

Investment Solutions | Q3 2023

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# Goldman Sachs Bloomberg Clean Energy Equity ETF

Ticker: GCLN

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A thoughtful approach to investing in the clean energy sector

The Goldman Sachs Bloomberg Clean Energy Equity ETF seeks to provide next generation exposure to the clean energy transition, which may be one of the largest secular growth opportunities for the next several decades. GCLN seeks to track an index that harnesses the power of BloombergNEF's 200+ leading energy researchers and proprietary datasets to invest in a diverse and evolving portfolio of high impact, "clean energy enablers."

# Why Consider? Clean energy is expected to become the world's primary energy source by 2050 driven by government policy and improving economics

## Non-Cyclical Secular Growth



- The clean energy transition may offer one of the largest, multi-decade secular growth opportunities.
- There's \$100+ trillion of investment needed to reach net zero emissions<sup>1</sup>.
- Renewable energy sources (wind, solar, hydro, etc.) are expected to become one of the largest energy sources, growing 165% through 2050 in a conservative scenario<sup>2</sup>.

## Renewables Are Cheap & Getting Cheaper



- Since 2014, we have seen a 55% decline in the cost of wind and solar, driven by efficiencies, innovation, and scale.
- Today, building new renewable energy sources is more economical than building traditional energy sources (coal, oil, gas, etc.)
- New clean energy technology incentives (e.g. hydrogen, biofuels, carbon capture, etc.) could help drive down costs further and increase adoption, like wind and solar.

## Policy Is Intently Focused On Climate



- Since energy and industrial processes account for 70% of total greenhouse gases, they're a major target for long-term policy changes, irrespective of economic cycle.
- The U.S. recently passed the Inflation Reduction Act, pledging \$360 billion dollars to the sector over the next decade.
- European Union and Japan have also set forth climate-action with the "EU Green Deal" and the "Japan Green Transformation".

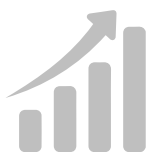
Sources: Goldman Sachs Asset Management and BloombergNEF. Data as of October 31, 2023. <sup>1</sup>IRENA's World Energy Transitions Outlook: 1.5°C Pathway. <sup>2</sup>Expectation provided by EIA's 2021 International Energy Outlook. The economic and market forecasts presented herein are for informational purposes as of the date of this presentation. There can be no assurance that the forecasts will be achieved. Please see additional disclosures at the end of this presentation.

# Why GCLN?

Looks beyond popular industry benchmarks to provide more complete clean energy exposure in a competitively priced vehicle; 0.45% total expense ratio vs. the 0.59% peer average<sup>1</sup>

## Portfolio Rationale

### Access Non-Cyclical Growth



Provides exposure to the multi-decade, non-cyclical growth opportunity through companies that are progressing the energy transition.

### Offers Differentiated Exposure



Minimal overlap with broad equity indices (US, developed markets, emerging markets) as well as current clean energy indices.

## Index Construction

### Exposure to the Complete Universe



Larger clean energy universe offers lower concentration and may offer lower volatility than the leading clean energy indices.

### Impact Weighted Index



Seeks to drive capital to companies with greatest exposure to clean energy and excludes issuers with controversies, significant carbon impact or poor mitigation plans.

## Dynamic Design

### Designed by Energy Specialists



Seeks to track an index developed by energy specialists at Goldman Sachs and BloombergNEF, a premier energy transition research and advisory service provider.

### Evolves with the Energy Transition



Forward looking screens seek to capture transition stories and potential alpha opportunities while legacy clean energy indices rely largely on backward looking data.

