

February 27, 2019

Mr. Brent J. Fields
Secretary
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549-1090

Re: Request for guidance to ensure that issuers manufacturing and using biomass-based fuels and products engage in comparable disclosures regarding greenhouse gas emissions that are informative to investors and not materially misleading.

Dear Mr. Fields:

We respectfully petition the Securities and Exchange Commission (SEC) to issue guidance under regulation S-K regarding how companies should disclose information about emissions of greenhouse gases from manufacturing and use of biomass-based fuels and products. The petitioners are Partnership for Policy Integrity and 27 institutions, investors and advisors that utilize Environmental, Social, and Governance (ESG) and Socially Responsible Investment (SRI) strategies, that seek to invest in companies offering climate change mitigating innovations and operational strategies. We seek disclosure of adequate information to be able to evaluate greenhouse gas (GHG) emissions and to ensure that such emissions are not deceptively characterized. As investors, we would strongly benefit from accurate and comparable disclosures in which any claims of emissions levels, and by extension climate benefits, are adequately substantiated. This petition was prepared by Partnership for Policy Integrity.

Summary

Companies manufacturing and selling biomass-based fuels and products often make dubious or unsubstantiated claims that the products reduce greenhouse gas (GHG) emissions. The growth of these products and a surge of interest in investments that promise to reduce GHG emissions mean that such claims are likely to be material to an increasing number of investors. A survey of public-facing materials and SEC disclosures of 10 US companies selling biomass-based fuels and products revealed that that in each case, disclosures about GHG emissions were largely unsubstantiated and sometimes misleading. To ensure consistency and to avoid misleading investors, the SEC should issue guidance on required disclosures to companies making claims about biogenic emissions. Such disclosures could rely on easy-to-obtain information, and would be consistent with both the SEC's 2010 Climate Guidance, and protective guidance adopted by the Federal Trade Commission (FTC).

Introduction

Concern about climate change has led to increasing use of biological materials, "biomass," as a substitute for fossil fuels in energy generation and for greenhouse gas-intensive materials in

manufacturing and construction. Biomass is theoretically renewable. Therefore, it is often considered to have lower net GHG emissions than materials that are not capable of regeneration and new carbon dioxide (CO₂) uptake.

Particularly in the energy sector, biomass fuels are often treated as “carbon neutral,” or having net zero effect on atmospheric CO₂ concentration. Biomass energy is increasingly promoted and subsidized as renewable energy.

- Corn, sugar cane and other biological materials, including wood, can be manufactured into ethanol and other liquid biofuels for ground and air transportation, as well as energy generation at power plants.¹
- Solid fuels such as forest wood, sawmill residues, and black liquor residues from pulp and paper manufacturing can be burned directly in power plants to generate heat and electricity.² A particularly fast-growing sub-sector is wood pellet manufacturing, whereby forest wood is pelletized and shipped to the EU and Asia as a replacement for coal.
- Wood and other biomass can also be burned under special low-oxygen conditions to generate “biochar” (essentially charcoal), a co-product that is marketed as a soil additive and means of increasing carbon stored in soils.³
- Municipal waste, which includes a biogenic portion (food, paper, wood, and yard waste) and a combustible non-biogenic portion (plastics), can be burned to generate electricity, commonly known as “waste-to-energy.”⁴

In manufacturing and construction, the use of biomass-based materials is considered to benefit the climate because it can displace use of other materials that would emit more CO₂ and other greenhouse gases.

- Wood and other plant material can be used as feedstock to manufacture lubricants and chemicals.⁵
- In construction, wood, including glued cross-laminated timber, is promoted as a substitute for steel and concrete.⁶

Manufacturing and combusting biomass-based fuels and products emits CO₂ and other greenhouse gases, sometimes at a higher rate than the product being substituted. Yet companies that manufacture or utilize biofuels, biomass power, waste-to-energy, biochar, and other products often claim that these products reduce emissions, particularly of carbon dioxide and methane. The lack of SEC guidance has permitted a free-for-all of emissions reduction and climate benefit claims that is not addressed by company participation in voluntary GHG reporting programs like that offered by the Sustainability Accounting Standards Board (SASB), because while these programs require disclosure of emissions from fossil fuels, they do not require disclosure of biogenic emissions,⁷ despite evidence that biogenic emissions, for example from forest clearing and burning, are a significant contributor to increasing atmospheric CO₂.⁸ The subject of this petition is therefore the need for guidance to resolve the discrepancy between the physical reality

of emissions from manufacturing and use of biomass-based products, and company claims that such products are “low carbon,” “zero-carbon,” or “carbon neutral.”

The urgency of addressing this discrepancy is two-fold. First, scientists have determined that greenhouse gas emissions are causing global climate change and that, unless emissions are reduced in the next one to two decades, we will likely suffer catastrophic impacts including sea level rise, flooding, droughts, and forest fires. A recent report by the Intergovernmental Panel on Climate Change comprehensively reviews science on climate warming and states that global net anthropogenic emissions must decline about 45 percent from 2010 levels by 2030 to avoid or limit overshoot of 1.5 degrees C increase above pre-industrial levels,⁹ the aspirational target that was set in the globally adopted Paris Agreement.¹⁰ It is thus important that products claiming to reduce emissions actually do so, and do so in a relatively short timeframe.

Second, from an investor standpoint, the perceived urgency of climate change has made companies that focus on addressing these problems very attractive, meaning that claims that products reduce greenhouse gas emissions are likely to be highly material to investors. In some cases, reducing GHG emissions may be the primary reason a company or product exists. Investors need to know that company claims about emissions are standardized and reliable. Currently, however, climate-based claims about bioenergy and biomass-based products are often free-form, unsubstantiated, and misleading. “Greenwashing” of emissions associated with bio-based fuels and products harms investors when products fail to produce the climate benefits that have been promised. When shortcomings are revealed publicly, this contradictory evidence can undermine value.

The Federal Trade Commission (FTC) has recognized the need to protect consumers from greenwashing of some bio-based products (also known as bioproducts). The FTC “Green Guides”¹¹ recommend that companies should substantiate comparative environmental claims – a principle that would likely apply to claims of “reduced carbon footprint” in which companies are claiming lower carbon emissions than previous versions of their own product or competing products.¹² The guides also provide that marketers selling carbon offsets, that is, carbon sequestering projects such as tree planting that offset carbon dioxide-emitting activities such as air travel, “should clearly and prominently disclose if the carbon offset represents emission reductions that will not occur for two years or longer.”¹³ While bioproducts are not marketed as offsets, themselves, claims that they are “carbon neutral” or “low carbon” are based on the same principle: that forest carbon sequestration or other processes occurring at some other time, and in some other place, will negate or reduce the CO₂ emissions from use of the bioproduct. (A previous report to the FTC in 2014¹⁴ pointed out how biomass power company claims about reducing emissions contravene FTC guidance).

The potential for enthusiastic investors to be harmed by companies making grand claims about bioproducts has already been demonstrated. Investors have lost millions of dollars when companies claimed to produce greater quantities of bioproducts than they actually did, in at least two cases triggering SEC involvement (see Box “Biomass-based Fool’s Gold”).

