June 17, 2022

Via Electronic Submission

Ms. Vanessa Countryman
Secretary
U.S. Securities and Exchange Commission
100 F Street NE
Washington, DC 20549

Re: File No. S7-10-22: The Enhancement and Standardization of Climate-Related Disclosures for Investors

Dear Ms. Countryman,

On behalf of Hannon Armstrong (NYSE: HASI), a leading investor in climate solutions, we are pleased to express our support of File No. S7-10-22: The Enhancement and Standardization of Climate-Related Disclosures for Investors. We appreciate all the SEC’s hard work to ensure the proposal meets the needs of investors for material climate-related information while at the same time furthering SEC’s objectives to maintain fair, orderly, and efficient markets and facilitate capital formation.

**Hannon Armstrong: Leading Climate Solutions Investor**

Based in Annapolis, Maryland, Hannon Armstrong is the first U.S. public company solely dedicated to investments in climate solutions, providing capital to leading companies in the energy efficiency, renewable energy, and other sustainable infrastructure markets. With more than $9 billion in managed assets, our core purpose is to make climate positive investments with superior risk-adjusted returns.

We have consistently aspired to be a leader in transparent reporting on financially material and comparable Environmental, Social, and Governance (“ESG”) metrics. In fact, we were the first U.S. company to report the avoided emissions resulting from our investments (through our propriety CarbonCount® methodology) – a disclosure most financial service companies are still reluctant to provide – and one of the first to commit to the recommendations of the Task Force on Climate-related Financial Disclosures (“TCFD”).

**Urgent Need for SEC Action**

Hannon Armstrong supports much of the SEC’s proposal because it would result in actionable and comparable climate risk and opportunity information, which represents a vast improvement over currently available voluntary disclosure frameworks. We appreciate the SEC’s integration of nearly all the recommendations of the TCFD into its proposal, because the TCFD recommendations cover many of the essential elements of climate risk and opportunity disclosure. These disclosures are broadly supported and used by companies, investors, and securities regulators worldwide. We also support the SEC’s inclusion of a greenhouse gas (“GHG”) emissions reporting requirement in the proposal because this information is critical to investor understanding of the quality of a company’s earnings in the face of climate change and the energy transition, and of a company’s own climate transition plan.
Further, because climate-related impacts or risks can materially affect a company’s financial position and operations, we support the inclusion of certain material climate-related information in financial reporting. This also promotes consistency in information across a company’s reporting. However, we believe the materiality threshold should be factual-based (like other securities related disclosures), and if a materiality threshold is used, it should be significantly increased, especially for companies with market capitalizations of less than $10 billion – where individual line items on the financial statements can be relatively small. Finally, global alignment of climate risk and opportunity disclosure standards is essential to both investors and issuers, so we support the SEC’s efforts to align its proposal with the emerging International Sustainability Standards Board (“ISSB”) climate risk disclosure standards.

Companies are adopting aggressive sustainability targets and considering ESG criteria to better evaluate the impact of their investments and business activities on climate change. However, new “sustainability” investments often do not directly result in GHG emission reductions. As the SEC has acknowledged, the current methodologies for measuring climate risks and opportunities have long been impeded by a lack of standardization, making it difficult for investors to compare companies’ impact on an apples-to-apples basis. In addition, inadequate attention and disclosure on material and forward-looking ESG information can make it difficult to predict companies’ future financial performance and long-term climate impact. Furthermore, if we intend to achieve the significant declines in GHG emissions the scientific community indicates are needed by 2050, the business community must quickly adopt a standardized, transparent, and forward-looking approach that more effectively measures the climate impact of sustainability investments. As discussed in more detail below, it is important that the use of emissions reduction tools such as power purchase agreements, renewable energy credits (RECs), and carbon offsets be specifically disclosed as there is a significant variation in the effectiveness of the carbon reduction resulting from these tools, and it is important to encourage the most effective methods of reducing carbon.

We anticipate that climate related disclosures and methods of measuring climate impact will continue to improve and that companies will become more sophisticated and rigorous in their approach. It appears, in many cases, the proposed rules are written into the regulations and any changes would require a rulemaking process. We believe it is important that the SEC consider how the rules can continue to reflect these improvements without the need for further rulemaking. This would be consistent with how the accounting rules are continually updated without the need for specific action by the SEC. At a minimum, companies should be encouraged and provided the flexibility to utilize more rigorous disclosures and carbon accounting to better measure their results and reduce overall carbon emissions.

