STATE STREET GLOBAL ADVISORS SPDR®

How to Keep it Clean: SPDR® S&P Kensho Clean Power ETF (CNRG) vs. iShares Global Clean Energy ETF (ICLN)

Opportunity in Clean Power

Clean power firms may provide a long-term growth opportunity as the transition to renewable energy around the world has accelerated quickly, stemming from improved efficiency, reduced costs and government support. And, significant progress has already been made.

In 2020, renewable energy consumption in the US has grown for the fourth consecutive year,[1] exceeding coal consumption for the first time on record. And wind and solar are projected to account for more than 60% of new generating capacity over the next decade,[2] as a result of state environmental targets and increasing public interest on climate change.

Additionally, as people continue to work remotely and spend more time at home, energy consumption expenses will transition from businesses to households – leading to greater demand for cost-efficient energy. And the cost to generate renewables has fallen by 40% (wind) and 80% (solar) over the past decade.[3]

Given the early stages of the industry, as well as the unpredictable transcendent change resulting from the COVID-19 innovation inflection point that's upended economies and routines, a forward-looking view to this emerging opportunity may be most optimal.

CNRG versus ICLN

There are various ways to target firms at the heart of the transition to cleaner forms of power generation. However, the SPDR Kensho framework represents a true forward-looking approach to identify innovation and disruption, as it focuses on what a firm's current and future strategy is today. Rather than use revenue sources, which are backward looking, CNRG's index utilizes artificial intelligence to scan the regulatory filings of thousands of listed companies to identify innovative firms involved in clean power based upon their material operations and strategy outlooks.

In the scanning process, the search terms identified for clean power are "wind energy." "solar modules," "wind turbines," and "geothermal power," in addition to more nuanced terms such as "kinetic energy conversion," "gravity batteries," "solar photovoltaic," and "proton exchange membranes."

ICLN, however, is more backward looking as it focuses on what a firm has produced in terms of revenue generation. Additional potential limitations with ICLN's index methodology are:

- **Market cap weighted:** ICLN assigns stocks based on their market capitalization, while CNRG will overweight core companies focused on clean power relative to the non-core suppliers to the ecosystem (i.e., manufactures of wind turbine blades).
- **Capped at just 30 stocks:** Limiting the exposure to only 30 names limits the opportunity to allocate to all innovative clean power firms. There are no such security caps in CNRG's index.

Stocks CNRG has, but ICLN misses out on

There are only twelve firms that the two funds have in common,[4] and as a result of the clear index differences, ICLN misses out on some of the more innovative clean power firms in our economy today, such as:[5]

- *Tesla Inc (TSLA):* While known for their fleet of electric vehicles, Tesla also has an energy generation and storage operation that makes and sells stationary energy storage products and solar energy systems to residential and small commercial customers. Its Powerwall lithium-ion battery with integrated inverter system is designed to store energy at a home or small commercial facility. Tesla's commercial, industrial, and utility offering, Powerpack and Megapack, is an energy storage system that can also be combined with renewable energy generation sources to create microgrids

- *FuelCell Energy, Inc (FCEL):* Develops and commercializes fuel cell power plants for electric power generation. The Company also has contracts to develop its fuel cells for use of alternative fuels and for marine transportation applications. FuelCell has research and development contracts with government and private industry.

- *American Superconductor Corp (AMSC):* The company provides designs and technologies for building and operating wind turbines and connecting them to the power grid. Its wind segment licenses highly engineered wind turbine designs that supply wind turbine makers with advanced power electronics and control systems. The grid segment offers grid interconnection systems for wind farms, solar power plants, and transmission cable systems.

- *Ballard Power Systems Inc (BLDP):* Ballard Power Systems makes emission-free proton exchange membrane (PEM) fuel cells and systems used in electric buses, forklifts, and as backup power for telecom networks. The stacked thin cells generate electricity by combining hydrogen fuel with oxygen, leaving only water and heat as by-products. Ballard's fuel cell stacks are incorporated into batteries from FirstEnergy, IdaTech, Palcan Fuel Cells, and Plug Power. The company generates 35% of its sales from the US; it operates through a handful of facilities in Canada, Mexico, and the US.

- *TPI Composites (TPI):* The company is an independent manufacturer of composite wind blades. It signs agreements with its wind turbine manufacturer customers in which they use TPI's facilities in exchange for their commitment to purchase minimum annual volumes of wind blade sets, which consist of at least three wind blades. The company operates through five facilities in the US, three in China, and one each in Mexico and Turkey.

