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Beyond Solar Panels and Windmills: Harnessing the Investment Opportunities in the Energy Transition Capex Cycle

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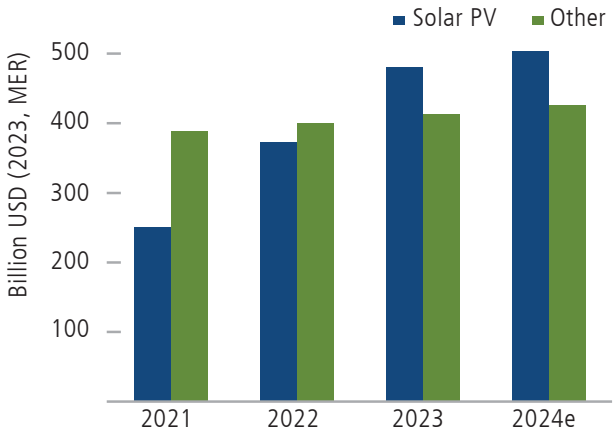
Renewables' Star Continues to Rise

Global investments in renewables, driven by solar photovoltaic (PV) technologies—solar panels—and wind, hit a new record in 2023, and estimates indicate that solar PV will have surpassed all other generation technologies combined for the second consecutive year in 2024 (Figure 1). Although spending may proceed at a more modest pace from here, global investment in renewables will continue to provide a powerful secular tailwind for many companies.

Figure 1. Investment in solar PV Now Surpasses All Other Generation Technologies Combined

Global annual investment in solar PV and other generation technologies, 2021–2024e



Source: International Energy Alliance, www.iea.org, "World Energy Investment 2024," June 2024, accessed from: https://www.iea.org/reports/world-energy-investment-2024. 2024e = estimated values for 2024. Note: Other represents electricity generation from all other technologies, including coal, oil, natural gas, wind, hydro, and nuclear.

The Calamos Sustainable Equities Team believes:

» Global demand for cleaner energy sources is a powerful secular trend, and the energy transition capex cycle may provide above-average opportunities for sustainable growth.

» Although most global investment has focused on clean power generation in solar PV and wind, we see a broader opportunity set.

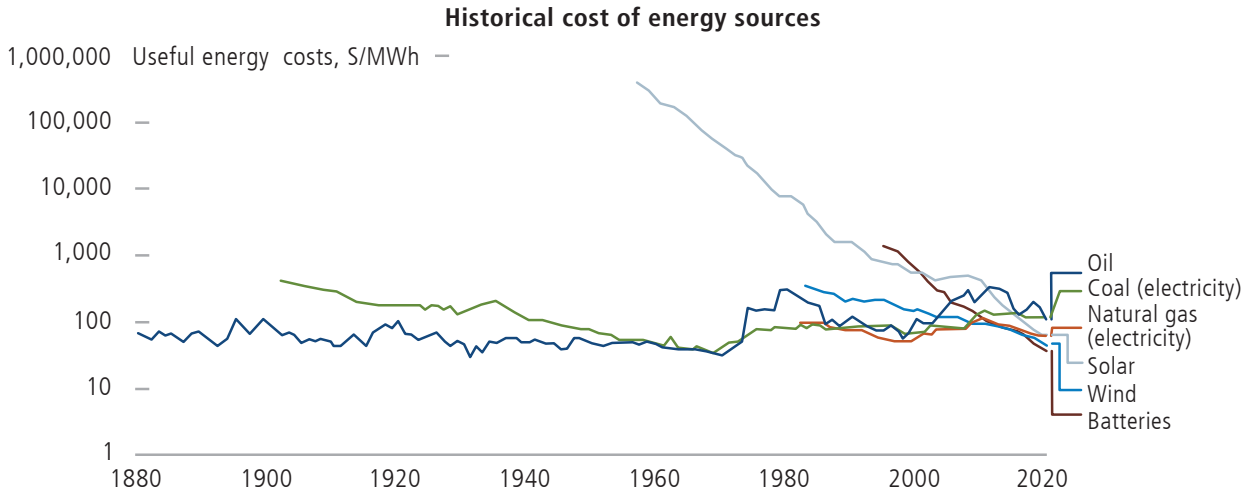
» These often overlooked options offer attractive growth potential in other clean forms of electricity generation, such as companies with exposure to hydropower and nuclear energy.