**Areas for Improvement**

Our comments support many of the elements of the proposed rules, while expressing some caution that the nature and extent of information and analyses that must be reported do not inadvertently drive suboptimal climate impacts, which in turn could impair financial results. Our recommendations can be classified into two broad areas – Alignment with TCFD and Measurement of Carbon Emissions.
Alignment with TCFD

1) Alignment with the TCFD and GHG Protocol and coordination with the ISSB

The Task Force on Climate-Related Financial Disclosures and GHG Protocol have become the most used and trusted voluntary frameworks for companies to disclose climate information. Many companies already have internal processes to disclose climate information based on their recommendations and standards. We support the selected climate disclosures in the proposed rule modeled from these established frameworks.

Climate-related disclosure and measurement methods have improved over the last 10 years and continue to improve. These voluntary frameworks already have processes to periodically update their guidance to reflect changing market conditions. For example, the GHG Protocol recently announced an effort to determine the need and scope for additional guidance for its Scope 1, 2, and 3 emissions disclosure standards, which were last updated in 2015.\(^1\) It is important that the SEC consider how to periodically review and update its disclosures that are responsive to changes initiated by TCFD and GHG Protocol as well as to other market changes and emerging best practices.

Furthermore, the ISSB has published exposure drafts related to climate disclosures that adopt many of the TCFD’s recommendations and offer industry-based disclosure topics and metrics sensitive to varying sector business models and value chains.\(^2\) The SEC should work collaboratively with the jurisdictional working group set up by the ISSB to facilitate the development of a global baseline for climate disclosures.

Finally, it is important that the SEC rules have the flexibility to allow companies to adopt new framework and measurement improvements with appropriate methodological explanations so their carbon disclosure can be most effective, not based on outdated requirements and methods (although such improvements should not be intended to weaken the proposed rules).

2) Climate transition plan disclosures should focus on the most material risk aspects, such as renewable energy, energy efficiency upgrades, hydrogen development, and electric vehicles

Renewable energy stands at the heart of efforts to address climate change. The International Energy Agency (“IEA”) has stated that we will not hit net zero unless we double the global rate of renewable energy generation. Two-thirds of electricity generation needs to be renewable and investment in renewable energy needs to triple by 2030 to set the world up to meet the 2050 Paris Agreement target.\(^3,\(^4\) Renewable energy generation use and investment are thus material considerations to a company’s climate transition and net-zero plans, as companies contribute to meeting global climate targets while also reducing their exposures to fossil fuel-intensive industries and activities; improving their long-term financial performance; complying with climate-related laws, regulations and policies; and responding to customer demand for pollution-free energy.

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\(^1\) https://ghgprotocol.org/blog/ghg-protocol-assess-need-additional-guidance-building-existing-corporate-standards
\(^2\) https://www.sec.gov/comments/s7-10-22/s71022-20127884-289400.pdf
\(^3\) https://www.iea.org/reports/renewable-power
\(^4\) https://www.weforum.org/agenda/2021/10/iea-international-energy-markets-environment-renewables
Net-zero commitments now cover one-fifth of the world’s largest corporations. However, reliance on strategies like carbon or nature-based offsets can encourage companies to put off more meaningful, immediate actions to reduce GHG emissions. The rule should focus on disclosures that emphasize the most material risk aspects of climate transition plans, such as renewable energy generation, use, and investment. If a registrant has adopted a transition plan, the SEC should require the company to disclose how it is using or investing in renewable energy to comply with laws, regulations or policies, and the changing demands or preferences of customers, as proposed.

3) Impacts of climate change on financial statement line items are already required in Regulation S-K and should be included in the MD&A rather than the financial statement footnotes; in addition, the concept of materiality is already discussed in existing regulations and the threshold for disclosure of 1% is contrary to existing materiality regulations.