- *Algonquin Power & Utilities (AQN):* A regulated utility company engaged in the generation, transmission, and distribution of renewable energy across North America, the company owns 35 clean energy facilities encompassing wind, solar, and hydroelectric. The company's interests include renewable energy facilities, thermal energy facilities, and water distribution and waste-water facilities.

Ownership Difference on Returns

Since the market's bottom (i.e., the innovation inflection point) on March 23, 2020, CNRG has outperformed ICLN by nearly 7 percentage points, as shown below. And, the stocks that CNRG owns, but ICLN does not, have an average return of 90% over that time period[6]– contributing more than half (55%) of CNRG's overall 162% total return since March 23.[7]

Vivint Solar (VLSR) contributed the most (16%), as it was up 925% during this period after being purchased by Sunrun Inc (a CNRG and ICLN holding.) [8] Vivint, a stock with a $893 market capitalization to start the year, was never in ICLN given its more rigid, backward looking, and market capitalization based focus.

The performance trends, however, also existed prior to the inflection point of innovation, as the shift to clean power was on its way before March. Since CNRG's inception, as well as over the past year and in 2020, it has outperformed ICLN.

Performance Trends of Clean Power (%)

	Since Market Bottom (3/23/2020)	2020	1 Year	Cumulative Since Inception (10/23/2018)
CNRG	162.7	82.2	117.4	188.1
ICLN	156.0	81.1	96.4	167.2
Difference	6.7	1.2	21.0	20.9

Source: Bloomberg Finance L.P. as of October 15, 2020. **Past performance is not a guarantee of future results.**

CNRG as ESG

CNRG is both a thematic ETF focused on a next generation trend, and an environmental – and therefore ESG-oriented – strategy, given that the fund seeks to provide exposure to innovative firms at the forefront of our economies' transition to more renewable forms of power generation.

From an ESG classification perspective, CNRG employs a thematic/best-in-class approach, as it is a high conviction (~40 stocks) exposure that solely holds firms deemed at the heart of the clean power transformation.

At first glance, some of the firms owned within CNRG may not be viewed as completely aligned to environmentally friendly operations. Yet, further analysis reveals that, much like investors' ability to recognize the opportunity of clean power, firms also realize the potential renewables have to their bottom line.

The companies listed below may not, at first glance, represent clean power companies – but they may actually be at the forefront of this transcendent shift to a sustainably powered world once more is known about their material operations.[9]

- *AES Corp (AES):* The AES Corporation provides affordable, sustainable energy to 15 countries through its diverse portfolio of distribution businesses as well as thermal and renewable generation facilities. In recent years, it has committed to the development of sustainable energy solutions with no new coal projects. Apart from that, the company is well positioned to bring new energy solutions to markets it serves, driven by the acquisition of sPower, the largest independent solar developer in the United States, together with Alberta Investment Management Corporation (AIMCo) and its partnership with Siemens for the creation of Fluence, a new global energy storage technology company that can reach customers in 160 countries.

- *Allete Inc (ALE):* ALLETE is well-positioned as a reliable provider of competitively priced energy in the upper Midwest and invests in transmission infrastructure and other energy-centric businesses. Its shared purpose is to be a leader in clean, safe, efficient and affordable energy products and services that fuel modern necessities and enrich quality of life. One of its main businesses is ALLETE Clean Energy which specializes in developing, acquiring and managing clean and renewable energy projects. ALLETE Clean Energy currently owns, operates, and is constructing and commissioning approximately 1,340 megawatts of nameplate capacity wind energy generation across seven states, all contracted under PSAs of various durations. ALLETE Clean Energy also engages in the development of wind energy facilities to operate under long-term PSAs or for sale to others upon completion.

- *Endbridge Inc (ENB):* Endbridge operates as an energy infrastructure company in Canada and the United States. The company operates through five segments: Liquids Pipelines, Gas Transmission and Midstream, Gas Distribution, Green Power and Transmission, and Energy Services. The Green Power and Transmission segment operates renewable energy assets, such as wind, solar, geothermal, and waste heat recovery facilities. Enbridge is one of the largest renewable energy companies in Canada, and it has a diversified portfolio of renewable energy projects. More specifically, those projects are composed of: 21 wind farms, four solar energy operation, five waste heat recovery facilities, one geothermal project, one power transmission project and one hydroelectric facility.

- *Enel Chile (ENIC):* Enel Chile SA is a Chile-based electricity utility company engaged in the generation, transmission and distribution of electricity businesses, through its combined entities and affiliates. It is Chile’s largest electricity group in terms of installed capacity. Enel Green Power is the Enel Group company engaged in developing and managing power generation activities from renewable sources around the world. It is one of the world’s leading renewable power companies with its energy generation including wind, solar, geothermal, and biomass power. In Chile, Enel Green Power has an installed capacity of 1.2 GW through a technological portfolio that includes hydroelectric, wind, photovoltaic, and geothermal power. This capacity, combined with that of Enel Generacion's renewable plants, exceeds 4,730 MW, representing 45% of Chile's renewable capacity. Also, in Chile, Enel Green Power has built South America’s first geothermal power plant.