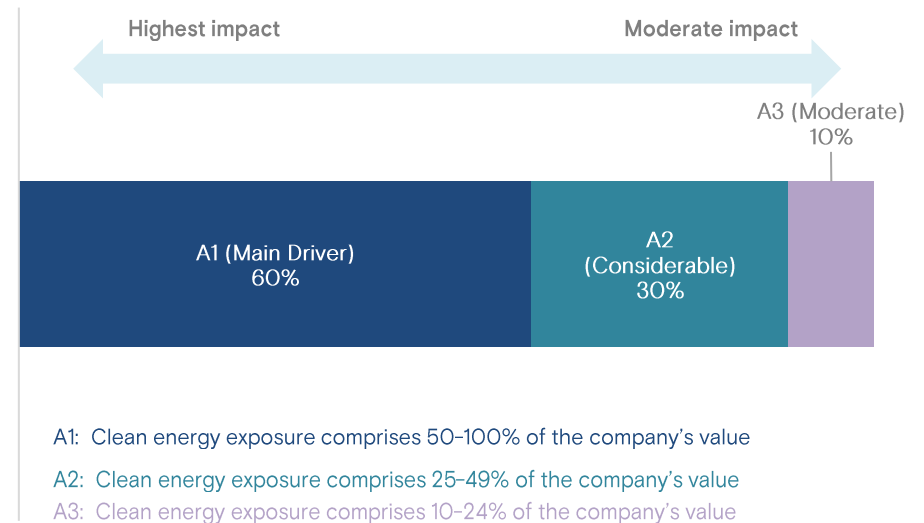
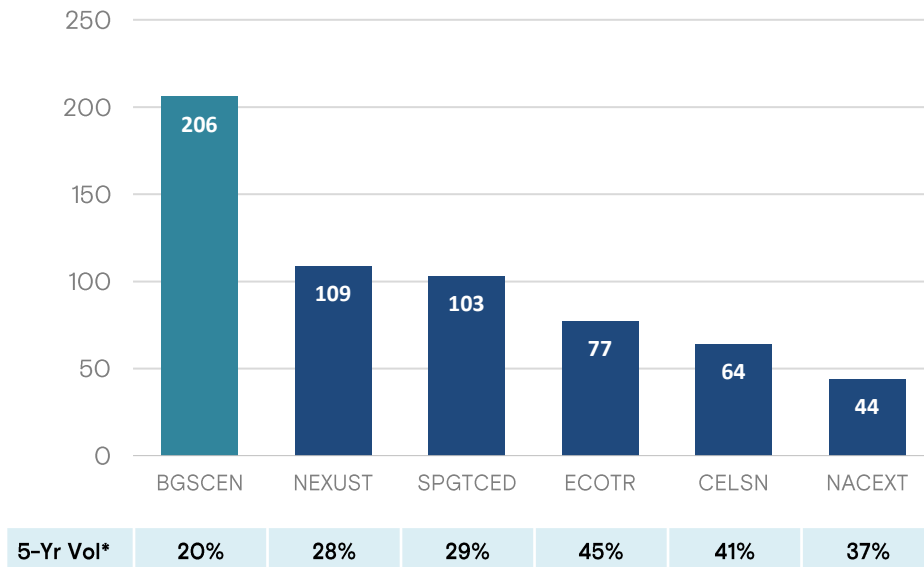
Sources: Goldman Sachs Asset Management and BloombergNEF. Data as of October 31, 2023. <sup>1</sup>Peer average defined by the net expense ratio of the five largest clean energy ETFs by assets. **Total Annual Fund Operating Expenses (%) 0.45%**, Please note the figures shown above is the unitary management fee. Under the management fee for GCLN, Goldman Sachs Asset Management LP., the Fund's investment adviser, is responsible for paying substantially all the expenses of the Fund, excluding the payments under the Fund's 12b-1 plan (if any), interest expenses, taxes, acquired fund fees and expenses, brokerage fees, costs of holding shareholder meetings, litigation, indemnification and extraordinary expenses. There is no guarantee that objectives will be met.

# How We Invest? GCLN's Index was designed by energy specialists to provide more complete and less volatile exposure to the clean energy sector

We believe that static, clean energy indices developed by generalists may be missing significant clean energy investment opportunities. To solve for this, GCLN's underlying Index was designed by energy specialist at Goldman Sachs and BloombergNEF to capture the full universe of clean energy issuers (200+) as opposed to many popular clean energy indices that tend to be concentrated within select sub-sectors and omit large drivers of the energy transition.

**Larger universe may offer lower volatility and greater diversification than leading clean energy indices**

**Maximizes exposure to issuers that BloombergNEF has classified as high impact clean energy enablers<sup>1</sup>**



Sources: Goldman Sachs Asset Management and BloombergNEF. Data as of October 31, 2023. Goldman Sachs Global Clean Energy Index (BGSCEN). WilderHill New Energy Global Innovation Index (NEXUST). S&P Global Clean Energy Index (SPGTCED). WilderHill Clean Energy Index (ECOTR). NASDAQ Clean Edge Green Energy Index (CELSN). CIBC Atlas Clean Energy Index (NACEXT). <sup>1</sup>Clean energy enablers are companies, identified by BloombergNEF, that are capitalizing on the opportunities created by the decarbonization of energy and industrial processes. These include, but are not limited to, companies that are active and impactful in the following sectors: clean power, solar, wind, digitalization, bioenergy, hydrogen, energy storage and network developers. For illustrative purposes only. Diversification does not protect an investor from market risk and does not ensure a profit.

## GCLN's Index Results? Strong absolute, relative, and risk-adjusted performance in a vs. other clean energy indices

We believe equity performance through the energy transition will be categorized with peaks and troughs. As such, a large, diverse, and dynamic approach may prove prudent in managing risk while benefitting from secular growth in clean energy. The diversification of GCLN's Index has led to strong absolute and risk-adjusted performance since inception.

Ticker	Name	Number of Securities	Cumulative Total Returns		
			YTD 2023 (%)	1-Year (%)	2-Year (%)
BGSCET	Bloomberg Goldman Sachs Global Clean Energy Total Return Index	206	-15.89%	-13.00%	-34.44%
NEXUST	WilderHill New Energy Global Innovation Total Return Index	109	-26.61%	-28.09%	-55.57%
CELSN	Nasdaq Clean Edge Green Energy Net Total Return Index	44	-28.56%	-39.70%	-56.21%
SPGTCLNT	S&P Global Clean Energy Net Total Return Index	103	-34.29%	-30.92%	-47.24%
NACEXT	CIBC Atlas Clean Energy Total Return Index	64	-34.82%	-45.08%	-61.94%
ECOTR	Wilderhill Clean Energy Total Return Index	77	-35.12%	-45.24%	-71.73%

Sources: Goldman Sachs Asset Management and Bloomberg. Data as of October 31, 2023. GCLN's Index, The Bloomberg Goldman Sachs Global Clean Energy Total Return Index (BGSCET), was inceptioned on October 27, 2021. **Past performance does not guarantee future results, which may vary.** One cannot invest directly in an index.

