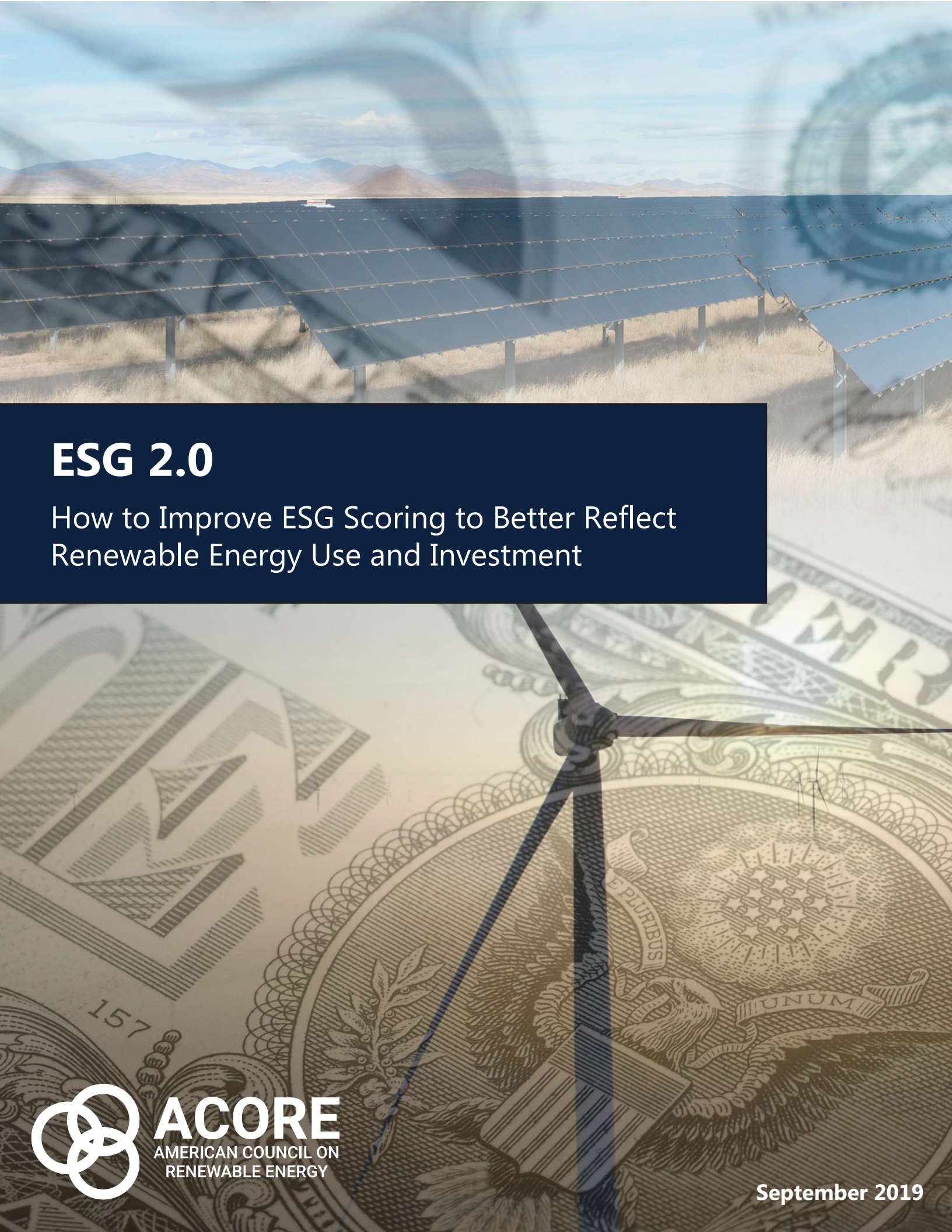

ESG 2.0

How to Improve ESG Scoring to Better Reflect Renewable Energy Use and Investment

ACORE
AMERICAN COUNCIL ON RENEWABLE ENERGY

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Acknowledgments

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Pattern Energy
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About ACORE

The American Council on Renewable Energy (ACORE) is a national non-profit organization that unites finance, policy and technology to accelerate the transition to a renewable energy economy. Founded in 2001, ACORE is the focal point for collaborative advocacy across the renewable energy sector, supported by hundreds of members spanning renewable energy technologies and constituencies. ACORE manages the Partnership for Renewable Energy Finance (PREF), a coalition of senior-level officials with companies that finance, develop, manufacture and use renewable energy.

For more information, please visit www.acore.org.

ESG Working Group

ACORE's ESG Working Group seeks to increase demand for renewable energy by ensuring ESG rating methodologies more accurately reflect the full value of companies' renewable energy use and investments. ACORE collaborates with a diverse network of its members – including financial institutions, energy companies, large end users and other key market segments – to identify recommendations and best practices for ESG disclosure and scoring processes.

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Executive Summary

The American Council on Renewable Energy (ACORE) is working with investors and other stakeholders to better reflect renewable energy use and investment in environmental, social and governance (ESG) rating methodologies. This white paper offers our views on the current state of ESG investing and provides recommendations for how ESG methodologies can be improved to better drive growth in renewable energy investment and deployment.

To help mitigate long-term climate change risks, utilities, investors and corporations are adopting aggressive sustainability targets and considering ESG criteria to better evaluate the impact of their investments. The potential allocation of ESG funds to renewable energy investment presents an immense opportunity to enhance renewable sector growth.

However, despite demand for climate-resilient funds, new "sustainability" investments often do not directly result in greenhouse gas (GHG) emission reductions. This is because ESG scoring for measuring climate impact is impeded by a few key issues:

- **The Marketplace is Too Fragmented.** The growing network of ESG stakeholders has not adopted a standard framework for scoring, making it difficult for rated companies and investors to make "apples-to-apples" comparisons among ESG rating methodologies.

- **Rating Methodologies Are Not Transparent.** ESG rating agencies often do not disclose their methodologies, using "black-box" proprietary information to calculate scores, a practice which limits both corporations attempting to improve their scores as well as investors seeking transparent information.

- **ESG Information Is Often Not Material.** While investors look to ESG ratings for data that may affect companies' financial and operational performance, many ESG methodologies contain inputs that are not material, hindering capital from flowing to the companies that most deserve it.

To better reflect renewable energy use and investment in ESG methodologies, ACORE recommends:

1. **Enhancing Renewable Energy Disclosure in Scope 1-3 Emissions.** The extent to which companies drive additionality through their methods of renewable energy procurement, i.e., whether they add new renewable generation to the grid, should be more accurately captured in companies' Scope 1-3 emissions reporting for their ESG scores. (See pages 14-15 for definition of Scope 1-3 emissions.)

2. **Providing Credit for Avoided Emissions.** Capital providers should receive credit for avoided GHG emissions attributable to their investment decisions.

3. **Implementing Standardized, Material and Forward-Looking Data Reporting.** To provide meaningful comparisons, ESG scoring should increasingly rely on widely agreed upon data inputs. In order to be impactful, ESG scoring based on that widely agreed upon data should include forward-looking analysis capable of holding rated companies accountable for progress over time.

4. **Adopting a Universal Climate Benchmark.** ESG scoring should help accelerate the transition to a decarbonized economy. International initiatives like the Paris Climate Agreement and U.N. Sustainable Development Goals can provide a common global benchmark against which companies' ESG performance can be judged.

If utilities, corporations, investors and states intend to achieve the dramatic declines in GHG emissions scientists say are needed by 2050, the business community must move to adopt a standardized, transparent and forward-looking approach that more accurately measures the climate impact of ESG investments.