Biomass-based Fool's Gold

The story of Pennsylvania-based Mantria is the most outrageous of several recent cases in which companies caused millions of dollars of investment losses with fraudulent or inflated claims about bioproducts. Operating between 2005 and 2009, Mantria claimed that it was producing biochar to mitigate climate change – a product that was largely nonexistent and infeasible for the company to manufacture¹⁵ (biochar is the product of one of the companies examined in this petition). Mantria's claim emerged as part of an ever-evolving Ponzi scheme in which new investment dollars were used to pay previous investors. According to guilty plea agreements with two of Mantria's principals, Troy Wragg and his girlfriend Amanda Knorr, the scheme began when Wragg, who led the company, acquired land in Tennessee that he sought to sell and develop. The land had a shortage of potable water, and much of the water was contaminated by past strip mining activity that left the water tinted orange. In addition, a portion of the land had been used as a test firing range during World War II and may have contained unexploded shells. Not exactly an ideal place for the types of housing developments that Mantria lured investors to finance. Nonetheless, the company persuaded investors to hand over more than \$54 million through a variety of frauds including fake land sales to make it appear that investors were buying into a profitable enterprise when in fact the land was “essentially worthless.” As part of its scam, Mantria partnered with Wayne McKelvy who ran “Speed of Wealth” investment clubs in Colorado through which he urged members to withdraw funds from their retirement accounts or to take loans against insurance policies and max out credit card loans, home equity loans and other types of bank loans. McKelvy “instructed investors to take the proceeds from all of those sources and invest in ‘high return’ investments such as Mantria.” He promised investors that they would get “stinkin, filthy rich.” According to the plea agreement, “many investors withdrew their life's savings from their retirement accounts or even took out loans to invest in Mantria.” According to the SEC, McKelvy targeted the elderly and those approaching retirement age and urged them to “move at the speed of wealth.” To keep the Ponzi scheme going, Mantria and McKelvy “jumped on the ‘green energy’ wave that was sweeping across the country” and sold investors on the idea that Mantria would develop “green” communities that would convert trees cut for development and consumer waste into biochar, the plea agreements said.¹⁶ An indictment filed in U.S. District Court for the Eastern District of Pennsylvania¹⁷ reports that McKelvy told investors that they could “get paid by just owning land and spreading this stuff [biochar] all over your field, because this stuff pulls the toxins out of the atmosphere.” Other sources indicate that ‘toxins’ included carbon dioxide.¹⁸ The Clinton Foundation put its support behind the product, stating on its website that “Mantria Corporation commits to help mitigate global warming through the use of its Carbon Fields site, where Mantria will perform trials on their product BioChar, a carbon-negative charcoal, to prove how this product can sequester carbon dioxide, improve soil quality when buried, and reduce emissions in developing countries.”¹⁹ But Mantria produced very little biochar and was incapable of ever producing much, nor did the company turn a profit. In 2009, the SEC shut down Mantria and later secured a federal court judgment of more than \$135 million against the company.²⁰ In 2015, a federal grand jury indicted Knorr, McKelvy, and Wragg on 10 counts including securities fraud and wire fraud. Knorr and Wragg pled guilty to all 10 counts in 2016 and 2017, respectively.²¹ In 2018, a

jury convicted McKelvy of all 10 counts.²² Neither Knorr, McKelvy, nor Wragg have been sentenced yet.

A second-case involved Mississippi-based biofuels company KiOr, backed by high-profile investor, Vinod Khosla, and a \$75 million loan from Mississippi taxpayers. In 2011, the company claimed in its registration statement with the SEC for its initial public offering that it had “achieved” a yield of 67 gallons of fuel per ton of biomass, a claim the company continued to repeat publicly. However, the SEC found that this supposed achievement was based on undisclosed assumptions about technologies still under development. Internal test results showed actual yields 18-30 percent lower than what was publicly disclosed. In 2016, KiOr settled fraud charges from the SEC that the company was claiming it was producing more biofuel than advertised. The company went bankrupt in 2014, costing Mississippi taxpayers \$69 million, according to the Jackson Clarion-Ledger. The newspaper found that KiOr “hoodwinked” then Mississippi Gov. Haley Barbour and other public officials “about its ability to produce large amounts of a cheap bio-crude that oil companies could refine.”²³

Two other cases involve Georgia-based Range Fuels, which shuttered its factory in 2011 after failing to come close to meeting targets for producing cellulosic biofuel from wood chips, and Alabama-based Cello, which was ordered by a federal court in 2009 “to pay \$10.4 million in punitive damages for fraudulently claiming it could produce cheap, diesel-like fuel from hay, wood pulp and other waste.”²⁴

Below, we analyze the claims made by 10 companies with bio-based fuels and products (nine that are publicly traded and one private company with financial backing by major corporations). We found that all 10 companies claimed that their products reduced or eliminated greenhouse gas emissions. While we have no evidence that the companies are failing to produce as much of their products as advertised as the companies in the examples above, none of the companies below fully substantiated how these climate benefits would supposedly occur. We hope that these examples will persuade the SEC to issue guidance on accounting and reporting of GHG emissions in the fast-growing sector of bio-based fuels and products, and so fulfill its historic mission to protect investors.

Why guidance on biogenic emissions would be timely

Investor interest in fossil fuel alternatives has significantly increased in recent years, making the need for guidance on claims of climate benefits particularly acute. In a recent Wall Street Journal article, Derek Horstmeyer, a professor of finance at George Mason University, analyzed inflows of money into “sustainable” or Environmental, Social and Governance (ESG) U.S. stock exchange traded funds and mutual funds. He found that in December 2016, one month after President Trump’s election,

“a staggering \$2.1 billion flowed into U.S. equity sustainable funds...The ‘Trump bump’ (which was the largest single monthly increase into the sustainable

investing class ever) was 170% larger than the next-largest one-month inflow. And the growth has continued. Since the election, \$8.1 billion has flowed into these funds, a 13.1% jump from the assets under management on the eve of the 2016 presidential election – by far the greatest percentage inflow into any class or style of fund (e.g., value, growth, small-cap funds) since the election.”²⁵

Horstmeyer reported that environmentally-focused funds account for “just about half of all U.S. equity sustainable focused funds.” USA Today reported that assets in mutual funds and exchange traded funds with an ESG focus rose 142% from 2012 to 2018.²⁶ The New York Times reported in 2016 that “the amount of assets managed using E.S.G. factors has more than tripled to \$8.1 trillion since 2010, according to a report issued in November by the US SIF Foundation, which tracks sustainable investing.”²⁷ Major investment firms including Morgan Stanley, Merrill Lynch (owned by Bank of America) and U.S. Trust (also owned by Bank of America) are actively promoting sustainable or ESG investments.²⁸

Companies that make or use bio-based fuels and products are likely to be prominent and attractive when investors are considering climate-related and sustainable investments, both because major investment firms tout investments in such companies, and because some very high-profile companies are involved in these enterprises. Morgan Stanley has specifically suggested investments in “renewable” bioenergy and biofuels as part of “climate change and fossil fuel aware investing” while U.S. Trust has encouraged investment in wood pellets that are burned for electric power (“The EU views the pellets as carbon-beneficial compared to fossil fuels,” a U.S. Trust representative said in the company’s marketing materials).²⁹ DowDuPont, one of the companies profiled below as a producer of biofuel, is listed on the two most prominent stock indices, the 30-company-member Dow Jones Industrial Average and the 500-member S&P 500.³⁰ Southern Company, profiled below as a user of biomass power, is also a member of the S&P 500.³¹ Google, part of the S&P 500, is an investor in Cool Planet, profiled below as a producer of biochar. Another investor in Cool Planet is BP, one of the world’s largest oil companies.³² ValueAct Capital Management, described by Forbes as among “the world’s most prominent hedge funds,” earlier this year “built a \$20 million stake” in Enviva Partners LLP, profiled below as a major producer of wood pellets for biomass power.³³ These examples of biomass-oriented investing are likely to provide investors with incentives to make similar investments.