This information should not be considered a recommendation to invest in a particular sector or to buy or sell any security shown. It is not known whether the sectors or securities shown will be profitable in the future.

Top 10 Holdings

CNRG Top 10 Holdings

Ticker	Name	%
RUN US	SUNRUN INC	12.74
JKS US	JINKOSOLAR HOLDING CO-ADR	6.89
DQ US	DAQO NEW ENERGY CORP-ADR	6.87
PLUG US	PLUG POWER INC	5.63
TSLA US	TESLA INC	4.15
SPWR US	SUNPOWER CORP	4.07
ENPH US	ENPHASE ENERGY INC	4.07
CSIQ US	CANADIAN SOLAR INC	3.97
SEDG US	SOLAREDGE TECHNOLOGIES INC	3.81
FSLR US	FIRST SOLAR INC	3.01

Source: Bloomberg Finance L.P. as of October 15, 2020.
As of 10/15/202, the top ten holdings accounted for 55% of the fund's investments. Characteristics subject to change

ICLN Top 10 Holdings

Ticker	Name	%
SEDG US	SOLAREDGE TECHNOLOGIES INC	7.44
PLUG US	PLUG POWER INC	7.22
RUN US	SUNRUN INC	6.95
ENPH US	ENPHASE ENERGY INC	6.75
968 HK	XINYI SOLAR HOLDINGS LTD	6.36
FSLR US	FIRST SOLAR INC	4.89
VWS DC	VESTAS WIND SYSTEMS A/S	4.60
SGRE SM	SIEMENS GAMESA RENEWABLE ENE	4.53
CEN NZ	CONTACT ENERGY LTD	3.43
BLX CN	BORALEX INC -A	3.38

Source: Bloomberg Finance L.P. as of October 15, 2020.

As of 10/15/202, the top ten holdings accounted for 55% of the fund's investments.

Characteristics subject to change.

Index Methodology Information

Per the index metholdoogy documents from S&P Global:

S&P Kensho Clean Power Index: Focuses on companies focused on advances in clean technology and energy, including:

- Clean energy technology: hardware, software, and construction and installation of materials used for energy capture, as well as advanced energy storage devices
- Clean energy generation: companies focused on the generation and transmission of power derived from clean energy sources

For the index, a company must produce a product or service related to the specific index focus. Each subsector is described by discrete industries and areas of innovation as defined above.

These definitions are distilled down to relevant search terms that best represent these areas of innovation. The definitions are reviewed by the index committee at each annual reconstitution by analyzing changes in existing constituents' search terms, new companies captured by existing search terms and qualitative top-down analyses of significant trends of the subsector, and may be updated at that time.

In order to identify eligible companies at each reconstitution, S&P DJI conducts an automated scan of the EDGAR database of annual company-issued filings, specifically: 10-Ks; 20-Fs; 40-Fs; S-1 filings; and prospectus. The scan searches the most recent filing for companies and identifies documents that discuss the search terms.

Constituent weights are set at the annual reconstitution (December) and at the semiannual rebalancing (June). Index constituents are first categorized as "core" or "non-core". Core companies are those for which products and services related to the index objectives and target markets of a specific index are an important component of their business strategy, and are identified as such based on the prominence (e.g. location, context) of the disclosures in the company's regulatory filings, as well as other publicly-available information. Index constituents within each category are initially equal weighted. "Core" constituents are over-weighted as compared to "non-core" constituents.

S&P Global Clean Energy Index measures the performance of 30 of the largest companies in global clean energy related businesses from both developed and emerging markets.

The index is FMC weighted, subject to exposure score adjustments and a single stock weight limited to 4.5%.

Companies are identified as being in the clean energy business for their involvement in the production of Clean Energy or provision of Clean Energy Technology & Equipment.

The index components are selected firstly based on their primary business being Clean Energy and then ranked by the float-adjusted market capitalization which must be greater than or equal to US$ 100 million. In the event of fewer than 30 qualifying stocks, the eligible universe extends to companies with business described as "Multi-industry with significant clean energy exposure" until the count reaches 30. Finally, the 30 selected companies are screened based on the carbon intensity standard score** and those whose score is greater than the threshold are excluded from index inclusion and replaced with the next highest ranked stock in order to satisfy the index's target constituent count of 30.