Background

Renewable energy stands at the heart of efforts to address climate change, as scientists suggest that renewables will need to supply more than 70 percent of global electricity to limit planetary warming to 1.5°C by 2050.[1] Investment levels are an important consideration as trillions of dollars in new electricity sector investment will be needed to meet the global targets in the Paris Climate Agreement.[2]

While these are aggressive targets, they pale when contrasted with the magnitude of climate change effects which are already taking a toll throughout the U.S. economy. In 2017, Goldman Sachs downgraded its GDP forecast by 0.8 percent due to three Category 4 hurricanes which exceeded $265 billion in damages.[3] As of April 2019, the grain belt had experienced its wettest 12 months ever, with repeated flooding and 200 more tornadoes than average, suppressing agricultural output.[4]

Meanwhile, U.S. sustainable investing has grown from $8.7 trillion in 2016 to over $12 trillion today, representing approximately one in four dollars in total U.S. assets under management.[5] ESG investing, a sub-category of sustainable investing, evaluates companies' environmental, social and governance practices along with financial factors. ESG has tremendous potential for climate change mitigation because it links companies' climate impact with long-term financial performance.

Sustainable Investing Growth in the United States (Billions) 1995-2018

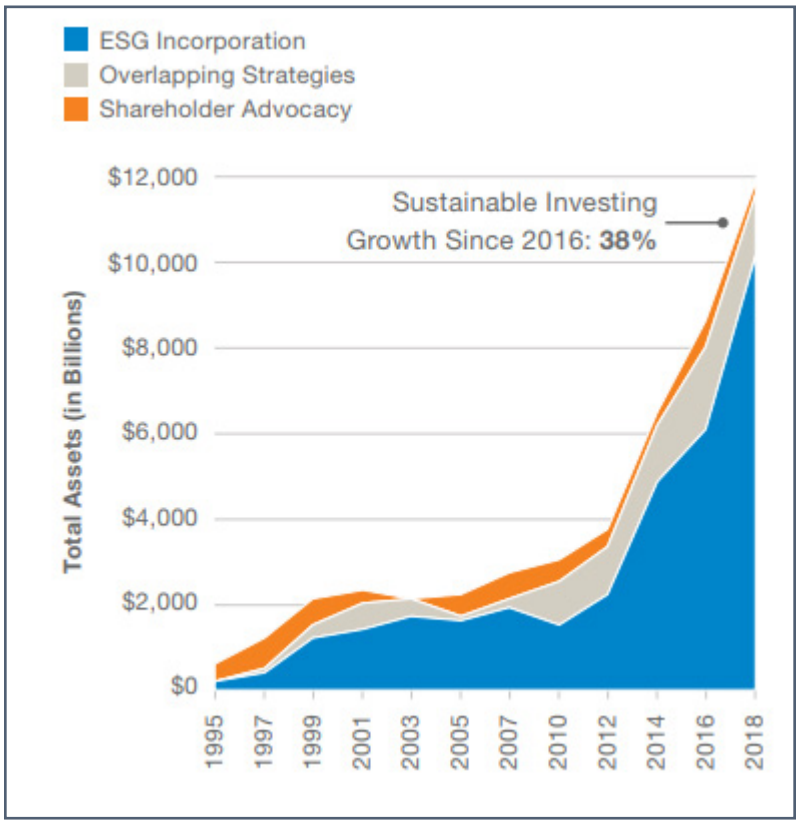

Figure 1

Unfortunately, the subjective nature of ESG scoring does not always acknowledge companies who are leading the transition to a low-carbon economy. Absent recognition of a company's downstream business activities, all else equal, there is a risk that a company that invests in or develops coal power plants could be rated the same as, or higher than, a peer company that invests in renewable energy or other technologies that mitigate climate change. This represents a fundamental shortcoming in the current rating system.

1 "Special Report: Global Warming of 1.5°C," Intergovernmental Panel on Climate Change, 2018, https://www.ipcc.ch/sr15/

2 "Perspectives For the Energy Transition," The International Renewable Energy Agency, 2017, https://www.irena.org/financeinvestment/Investment-Needs

3 "Goldman cuts its GDP forecast in the wake of hurricane devastation," Business Insider, 2017, https://www.businessinsider.com.au/goldman-sachs-hurricane-irma-harvey-gdp-impact-2017-9

4 "Tornadoes, Damaging Winds and 'Unprecedented Flooding' Hit Parts of the Central U.S.," TIME, 2019, https://time.com/5591386/tornadoes-weather-thunderstorms/

5 [Figure 1],"Report on US Sustainable Responsible and Impact Investing Trends, 2018," US SIF Foundation, https://www.ussif.org/files/Trends/Trends%202018%20executive%20summary%20FINAL.pdf

Market Segmentation

To understand the dynamics involved in ESG scoring, it is important first to briefly review the key players in the ESG space.

ESG Community

As investors increasingly rely on ESG criteria to inform their investment decisions, both the number of organizations contributing to the scoring process and the amount of available data have surged. This growing network can be categorized into five segments: *ESG Rating Agencies*, *Data Aggregators*, *Leading Frameworks*, *Stock Exchange Initiatives* and *Credit Rating Agencies*, as illustrated in the following figure. Some organizations represent multiple categories because they overlap in how they collect ESG data, disseminate scores and adopt new methodologies.[6]

Organizations	ESG Rating Agencies	Data Aggregators	Leading Frameworks	Stock Exchange Initiatives	Credit Rating Agencies	M&A Activity
Bloomberg	■	■				
CDP	■	■				
Climate Disclosures Standards Board			■			
Dow Jones Sustainability Indices				■		
Fitch Ratings					■	
Global Reporting Initiative			■			
GRESB	■	■	■			
Institutional Shareholders Services	■					Acquried Oekom
Moody's					■	Acquried VigeoEiris and majority stake in Four Twenty Seven Inc,
MSCI	■	■				Acquried MeasureRisk, GMI Ratings, InvestorForce, Carbon Data
NASDAQ				■		
U.N. Principles for Responsible Investment	■		■			
RobecoSam	■	■				
S&P Global				■	■	Acquired Trucost
Sustainable Accounting Standards Board			■			
Sustainable Stock Exchange Initiative				■		
Sustainalytics	■	■				Acquried GES International, Morningstar purchased 40% stake in Sustainalytics
Task Force on Climate-related Financial Disclosures			■			
World Federation of Exchanges				■		

Figure 2

6 [Figure 2] American Council on Renewable Energy, 2019. Note: This figure represents a snapshot of the key players and their current objectives.

A. ESG Rating Agencies

Agencies such as MSCI, Sustainalytics, Bloomberg and RobecoSam use proprietary research methodologies to monitor and score thousands of companies, with the intention of producing material non-financial information. Investors use the ESG ratings derived from their findings for portfolio construction, indices rankings and stock selection.

B. Data Aggregators

Companies voluntarily report on ESG metrics through surveys and corporate sustainability reporting. Data aggregators collect, verify and transparently share ESG data, often reflecting the recommendations of leading frameworks. ESG rating agencies routinely use data aggregators' information to calculate scores.

An example of a data aggregator is CDP, formerly known as the Carbon Disclosure Project. CDP collects sustainability data from companies and governments on electricity, climate change, water security and forests. As of 2018, nearly 7,000 companies had disclosed climate-related information to CDP. In recent years, CDP has tailored a portion of its survey questions to align with the Task Force on Climate-related Financial Disclosures (TCFD) (see Leading Frameworks).