» As the clean energy transition continues, many sectors beyond clean energy generation can potentially benefit from substantial capex growth, including those involved in electrification, energy efficiency, transport, and carbon capture, utilization, and storage.

This increase in capex spending is partly because manufactured technologies, including solar PV and wind, continue to experience cost learning curves, while fossil fuel commodities do not. Over time, however, these cost learning curves should ultimately result in manufactured technologies providing more cost-effective solutions than fossil fuels, which would further spur and sustain demand (see Figure 2).

Figure 2. Technologies Beat Commodities on Costs

Manufactured technology (e.g., solar and wind) enjoy cost learning curves; fossil commodities don't



Source: Butler-Sloss, Sam and Bond, Kingsmill, "In the Shift to Clean Energy, New Technologies Beat Old Commodities," RMI.org, July 29, 2024, accessed from: https://rmi.org/technologies-beat-commodities/

Certainly, we recognize the tremendous secular opportunity of the energy transition cycle and clean power generation. However, we are first and foremost stewards of our clients' capital, and we recognize that not all investments are created equal. Many clean power original equipment manufacturers (OEMs) have historically had problematic business models, resulting in the destruction of shareholder capital.

As such, the Calamos Sustainable Equities team has historically preferred diversified companies with exposure to renewables and/or renewable energy solution companies. Additionally, our team seeks investments in what we believe are more profitable and flexible companies with exposure to clean power generation beyond solar and wind, such as hydropower and nuclear power. We believe our company exposure to this segment is leading (see sidebar, "Clean Power Exposure.").

Where we are finding opportunity in Clean Power:

» Iberdrola

» Samsung SDI

» Hitachi

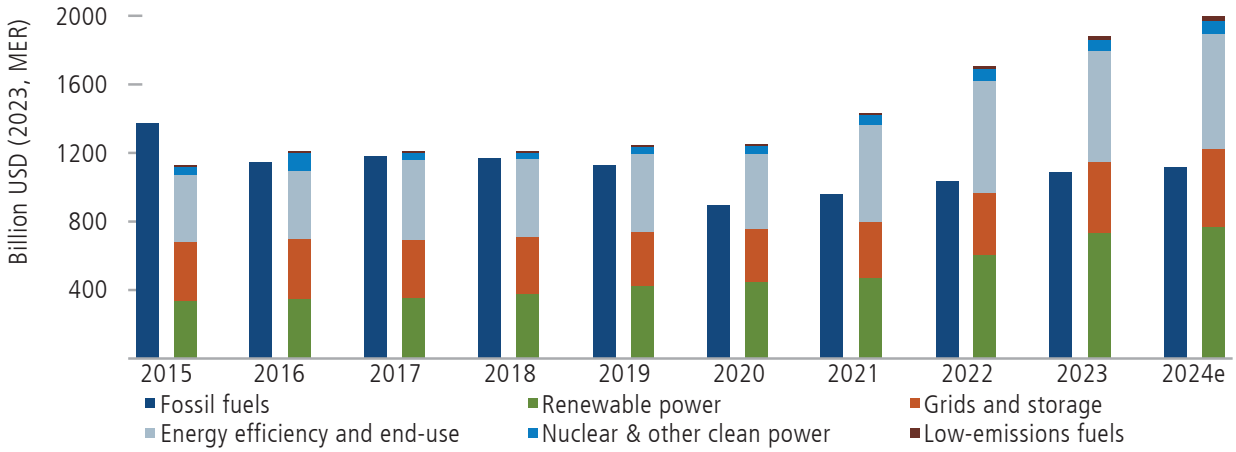
» Sungrow Power

The secular growth opportunity is supported by the World Energy Investment 2024 report, "Total investment in nuclear is projected to reach USD 80 billion in 2024, nearly double the 2018 level, which was the lowest point in a decade." As referenced in our paper, "Nuclear Power: Understanding a Changing Frontier of Opportunity and Risk," we discussed our investment rationale for safer and greener nuclear energy innovations. We noted that "although we do not invest in companies exclusively involved in nuclear power generation, we have found opportunities to invest in innovative companies making nuclear power safer and more environmentally friendly. We believe these opportunities will grow over time."

Casting a Wide Net: Investing Beyond Solar and Wind

Global energy investment is set to exceed $3 trillion for the first time in 2024, with $2 trillion going to clean energy technologies, according to the IEA. Investment in clean energy has accelerated since 2020, and spending on renewable power, grids, and storage is now almost double that of the total spending on fossil fuels (oil, gas, and coal).[1]

Figure 3. The World Now Invests Twice as Much in Clean Energy as in Fossil Fuels
Global investment in clean energy and fossil fuels (2015 - 2024e)



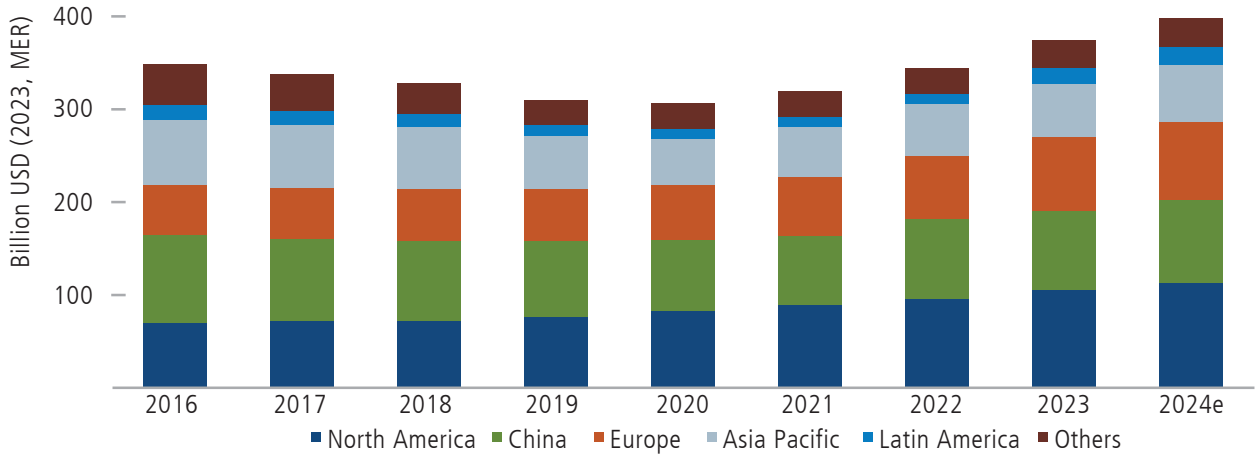
Source: International Energy Alliance, www.iea.org, "World Energy Investment 2024," June 2024, accessed from: https://www.iea.org/reports/world-energy-investment-2024. Note: Other clean power = fossil fuel power with CCUS, hydrogen, ammonia, and large-scale heat pumps. Low-emissions fuels = modern bioenergy, low-emissions H2 based fuels, and CCUS associated with fossil fuels and direct air capture. 2024e = estimated values for 2024.