We support in spirit the SEC’s proposed provisions discussing materiality, specifically (1) the requirement to “[d]escribe any climate-related risks reasonably likely to have a material impact on the registrant, including on its business or consolidated financial statements, which may manifest over the short, medium, and long term . . . “, and (2) the materiality provisions in the “Strategy, business model, and outlook” section of the proposal. But with regard to financial impact metric disclosure requirements in proposed Rules 14-02(c), (d), and (i), we believe that this requirement is duplicative to the requirements already found in Item 303 (a) (3) of Regulation S-K. Item 303 (a) (3) already requires disclosure of items with material impacts to the results of operations of a registrant. Historically, issuers have not included impacts of climate change, a fact which we think could be better addressed by changing Item 303 (a) (3) to specifically include climate change as an expected item which would materially impact results of operations. Further, the 1% threshold is overly prescriptive and is potentially in conflict with other SEC communications, namely Staff Accounting Bulletin Topic 1M – Materiality, which requires that qualitative factors must also be considered in determining whether an item is material.

4) Renewable energy- and energy efficiency-related targets and goals should be disclosed, but disclosure data on a company’s progress in achieving the goal should be phased in over time.

The SEC should require registrants to provide certain information about climate-related targets or goals, including renewable energy targets. It should also recognize that climate change is an emerging area of expertise and that companies are at varying stages of preparedness. As proposed, disclosures should include information about action plans and timelines for achieving targets. However, if the SEC requires a registrant to provide data that indicates whether the registrant is making progress toward meeting the target and how much progress has been achieved, it should allow a phase-in period to accommodate the registrant’s process in the development and implementation of its target or goal. For example, a company may commit to a renewable energy goal before understanding the renewable energy offtake structures suitable for its business. A company may have a small energy footprint and may not have the demand or expertise suitable to lock in a long-term power purchase agreement (“PPA”) for a utility-scale energy project. Requiring data on progress against renewable energy targets from the first two years of a target or goal’s adoption could have a chilling effect on companies considering renewable energy as a strategic, long-term business decision and/or as part of their climate transition plans. In addition, as companies become more sophisticated in their understanding of climate change, their approach, goals, and estimation and measurement tools will likely change. Companies should be encouraged to make the
most progress possible and to adopt increasingly sophisticated and more effective methods without concern about legal liability from changing past disclosures.

5) The SEC should permit voluntary disclosures of climate opportunities, including energy efficiency and renewable energy generation, use, and investment

The SEC should permit companies to discuss climate-related opportunities, such as the generation or use of renewable power, as proposed. According to a report by the Organisation for Economic Co-operation and Development (“OECD”), investing in renewable energy and low-carbon products can present opportunities through the formation of green-aligned markets, products and innovations and contribute to “climate-resilient growth” while also reducing stress on the financial system. Furthermore, the OECD has estimated that “achieving the 2-degree scenario by 2050 could have a net positive effect on global GDP of up to 5%.” Therefore, we recommend the SEC permit disclosures of investments in the renewable energy sector as a transition plan strategy, as discussed above, and a climate opportunity.

Investors choose to invest in renewable energy as a strategic business decision in addition to a strategy to achieve decarbonization objectives. The U.S. renewable energy sector has attracted over $425 billion in investment over the last decade. Debt and equity providers continue to show strong confidence in the renewable energy sector even as financing mechanisms have evolved to meet the capital requirements of renewable energy projects.

While the rule requires gross GHG emissions disclosures, investors should also be permitted to separately disclose the avoided emissions associated with their investments in renewable energy while avoiding concerns around double counting. Banks and capital providers are accelerating their investments in renewable energy, and these investments extend beyond the operational carbon footprint of the investing company and contribute to GHG reductions in other sectors of the economy. The downstream impacts of their investment activity could provide tremendous future GHG savings in the form of avoided carbon emissions. The Partnership for Carbon Accounting Financials (“PCAF”) has proposed guidance for investors on how to consistently disclose avoided emissions as part of Scope 3 Category 15 emissions reporting.

As the OECD stated in its report, “accurate information on climate-related opportunities and the commitment of issuers to engage in the transition is important for market efficiency and integrity, combined with accuracy of public sector monitoring of net risks.” Energy efficiency and renewable energy generation, use and investment are key demonstrations of companies’ benefits from association with climate opportunities.