C. Leading Frameworks

These nonprofit organizations develop guidance to help corporations disclose clear, concise and material ESG information. Established frameworks, such as the TCFD, Sustainability Accounting Standards Board (SASB), Global Reporting Initiative (GRI), Climate Disclosure Standards Board (CDSB) and GRESB, create science-based, objective and forward-looking standards. However, assessing and conveying the information called for by these frameworks can be a demanding task, especially for corporations that do not have staff resources or internal knowledge on the key areas of focus.

D. Stock Exchange Initiatives

Stock exchanges develop roadmaps that encourage listed companies to adopt the recommendations of leading frameworks. They have the leverage to move the industry toward clearer terminologies, use of a standard taxonomy and increased transparency in ESG scoring.

E. Credit Rating Agencies

The combined authorities of Moody's Corporation, Fitch Ratings and S&P Ratings can dictate the ebb and flow of global economic sectors. ESG performance increasingly influences credit ratings. In 2017 and 2018, S&P Global Ratings found environmental and climate concerns affected corporate ratings in 717 cases (ten percent of corporate credit ratings), resulting in a credit impact in 106 cases. Additionally, S&P Global Ratings found social rating criteria affected 346 cases, resulting in a credit impact in 42 cases.[7] As new reports continue to emerge, credit rating agencies are increasingly monitoring the ESG implications for debt markets.

7 "How Environmental And Climate Risks And Opportunities Factor Into Global Corporate Ratings," S&P Global Rating, 2017, https://www.spratings.com/documents/20184/1634005/How+Environmental+And+Climate+Risks+And+Opportunities+Factor+Into+Global+Corporate+Ratings+-+An+Update/5119c3fa-7901-4da2-bc90-9ad6e1836801

Renewable Energy Sector

The U.S. renewable energy sector has attracted over $500 billion in investment since 2004, and now represents the nation's largest source of private-sector infrastructure investment.[8] Rapid cost declines, aggressive state renewable portfolio standards and a predictable federal tax platform have all contributed to this growth. However, investment in renewable energy could slow in the early 2020s in response to the scheduled phasedowns of federal tax credits and flat electricity demand. ESG finance can help bridge the transition by incentivizing critical stakeholders in the commercial and industrial (C&I), finance and power sectors to demand more renewable energy.

U.S. Renewable Energy Investment

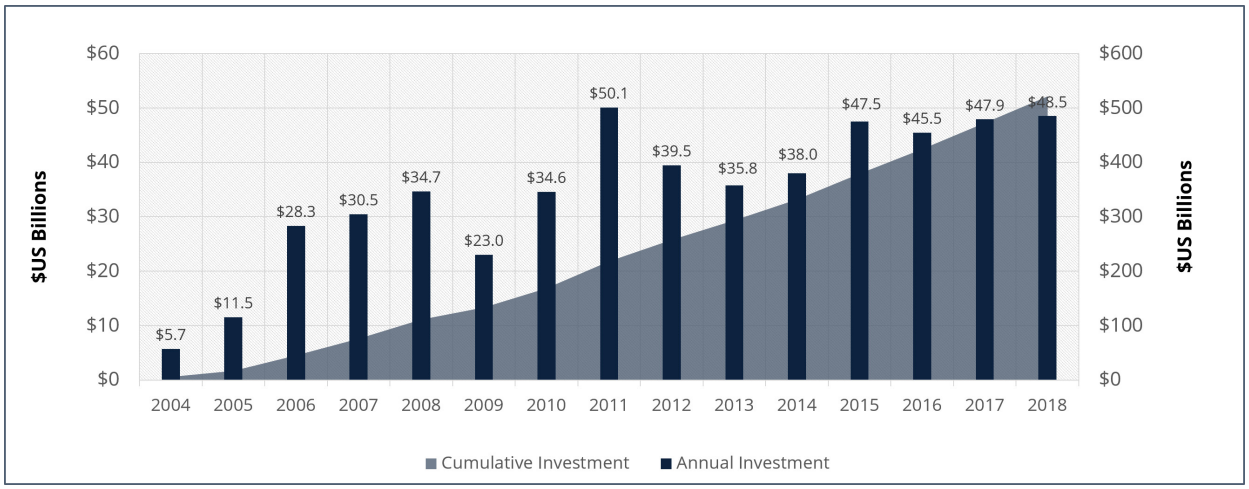

Figure 3

The renewable energy sector, in the context of ESG disclosure, can be grouped into four constituencies: *Institutional Investors*, *Capital and Service Providers*, *Power Generation* and *Renewable Energy Offtakers*.

A. Institutional Investors

Historically, investors were concerned that sustainable investing meant sacrificing returns. This has proven not to be the case. There is now widespread recognition that ESG investing can not only reduce market risk but can also help enhance returns.[9] Furthermore, the Business Roundtable announced in August 2019 that 181 CEOs had committed to leading their companies for the "benefit of all stakeholders – customers, employees, suppliers, communities and shareholders," to drive corporate decision making in consideration of broader societal factors beyond shareholder value.[10] As ESG investing becomes more connected to financial and operational performance, institutional investors are developing sophisticated platforms to understand the connection between ESG and portfolio returns.

8 [Figure 3] "Clean Energy Investment Trends," Bloomberg New Energy Finance, https://about.bnef.com/

9 "Why Impact Investing Does Not Mean Sacrificing Returns," Wharton University of Pennsylvania, https://knowledge.wharton.upenn.edu/article/simmons-interview/

10 "Business Roundtable Redefines the Purpose of a Corporation to Promote 'An Economy That Serves All Americans'," Business Roundtable, August 19, 2019, https://www.businessroundtable.org/business-roundtable-redefines-the-purpose-of-a-corporation-to-promote-an-economy-that-serves-all-americans

Material ESG information can help investors navigate the nuances of sustainable finance, and the allocation of institutional capital into low-carbon products can help drive demand for new renewable energy projects. For example:

- **Sustainable Funds.** In 2019, the New York State Comptroller announced he would double the New York State Common Retirement Sustainable Investment Fund to $20 billion over the next decade. The fund seeks to mitigate climate change risks by allocating capital into low-carbon technologies.[11]

- **Capital Allocation.** According to a recent survey, institutional investors plan to allocate $210 billion into renewable energy over the next five years. Over half (58%) of the institutions cited ESG criteria as a primary driver for renewable energy investment.[12]

B. Capital and Service Providers

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 wind and solar projects.

For example, in 2018, the green bond market neared $250 billion in issuances globally.[13] Nearly a third of such issuances came from corporate green bonds with the intent of financing renewable energy projects. These are projected to offset almost 950 million metric tons of carbon dioxide.[14]

Additionally, sustainability-linked loans are the fastest growing asset class within sustainable markets. This product blends sustainability and finance by pricing the debt terms of the loan to the overall corporate strategy and the ESG score of the borrower.

Similar to institutional investors, capital providers can help accelerate the transition to renewable energy by providing new investment to asset classes that directly target companies' sustainability performance.