Advancing the energy transition will necessitate substantial capex growth across various sectors beyond clean power. Four of the most exciting themes are:

1. Electrification
2. Energy efficiency
3. Transport
4. Carbon capture, utilization, and storage

Electrification. Electrification refers to electrical infrastructure, storage, and electrification of buildings and industries. It is common knowledge that grids have become a bottleneck for energy transitions, and to rectify this, grid investment is rising. After stagnating around $300 billion annually since 2015, it's estimated that global spending hit $400 billion in 2024. While advanced economies and China account for 80% of global grid spending, Latin America is also well represented. Investments in Latin America have almost doubled since 2021, while investments in Colombia, Chile, and Brazil doubled in 2023 alone.

Figure 4. Around the World, Grid Investment Is Picking Up
Investment in power grid infrastructure by geography (2016 – 2024e)



Source: International Energy Alliance, www.iea.org, "World Energy Investment 2024," June 2024, accessed from: https://www.iea.org/reports/world-energy-investment-2024. Note: 2024e = estimated values for 2024. Source: IEA analysis based on transmission and distribution companies' financial statements, Global Transmission (2023).

Batteries and energy storage are set to play a leading role in electrification. Investments in battery storage are accelerating with 2024 investments projected to surpass $50 billion. However, this spending is highly concentrated. In 2023, for every dollar invested in battery storage in advanced economies and China, only one cent was invested in other emerging markets and developing economies (EMDE)[2]. Recognizing the opportunities for electrification in both advanced and emerging economies, we've found a global set of opportunities to participate in the secular growth of electrification (see sidebar "Electrification").

Where we are finding opportunity in Electrification:

» National Grid

» Sempra

» Schneider Electric

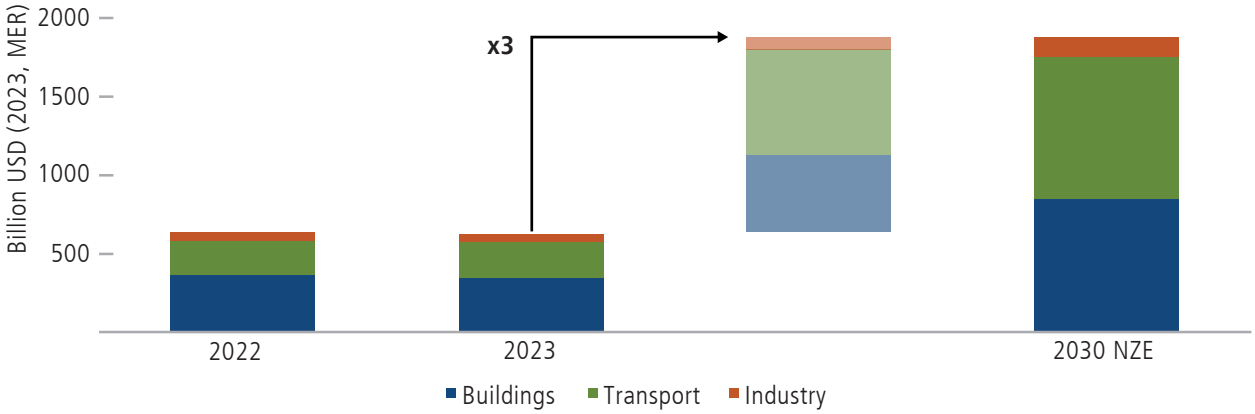
» nVent

» Power Grid of India

Energy Efficiency. Energy efficiency—using less energy to achieve the same task or outcome—is one of the simplest and most cost-effective strategies for combating climate change, lowering energy costs for consumers, and enhancing business competitiveness.

We see a multidecade runway for companies providing innovations that enhance energy efficiency. For example, in 2023, countries around the world set forth an ambitious goal at COP28 conference to double the pace of energy efficiency improvements. However, while investment in transport electrification is already relatively strong and yields substantial efficiency gains, investment in other efficiency measures—particularly building retrofits[3]—lags. To double the rate of energy efficiency improvements, the current annual spending on efficiency and electrification would increase by threefold to reach approximately $1.9 trillion by 2030.