Measurement and Disclosure of Carbon Emissions

1) GHG disclosures should encourage the most effective estimates and methods of carbon reduction

Scope 1 and 2 emissions reporting is already disclosed by many market participants through the GHG Protocol's framework, a carbon reporting standard last updated in 2015. Driven by investors and customers demanding less carbon-intensive energy, load service providers and independent power producers are transitioning to pollution-free renewable power. Corporate and industrial ("C&I") offtakers are dramatically transforming the grid by creating demand for projects to meet internal sustainability goals. Seventy-five percent of Fortune 100 companies now have some form of renewable energy or sustainability target.\(^7\)

Companies have various options available to procure renewable energy and reduce their carbon emissions, as described below. These methods have differing impacts on driving new renewable energy generation and reducing GHG emissions.

- **Power Purchase Agreements:** A multi-year contract in which an entity sells electricity and RECs to another party for a fixed price. In a physical PPA, the offtaker receives the energy generated from a renewable power plant and its RECs. A virtual PPA is a financial contract in which an offtaker agrees to purchase electricity and RECs from a renewable developer at a set fixed price but continues to buy physical electricity from its local electricity provider. In this scenario, the developer sells the renewable power into the market on behalf of the offtaker. Renewable energy projects often do not receive financing until a PPA with an offtaker is signed. An offtaker that has signed a PPA is thus responsible for helping to bring the renewable energy project to the power grid.

- **Unbundled REC Purchasing:** RECs can be purchased without the underlying electricity from REC retailers. Unlike RECs acquired through PPAs, unbundled RECs are not associated with new renewable energy project construction. Companies may use unbundled REC purchasing as an interim approach to achieving their renewable energy goals before entering into PPAs.

- **Green Pricing Programs and Green Tariffs:** Companies in certain electricity markets may purchase renewable power and RECs from their utility, competitive supplier, or community choice aggregator, through green power pricing programs or green tariffs. The buyer does not control where the renewable energy is sourced in green pricing programs. Green tariffs are a long-term contract negotiated between a buyer and a utility, in which the utility enters into a PPA for a renewable energy project on behalf of the buyer and provides them the RECs.

- **Onsite Generation:** A company may also choose to own a renewable energy generation facility and retire the generated RECs to meet its renewable energy goals.

- **24/7 Purchasing:** Some companies, as well as the federal government, have committed to purchasing 24/7 clean energy to ensure that their electricity consumption is matched by carbon-free energy generation on an hourly basis.\(^8\) Companies currently use different time-based energy tracking certificates, as the industry works on a more widely accepted standard that could effectively time stamp the hour electricity is produced on a REC. 24/7 purchasing has a larger impact on reducing carbon emissions and incentivizes suppliers to...

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\(^7\) Fortune 100 sustainability reports  
\(^8\) https://www.canarymedia.com/articles/corporate-procurement/can-24-7-carbon-free-energy-become-a-global-standard
locate renewable energy in regions with more fossil fuel generation and to invest in technologies that will offset more emissions from more or different hours of the day.

Unfortunately, the GHG Protocol has not kept up with the increasing use of, and the sophistication of carbon emissions data available from, renewable power. The result is that, by using outdated accounting approaches, organizations may find their renewable purchases are not actually reducing as much carbon emissions as they expected, or as their reporting claims under current guidance.

Many organizations work to reduce their reported carbon emissions by purchasing zero emission renewable power and the related emissions attributes or certificates (such as RECs) through the use of PPAs. For example, in 2021, corporate procurement of PPAs reached 17 gigawatts ("GW"), an approximate 3.5 GW increase from the previous year.9, 10

Organizations often focus on the lowest cost solution for RECs, as the present GHG Protocol's market-based calculation gives 100% credit for RECs regardless of where and when the power is generated11 ("Average Annual Basis"). Thus, a business who consumes electricity in Indiana from 9am to 5pm can fully offset their reported emissions by buying RECs from a Texas wind farm that mostly produces electricity at night. Unfortunately, while this company is zero carbon on paper, the reality is quite different as the annual emissions associated with the power consumption in Indiana are 80% higher than in Texas. This is due both to the differences in generation mix and location. In addition, a recent study found that using a region's hourly emissions factors instead of annual emissions factors could improve the emission calculation accuracy by up to 35%, especially in grids with higher penetrations of renewables.12