Global Annual Issuances of Green Bonds

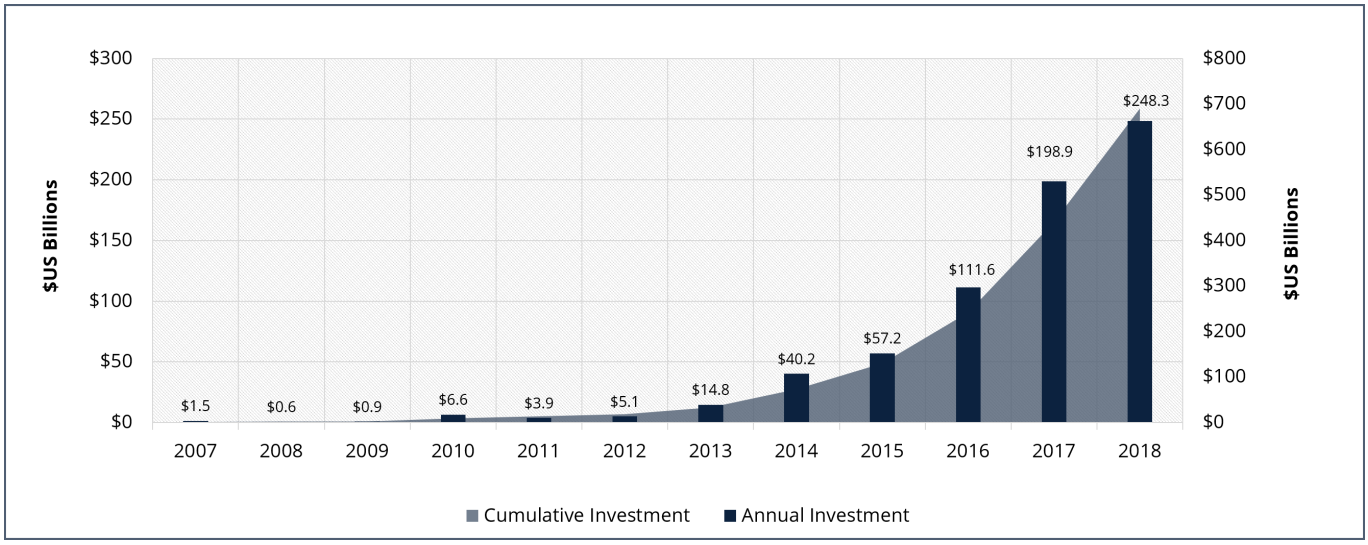

Figure 4

11 "DiNapoli Releases Climate Action Plan," Office of the New York State Comptroller, 2019, https://osc.state.ny.us/press/releases/june19/060619a.htm

12 "Renewable Energy – The green investors: why institutional investing hold the key to a renewable energy future," Octopus, 2019, https://octopus-group.com/wp-content/uploads/OE003-Octopus-Renewable-Energy-Investment-Report-Final-web.pdf

13 [Figure 4]"Sustainable Debt," Bloomberg New Energy Finance, 2019, https://www.bloomberg.com/impact/products/sustainable-debt/

14 "State of Green Business 2019," Trucost, Part of S&P Global

C. Power Generation

Driven by investors and customers demanding less carbon-intensive energy, as well as state policies, utilities and independent power producers (IPPs) are transitioning to pollution-free renewable power. Transition risks, defined in the TCFD Framework as technological changes, carbon pricing and consumer demographics, are considered in companies' ESG scores. Examples include:

- **Cost of Capital.** In 2018, CMS Energy became the first U.S. borrower to receive a sustainability-linked revolving credit facility. Barclays structured a $1.4 billion revolving credit facility with a reduced interest rate for additional deployment of renewable energy.[15]

- **Carbon Intensity Risk.** Japan's Government Pension Investment Fund, the world's largest pension fund, launched a $10 billion index which favors companies with lower GHG emissions and better disclosure of energy use.[16]

- **Customer Opt-Out Rates.** In 2016, MGM Resorts paid $87 million to leave its utility, Nevada Power, to meet its corporate renewable energy goal.[17]

D. Renewable Energy Offtakers

Material ESG methodologies can help reflect the value of renewables in these companies' portfolios. In 2018, the renewable energy sector experienced the second most deployment on record, despite flat demand and low natural gas prices. C&I offtakers are dramatically transforming the grid by creating demand for projects to meet internal sustainability goals. Relatively new to the renewable sector, C&I offtakers already accounted for 22 percent of all signed U.S. renewable power purchase agreements in 2018.[18] Appropriate ESG criteria can help further incentivize C&I customers and utilities that are actively growing their renewable energy portfolios.

15 "CMS Energy Becomes First U.S. Company to Enter Sustainability Linked Loan," PR Newswire, 2018, https://www.prnewswire.com/news-releases/cms-energy-becomes-first-us-company-to-enter-sustainability-linked-loan-300661138.html

16 "How ESG is being integrated into the investment process," ESG Forum, 2019, https://esg.theasset.com/ESG/35597/how-esg-is-being-integrated-in-to-the-investment-process-

17 Spector, Julian, "How MGM Prepared Itself to leave Nevada's Biggest Utility," Greentech Media, September 2016, https://www.greentechmedia.com/articles/read/how-mgm-prepared-itself-to-leave-nevadas-biggest-utility#gs.plpee2

18 Foehringer, Emma, "Corporate Renewable Procurement Accounted for Nearly a Quarter of All Deals in 2018," Greentech Media, February, 2019, https://www.greentechmedia.com/articles/read/corporate-renewables-procurements-quarter-ppa-2018#gs.pqtda7

Shortcomings of Current ESG Practices

The Marketplace Is Too Fragmented

U.S. sustainable investment topped $12 trillion in 2018,[19] as mature capital from pension funds, endowments and governments is increasingly invested in socially conscious asset classes. As described in the Market Segmentation section, demand for these asset classes has created a hyper-competitive landscape for ESG rating systems. However, without a universal framework in place, the methodologies ESG rating agencies use to calculate companies' scores are not standardized, and the marketplace is fragmented. Companies and investors, therefore, have difficulty comparing results on an "apples-to-apples" basis.

In a recent study, MIT and Breckinridge Capital Advisors compared the ESG scores of Sustainalytics and MSCI for the S&P 500 and found significant divergence in scoring calculations (see Figure 5 and footnote).[20,21] The relatively weak correlation between the two data sets indicates likely discrepancies regarding each agency's sources, weighting characteristics and disclosure methodologies.[22]

Such data discrepancies may lead to the long-term misallocation of capital. Under normal circumstances, investors only tolerate a specific level of deviation from expected portfolio returns. However, because ESG markets do not have a common baseline, it has become increasingly difficult for investors to compare the standard deviation of different ESG data sets. Therefore, to increase ESG data correlation among entities, the market should begin to adopt a standard taxonomy.