The SEC considers a fact to be material to investors “if there is a substantial likelihood that a reasonable investor would consider it important in deciding how to vote or make an investment decision, or, put another way, if the information would alter the total mix of available information.”³⁴ Given the interest in ESG investing and investments specifically in biomass-based fuels and products, plus a growing focus on climate change mitigation, information about biogenic greenhouse gas emissions and claimed climate benefits from companies manufacturing or using these products are likely to meet the Commission’s standard for material facts that must be disclosed to investors. As Morgan Stanley wrote, “within the broad set of ESG issues,

climate change is now seen by many of the world's largest investors as a critical investment issue."³⁵

Background on treatment of biogenic emissions from bio-based fuels and products

Facts about biomass fuels and biomass energy, waste-to-energy, and biochar provide necessary context for why company claims about emissions and climate benefits of these and related technologies can be unsubstantiated or misleading.

Liquid biofuels for transportation and energy generation

Federal legislation enacted in 2005 created the Renewable Fuel Standard (RFS) that requires oil companies to replace petroleum-based transportation fuels and heating oil by blending or adding certain quantities of biomass-derived liquid fuels into petroleum-based fuels, with a target of 36 million gallons by 2022.³⁶ To qualify for use as a renewable fuel under the RFS, EPA requires that biofuels reduce GHG emissions by certain percentages compared to fossil fuels. The GHG analysis must account for emissions of fossil fuels burned during biofuel production and transport, and significant indirect emissions, including those related to carbon loss from land use change that occurs when demand for biofuel causes farmers to convert grasslands, forests or wetlands to farmland in order to grow additional energy crops.³⁷ Critically, the official EPA protocol for calculating GHG emissions for biofuels does not count any of the emissions from actually burning the fuel, because it assumes that regrowth of the typically annual crops that are used for biofuel feedstock sequesters equivalent carbon to that previously released during fuel combustion, and thus carbon emissions are rapidly offset.³⁸ However, this assumption is not met when wood derived from long-lived trees is used as biofuel feedstock, as is increasingly the case for some companies.

Solid biomass combustion for electricity generation

Biomass burned for heat and electricity generation includes forest wood, agricultural residues and crops, sawmill wastes, and black liquor, a residual from pulp and paper manufacturing. Wood pellets, which are manufactured from mill residues and forest wood, are mostly burned in the US for heat, but are bulk shipped from the US and Canada to Europe and Asia as a replacement for coal. Many US states provide renewable energy subsidies to biomass energy, as do a number of other countries. Per megawatt-hour, typical carbon dioxide emissions from biomass power plants burning green woodchips are around 150 percent those of the average US coal-fired plant, and as much as 400 percent those of a natural gas facility.³⁹ Power plants burning dried wood pellets also emit more CO₂ per megawatt-hour than the comparable plant burning coal; in addition, manufacturing, drying, and transporting pellets emit significant carbon dioxide and other greenhouse gases, including methane, which is a more powerful GHG than carbon dioxide.⁴⁰ Beyond the direct emissions, the GHG impact of burning forest wood for energy is increased by the "foregone sequestration" of CO₂ that would have occurred if trees were left to grow instead of being cut for fuel. Forest growth represents the only significant terrestrial "sink" for carbon dioxide emissions,⁴¹ and reducing the forest sink by harvesting

forests increases atmospheric CO₂ just as effectively as increasing emissions. A number of peer-reviewed studies⁴² and scientific bodies, including recently for instance the European Academies Science Advisory Council,⁴³ have concluded that burning trees for fuel increases net emissions relative to fossil fuels for decades to more than a century, meaning that biomass power plants worsen atmospheric CO₂ loading in the 12-year-timeframe specified by the IPCC as critical for reducing emissions.⁴⁴

The EPA has not finalized a protocol for assessing GHG emissions from combustion of solid biomass as it has for biofuels, but companies manufacturing and burning biomass for energy commonly claim that burning solid biomass “reduces” emissions, or that it is carbon neutral, similar to the assumption made for biofuels. However, unlike biofuels where annual crops provide the majority of feedstock, biomass is generally sourced from forest plantations and natural forests, meaning it can take decades to more than a century to offset emissions with new forest growth, if this occurs at all. Another argument used to justify claims of biomass energy “carbon neutrality” is that if mill or forestry residues are used as fuel or pellet feedstock (i.e., treetops and branches left over from logging operations), emissions from combustion are no greater than the emissions from letting the material decompose, rendering the material effectively carbon neutral. However, even under industry best-case scenarios where no new trees are cut for fuel, and only forestry wastes are used, burning biomass has significant net emissions that persist for decades.⁴⁵ A study commissioned by the State of Massachusetts determined that net emissions from biomass power plants are significant enough over decades to undermine state-mandated efforts to reduce GHG emissions from the power sector. Massachusetts consequently ended renewable energy subsidies for utility-scale wood-burning power plants in 2012.⁴⁶ The District of Columbia enacted a similar law in 2015.⁴⁷

Municipal waste incineration for electricity generation

Electricity generated at municipal waste incinerators is also eligible for renewable energy subsidies in many states. Municipal waste is a mixture of organic and inorganic materials. Organic waste burned in waste incinerators is often claimed to have zero emissions, both because the material is “biomass,” and because combustion is assumed to reduce emissions of methane, a potent greenhouse gas that would otherwise be generated and emitted from landfills.⁴⁸ However, organic materials are wet and do not burn easily, requiring mixture with inorganic, fossil-fuel-derived plastics and other materials to provide sufficient energy to burn. As is the case for biomass power plants, EPA emissions data show that municipal waste incinerators emit more CO₂ per megawatt-hour than fossil fueled plants.⁴⁹

Biochar

Biochar is partially combusted plant material – essentially, charcoal – that can be ground and added to soils, where, manufacturers claim, it increases soil carbon storage and water and nutrient holding capacity. Some manufacturers claim that adding biochar to soils can even be “carbon negative” – a means of capturing CO₂ in the atmosphere now (*via* plant growth) then storing that carbon in the soil to effect a net draw-down of atmospheric CO₂. For biochar to

offer credible climate mitigation, it would need to store more carbon over the long-term than is expended in its manufacture, without degrading other environmental values like air quality, particularly since black carbon is a major driver of climate warming.⁵⁰ Such claims are almost impossible to substantiate, because there have been no long-term trials of biochar's full lifecycle emissions and ability to store carbon over long periods.