Footnotes

1 The costs of solar and wind energy have declined by 85% and 49% respectively since 2010. Bloomberg New Energy Outlook 2019

2 Annual Energy Outlook 2020, U.S. Energy Information Administration

3 IEA – Short Term Energy Outlook as of 5/2020

4 Bloomberg Finance L.P. as of 10/15/2020 based on SPDR Americas Research calculations

5 All information based on Bloomberg descriptions of material operations under the firm's business profile as of October 15, 2020

6 Bloomberg Finance L.P. as of 10/15/2020 based on SPDR Americas Research calculations

7 Bloomberg Finance L.P. as of 10/15/2020 based on SPDR Americas Research calculations

8 Bloomberg Finance L.P. as of 10/15/2020 based on SPDR Americas Research calculations

9 All information based on Bloomberg descriptions of material operations under the firm's business profile as of October 15, 2020

Standard Performance

Ticker	Name	YTD (%)	Annualized					Inception Date	Gross Exp. Ratio (%)
			1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)		
CNRG (NAV)	SPDR S&P Kensho Clean Power ETF	60.54	89.59	-	-	-	60.68	10/22/2018	0.45
CNRG (MKT)	SPDR S&P Kensho Clean Power ETF	60.63	89.46	-	-	-	60.68	-	-
ICLN (NAV)	iShares Global Clean Energy ETF	58.02	71.43	29.64	18.03	3.34	-5.86	6/24/2008	0.46
ICLN (MKT)	iShares Global Clean Energy ETF	58.04	71.57	29.56	17.9	3.39	-5.84	-	-

Source: ssga.com/etfs, ishares.com as of 09/30/2020. **Performance returns for periods of less than one year are not annualized. Performance quoted represents past performance, which is no guarantee of future results. Investment return and principal value will fluctuate, so you may have a gain or loss when shares are sold. Current performance may be higher or lower than that quoted. For SPDR ETFs, visit ssga.com/etfs for most recent month-end performance.** The market price used to calculate the Market Value return is the midpoint between the highest bid and the lowest offer on the exchange on which the shares of the Fund are listed for trading, as of the time that the Fund's NAV is calculated. If you trade your shares at another time, your return may differ.

Disclosures

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Risk Discussion

The funds presented herein have different investment objectives, costs and expenses Each fund is managed by a different investment firm, and the performance of each fund will necessarily depend on the ability of their respective managers to select portfolio investments. These differences, among others, may result in significant disparity in the funds' portfolio assets and performance. For further information on the funds, please review their respective prospectuses.

The SPDR S&P Kensho Clean Power ETF (CNRG) seeks to provide investment results that, before fees and expenses, correspond generally to the total return performance of the S&P Kensho Clean Power Index (the "Index")

The iShares Global Clean Energy ETF (ICLN) seeks to track the investment results of an index composed of global equities in the clean energy sector.

Clean power companies may be highly dependent upon government subsidies, contracts with government entities, and the successful development of new and proprietary technologies. Clean power companies may be affected by competition from new and existing market entrants, obsolescence of technology, short product cycles, changes in exchange rates, imposition of import controls, and depletion of resources. In addition, seasonal weather conditions, fluctuations in supply of and demand for clean energy products or services, and international political events may cause fluctuations in the performance of clean power companies and the prices of their securities. Risks associated with fluctuations in energy prices and supply and demand of alternative energy fuels, energy conservation, the success of exploration projects and tax and other government regulations can significantly affect clean power companies.

Concentrated investments in a particular sector or industry (technology sector and industrials sector) tend to be more volatile than the overall market and increases risk that events negatively affecting such sectors or industries could reduce returns, potentially causing the value of the Fund's shares to decrease.

When the **Fund focuses its investments** in a particular industry or sector, financial, economic, business, and other developments affecting issuers in that industry, market, or economic sector will have a greater effect on the Fund than if it had not done so. **Multi-cap Investments** include exposure to all market caps, including small and medium capitalization ("cap") stocks that generally have a higher risk of business failure, lesser liquidity and greater volatility in market price. As a consequence, small and medium cap stocks have a greater possibility of price decline or loss as compared to large cap stocks. This may cause the Fund not to meet its investment objective.

ETFs trade like stocks, are subject to investment risk, fluctuate in market value and may trade at prices above or below the ETFs net asset value. Brokerage commissions and ETF expenses will reduce returns.

Equity securities may fluctuate in value in response to the activities of individual companies and general market and economic conditions.

Index-based funds hold a range of securities that, in the aggregate, approximates the full Index in terms of key risk factors and other characteristics. This may cause the fund to experience tracking errors relative to performance of the index.

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