Sustainalytics and MSCI ESG Scores for S&P 500

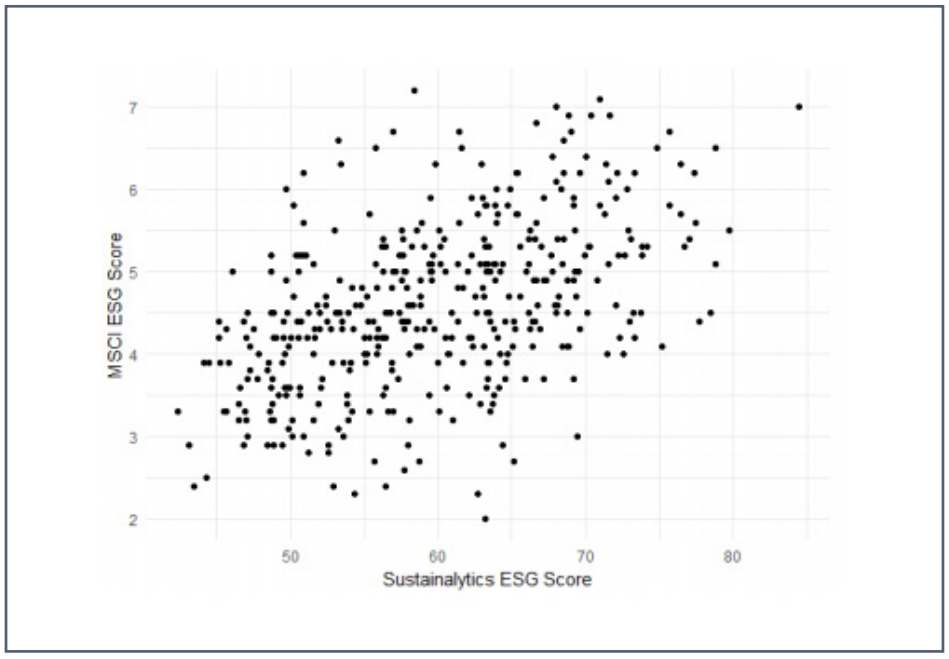

Figure 5

19 "Report on US Sustainable Responsible and Impact Investing Trends, 2018," US SIF Foundation, https://www.ussif.org/files/Trends/Trends%202018%20executive%20summary%20FINAL.pdf

20 [Figure 5] "Connecting ESG and Corporate Bond Performance," MIT Management Sloan School & Beckinridge Capital Advisors

21 "Connecting ESG and Corporate Bond Performance," MIT Management Sloan School & Beckinridge Capital Advisors, https://mitsloan.mit.edu/sites/default/files/2018-10/Breckinridge-Poster-2017.pdf

22 The ESG scores of Sustainalytics and MSCI were "somewhat correlated" with an R-value of 0.50. Furthermore, the Environmental, Social, and Governance R values were 0.327, 0.395, and 0.045, respectively. For context, the R-value (i.e. the linear correlation coefficient) is measured on a scale of -1 < R < +1. Positive 1 signifies that two portfolios move in perfect unison, while negative 1 signifies perfect opposites. An R-value close to 0 signifies no correlation.

Rating Methodologies Are Not Transparent

Coupled with fragmentation, a lack of transparency in rating agencies' methodologies affects the quality and use of ESG information. ESG rating agencies often use proprietary "black-box" calculations to generate their scores, stymying corporations attempting to improve their performance as well as investors seeking transparent information. To drive investment to the companies that most deserve it, customers should have access to ESG rating methodologies so they can compare scores and determine strategies that have the most material impact.

In recent years, the ESG community has fought for greater transparency in scoring processes to better uncover material-use indicators under a mountain of redundant and less useful ESG data. Unfortunately, multiple obstacles to meaningful transparency remain.

In its 2018 report entitled *Ratings That Don't Rate: The Subjective World of ESG Rating Agencies*, the American Council on Capital Formation noted that "there are no standardized rules for Environmental and Social disclosures, nor is there a disclosure auditing process to verify reported data; instead, agencies must apply assumptions, which only adds to the subjective nature of ESG ratings." As a result, "individual company ratings are not comparable across agencies, due to a lack of uniformity of rating scales, criteria and objectives."[23] For example, rating agencies sometimes give higher ratings to reporting companies that have greater resources and put more effort into preparing ESG disclosures, while penalizing companies that have fewer resources to dedicate for this process. This can reward companies based on the volume of data they report, rather than the substance of what is being reported.[24]

This lack of uniformity can also lead to drastically different weighted ESG scores for each company relative to their respective peer groups and sectors, depending on the agency that scores them. For instance, MSCI evaluates companies using three pillars (environment, social and governance), ten themes and 37 ESG key issues on a rating scale of AAA-CCC. In contrast, Sustainalytics evaluates companies using three dimensions (preparedness, disclosure and performance) and more than 70 indicators on a rating scale of 100-0.[25] The sourcing of the data and weighted adjustments (peer group, location, industry sector, etc.) are not fully disclosed.

Sustainalytics and MSCI ESG Scores for S&P 500

ESG Scoring Agencies	Rating Scale
MSCI	AAA (Highest) to CCC (Lowest)
Sustainalytics	100 (Highest) to 0 (Lowest)
International Shareholder Services	10 (Highest) to 0 (Lowest)
Bloomberg	100 (Highest) to 0 (Lowest)
RobecoSAM	Gold, Bronze, Silver

Figure 6

In order to increase the value of ESG ratings, the ESG community should respond to concerns about the subjective nature of their scoring processes by increasing transparency.

23 Doyle, Timothy,"Ratings That Don't Rate: The Subjective World of ESG Rating Agencies," American Council For Capital Formation, 2018, http://accf-corpgov.org/wp-content/uploads/2018/07/ACCF_RatingsESGReport.pdf

24 Ibid.

25 [Figure 6] American Council on Renewable Energy, 2019

ESG Information Is Often Not Material

Companies look to ESG ratings for data that may affect financial and operational performance, but important material information is often missing from ESG calculations. The shortage of this information can leave market participants sifting through irrelevant data points and hinders capital from flowing to the companies that most deserve it.

While material ESG information may differ by sector, it represents reporting on issues that are financially important to a company, such as carbon-use intensity, labor rights and senior management compensation. However, ESG scores sometimes reflect work on issues that are not financially important to a business. According to Russell Investments, "for two-thirds of all securities in the Russell Global Large Cap Index universe, less than 25 [percent] of the data items in the traditional score are considered material."[26]

Case Study:

As described in the Fragmentation section, ESG rating agencies often calculate different scores. A report by Russell Investments offers an example of how material indicators may not be properly acknowledged in automotive industry ESG scores. The report compares the "traditional" ESG scores of Tesla and Volkswagen from Sustainalytics with recalculated "material" ESG scores for these same companies using SASB's materiality framework. Under this framework, SASB assigns a higher value to issues such as the lifecycle impacts of products and services and fleet emissions. As a result, points of controversy, such as the Volkswagen vehicle emission testing scandal, are more pronounced. The sharp contrast of the results shown in the figure below demonstrates how material information is often not well reflected in the traditional ESG scores.[27]

	Tesla	Volkswagen
Traditional ESG Score	55/100	61/100
Material ESG Score	10/10	3/10

Figure 7

While materiality may vary from sector to sector, the TCFD (see Leading Frameworks) advises all stakeholders that climate-related risks and opportunities "are or could be material" for many organizations. "Because climate-related risks and opportunities are relevant for organizations across all sectors, the Task Force encourages *all* organizations to implement [its] recommendations."[28] As the effects of climate change intensify, climate impacts will become an increasingly material issue for rated companies. Better recognition of climate-related materiality would ultimately improve the link between companies' climate performance and ESG scores.

26 "Materiality Matters: Targeting the ESG Issues that Impact Performance," Harvard Law School.

27 [Figure 7 and Case Study] "Materiality Matters: Targeting the ESG issues that can impact performance – the material ESG Score," Russell Investments, 2018, https://russellinvestments.com/-/media/files/us/insights/institutions/governance/materiality-matters.pdf?la=en

28 "Implementing the Recommendations of the Task Force for Climate-related Financial Disclosures," TCFD, June 2017, https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-TCFD-Annex-062817.pdf

Key Recommendations

To increase standardization, transparency and use of material indicators in ESG scoring, ACORE recommends the ESG community adopt the practices detailed in this section.