Figure 5. Investments in End-use Sectors



Source: International Energy Alliance, www.iea.org, "World Energy Investment 2024," June 2024, accessed from: https://www.iea.org/reports/world-energy-investment-2024. Note: Investments in end-use sectors include energy efficiency, electrification, and renewables for end use. NZE = Net Zero Emissions by 2050 Scenario.

Where we are finding opportunity in Energy Efficiency:

» Otis

» Atlas Copco

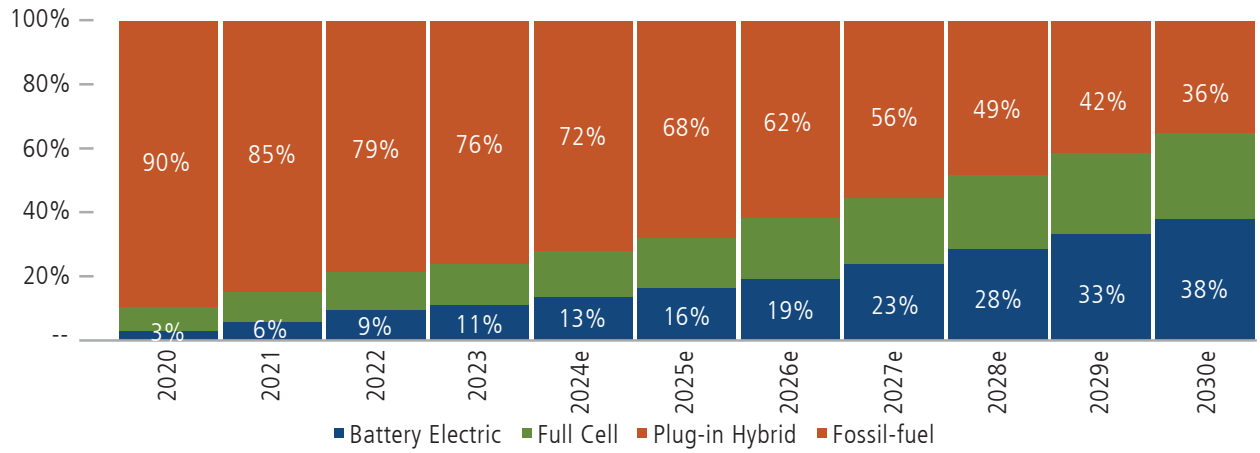
» Siemens

» Trane Technologies

Beyond energy efficiency solutions for commercial buildings and households, we see automation and digitalization as key levers to increase energy efficiency. Automation—the use of technology to perform tasks with minimal human intervention—offers the benefits of streamlining processes, enhancing efficiency and safety, and reducing human error. Digitalization—the process of using digital technologies to transform business models and create new opportunities—involves integrating digital tools and systems into various aspects of a business's operations. Key benefits of digitalization include increased efficiency, improved decision-making, enhanced customer experiences, and new revenue streams. We are participating in a variety of opportunities (see sidebar, "Energy Efficiency").

Transport. As previously mentioned, investments in the electrification of transport have been relatively strong, driven predominately by strong EV sales. According to UBS' auto team forecast,[4] low and zero-emission vehicles are expected to dominate light vehicle sales in developed markets by 2040 and in emerging economies by 2050.

Figure 6. Low- and Zero-Emission Vehicles: Ruling the Road
Global light vehicle sales (% share)



Source: UBS, "EMEA Sustainability Decarb Ideas List: How to position for the Energy Transition Capex Cycle?," December 10, 2024.

Although investment in low-emissions fuel is only 1.4% of the amount spent on fossil fuels, we believe it will ramp up and are already seeing exciting niches of growth potential. For example, investments in sustainable aviation fuels have reached $1 billion, a 140% increase from 2023.[5] Moreover, "Transport biofuel capacity additions in 2023 reached a decade-high of 270 kb/d, a 6% increase from 2022 that translates into an 8% increase in investment."[6] The growth is primarily driven by the expansion of renewable diesel refining capacity in the United States, increased bioethanol capacity in Brazil, and the rise (from a low base) of biojet kerosene production in China, Brazil, and Europe.