These outdated rules cause several problems. First, demand for PPAs in low-cost markets like Texas or the Southwest results in too many renewable projects being built in areas where there is limited power demand and transmission infrastructure, which leads to increased transmission congestion. This is similar to the situation that might arise if too many houses are built near roads that aren't designed for the volume of traffic. Because of the congestion limitations, in some cases, each incremental renewable plant may be just replacing the output of another renewable plant and not creating any emissions reduction at all. Secondly, next-generation measurement tools aren't adequately handled under GHG Protocol accounting rules. Corporations are increasingly adopting more impactful approaches such as Locational Marginal Emissions ("LME"), which measures the emissions impact of each additional megawatt hour of power usage/generation,13 or strategies for matching renewable power with the time and location of their power usage, a concept referred to as 24x7. These entities will unfortunately find it more difficult and costly to achieve zero carbon goals set under current GHG Protocol accounting methods, despite having actually reduced more emissions than other companies. This will disincentivize innovation and reward lower-impact activities.

The currently proposed rules do not distinguish between companies taking full credit for having bought renewables on an Annual Average Basis and those moving past the current GHG Protocol and focused on actual emissions reductions through leveraging data and strategies such as LMEs and 24x7 load matching. In addition, the new rules will create legal liability to companies on their GHG accounting statements, and thus companies may find themselves being sued for implementing these

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9 https://www.bnef.com/interactive-datasets/2d5d59ac9000022
11 The GHG Protocol Scope 2 Guidance released in 2015 assumes that the U.S. is one homogenous market for the purposes of renewable energy credits (Pg 65). Thus, renewable power PPAs are treated as reducing overall emissions even if the power is not used.
13 LME data accounts for both the location of the power used and the time of day, both of which impact emissions
new methods intended to reduce more emissions, as they will show lower reported, although mostly likely higher actual, emission reductions.

The path to reduce carbon emissions for a corporation is a journey. The accounting rules by the SEC should be structured to reward those having the most emissions impact using granular data, as well as to encourage those who are just starting out to be as accurate as possible. The specific suggested changes are proposed §229.1500(c)(4)(e) and §229.1506(d) by adding the underlined language:

§229.1500(c)(4)(e): Emission factor means a multiplication factor allowing actual GHG emissions to be calculated from available activity data or, if no activity data is available, economic data, to derive absolute GHG emissions. Marginal or average emissions factors with higher locational and temporal granularity are preferred and the method of calculation of the emissions factor should be disclosed. Examples of activity data include kilowatt-hours of electricity used, quantity of fuel used, output of a process, hours of operation of equipment, distance travelled, and floor area of a building.

§229.1506(d): If carbon offsets or RECs have been used as part of a registrant’s plan to achieve climate-related targets or goals, disclose, for each project, the amount of carbon reduction represented by the offsets or RECs, or the amount of generated renewable energy represented by the RECs, the source of the offsets or RECs, a description and location of the underlying projects generating offsets or RECs, any registries or other authentication of the offsets or RECs, and the cost of the offsets or RECs. Disclosure should be at the maximum temporal granularity possible given available data.

It is important that the GHG Protocol and the SEC rules encourage accurate reporting on emissions, foster innovation (such as using LME and 24x7 reporting) and encourage transparency in carbon accounting methodology.

2) Renewable Energy Credits should be defined as accounting instruments

A renewable energy credit represents the environmental attributes of renewable energy generation. One REC represents one megawatt-hour (MWh) of renewable energy generation. REC ownership is how companies in the U.S. often make credible and verifiable renewable energy usage claims, to address Scope 2 emissions associated with purchased electricity.14

If RECs are used to help a company achieve a climate-related target or goal, including in the calculation of reduced Scope 2 emissions, the SEC could require the registrant to disclose information about the RECs in the effort to measure their climate impact while also reflecting on how companies use RECs via various renewable energy procurement methods, as described above. This transparency will ensure integrity and an equal playing field for registrants. We support the RE100’s detailing of the elements of a credible renewable electricity usage claim as including credible generation data, attribute aggregation, exclusive ownership of attributes, exclusive claims of attributes, geographic market limitations of claims and vintage limitations of claims in its report “Making credible renewable electricity usage claims.”15

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14 Jurisdictions outside the U.S. have other contractual instruments to document renewable energy use, such as Guarantees of Origin in the E.U. or through contractual arrangements between electricity generators and users in regions without established markets for renewable energy attributes.

