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Viewpoints

Sustainability: A new sector in Private Markets

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Analysis and consideration of Sustainability and Environmental, Social, & Corporate Governance ("ESG") factors has gained significant momentum in recent years and will likely accelerate going forward as investors seek to mitigate climate change. Extreme weather events and natural disasters are seemingly occurring with greater frequency and magnitude. As the global economy grows, the world population increases, and the middle classes expand in developing nations, demand for energy, materials, food, wood, and other resources are expected to grow significantly.

In an effort to help facilitate this growth, while considering the risk to the environment, a transition is underway to source these commodities in a more sustainable manner – and to implement new, cleaner, and more efficient industrial processes and technologies. Governments around the world representing 190 countries and the European Union ("EU") have expressed unity in the goal of achieving these objectives and ratified the Paris Agreement to target net zero emissions by 2050. These parties have recognized climate change poses risks to the global environment, its populations, flora, and fauna. They are mobilizing efforts to decarbonize high emission industries and implement other sustainability initiatives, such as improving energy efficiency, developing alternative fuels, and further enabling renewable energy adoption.

Sustainability as an investable sector

Private markets investment portfolios have often incorporated strategies that align with some ESG objectives and sustainability goals. Although a main objective is managing for profits, regenerative assets, such as timberland and farmland, naturally absorb carbon dioxide from the atmosphere through photosynthetic processes. Technological advances over the past decade have helped enable the economic recovery of vast US oil and natural gas resources from shale rock. As a result, cheap and abundant natural gas produced in the US has meaningfully displaced higher emission power generation derived from burning coal. Further, the energy market, once dominated by hydrocarbons with a significant carbon footprint like coal and petroleum, now meaningfully includes cost-competitive renewable energy, such as hydro-electric, solar, and wind power, as well as lower-carbon fuels like natural gas. Initiatives to further the transition away from coal and oil-fired energy production have emerged, supported by both state and national governments. This has created compelling and actionable investment opportunities.

Governments around the world, led primarily by the EU, China and the US, are implementing policies in support of addressing climate change and have committed to grants, loans, and other stimulus to help spur innovation that should accelerate the energy transition. While Federal efforts in the US have been slow to emerge, many individual US states have adopted Renewable Portfolio Standards[1], each with unique objectives that generally seek to require power producers to derive a portion of electricity generation from renewable sources. Several US states and a number of other nations also provide incentives to purchase electric and low/zero emission vehicles. Carbon credit trading systems that allow the release of a certain amount of emissions, subject to being offset with reductions elsewhere, are evolving and will likely serve as an important means of achieving net zero targets globally. These initiatives and goals will require substantial investment and are expected to create significant tailwinds for certain sustainable investments.

[1] Source: National Conference of State Legislators (www.ncsl.org)

Acknowledging the significant long-term investment opportunity associated with a transition away from fossil fuels, Meketa has established sustainability as a new sub-sector categorization within real assets and natural resources portfolios.[2] Historically, these asset classes have been carbon intensive and so it makes sense that our efforts to support carbon reduction be focused in the natural resource and real asset spaces. The sustainability sub-sector is expected to be strategically focused on new opportunities to further reduce CO2 emissions. This universe includes opportunities across a wide array of industries, from electric vehicle technology to industrial decarbonization, and expands beyond the well-established renewable power generation and growing energy storage sectors.

[2] Sustainability is an available sub-category within infrastructure portfolios as well. However, the primary hierarchy of infrastructure classification is core, value-add, opportunistic, and debt.

Sustainability relative to other sub-sectors

For reasons summarized above, Meketa now includes sustainability as an additional sub-sector within real assets and natural resources portfolios beyond energy, mining, and agriculture and timber, to allow for greater flexibility in portfolio development and to capture a growing market opportunity.

- **Energy** encompasses traditional oil and gas activities across the value chain from upstream activities to downstream services catering to end users. Examples may include upstream oil and gas exploration and production, midstream assets (e.g., gathering systems, pipelines, compression), and equipment and services that cater across the energy value chain.

- **Mining** comprises exploration and extraction activities of metals and minerals through surface or underground mining. Examples may include equity, debt, or royalties of assets or companies involved in the development and production of base, industrial, precious, or other metals and minerals.

- **Agriculture & timber** captures regenerating assets and related consumer products throughout the food and timber value chain. Examples may include row and permanent crop farmland, agribusiness companies, food manufacturing and production, timberland and mills, or water resources.

- **Sustainability** increasingly an investable and growing sector that includes products, services, and processes that focus on decarbonization, emissions reductions, energy efficiency, and low-carbon and alternative fuels. Examples may include water and wastewater handling for oil and gas and agriculture sectors, industrial and petrochemical decarbonization, lower carbon energy delivery and management, emissions reductions, green fuels, electric vehicle technology and services, chemical and materials recycling, and environmental services.