Company claims about biogenic emissions are often misleading and unsubstantiated

We examined disclosures about greenhouse gas emissions from 10 companies that manufacture and sell biomass-based fuels and products. We analyzed these disclosures on the companies' websites, in their 10-K Forms, and in their sustainability or corporate responsibility reports, where applicable. Nine of the companies are publicly traded, and one (Cool Planet) is private but backed by major corporations. We asked five questions about the companies' disclosures:

- 1) Did they claim that their product(s) reduced greenhouse gas emissions?
- 2) Did they fully substantiate such claims, including especially a lifecycle analysis and key assumptions supporting it that would show the product's total greenhouse gas emissions from collection of raw materials through manufacture, use, and disposal?
- 3) Did they disclose the product's direct greenhouse gas emissions so that investors could evaluate whether the products had emissions that would require offsetting by future forest or plant growth?
- 4) Did they disclose risks from legislation that could reduce or eliminate renewable energy subsidies or other benefits to bio-based fuels and products, or place limits on biogenic greenhouse gas emissions?
- 5) Did they disclose reputational risks if consumers or investors were to conclude that their products' emissions were higher than stated, and the products lost favor with consumers or investors?

We found that all of the companies claimed that biomass-based fuels and products reduced greenhouse gas emissions (Table 1), yet none provided full substantiation of these claims. Only one of the companies disclosed direct biogenic greenhouse gas emissions. In three cases companies disclosed greenhouse gas emissions company-wide but not specifically biogenic emissions. Disclosure of legislative risk was better, with five companies disclosing that changes in regulation related to biogenic CO₂ could hurt their bottom line; another three discussed risks from regulation of GHGs in general but did not mention biogenic emissions. Only one of the companies discussed reputational risks if the public or investors become skeptical of bioenergy and bioproducts as a way to address climate change. Three companies discussed reputational risks, but only in general terms.

Company	Claim That Product/ Process Reduces GHG Emissions?	Full Substantiation of Claim?	Disclosure of Biogenic GHG Emissions From Product/Process?	Discuss Legislative Risk from Loss of Subsidies or Limits on Biogenic GHG Emissions?	Discuss Reputational Risk if Emissions are Higher Than Stated?
Cool Planet	Yes	No	No	No	No
Covanta Holding Corp.	Yes	No	No	Yes	No*
Dominion Resources, Inc.	Yes	No	No*	Yes	No
Dupont	Yes	No	No*	No*	No
Enviva	Yes	No	No	Yes	No*
Future Fuel Corp.	Yes	No	No	No*	No*
Gevo	Yes	No	No	Yes	No
Green Earth Technologies	Yes	No	Yes	No	No
Pacific Ethanol	Yes	No	No	Yes	Yes
Southern Company	Yes	No	No*	No*	No
Percent	100%	0%	10%	50%	10%

Table 1. Summary of claims and risk disclosures pertaining to biogenic CO₂ emissions for the ten companies examined in this report. * Denotes there was no disclosure of emissions or risk pertaining to biogenic carbon, but that GHG emissions or risk in general was discussed.

Company Profiles

All of the companies listed below claim their bio-based products reduce greenhouse gas emissions. None fully substantiate these reductions, and the substantiations that are presented show a variety of rationales, emphasizing the need for simple SEC guidance to achieve consistency and to avoid misleading investors.

Cool Planet (privately held company). **Product: biochar.** Based in Greenwood Village, Colo., Cool Planet is not publicly traded, but says that it has attracted investment from, among others, the major oil company BP, and GV, the investment arm of Alphabet, Google’s parent company.⁵¹ Cool Planet makes “Cool Terra,” a soil enrichment product. Cool Terra “begins by heating renewably sourced, non-food biomass in low oxygen conditions, creating raw biochar. The raw biochar is then processed using our proprietary upgrading technology.”⁵² Cool Planet also produces Cool Fauna. This product, “featuring Engineered Biocarbon™ technology has significant potential as a feed additive in Animal Nutrition applications,” the company says. On its website, Cool Planet says that one of Cool Terra’s benefits is that it can “reduce greenhouse gas emissions.”⁵³ Cool Planet adds that one of the benefits of Cool Fauna is “reducing methane” if the product is placed into compost.⁵⁴ These climate-related claims are less sweeping than a previous claim that the company made on its website as reported by the organization DeSmog Blog, that “Cool Planet is addressing global accumulation of carbon dioxide emissions by transforming the fuel production process. Our carbon negative fuel cycle permanently removes CO₂ from the atmosphere by sequestering biochar.”⁵⁵ On its current website, Cool Planet presents evidence that Cool Terra reduces soil water loss among other benefits but does not include evidence to substantiate claims that utilizing the product reduces greenhouse gas

emissions.⁵⁶ Nor does the company substantiate its claim that Cool Fauna reduces methane. As discussed earlier, some have argued that biochar reduces carbon dioxide in the atmosphere by spurring plant growth, though these claims have not been well studied. Cool Planet does not explain if its carbon sequestration claims are based on this theory or other theories. The company does not provide data on lifecycle greenhouse gas emissions from manufacturing and using either Cool Terra or Cool Fauna. Cool Planet does not discuss either climate-related legislative risk or reputational risk.

Covanta Holding Corporation (CVA, NYSE). Product: waste-to-energy and biomass power. Covanta is an international company based in Morristown, New Jersey. It operates or has ownership positions in 44 waste-to-energy facilities. The company also operates two biomass facilities that burn wood to generate electricity.⁵⁷ On its website, Covanta states that “for every ton of municipal solid waste processed at an EfW [energy from waste] facility, the release of approximately one ton of carbon dioxide equivalent emissions into the atmosphere is prevented due to the avoidance of methane generation at landfills, the offset of greenhouse gases from fossil fuel electrical production, and the recovery of metals.”⁵⁸ The company’s claim that emissions from fossil-fired electricity are “offset” is misleading for at least three reasons. First, the use of the word “offset” is incorrect. An “offset” is a measure taken to increase carbon sequestration, such as planting trees, that is intended to counteract emissions occurring elsewhere. Burning waste does not sequester carbon – it releases it – therefore burning waste cannot “offset” fossil fuel emissions. Second, the company appears to be assuming that burning waste results in a reduction in fossil-fuel burning, but cannot substantiate that claim; in fact, it is possible that wind or other zero-emissions energy is displaced, not fossil fuels, if displacement is occurring at all. Third, a large portion of biogenic waste, as well as plastic (derived from fossil fuels), does not decompose, or decomposes so slowly that it is considered to represent carbon sequestration in US emissions reporting.⁵⁹ Solid waste incinerators emit as much or more CO₂ per megawatt-hour as fossil-fueled power plants, mobilizing sequestered carbon, including fossil fuel-derived carbon, into the atmosphere.⁶⁰ Essentially, the claim that burning waste offsets emissions from fossil fuels is like claiming a natural gas plant should take credit for displacing a coal plant. Since coal emissions are greater than natural gas emissions, this accounting would treat the gas plant as having negative emissions, which is obviously invalid.