15 https://www.there100.org/sites/re100/files/2021-02/RE100%20Making%20Credible%20Claims.pdf
As previously discussed, the current Scope 2 guidelines allow RECs from anywhere in the country to be utilized to offset consumption on other locations and do not take into account the timing of the usage of power, both of which assumptions can materially impact the calculation. Corporations should be encouraged to utilize LME\textsuperscript{16} or 24x7 data and report on the method of calculation used.

Depending on the detail of information required in REC disclosures, the SEC should also refer to the various state, voluntary, and compliance definitions of RECs to avoid disclosure confusion as there are differences in compliance market rules (i.e., how a utility complies with a state renewable energy target) versus voluntary market rules (i.e., how a corporation voluntarily purchases RECs to reduce their reliance on fossil fuels) surrounding the generation of different environmental instruments. These various approaches could raise issues complying with the SEC rules. For example, where an eligible REC-generating activity for compliance purposes diverges from eligible REC-generating activity under prevailing voluntary guidance, the impact on reporting requirements may be unclear.

3) **Carbon Offsets should also be specifically disclosed as they vary in effectiveness**

We support the SEC’s inclusion of disclosures about carbon offsets within the “Strategy, business model, and outlook” and “Targets and goals” provisions of its proposal. We also support excluding the impact of any purchased or generated offsets from an issuer’s reported emissions within the “GHG emissions metrics” provision of the proposal. RECs and carbon offsets have unique purposes and differing impacts, and the rule should require their disclosures separately. We believe the proposal could be strengthened by adding a discussion of the risks to investors when companies delay action and rely too heavily on offsetting with carbon credits to reduce emissions.

The type and location of offset should also be disclosed. Not all carbon credits or RECs are the same, and there is often a fundamental conflict between low cost and climate benefit.\textsuperscript{17} It is unlikely that the lowest cost carbon offset has the same climate benefit as a more expensive one and that without a way to differentiate between the two, many organizations will choose the lowest cost. For example, according to the Financial Times, in 2018, there was over a 130 times higher cost between the highest cost and lowest cost carbon offset credit depending on the verification method (which is an indication of climate benefit).\textsuperscript{18}

Finally, the proposed rules also seem to suggest, with respect to environmental commodities, that RECs and offsets would be the only relevant environmental commodity instruments recognized, when there are a host of crediting instruments present in the environmental markets. For example, there is no guidance on how renewable natural gas credits (also known as Thermal RECs, Renewable Fuel Certificates or Green Gas Certificates) would be treated. The SEC should thoroughly assess the complexity present in the environmental markets and the implications of that complexity on reporting obligations as it works to finalize guidance.

\textsuperscript{16} LME data is increasingly available, including in PJM, the eastern portion of the U.S. electrical grid and Federal Energy Regulatory Commission (“FERC”) should be encouraged to direct jurisdictional entities to release LME data to ensure that the data exists to perform this disclosure.

\textsuperscript{17} For a good summary of the issues with carbon credits, see 15 Lessons from 30 Years of Voluntary Carbon Markets by Mark Trexler, December 15, 2020, accessed at https://www.ecosystemmarketplace.com/articles/opinion15-lessons-from-30-years-of-voluntary-carbon-markets/

\textsuperscript{18} Carbon offset market progresses during coronavirus, Anna Gross, Financial Times, September 28, 2020
4) Reasonable assurance should be from a wide array of potential providers

If assurance is included in the final rule, we recommend that the relevant provision not change to require Public Company Accounting Oversight Board registered accounting firms to provide such services. While the firms may be building their capabilities in this area, we believe certain situations may require specialist expertise and that limiting attestation providers only to accounting firms would prevent registrants in such situations from availing themselves of requisite specialist knowledge.

Thank you very much for your consideration of our comments. Please do not hesitate to contact me at jeckel@hannonarmstrong.com with any additional questions you may have.

Respectfully,

Jeffrey W. Eckel
Chairman and CEO
Hannon Armstrong