Carbon Capture, Utilization, and Storage (CCUS). CCS projects generally aim for 90% efficiency, capturing and storing 90% of the carbon dioxide emitted by power plants. CCS could be crucial for hard-to-decarbonize industrial sectors like cement and steel, where alternative materials or fully developed decarbonization technologies are not yet available.

Where we are finding opportunity in Transport, Carbon Capture, Utilization and Storage:

» Darling Ingredients

» BYD

» Air Liquide

» Siemens

» Linde

Governments aimed to significantly accelerate the deployment of CCUS in 2023, launching initiatives like the Carbon Management Challenge. Nearly $20 billion in public funding was allocated to CCUS projects, including $1.7 billion announced by the United States for carbon capture demonstration projects, $1.2 billion by Denmark under its CCUS Fund, and over $500 million for four CCUS projects under the European Union's "Connecting Europe Facility" funding instrument.

Conclusion

Our investment process seeks global leaders with quality fundamentals that we believe offer above-average long-term growth potential. To do this, our proprietary approach considers both traditional financial and nonfinancial criteria. These nonfinancial criteria are shaped by our utilization of the One Planet Prosperity framework, and our view of global megatrends driving opportunity.

Calamos Sustainable Equities Team:

Investing in global leaders positioned to benefit from energy transition capex

CARBON CAPTURE, UTILIZATION AND STORAGE	ENERGY EFFICIENCY	ELECTRIFICATION	TRANSPORT	CLEAN POWER
Air Liquide, SA Linde, PLC Siemens, AG	Atlas Copco, AB Otis Worldwide Corp. Siemens, AG Trane Technologies, PLC	National Grid, PLC nVent Electric, PLC Power Grid Corp. of India, Ltd. Schneider Electric, SE Sempra	BYD Company, Ltd. - Class H Darling Ingredients, Inc.	Iberdrola, SA Hitachi, Ltd. Samsung Sdi Company, Ltd. Sungrow Power

[1] International Energy Alliance, www.iea.org, "World Energy Investment 2024," June 2024, accessed from: https://www.iea.org/reports/world-energy-investment-2024.

[2] Ibid.

[3] The International Energy Agency (IEA) defines building retrofits in relation to energy efficiency as modifications made to existing buildings to improve their energy performance. This can include a variety of measures such as insulation improvements, window and door upgrades: HVAC upgrades, replacement of lighting systems with more efficient options, and integration of renewables.

[4] UBS, "EMEA Sustainability Decarb Ideas List: How to Position for the Energy Transition Capex Cycle?," December 10, 2024.

[5] International Energy Alliance, www.iea.org, "World Investment Energy 2024," June 2024, accessed from: https://www.iea.org/reports/world-energy-investment-2024.

[6] Ibid.

Before investing, carefully consider the fund's investment objectives, risks, charges and expenses. Please see the prospectus and summary prospectus containing this and other information which can be obtained by calling 1-866-363-9219. Read it carefully before investing.

Opinions, estimates, forecasts, and statements of financial market trends that are based on current market conditions constitute our judgment and are subject to change without notice. The views and strategies described may not be appropriate for all investors. References to specific securities, asset classes and financial markets are for illustrative purposes only and are not intended to be, and should not be interpreted as recommendations.

As of March 13, 2025, SROI's largest 10 positions were as follows, as a percentage of net assets: Alphabet, Inc. - Class A, 4.39%; Microsoft Corp., 4.37%; Apple, Inc., 3.63%; NVIDIA Corp., 2.91%; Taiwan Semiconductor Manufacturing Company, Ltd. (ADR), 2.09%; SAP, SE, 1.96%; Visa, Inc. - Class A, 1.76%; BYD Company, Ltd. - Class H, 1.69%; TJX Companies, Inc., 1.50%; HDFC Bank, Ltd. (ADR), 1.35%.