Covanta’s claims about climate benefits of bioenergy are indirect.⁶¹ In its 2018 Form 10-K, the company said merely that biomass power is “renewable,” a term that is often associated with greenhouse gas reductions. The company’s current form 10-K does not characterize biomass power as renewable, simply stating that as of December 31, 2018, Covanta owned “two wood waste (biomass) energy projects.”⁶² There do not appear to currently be any statements about greenhouse emissions from bioenergy on Covanta’s website, although as previously documented for the SEC, the company claimed that wood-fired power plants produced “significant reductions in greenhouse gas emissions.”⁶³

Covanta attributes its conclusion about lower carbon dioxide emissions for energy-from-waste to the EPA and provides a link that readers can click for more information. However, the link takes

readers to an article on the website of an advocacy group, the Center for American Progress. This article includes the same conclusion about lower carbon dioxide emissions attributable to the EPA but also fails to include a link to, or findings from, the agency, making it difficult for investors to evaluate the statement.⁶⁴ Covanta’s form 10-K includes a similar statement about lower carbon dioxide emissions from EPA and attributes EPA’s conclusion to “lifecycle tools such as its own Municipal Solid Waste Decision Support Tool.”⁶⁵ But there are no details about what assumptions went into these lifecycle tools or exactly which lifecycle tools EPA used, preventing investors from understanding EPA’s methodology. Covanta does not appear to disclose its greenhouse gas emissions on its website or in its Form 10-K. In the company’s Sustainability Report accessible through its website, Covanta notes that it reports greenhouse gas emissions to EPA’s “GHG Reporting Program” and to CDP, a non-governmental organization, but it does not provide emissions data.⁶⁶ The company discusses legislative risks related to climate change at the international, federal and state level: namely that the company’s technologies might not be included in government plans to reduce greenhouse or carbon dioxide emissions.⁶⁷ The company discusses reputational risk from “regulatory compliance issues” and “from advocacy groups or others intended to halt our development or on-going business.”⁶⁸ However, Covanta does not discuss whether such compliance issues or advocacy groups might focus on GHG emissions or biogenic GHG emissions in particular.

Dominion Resources, Inc. (D, NYSE). Product: biomass power. Dominion is a large energy company based in Richmond, Virginia that has holdings across the eastern United States. Dominion operates about 236 megawatts (MW) of biomass electric generating facilities,⁶⁹ including three coal plants that it converted to burn wood (the Altavista, Hopewell, and Southampton plants in Virginia). In its Form 10-K, the company implies that its use of biomass power will “lower the carbon footprint” of its fleet of electric generating facilities that encompass not only biomass facilities but also plants that run on coal, natural gas, nuclear, solar and wind.⁷⁰ This claim is misleading because it could convey the impression that burning wood simply emits less carbon per unit energy than burning coal, for instance as natural gas does. Emissions data downloaded from EPA’s “Air Markets” website⁷¹ and plant-level generation data from the Energy Information Administration (EIA)⁷² for 2016 show the reality of typical emissions from these fuels, however. The CO₂ emission rates for Dominion’s wood-burning power plants are 40 – 100 percent greater than the rates of its fossil-fired plants:

Facility	Fuel	CO ₂ (tons)	MWh	lb CO ₂ /MWh
Altavista Power Station	Wood	441,859	282,677	3,126
Hopewell Power Station	Wood	490,221	306,059	3,203
Chesterfield Power Station	Coal, nat gas	7,212,916	8,687,883	1,660
Clover Power Station	Coal, oil	6,006,975	5,444,917	2,206
Bear Garden Generating Station	Natural gas	1,530,666	1,967,207	1,556

Table 2. CO₂ emissions, electricity generation, and emission rate (as pounds of CO₂ per megawatt-hour) for four Dominion plants in Virginia in 2016. The emission rates for the wood-burning power plants exceed the rates for the fossil-fueled plants.

Despite the reality of actual stack emissions per megawatt-hour being highest at its wood-burning power plants, Dominion states on its website that its coal to wood conversions “further reduce emissions and meet EPA’s existing or proposed regulations,” though the company does not say whether these regulations relate to greenhouse gases.⁷³ The company appears to have scaled back more extensive claims about climate benefits of bioenergy that it had made previously, as documented for the SEC in 2013.⁷⁴ Previously, in a regulatory filing that investors are unlikely to see, Dominion argued that the company “considers biomass to be carbon neutral from an emissions standpoint.”⁷⁵ The company does not explain on its website or in its Form 10-K how its bioenergy would reduce the company’s carbon footprint. Dominion reports total greenhouse gas emissions for all of its electric generating facilities but does not provide a separate figure for biomass combustion. Dominion states that three of its biomass plants might be subject to an EPA rule that could require permitting for greenhouse gas emissions from biomass plants.⁷⁶ In addition, the company says that broader efforts at the federal or state level to reduce greenhouse gas emissions could require increased expenditures across all of Dominion’s facilities and that “such expenditures, if material, could make Dominion Energy’s and Virginia Power’s generation facilities uneconomical to operate, result in the impairment of assets, or otherwise adversely affect Dominion Energy’s or Virginia Power’s results of operations, financial performance or liquidity.”⁷⁷ Dominion does not discuss reputational risk related to the possibility that consumers and the public could perceive bioenergy as bad for the environment.

DuPont (DD, NYSE). Product: biofuels. The company is based in Wilmington, Delaware. Among other products, DuPont reported last year that it was “in partnership with Genera Energy and the University of Tennessee, is working with local farmers to produce cellulosic ethanol from switchgrass and other plants to ease dependence upon the non-renewable resource of fossil fuels.”⁷⁸ DuPont reported on its website that “as a source of renewable energy, cellulosic co-products offer a potential reduction in greenhouse gas emissions greater than 100 percent when compared to gasoline.”⁷⁹ However, the company did not reveal information substantiating the conclusion of reduced emissions including whether DuPont relied on the EPA protocol for counting CO₂ emissions from biofuels that does not include the CO₂ emitted when the product is burned, and assumes that emissions are offset by new crop growth.⁸⁰ Nor did the company reveal whether it accounted for land use change that is also part of EPA’s lifecycle assessment of biofuels. The 2018 Form 10-K did not include claims of greenhouse gas emission reductions for its cellulosic ethanol.⁸¹ Nor does DuPont’s 2019 Form 10-K include such claims.⁸² DuPont reports its company-wide greenhouse gas emissions but does not provide a separate figure for emissions from its biofuels. The methodology that DuPont uses for company-wide emissions excludes emissions from combusting biomass, a fact that DuPont does not disclose.⁸³ DuPont discusses the risk – and opportunities – of legislation to reduce greenhouse gas emissions to its

products generally, but does not specifically discuss the risk or opportunities to its biofuel products.⁸⁴ The company does not discuss greenhouse gas-related reputational risks.

Enviva Partners, LP (EVA, NYSE). Product: wood pellet biomass fuel. Enviva is based in Bethesda, Maryland. The company is the nation's largest manufacturer by production capacity of wood pellets and has six wood pellet manufacturing plants in the southeastern U.S. with a combined capacity of 2.9 million metric tons of pellets per year, and is currently considering building a large plant in Lucedale, MS. The company sells the pellets to power plants to replace coal in electricity generation. Enviva's primary customers are located in the United Kingdom, Denmark, and Belgium.⁸⁵ As documented for the SEC in 2013,⁸⁶ Enviva has made a variety of misleading claims about greenhouse gas emissions and the sources of wood that the company uses as feedstock. On its website, Enviva says among other things that "switching from coal to biomass reduces emissions of carbon dioxide by between 74 and 90% on a lifecycle basis."⁸⁷ In its Form 10-K, Enviva states that investments in power plants that can either co-fire wood pellets with coal or burn solely wood pellets help power generators in Europe and Asia "comply with binding climate change regulations and other emissions reduction targets."⁸⁸ The statement implies that Enviva's wood pellets reduce greenhouse gas emissions.