Traditional energy sources will likely continue playing an important role in the global energy sector, but they are becoming a smaller percentage of the overall global economy and energy mix. The composition of the energy sector, as a component of the global stock market, has changed over the past decade. Approximately 10 years ago, the energy sector represented 11.8% of global stock market value; however, today it now represents just 3.6%.[3] Because of significant commodity price volatility and general industry underperformance, as well as declining investor preference, the traditional energy sector has shrunk. Investors, perceiving this sector's business models as not aligned with the future energy economy, have bid down prices. Meanwhile, alternative energy sources, such as renewables, are attracting investors' interest, increasing in scale at lower equipment costs and becoming a larger portion of the overall energy industry.

[3] MSCI ACWI Index

Globally, energy remains the largest sector of the natural resource market in terms of overall transaction values. Relative to the agriculture and timber, mining, and sustainability sectors, deal sizes tend to be larger in the energy sector. These energy deals primarily include projects related to large-scale exploration and production by oil and gas companies, inter-state or inter-country pipelines, and liquefied natural

gas export facilities. In 2020, the average transaction for energy was over $500 million, while sustainability deals averaged just over $150 million.[4] An aggregation of natural resources transactions from 2015 to 2020 across the four natural resource sectors is shown below. Sustainability grew from 3% of overall natural resource transaction value in 2015 to approximately 22% in 2020. The data is based on deal type and includes investments from both sustainability-focused and diversified infrastructure and natural resource funds.

[4] Source: Preqin.

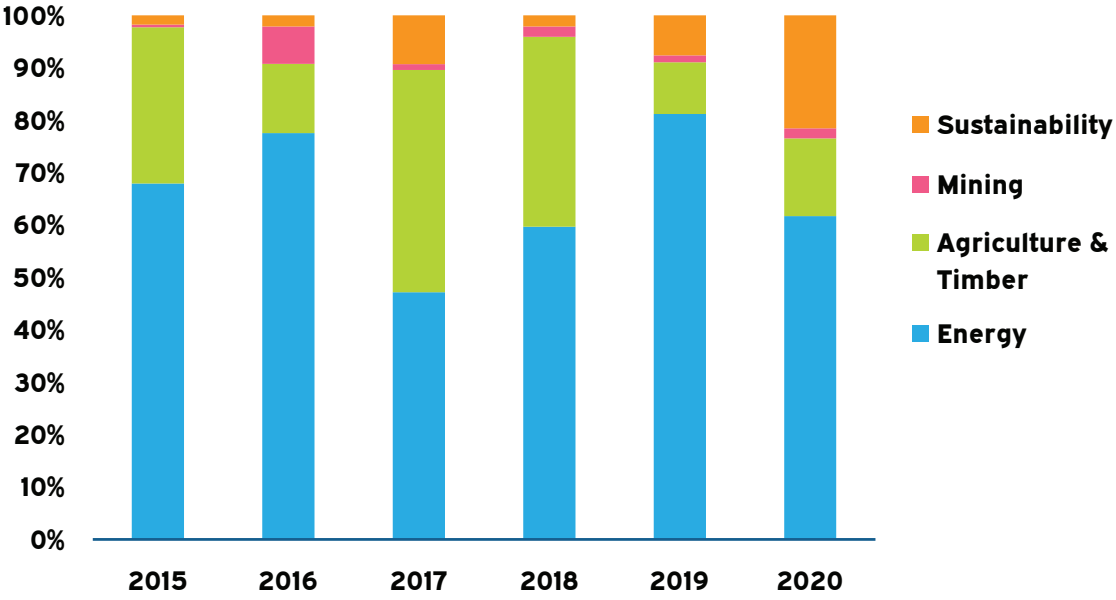

FIGURE 1

Annual Transactions by Deal Size

Source: Preqin. Companies and deal data sorted by industry and sub-industries.

The opportunity to directly access sustainability-focused funds continues to grow, based on the number of offerings and target fund sizes. In 2015, Meketa reviewed 12 new sustainability funds with an average target size of $300 million. Through the first three quarters of 2021, there have already been 17 new funds launched with an average target size of nearly $600 million. Overall since 2015, Meketa has reviewed 90 sustainability offerings totaling $4.7 billion in targeted fundraise value.

Sustainability themes

Sustainability has a broad definition that can be applied across traditional energy, industrial, and other markets. The opportunities and sub-sector definitions within the space will evolve over time as technology, processes, and opportunities transform and change. With increased focus on long term carbon reductions, the increase in human and financial capital will drive a range of investment opportunities within this space.