Enhance Renewable Energy Disclosure in Scope 1-3 Emissions

More companies and utilities than ever are committing to voluntary goals to increase their generation and consumption of renewable energy. In 2018, corporate offtakers procured over eight gigawatts of renewable energy,[29] shattering the previous record. This trend is having a profound impact on the ESG community. Investors are allocating capital toward companies with lower carbon earnings at risk and higher renewable energy consumption. Unfortunately, the most material metrics for renewable purchasing are often inadequately disclosed in companies' Scope 1-3 emissions.

Currently, corporate sustainability reports and ESG surveys are inconsistent and lack details regarding renewable energy use in the context of companies' overall energy consumption and total GHG emissions. ESG value associated with renewable energy procurement should vary depending on two key attributes: (1) carbon reductions and (2) transformation of the grid. In other words, the concept of additionality, or adding new renewable generation to the grid, should be addressed in ESG scoring methodologies. Companies use various methods to procure renewable energy, such as physical power purchase agreements (PPAs), virtual PPAs (VPPAs), renewable energy credits (RECs), location of purchase and time-of-use purchasing, which have varying impacts on additionality. ESG accounting of Scope 1 and 2 emissions, i.e., companies' direct emissions from owned or controlled sources and indirect emissions from the generation of purchased energy, should review these procurement methods to determine a company's actual impact on additionality. For example, when valuing direct carbon reductions, a company purchasing 100 megawatts (MW) of unbundled RECs should not necessarily receive the same environmental credit as a company signing a VPPA for a 100 MW solar plant. This is because VPPAs place additional renewable energy generation on the grid, whereas RECs unbundled from electricity generation have a less significant impact on decarbonizing the power sector.

GRI and CDP's methodologies (See Market Segmentation Section) are examples of where corporate renewable energy disclosure fall short. GRI *Standard 302* provides a guide for corporations to report their energy use voluntarily. Unfortunately, *Standard 302* does not acknowledge the difference between bundled or unbundled RECs and other forms of purchasing renewable energy.[30] CDP's 2019 Climate Change Questionnaire contains a similar shortcoming.

Two examples of methodologies that enhance renewable energy disclosure in Scope 1-3 emissions disclosures include RE100's Guide on Making Credible Renewable Electricity Usage Claims and the Edison Electric Institute's ESG Reporting Framework.

RE100's Guide on Making Credible Renewable Electricity Usage Claims provides clear insight into the materiality of a company's purchase of renewable energy by disclosing the following information:[31]

- Renewable energy purchasing option (e.g., VPPAs, PPAs, unbundled RECs)
- Geographic location of the project

29 "Corporate Clean Energy Buying Surged to New Record in 2018," Bloomberg New Energy Finance, 2019, https://about.bnef.com/blog/corporate-clean-energy-buying-surged-new-record-2018/

30 "Corporate Statements About the Use of Renewable Energy: What Does the 100% Renewable Goal Really Mean?," Environmental Law Institute, 2019, https://www.eli.org/sites/default/files/eli-pubs/corporate-renewables.pdf

31 "Making Credible Renewable Electricity Usage Claims," The Climate Group & CDP, http://media.virbcdn.com/files/62/53dc80177b9cc962-RE-100CREDIBLECLAIMS.pdf

- Type of renewable energy
- Period of renewable energy consumption
- Certifications used

Similarly, Edison Electric Institute's ESG Reporting Framework provides concise, forward-looking and material ESG information for investors. EEI's Reporting Framework contains both qualitative and quantitative templates for its disclosures.[32]

While EEI's ESG Reporting Framework provides a wide range of material information, it could be further improved by requiring utilities to report on both their owned and purchased generation, as well as providing greater clarity on additionality. Under the current framework, most utilities report only their owned generation and the associated emissions. However, purchased generation, which falls under utilities' Scope 3 emissions, i.e., indirect emissions that occur in their value chain, should also be reported to provide a more holistic view of a utility's carbon intensity.

EEI: ESG Reporting Framework

Qualitative Disclosure	
Senior Management	Oversight and Governance.
Corporate ESG Strategy	Investors want to understand forward-looking information that's tied to long-term goals.
Sustainability	Programs and Initiatives designed to support the company's transition to a lower carbon and increasingly sustainable energy future.
Quantitative Disclosure	
Portfolio	Excel-based data template that is customized and reports metrics on owned and/or purchased generation data by technology/resource type, as well as other metrics such as capital investments. Data should include historical information and forward-looking strategy.
Emissions	Report CO_2, CO_2e, NO_x, SO_2, and HG emissions for Owned Generation + Purchased Power.
Resources	Data reporting focused on human resources and natural resources.

Figure 8

Provide Credit for Avoided Emissions

Banks and capital providers are accelerating their investments in renewable energy under the banner of sustainable finance. These investments extend beyond the operational carbon footprint of the investing company and contribute to GHG reductions in other sectors of the economy. By 2030, HSBC, Citi, Goldman Sachs, Wells Fargo, JP Morgan and Bank of America will have together invested over a trillion dollars in sustainable and low-carbon projects.[33] The downstream impacts of their investment activity could provide tremendous future GHG savings in the form of avoided carbon emissions. Unfortunately, most investors and companies do not receive ESG credit for such investments. The absence of an avoided carbon emissions metric creates a fundamental problem in the way companies are ranked. Standard, forward-looking ESG methodologies should account for the downstream impacts of companies' investments.

Global Sustainable Finance Commitments from Top Banks ($ Billions)

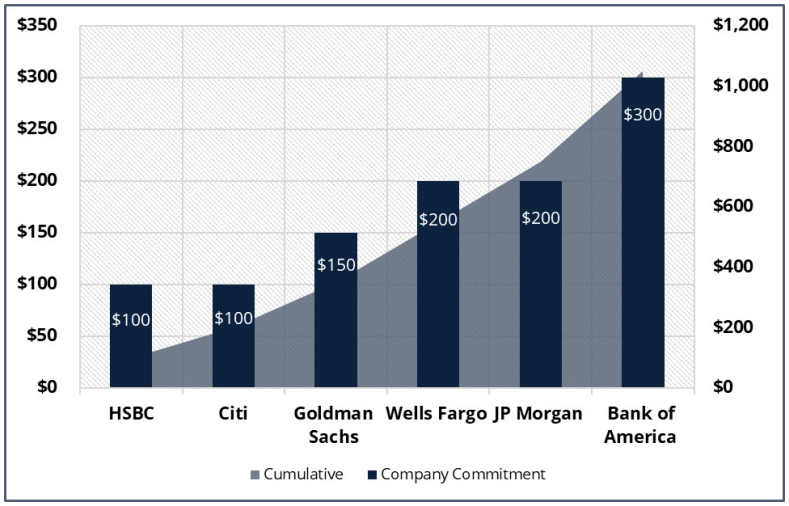

Figure 9

32 [Figure 8] ESG/Sustainability, Edison Electric Institute, 2018, https://www.eei.org/issuesandpolicy/finance/Pages/ESG-Sustainability.aspx

33 [Figure 9] American Council on Renewable Energy, 2019

While some stakeholders question the precision of Scope 3 emissions, one solution is to revise and appropriately weight an organization's Scope 3 emissions to reflect the carbon impact of their downstream activities. The Greenhouse Gas Protocol, which is the most widely accepted GHG accounting practice, defines Scope 3 emissions as all indirect emissions (not included in Scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.[34] Scope 3 Technical Guidance Reporting, Category 15 describes the relationship between avoided emissions and investments. Under the current Scope 3 framework, GHG accounting practices are categorized into four types: equity investments, debt investments, project finance and managed investments, and client services. Some investors currently disclose the avoided carbon emissions of their investments by accounting for the proportional value of Scope 1 and 2 emissions within their Scope 3 reporting. However, investors are currently unable to account for negative Scope 3 emissions. Allowing for a negative Scope 3 category would enable investors and other rated companies to claim full credit for the avoided emissions of their downstream activities and appropriately value climate-friendly companies.[35]

Several actors in the ESG space are developing metrics to rank low-carbon companies reflecting sector-specific factors. For instance, S&P Global (Trucost) created a Green-Brown Revenue index which recognizes companies that contribute positively to a low-carbon economy by using climate-mitigation or adaptation solutions. The index strategy continues to gain popularity as other rating agencies, stock exchanges and organizations help formalize avoided emissions metrics. Consideration of revenue allocated toward low-carbon technologies engages the broader ESG community, as companies like NRG are now voluntarily disclosing information such as revenue carbon intensity ($MtCO_2e$/$M Revenue) and adjusted EBITDA from low-carbon sources that align with their forward-looking carbon reduction strategies.[36] Although issues remain with such models, they offer a way to address a complex issue.