Enviva's claim on its website that biomass reduces carbon dioxide emissions "on a lifecycle basis" is incomplete and misleading, because Enviva does not disclose that the lifecycle emissions it counts do not include emissions from actually burning the fuel. The reduction in lifecycle emissions that Enviva references is a citation from a report which does state that it is "important to note" that its analysis is based on estimating emissions "up to the point the biomass fuel enters the boiler, engine, or power plant," and thus excludes combustion emissions.⁸⁹ However, Enviva fails to include this important disclaimer when it claims a 74-90 percent carbon dioxide reduction relative to fossil fuels. In its Form 10-K, the company does not explain how its biomass would reduce greenhouse gas emissions. The company does not disclose greenhouse gas emissions from burning the wood pellets it produces. Enviva discloses multiple legislative risks related to treatment of greenhouse gas emissions from biomass including those at the state, national, and international level that could impact its business.⁹⁰ The company suggests that changing "sustainability" standards might make its products less "acceptable,"⁹¹ but Enviva does not state that such standards could be linked to greenhouse gas emissions rather than to other concerns such as timber harvesting techniques.

Future Fuel Corp. (FF, NYSE). Product: liquid biofuels. Future Fuel is based in Clayton, Mo."⁹² The company states on its website that it makes biodiesel from a variety of sources including "inedible corn oil, used cooking oil, degummed/crude soy oil, beef tallow, and pork lard." Future Fuel says that it is "Certified in California's Low Carbon Fuel Standard."⁹³ In its Form 10-K, the company states that its biodiesel "benefits from favorable properties compared to petrodiesel (e.g., negligible sulfur content, lower particulate matter, lower greenhouse gas emissions...)"⁹⁴ The Form 10-K appears to elaborate somewhat on the California standard by stating that "we are also registered with the State of California's fuel program which incentivizes the use of low carbon fuels specific to biomass-based diesel." Future Fuel does not substantiate

how its fuels qualify for certification under the California Low Carbon Fuel Standard, and does not explain the assumptions behind the standard. Investors might have difficulty locating and understanding information about how the program works. For example, an investor could search for a PowerPoint presentation about the standard on the California Air Resources Board website indicating that to qualify for the standard, producers have to show that their biofuels have carbon intensities lower than that of petroleum-based fuels. The presentation also suggests that biofuels' combustion emissions are essentially not counted but that land use change is counted.⁹⁵ In support of the related statement in its Form 10-K claiming lower greenhouse gas emissions, Future Fuel cites a U.S. Department of Energy publication entitled "Biodiesel Basics."⁹⁶ This publication provides some support for Future Fuel's claim. "Biodiesel also reduces greenhouse gas emissions on a lifecycle basis," the department writes. "This is because the carbon dioxide released during combustion is offset by the carbon dioxide sequestered while growing the feedstocks that are used to produce the fuel."⁹⁷ However, the Department of Energy's conclusion appears to be based on incomplete data, because the publication does not appear to account for land use change that is part of both EPA's and California's assessment of biofuels' greenhouse gas emissions. Future Fuel does not disclose this apparent omission from the Department's publication. Nor does Future Fuel discuss whether biogenic emissions are offset by new crop growth and over what time period such growth would occur. Future Fuel does not disclose greenhouse emissions from its fuel.

Regarding climate-related legislative risk, Future Fuel states in its Form 10-K that "to the extent that state or federal laws are modified or public perception turns against biodiesel, use requirements such as RFS2 [a federal program requiring certain levels of biofuel use] may not continue, which could materially harm our ability to operate profitably."⁹⁸ However, it is unclear that such changes in perceptions could involve climate or greenhouse gas emissions. In this context, Future Fuel discusses a federal study of biofuel designed to assess various environmental impacts including "air" impacts. But air impacts are often distinct from climate impacts or greenhouse emissions. In fact, the study included an assessment of greenhouse gas emissions, but investors might be unlikely to know that from Future Fuel's Form 10-K.⁹⁹ Future Fuel's statement that public perception might turn against biodiesel could be read as a disclosure of reputational risk but, again, it is unclear whether such risk relates to concerns about biogenic CO₂ emissions.

Gevo, Inc. (GEVO, NASDAQ). Product: liquid biofuels. Gevo is based in Englewood, Colo.¹⁰⁰ The company "developed technology...to convert carbohydrates to low carbon chemicals and fuels" including ethanol¹⁰¹ and "low carbon renewable jet fuel."¹⁰² Gevo states that these carbohydrates are plants¹⁰³ and suggests that they include corn and sugar cane.¹⁰⁴ On its website, Gevo provides only a partial substantiation of how the company can call its fuels "low carbon." Gevo explains that "when fossil-based oil, coal, natural gas, or plastics are the raw material, GHG increases...When renewable carbon, CO₂ from the atmosphere, is a raw material, it's possible to balance or even reverse GHG emissions across the carbon cycle by efficient production and carbon capture via sustainable farming. For example, using sustainable, non-food corn as the feedstock, it's possible to capture roughly 0.8 – 4.0 kg CO₂ in the soil for

every gallon of jet fuel produced.”¹⁰⁵ There appears to be no further discussion of how Gevo can produce low carbon fuel such as a lifecycle analysis that would show how much carbon dioxide was produced by burning Gevo’s fuel, how much was resequenced by crop growth or in soils, over what time period the regrowth would occur, the permanence of captured carbon, or whether land use change was accounted for. The company’s Form 10-K does not provide substantiation for Gevo’s “low carbon” claim. The company does not disclose greenhouse gas emissions from its fuels. However, Gevo states that “our isobutanol [the company’s bio-based fuel] plants will emit greenhouse gases. Any changes in state or federal emissions regulations, including the passage of cap-and-trade legislation or a carbon tax, could limit our production of isobutanol and iDGs™ and increase our operating costs, which could have a material adverse effect on our business, financial condition and results of operations.”¹⁰⁶ Gevo does not discuss climate-related reputational risk.

Green Earth Technologies (GETG). Product: bio-based oil. The company is based in Greenwich, Connecticut. The company says that its stock “is traded on the ‘over the counter’ market.”¹⁰⁷ Green Earth Technologies “produces a full line of ‘clean & green’ American made environmentally preferred lubricants and cleaning products.”¹⁰⁸ The company says on its website that “GET-Products replace the petrochemical base of traditional appearance and performance chemicals with an Ultimate Biodegradable bio base made with plants or animal fat.”¹⁰⁹ Green Earth Technologies writes on its website that according to a lifecycle analysis study by Intertek Expert Services, “the 5W-30 G-OIL Bio-based Advanced Full Synthetic Green Motor Oil had a carbon footprint of about two thirds (67.3%) less than the conventional 5W-30 oil.”¹¹⁰ Green Earth Technologies’ most recent Form 10-K filed in 2015 states that “*Ultimate Biodegradable Bio-Based Advanced Full Synthetic “Green” Motor Oil* is the world’s first and only API Service SM and USDA BioPreferred® certified motor oil for all gasoline engines requiring conventional or full synthetic motor oil, keeping pollutants out of the environment while reducing carbon emissions....”¹¹¹ Green Earth states that Intertek’s study establishing its product’s lower carbon footprint “includes the lifecycle impacts of raw material planting, harvesting, cattle farming or extraction all the way to consumer consumption, recycle and/or disposal of base oils.”¹¹² A search of Green Earth Technologies’ website and the company’s Form 10-K did not reveal the Intertek study, though there are some figures from the study contained in a set of slides on the website that show reduced greenhouse gas emissions from G-OIL compared to conventional oil.¹¹³ Searches for the study through Google, Yahoo! and Intertek’s website were unsuccessful. In its summary of the Intertek study, Green Earth Technologies did not mention whether the study included land use change, which can play a significant role in determining carbon emissions from bioproducts. Nor did the company explain whether regrowth of new crops would offset emissions from manufacture and use and over what period the offset would occur. Green Earth Technologies appears to disclose its oil’s greenhouse gas emissions during use in the set of slides mentioned above. The company does not discuss climate-related legislative risks or reputation risks.