On a broad scale, some current themes within sustainability are described in further detail below:

→ **Decarbonization** Decarbonization refers to reducing greenhouse gas ("GHG") emissions released into the atmosphere. GHG emissions originate from various

economic sectors agriculture, transportation, electricity generation, and industrial manufacturing. Each sector has different levels and types of GHG emissions, which creates a large opportunity set to reduce emissions and decarbonize. The primary GHG in the US is carbon dioxide ("CO2") that is released by burning fossil fuels, trees, or other biological materials. The other main contributors over the past three decades are methane, nitrous oxide, and fluorinated gases.[5]

[5] Fluorinated gases are potent and long lasting greenhouse gases emitted by human activity.

With the growing demand from governments, industries, and individual companies, the need for capital and innovation is required to achieve the goals set out in the Paris Agreement. As countries continue to embrace and encourage emissions reduction, sectors and companies have also followed suit with their own initiatives to reduce their carbon footprints. This has created new opportunity sets within sectors that are large contributors to pollution and waste. Examples of investment opportunities may include energy production and beneficial by-products from waste material, carbon capture and sequestration systems, conversion to lower carbon fuels from legacy coal or oil systems, and alternative products such as plant-based protein substitutes that have lower methane emissions compared to many animal-based proteins.

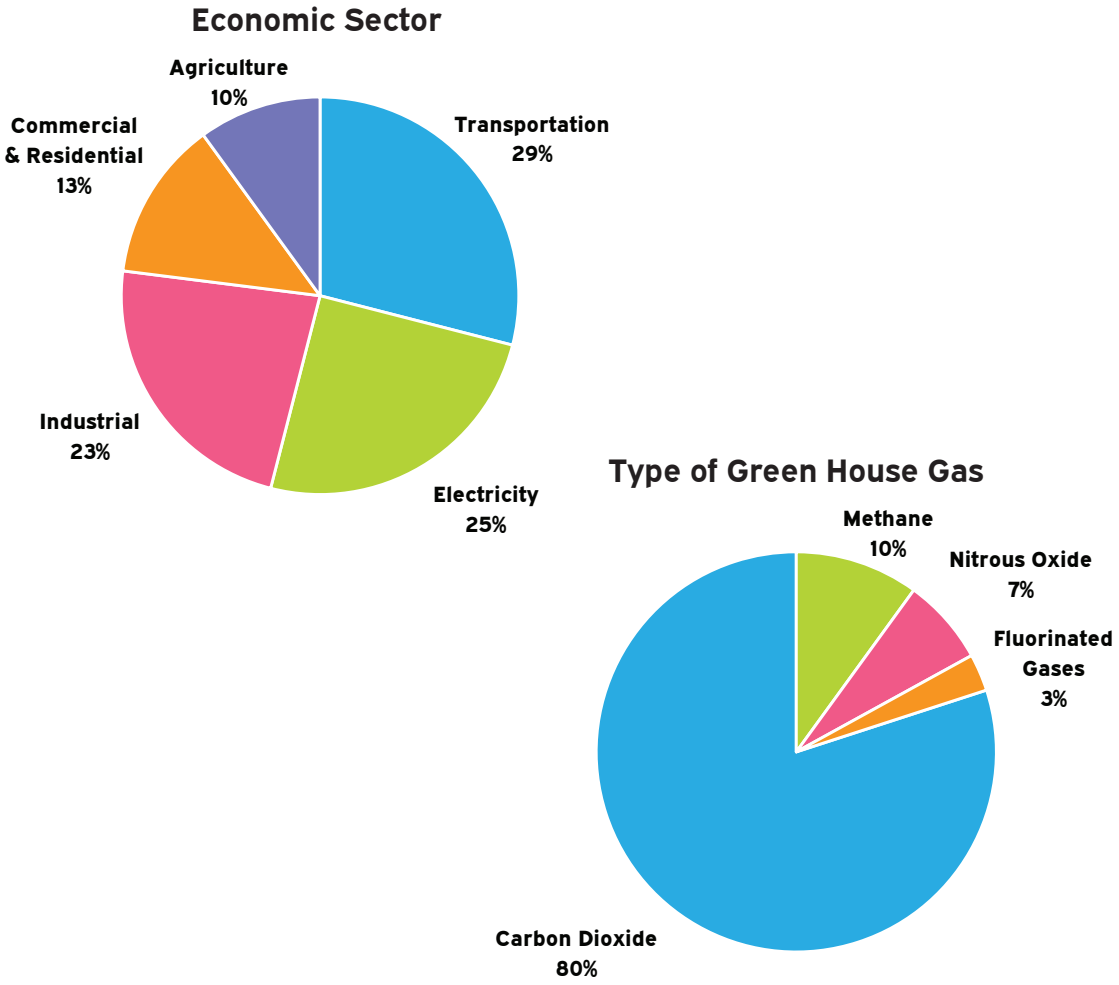

FIGURE 2

US Green House Gas Emissions by Type and Sources (2019)

Source: United States Environmental Protection Agency.