NRG: Adjusted EBITDA from low-carbon sources

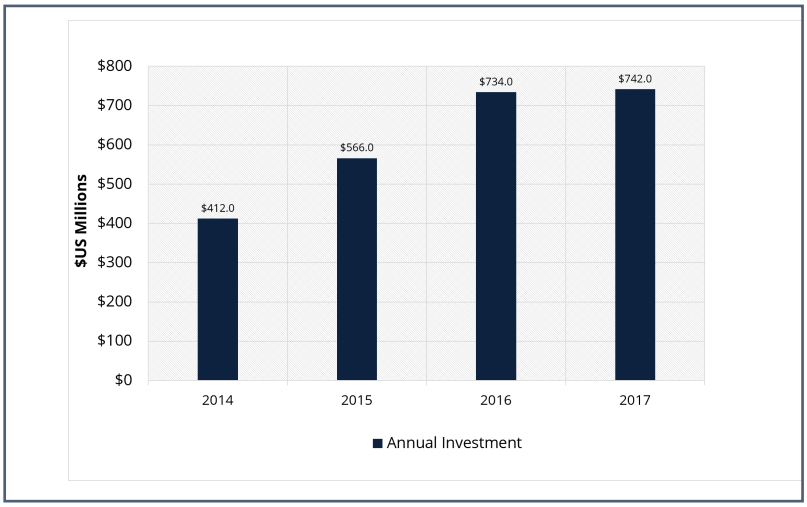

Figure 10

A set metric on carbon would remove environmental ambiguity around what is considered "green" for capital providers. For example, CarbonCount® promotes transparency in low-carbon project finance by creating comparable metrics for renewable energy and energy efficiency projects. CarbonCount scores help investors determine the expected CO2 emissions reductions per $1,000 of investment and appropriately give credit to projects that are displacing the most GHG emissions. For example, a project in the Midwest would likely receive a higher CarbonCount score than a project in California because the grid's avoided emissions factor would be higher in the Midwest. Additionally, CarbonCount incorporates the forward-looking emissions and power generation forecasts used by credit rating agencies.[37] Investors and portfolio managers can leverage an avoided carbon emissions metric to evaluate the downstream impacts of their investments.

34 Greenhouse Gas Protocol, "Technical Guidance for Calculating Scope 3 Emissions," World Resource Institute & WBCSD, 2013, https://ghgprotocol.org/sites/default/files/standards/Scope3_Calculation_Guidance_0.pdf

35 WRI has provided its own research in this area, and commonly refers to "Negative Scope 3 Emissions" as "Scope 4." "Do We Need a Standard to Calculate Avoided Emissions?" World Resource Institute, 2013, https://www.wri.org/blog/2013/11/do-we-need-standard-calculate-avoided-emissions

36 [Figure 10]"NRG, 2017 Sustainability Report," NRG Energy, Inc. 2018, https://www.nrg.com/assets/documents/sustainability/2017-nrg-sustainability-report.pdf

37 [Figure 11]"Carbon Count Methodology," Alliance to Save Energy, https://www.ase.org/sites/ase.org/files/carboncount_alliance_to_save_energy_two_pager_march_2017.pdf

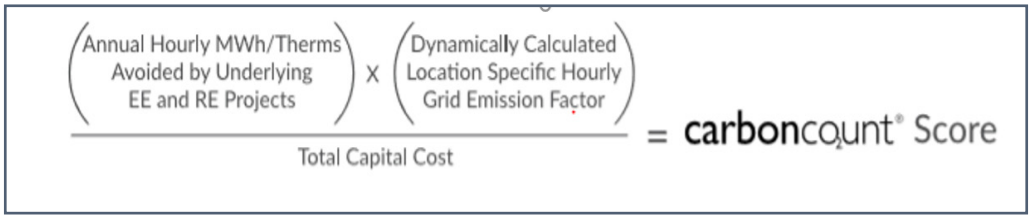

Figure 11

These solutions offer concrete examples of how ESG disclosure methodologies can help capital providers better understand their overall carbon exposure and impact at the company and asset level. To fully reflect climate impacts, the GHG Protocol should revise its *Scope 3*, *Category 15* guidelines to allow for a negative metric so that investors and rated companies can claim credit for avoided emissions.

Implement Standardized, Material and Forward-Looking Data Reporting

There is broad recognition among stakeholders that ESG investing would benefit from more standardized, forward-looking reporting, and several initiatives have emerged to help align ESG methodologies, including the TCFD, SASB and GRI. Moreover, the conversations around material indicators, and how E, S, and G weights are calculated at the macroeconomic, industry and asset levels are also beginning to converge. There is reason to hope these metrics will eventually standardize and merge into standard financial filings, sustainability reports and core communications to investors.

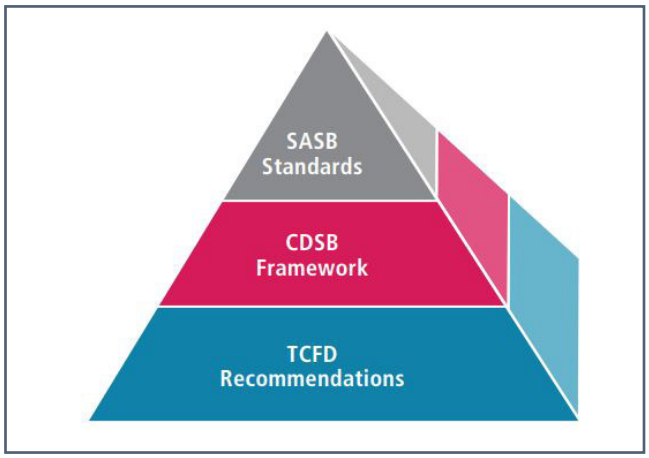

Figure 12

In particular, the TCFD has emerged as a leading ESG methodology for companies that seek to identify climate-related risks and opportunities. The TCFD provides an objective lens focused on climate scenario analysis. The Financial Stability Board launched the framework in 2015 in the wake of growing concerns from G20 leaders. As of June 2019, 792 companies, representing more than $9.3 trillion of assets under management, support the TCFD. In June 2017, the TCFD released recommendations that targeted four thematic areas:

- **Governance.** "Disclose the organization's governance around climate-related risks and opportunities."
- **Strategy.** "Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy and financial planning where such information is material."
- **Risk Management.** "Disclose how the organization identifies, assess, and manages climate-related risks."
- **Metrics and Targets.** "Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material."