Pacific Ethanol, Inc. (PEIX, NASDAQ). Product: biofuels. Pacific Ethanol is based in Sacramento, California. The company’s Form 10-K states that “we are a leading producer and

marketer of low-carbon renewable fuels in the United States.”¹¹⁴ Pacific Ethanol adds that one of its goals is to “lower the carbon intensity of our ethanol...we are able to charge premium prices for this ethanol based on state laws and regulations, such as Low-Carbon Fuel Standards [LCFS] enacted in California and Oregon that require blenders to use lower carbon intensity ethanol in their gasoline.”¹¹⁵ The company is able to lower the carbon intensity of its ethanol “primarily because our plants located on the West Coast use less energy in their production processes.”¹¹⁶ The company further explains that “California’s LCFS requires fuel suppliers to reduce the carbon intensity of transportation fuels to 10% below 2010 levels by 2020. The Governor’s office estimates that the standard will have the effect of increasing current renewable fuels use in California by three to five times by 2020.” Pacific Ethanol states that Oregon and the Canadian province of British Columbia have adopted similar programs and that another such program is under consideration in Washington State. While the company provides investors with some background about California’s LCFS, it does not explain the assumptions behind this standard or the one adopted in Oregon. A PowerPoint presentation about California’s standard on the California Air Resources Board website that is not referenced by Pacific Ethanol indicates that biofuels’ combustion emissions are essentially not counted but that land use change is counted.¹¹⁷ While this information would be informative and would apparently apply to Pacific Ethanol’s ethanol, investors might have difficulty locating this presentation on their own. Pacific Ethanol does not disclose greenhouse emissions from combusting its biofuel. However, the company discloses both legislative and reputational risks related to its biofuel’s greenhouse gas emissions:

Although many trade groups, academics and governmental agencies have supported ethanol as a fuel additive that promotes a cleaner environment, others have criticized ethanol production as consuming considerably more energy and emitting more greenhouse gases than other biofuels....If negative views of corn-based ethanol production gain acceptance, support for existing measures promoting use and domestic production of corn-based ethanol could decline, leading to reduction or repeal of federal mandates, which could adversely affect the demand for ethanol. These views could also negatively impact public perception of the ethanol industry and acceptance of ethanol as an alternative fuel.¹¹⁸

Southern Company (SO, NYSE). Product: biomass power. Southern Company is based in Atlanta and provides electricity, natural gas and other services to at least nine million customers.¹¹⁹ Its subsidiaries include Alabama Power, Georgia Power, Gulf Power, Southern Power, and Mississippi Power.¹²⁰ Through its subsidiary Southern Power, Southern Company operates one biomass facility, the 115-megawatt Nacogdoches Generating Facility in Sacul, Texas. The plant began operating commercially in 2012 and “is one of the largest biomass power plants in the U.S.,” according to Southern Company.¹²¹ However, the Austin-American Statesman reported in October 2015 that the plant “mostly sits idle” largely because low natural gas prices made the plant uneconomic. The plant costs Austin \$54 million a year because the city committed to buy power from the facility for 20 years under a contract, the details of which

were kept hidden from the public.¹²² Southern Company reported that Alabama Power and Georgia Power use biomass power, too.¹²³

As previously reported to the SEC in 2013, Southern Company makes a number of claims about climate benefits of bioenergy.¹²⁴ Currently on its website, Southern Company still refers to biomass power as among its “carbon free and carbon neutral energy sources.”¹²⁵ Both Alabama Power and Georgia Power claim on their websites that bioenergy can reduce carbon dioxide emissions. Alabama Power states that “biomass is considered ‘carbon neutral’ - meaning that carbon dioxide emissions from burning biomass are offset by the CO₂ that was absorbed by the biomass as it grew.”¹²⁶ This statement is misleading because it is irrelevant when the carbon was sequestered; in fact, the same statement that the carbon was previously sequestered could be made about coal. What matters is that burning biomass adds CO₂ to the atmosphere instantaneously. Georgia Power states on its website that “in Georgia, trees are an abundant renewable natural resource when properly managed as part of a balanced energy program. Processing wood as biomass is considered carbon-neutral since the resultant emissions equal the carbon dioxide absorbed by the trees as they mature.”¹²⁷ Yet on its website, Southern company does not substantiate its claims that biomass power is “carbon free and carbon neutral.” Neither Alabama Power nor Georgia Power cite studies finding that it takes decades for new forest growth to sequester carbon dioxide emissions. Southern Company’s Form 10-K provides no support for claims of carbon neutrality. Southern Company reports total greenhouse gas emissions for its facilities but does not provide a separate figure for biomass combustion.¹²⁸ Southern Company states in its form 10-K that “costs associated with GHG legislation, regulation, and emission reduction goals could be significant.”¹²⁹ But the company does not discuss the impact of such actions on its biomass power. Southern Company does not discuss climate-related reputational risk.

Proposed Guidance

Our analysis of 10 companies’ disclosures regarding biogenic carbon and emissions shows that these companies are providing incomplete and sometimes actively misleading information about biogenic greenhouse gas emissions.

To fulfill its mission to protect investors, we recommend that in the Staff’s correspondence reviewing companies’ annual SEC filings, the Staff should request the following disclosures and clarifications from companies that claim an emissions or climate benefit from their manufacture and use of bio-based fuels and products, and that the Staff issue general guidance to such companies requiring the following information in the firms’ annual and quarterly filings, where appropriate. These disclosures would help the companies avoid materially misleading statements and omissions.

1. To the extent that a firm claims in publications likely to be viewed by investors, including any materials published on the company’s website, that its bio-based fuel or product results in little or no net carbon dioxide emissions, the company’s 10-K disclosures should:

- a. Quantify the annual carbon dioxide emissions from use or combustion of biomass (“biogenic emissions”), and in the case of municipal waste incineration, additionally disclose total carbon dioxide emissions¹³⁰;
 - b. Quantify both biogenic and non-biogenic “lifecycle” emissions from manufacturing the product;
 - c. Describe the carbon accounting assumptions and contingencies associated with any claim of little or no greenhouse gas impact. For instance, if statements that products are “low-carbon,” “carbon neutral,” etc., depend on emissions being resequenced by new plant growth, companies should disclose over what period of time such regrowth will occur and whether they can assure that regrowth will occur. Companies that claim their products are low carbon or carbon neutral because feedstocks are sourced from “wastes” or “residues” should discuss the assumptions behind this justification; for instance, the cumulative emissions assumed to occur if materials were allowed to decompose rather than being used as fuel or feedstock, and how these cumulative emissions compare with emissions from combustion.¹³¹
2. Describe legislative and regulatory risk pertaining to bio-based fuels and products. Company disclosures should indicate whether biomass and waste-based products and energy could be affected by changes in public policy pertaining to biogenic emissions, including but not limited to restrictions on emissions or loss of renewable energy subsidies or other incentives.
 3. Describe reputational risk specifically pertaining to bio-based fuels and products and climate change. Companies should disclose where public disputation regarding purported climate benefits of these products might lead to reputational damage, depressed consumer demand, and loss of investor support.