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# For more information on The Goldman Sachs Bloomberg Clean Energy Equity ETF, contact your Goldman Sachs Asset Management representative or visit [GSAM.com/ETFs](https://GSAM.com/ETFs).

## Definitions:

“Transitioning” Clean Energy Companies: Companies that are shifting their business model away from fossil fuels to focus primarily on renewable energy.

Net zero: A state in which the greenhouse gases going into the atmosphere are balanced by removal out of the atmosphere.

Clean energy enablers: Companies, identified by BloombergNEF, that are capitalizing on the opportunities created by the decarbonization of energy and industrial processes. These include, but are not limited to, companies that are active and impactful in the following sectors: clean power, solar, wind, digitalization, bioenergy, hydrogen, energy storage and network developers.

Bloomberg Goldman Sachs Global Clean Energy Index (BGSCEN) is designed to deliver exposure to companies that are expected to have a significant impact on energy decarbonization through their exposure to clean energy which includes, but is not limited to, clean power infrastructure (generation, transmission and distribution), solar energy, wind energy, energy storage, hydrogen energy, energy digitalization and bioenergy. The Index is a free float-adjusted market capitalization-weighted index designed to identify relevant companies using curated data acquired from a variety of sources by Bloomberg Professional Services (the “Index Provider”). One cannot invest directly in an index.

CIBC Atlas Clean Energy Total Return Index (NACEXT) is an adjusted market cap weighted index designed to provide exposure to a diverse set of U.S. or Canadian based companies involved in the clean energy sector including renewables and clean technology.

NASDAQ Clean Edge Green Energy Index (CELS) a modified market capitalization weighted index designed to track the performance of clean-energy companies that are publicly traded in the U.S.

S&P Global Clean Energy Index (SPGTCED) is designed to measure the performance of companies in global clean energy-related businesses from both developed and emerging markets, with a target constituent count of 100.

WilderHill Clean Energy Index (ECO) is a modified equal dollar weighted index comprised of publicly traded companies whose business stand to benefit substantially from societal transition toward the use of cleaner energy and conservation. The index benchmark value is 100.00 at the close of trading on December 30, 2002.

WilderHill New Energy Global Innovation Total Return Index (NEXUST) in USD is a modified equal-dollar weighted index of publicly traded companies which are active in renewable and low-carbon energy, and which stand to benefit from responses to climate change and energy security concerns.

## General Disclosures:

**The Goldman Sachs Bloomberg Clean Energy Equity ETF** (the “Fund”) seeks to provide investment results that closely correspond, before fees and expenses, to the performance of the Bloomberg Goldman Sachs Global Clean Energy Index (the “Index”), which delivers exposure to companies that are expected to have a significant impact on energy decarbonization through their exposure to clean energy. The Fund’s investments are subject to **market risk**, which means that the value of the securities in which it invests may go up or down in response to the prospects of individual companies, particular sectors or governments and/or general economic conditions. **Foreign and emerging markets investments** may be more volatile and less liquid than investments in U.S. securities and are subject to the risks of currency fluctuations and adverse social, economic or political developments. Because the Fund **may have significant investments in the clean energy sector**, the Fund is subject to risk of loss as a result of adverse economic, business or other developments affecting industries within that sector. The securities of **mid- and small-capitalization companies** involve greater risks than those associated with larger, more established companies and may be subject to more abrupt or erratic price movements. The Fund is **not actively managed**, and therefore the Fund will not generally dispose of a security unless the security is removed from the Index. The Index **calculation methodology** may rely on information based on assumptions and estimates and neither the Fund, the index provider nor the investment adviser can guarantee the accuracy of the methodology’s valuation of securities or the availability or timeliness of the production of the Index. **Performance may vary substantially from the performance of the Index** as a result of transaction costs, expenses and other factors.

The portfolio risk management process includes an effort to monitor and manage risk, but does not imply low risk.

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Given the Fund's investment objective of attempting to track its Index, the Fund does not follow traditional methods of active investment management, which may involve buying and selling securities based upon analysis of economic and market factors.

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**A summary prospectus, if available, or a Prospectus for the Fund containing more information may be obtained from your authorized dealer or from Goldman Sachs & Co. LLC by calling (retail - 1-800-526-7384) (institutional - 1-800-621-2550). Please consider a fund's objectives, risks, and charges and expenses, and read the summary prospectus, if available, and the Prospectus carefully before investing. The summary prospectus, if available, and the Prospectus contains this and other information about the Fund.**

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