As of March 13, 2025, SROI held the following, as a percentage of net assets: Air Liquide, SA, 0.61; Atlas Copco, AB, 0.51; BYD Company, Ltd. - Class H, 1.69; Darling Ingredients, Inc., 0.64; Hitachi, Ltd., 1.03; Iberdrola, SA, 0.68; Linde, PLC, 0.89; National Grid, PLC, 0.59; Otis Worldwide Corp., 0.78; Power Grid Corp. of India, Ltd., 0.41; Samsung Sdi Company, Ltd, 0.23; Schneider Electric, SE, 0.74; Sempra, 0.62; Siemens, AG, 1.22; Sungrow Power Supply Company, Ltd. - Class A, 0.28; Trane Technologies, PLC, 0.71; nVent Electric, PLC, 0.65.

Environmental, social and governance (ESG) is based on the premise of investing in companies that have good environmental records, are ethically run and have a positive social impact.

An investment in the Fund(s) is subject to risks, and you could lose money on your investment in the Fund(s). There can be no assurance that the Fund(s)will achieve its investment objective. Your investment in the Fund(s) is not a deposit in a bank and is not insured or guaranteed by the Federal Deposit Insurance Corporation (FDIC) or any other government agency. The risks associated with an investment in the Fund(s) can increase during times of significant market volatility. The Fund(s) also has specific principal risks, which are described below. More detailed information regarding these risks can be found in the Fund's prospectus.

The principal risks of investing in the Calamos Antetokounmpo Global Sustainable Equities ETF include: equity securities risk consisting of market prices declining in general, growth stock risk consisting of potential increased volatility due to securities trading at higher multiples, value stock risk, foreign securities risk, forward foreign currency contract risk, emerging markets risk, small and mid-sized company risk and portfolio selection risk. As a result of political or economic instability in foreign countries, there can be special risks associated with investing in foreign securities, including fluctuations in currency exchange rates, increased price volatility and difficulty obtaining information. In addition, emerging markets may present additional risk due to the potential for greater economic and political instability in less developed countries.

Calamos Antetokounmpo Asset Management LLC ("CGAM"), an investment adviser registered with the SEC under the Investment Advisers Act of 1940, serves as the Fund's adviser ("Adviser"). CGAM is jointly owned by Calamos Advisors LLC and Original C Fund, LLC, an entity whose voting rights are wholly owned by Original PE, LLC which, in turn, is wholly owned by Giannis Sina Ugo Antetokounmpo. Giannis Sina Ugo Antetokounmpo is the majority shareholder of Original C, with a 68% ownership interest.

The Adviser is jointly owned and controlled by Calamos Advisors LLC and, indirectly, by Mr. Antetokounmpo, a well-known professional athlete. Unanticipated events, including, without limitation, death, adverse reputational events or business disputes, could result in Mr. Antetokounmpo no longer being associated or involved with the Adviser. Any such event could adversely impact the Fund and result in shareholders experiencing substantial losses.

Mr. Antetokounmpo serves on the Adviser's Board of Directors and has indirect control of half of the Adviser's Board.

Mr. Antetokounmpo is not a portfolio manager of the Fund and will not be involved in the day-to-day management of the Fund's investments, and neither Original C nor Mr. Antetokounmpo shall provide any "investment advice" to the Fund. Mr. Antetokounmpo provided input in selecting the initial strategy for the Fund.

Mr. Antetokounmpo will be involved with marketing efforts on behalf of the Adviser. If Mr. Antetokounmpo is no longer involved with the Fund or the Adviser then "Antetokounmpo" will be removed from the name of the Fund and the Adviser. Further, shareholders would be notified of any change in the name of the Fund or its strategy.

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