top of airline capex and acquisition cycles. When design innovations come faster than the capex timeline can absorb, the new aircraft's induction into revenue service and resulting emissions reductions will lag.

In addition to improving the fuel efficiency of “the metal,” airlines have begun exploring opportunities to make changes to their fuel sources, by seeking fuels that generate lower carbon emissions. Liquid hydrocarbon fuels are the industry's primary source of fuel, and the industry's largest source of carbon emissions. Biofuels, touted as a carbon neutral sustainable aviation fuel, have been hampered by slow development, resulting in their inability to fully fulfill the aviation industry's needs. Electric-powered aircraft are a big part of the discussion to lower carbon emissions, as electric aircraft are more energy efficient than today's jet fuel powered engines (as well as quieter). However, the low energy intensity and heavy weight of today's batteries limit opportunities for aircraft electrification. Hydrogen-powered aircraft are also being evaluated as an alternative fuel source, as hydrogen is less expensive and more readily available than biofuels, and has a higher energy density than batteries. Unfortunately, storing hydrogen as either a liquid or compressed gas presents its own unique

set of problems. Despite the limitations facing the industry in lowering emissions from its fuel sources, improvements in technology may make these options more viable in the near future.

To meet ESG goals, the aviation industry has begun using carbon credits or offsets to mitigate carbon emissions. For example, the United Nation's (UN) International Civil Aviation Organization (ICAO) developed the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). CORSIA is a market-based system designed to help airlines to reach carbon-neutral goals by offsetting their own carbon emissions through the purchase of emission reduction offsets. Additionally, airlines can purchase carbon offsets from other voluntary carbon credit and offset markets that have been established in the United States and globally. Potential downsides to using carbon credits or offsets exist, including questions regarding the validity of credits, significant volatility

in carbon credit markets, and time-intensive and expensive processes for verification of carbon offsets. Moreover, there is skepticism concerning using offsets instead of focusing efforts on direct carbon emission reductions in company operations.

As ESG-related issues continue to be a focus of investors and other stakeholders, we expect to see industry participants continuing to explore innovative ways to reduce their carbon emissions and mitigate ESG risks. Fortunately, in 2020 airlines improved the efficiency of their fleet types almost overnight by retiring older less efficient aircraft during COVID-19. As the airlines and aircraft manufacturers see the tides changing for increased air traffic demand in 2021 and beyond, rather than fighting just to see another day, the aviation industry should be able to capitalize on these and other ESG initiatives to make substantial progress in the industry's efforts to reduce its carbon footprint.

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