The recommendations are intentionally general with the expectation that industry leaders will tailor implementation to fit their specific needs. Key stakeholders, including ESG rating agencies, data aggregators, leading frameworks, stock exchange initiatives and credit rating agencies, are beginning to integrate the TCFD's recommendations. For instance, in 2019, the leading frameworks CDSB and SASB released the *TCFD Implementation Guide*.[38]

38 [Figure 12] "TCFD Implementation Guide," SASB & Climate Disclosure Standards Board, 2019, https://www.cdsb.net/sites/default/files/sasb_cdsb-tcfd-implementation-guide-a4-size-cdsb.pdf

Material Metrics: S&P Global ESG Evaluation of NextEra

On June 17, 2019, NextEra Energy Inc. received a best-in-class ESG Evaluation of 86/100 from S&P Global Ratings.[38] The ESG evaluation encompassed a regional and sector-specific analysis of NextEra's ability to identify long-term risks grounded in ESG factors that could potentially lead to a direct or indirect financial impact on the company. S&P's unique approach incorporated an ESG profile and preparedness assessment that analyzed current and forward-looking initiatives. The ESG profile disseminated concise and quality metrics that highlight NextEra's environmental risk exposure, generation mix (25 percent renewable energy) and greenhouse gas emissions. The Preparedness assessment evaluated the company's ability to adapt to long-term disruptions through corporate strategy and can be revised to include the TCFD recommendations.

Credit rating agencies will become an important facet of the ESG landscape as they continue to harmonize key characteristics including: TCFD alignment, forward-looking preparedness, standardized ESG metrics and material company disclosure. Although S&P's ESG evaluation is not a credit rating, renewable energy stakeholders can use these evaluations to help assess future performance.

This joint effort demonstrates a willingness for further collaboration around one set of generally accepted guidelines. This alignment of the different frameworks allows the TCFD recommendations to act as a global science-based benchmark, with CDSB helping organizations integrate and disclose material climate information into annual reports, and SASB assisting organizations that collect and disclose performance data around climate-related risks and opportunities.

From the data aggregator perspective, CDP has committed to aligning its survey questions with the TCFD and recently released a groundbreaking report revealing that the 215 most prominent global companies risk almost $1 trillion from climate impacts likely to materialize within the next five years. At the same time, CDP identified a potential value of $1.2 trillion in revenue over this same time frame from new sustainable businesses built around low-emissions products and services.[39]

The TCFD recommendations provide a unique environmental and scientific foundation for companies to disclose the intrinsic value of renewable energy to global investors. Renewable energy and grid modernization technologies can provide resilient, long-term cash flows and help decarbonize financial portfolios. ACORE believes standardized and forward-looking data reporting can help ensure these attributes are appropriately reflected in the final scores of ESG rating agencies.

Adopt a Universal Climate Benchmark

Finally, in optimized form, ESG scoring should help accelerate the transition to a decarbonized economy by incorporating methodologies into a broader climate context. Global initiatives, like the U.N. Sustainable Development Goals (SDGs), can help the ESG community unify around a common global objective.

The U.N.'s 17 SDGs, adopted by all U.N. member states in 2015, align strategies for renewable energy development, economic growth, social impact, environmental protection and other strategies to help achieve long-term climate goals. The U.N. plans to achieve the SDGs by 2030, which will require tremendous collaboration across industries. The 2030 timeline runs parallel with the window of opportunity scientists

39 "World's biggest companies face $1 trillion in climate change risks," CDP, 2019, https://www.cdp.net/en/articles/media/worlds-biggest-companies-face-1-trillion-in-climate-change-risks

Figure 13

Figure 14

have given us to reduce the worst effects of climate change. ESG frameworks and the material metrics assigned to them must fully reflect this climate emergency if organizations truly intend to utilize low-carbon technologies to mitigate climate risks. ACORE encourages all market participants to reference the SDGs as a baseline for measuring climate impact, while particularly embracing SDGs number 7 (Affordable and Clean Energy) and 13 (Climate Action), as shown in Figures 13 and 14 above.

Operationalize SDGs

The SDGs can help ameliorate ESG market fragmentation and transparency issues by creating comparable metrics. However, companies and investors currently lack a standard way to assess and report on SDG adoption. Some companies have taken the lead in tracking their progress. For example, figure 15 illustrates how BlackRock has benchmarked its global renewable energy portfolio against the SDGs.[40] This includes the assessment of comparable metrics for SDGs 6 (Clean Water and Sanitation), 7 (Affordable and Clean Energy), 13 (Climate Action), 8 (Decent Work and Economic Growth), and 11 (Sustainable Cities and Communities). Broader adoption of this type of accounting will have a beneficial impact on material ESG scoring.

Measurable and comparable impact returns
Global Renewable Power II Portfolio

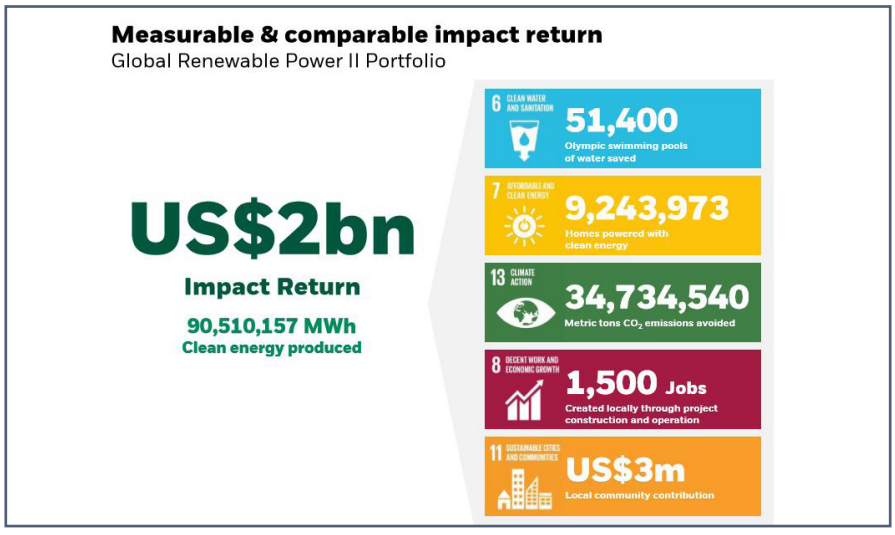

Figure 15

40 [Figure 15] "Global Renewable Power II," BlackRock, 2019

Conclusion

The analysis and recommendations in this paper aim to drive ESG investment toward the companies doing the most to mitigate the long-term damages of climate change. A full accounting of renewable energy use and investment in ESG scoring will go a long way toward achieving this objective. ACORE applauds the efforts of the ESG community and, with our vast network of investors and renewable energy companies, stands ready to collaborate with stakeholders across all relevant sectors to help implement these recommendations with the goal of realizing the full potential of ESG investing.

Acronym Glossary

ACORE: American Council on Renewable Energy

CDSB: Climate Disclosure Standards Board

C&I: Commercial and industrial

EBITDA: Earnings before interest, tax, depreciation and amortization

ESG: Environmental, social and governance

GRI: Global Reporting Initiative

GHG: Greenhouse gas

IPP: Independent power producer

MW: Megawatts

PPA: Power purchase agreement

REC: Renewable energy credit

SASB: Sustainability Accounting Standards Board

SDGs: U.N. Sustainable Development Goals

TCFD: Task Force on Climate-related Financial Disclosures

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