- **Emissions reduction** The industrial and agriculture sectors are responsible for a large portion of emissions. These industries are vital to the global economy and supply the world with many necessary products. Reducing emissions from these sectors will take time as technologies are developed and applied. Carbon capture and sequestration ("CCS") systems will likely play an important near-term role by reducing some GHG discharges from the industrial and agricultural sectors. The captured carbon from emissions can then be stored in either depleted underground wells, the ocean, or possibly cement. Because it can be difficult and expensive for a single producer to implement a CCS system, large-scale centralized systems with a multitude of customers present an opportunity that can meaningfully lower the carbon footprints of high emitting industries.

- **Energy efficiency** Energy efficiency generally refers to the use of technology or systems in order to perform a function or produce a product with less power or energy utilization. For example, the advent of light-emitting diode ("LED") lighting resulted in major energy efficiencies for residential, industrial, commercial, and municipal use. Many industrial sectors also have a large need for technology upgrades with their processes and equipment that should lower energy use while also reducing carbon emissions. In many cases, the technology already exists, but there is a significant capital expenditure requirement for its commercial use and adoption. Additionally, commercial buildings can often be made more green and efficient, which reduces the energy required for heating, ventilation, and air conditioning ("HVAC") systems.

- **Alternative fuels** Refined chemical compounds are used as fuel by many sectors such as transportation, steel-making, heating, and electricity generation; however, they are typically large contributors to CO2 and other GHG emissions. Longer term, alternative fuels will likely play an important role as they become more cost effective and as the world decarbonizes. Fuel alternatives with high energy content and reduced emissions include green and blue hydrogen. Most hydrogen produced today is "grey" because it uses high emission energy, such as coal, for electrolysis, the process that decomposes water into hydrogen and oxygen. Green and blue hydrogen utilize renewable energy and natural gas, respectively, to generate the fuel. Because hydrogen's byproduct is water, it has appealing sustainability attributes with no emissions. The market for alternative fuels continues to evolve and grow, which should expand the investment opportunities for this sector.

- **Energy and renewable transition support** The transition towards reducing fossil fuel consumption and the electrification of the transportation sector is currently underway. Meaningful capital is being deployed to increase renewable energy generation capacity, electric vehicles, and ensuring the power grid is reliable and resilient. In order to support these initiatives, there will be a significant need

for products and services to support growth as well as technological advances. The electric vehicle charging station network is expected to grow rapidly in the coming decades as a result of massive investment globally, and there will be a significant need to design, install, and maintain these systems. Additionally, power management and demand response systems will increasingly play an important role within the residential and commercial sectors to help maintain supply and demand balance in the power markets. Furthermore, environmental services, such as leak detection and consulting, are expected to benefit as regulations tighten and energy and industrial companies seek solutions to reduce emissions.

While sustainability investments will typically align with the aspirations of the Paris Agreement, it is important to note that other sub-sectors will likely start to incorporate processes and technology that support sustainability objectives over time. For example, companies that source and produce oil and gas in a responsible manner from an ESG-supportive country will likely be favored over hydrocarbons produced from a country with lax environmental standards. Likewise, heavy duty machinery that utilizes diesel gasoline, such as is used in the mining industry, may transition toward alternative fuels over time. Furthermore, modern farming practices may start to incorporate more sustainable techniques that use less water, reduce fertilizer usage, reduce erosion by limiting tilling, and absorb carbon from the environment.

Summary

It is undeniable that sustainability and ESG considerations are being increasingly woven into the fabric of investment decision making processes, and that momentum will likely continue as the world seeks to mitigate the negative effects of climate change. Governments are encouraging companies to innovate and develop solutions to improve technology and processes by providing capital and incentives, and, through regulation, to help reduce emissions globally and achieve net zero carbon emissions by 2050.

As outlined above, the investable universe is growing, as sustainability-oriented investments become a larger percentage of overall transactions and fund managers continue to grow in number and size. Since 2015, Meketa has reviewed approximately $4.7 billion in new sustainability offerings, and we believe there will be substantial and lasting investment opportunities in this area. As a result, we have adopted sustainability as a separate category within real assets and natural resources programs, and we feel investors would be well served by allocating capital in these programs to sustainable assets.

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