The recommended guidance implements the recommendations of existing SEC guidance, including the 2010 Climate Guidance regarding disclosure of climate issues that are material to investors,¹³² and is consistent with the FTC’s Green Guides “designed to help marketers avoid making environmental claims that mislead consumers.”¹³³ None of these recommendations would require companies to collect new data or impose unreasonable burdens on companies, since many collect lifecycle and biogenic emissions data already and are in some cases required to report it in other venues, such as to the EPA.

We appreciate your consideration of this important matter. In light of increased awareness of climate change impacts following the release of the IPCC report, protecting investors from unsubstantiated and misleading claims regarding bio-based fuels and products is increasingly important. We urge you to take swift action consistent with your mission.

Sincerely,

Danielle Fugere, President, **As You Sow**

Steven Heim, Managing Director, **Boston Common Asset Management, LLC**

Stephen Viederman, Finance Committee, **Christopher Reynolds Foundation**

Ann Roberts, ESG Analyst, **Dana Investment Advisors**

Peter Krull, CEO & Director of Investments, **Earth Equity Advisors**

Chris Meyer, Manager, Stewardship Investing Advocacy and Research, **Everence and the Praxis Mutual Funds**

Holly A. Testa, Director, Shareholder Engagement, **First Affirmative Financial Network**

Jeffery W. Perkins, Executive Director, **Friends Fiduciary Corporation**

Leslie Samuelrich, President, **Green Century Capital Management**

John Harrington, President/CEO, **Harrington Investments**

Josh Zinner, CEO, **Interfaith Center on Corporate Responsibility**

Christine Jantz, CEO, **Jantz Management**

Rabbi Joshua Ratner, Director of Advocacy, **JLens Investor Network**

Cathy Rowan, Corporate Responsibility Coordinator, **Maryknoll Sisters**

Mary Minette, Director of Shareholder Advocacy, **Mercy Investment Services**

Barbara Jennings, CSJ, Coordinator, **Midwest Coalition for Responsible Investment**

Bruce Herbert, Chief Executive, **Newground Social Investment**

Mari Schwartzer, Director of Shareholder Activism and Engagement, **NorthStar Asset Management, Inc.**

Judy Byron, OP, Director, **Northwest Coalition for Responsible Investment**

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Jo Marie Chrosniak, HM, Coordinator, **Region VI Coalition for Responsible Investment**

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Frank Sherman, Executive Director, **Seventh Generation Interfaith Coalition for Responsible Investment**

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Anna Falkenberg, PhD, Executive Director, **Socially Responsible Investment Coalition**

Sonia Kowal, President, **Zevin Asset Management**

Notes

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- ¹ See, e.g., Red Rock Biofuels. At <https://www.redrockbio.com/> (visited Aug. 17, 2018).
- ² See, e.g., Enviva. At <http://www.envivabiomass.com/> (visited Aug. 17, 2018).
- ³ Cornell Chronicle. Trash to Treasure: Cornell's Pyrolysis Kiln Opens May 24. At <http://news.cornell.edu/stories/2018/05/trash-treasure-cornells-pyrolysis-kiln-opens-may-24> (visited Aug. 17, 2018).
- ⁴ See, e.g., Covanta. At <https://www.covanta.com/> (visited Aug. 17, 2018).
- ⁵ Green Earth Technologies. At <http://getg.com/index.php> (visited Aug. 17, 2018).
- ⁶ Jeff Manning. Problems at Peavy: Faulty Timber Panels Raise Stakes for Promising New Oregon Market. The Oregonian (Aug. 12, 2018). At https://www.oregonlive.com/expo/news/erry-2018/08/4965f0c7df3495/problems-at-peavy-faulty-timbe.html#incart_target2box_default_%23incart_target2box_targeted (visited August 16, 2018).
- ⁷ Comments from PFPI to the Sustainability Standards Accounting Board, January 31 2018. At <http://www.pfpi.net/wp-content/uploads/2018/01/PFPI-comments-to-SASB-Jan-31-2018-1.pdf>
- ⁸ See e.g., Pearson, T.R.H. et al. 2017. Greenhouse gas emissions from tropical forest degradation: an underestimated source. Carbon Balance Management. Dec; 12: 3. At <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5309188/>
- ⁹ Intergovernmental Panel on Climate Change. IPCC Special Report on the Impacts of Global Warming of 1.5° C Above Pre-industrial Levels. Summary for Policymakers, October 6, 2018, at 15. At http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf (visited Oct. 25, 2018).
- ¹⁰ United Nations, 2015. Paris Agreement. At https://unfccc.int/sites/default/files/english_paris_agreement.pdf (visited Oct. 25, 2018).
- ¹¹ 16 CFR §§ 260.1-260.17 (2018).
- ¹² 16 CFR § 260.3(d) (2018).
- ¹³ 16 CFR § 260.5(b) (2018).
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- ¹⁵ U.S. v. Wragg. Case 2:15-cr-00398-JHS, filed in U.S. District Court for the Eastern District of Pennsylvania (Sept. 2, 2015), at 3-4, 6-7, 10-12, 16-17, 21.
- ¹⁶ U.S. v. Wragg. Government's Change of Plea Memorandum, Criminal No. 15-398, in the U.S. District Court for the Eastern District of Pennsylvania. U.S. v. Knorr. Government's Change of Plea Memorandum, Criminal No. 15-398, in the U.S. District Court for the Eastern District of Pennsylvania. U.S. Securities and Exchange Commission v. Mantria, Complaint filed in U.S. District Court for the District of Colorado (Nov. 16, 2009), case number 09CV02676cma-mjw.
- ¹⁷ Id. at 16.
- ¹⁸ Clinton Foundation. Commitment to Action: Mantria Carbon Grids for Carbon Sequestration. At <https://www.clintonfoundation.org/clinton-global-initiative/commitments/mantria-carbon-grids-carbon-sequestration> (visited Oct. 25, 2018). See also Sarah Tory. High Country News. In Colorado, A Green Fleecing Worth Millions. At <https://www.hcn.org/articles/colorados-great-green-scam> (visited Oct. 25, 2018).
- ¹⁹ Clinton Foundation. Press Release: President Bill Clinton and Secretary of State Hillary Clinton Close Fifth Annual Meeting of the Clinton Global Initiative (Sept. 25, 2009). At <https://www.clintonfoundation.org/main/news-and-media/press-releases-and-statements/press-release-president-bill-clinton-and-secretary-of-state-hillary-clinton-clos.html> (visited Oct. 25, 2018).

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