

iClima Distributed Renewable Energy Index



Oct 2022

We shift the narrative on climate change investments, by looking for the companies with products and services that preclude emissions from ever taking place.

Equally unique is that we use tangible and quantifiable metrics in our methodology, such as Potential Avoided Emissions, as a proxy for impact & relevance.

Ours is a holistic ESG approach. We lead with “E”, based on these tangible metrics, and additional “S” and “G” screens are based on UN Global Compact indicators.

Index Details

Index Name: iClima Distributed Renewable Energy Index

Index URL: www.solactive.com/Indices/

Inception Date: February 2021

Number of holdings: 54

Asset Class: Equities

Eligible Universe: Solactive GBS Global Markets All Cap USD Index TR (ISIN: DE000SLA78F9)

Weighting: Equal weight

Index Provider: Solactive AG

Rebalance Frequency: Every six months

Bloomberg Ticker: GLDGENER Index

ISIN: DE000SL0CA42

Currency: USD

Base Value/Base Date:
02 Aug 2017, set at 1000

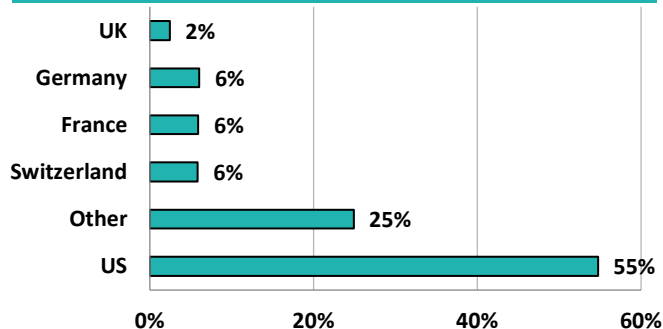
The equity index provides exposure to companies that enable the development of distributed energy resources (DER) business models. Smart energy is reshaping buildings and the grid, as increasingly price competitive renewable energy solutions like solar rooftops and stationary batteries for clean energy storage are being used “behind the meter”, in a decentralized manner. Producing electricity at the point of consumption makes economic sense, also providing security of supply and predictability of costs. In the US, the penetration of solar rooftops is at 3% — a lot of potential to grow but already a solid base of users. We believe distributed energy based on renewable sources is one of the most disruptive themes within green energy.

Why iClima Distributed Renewable Energy Index?

In February 2021, we created the **iClima Distributed Renewable Energy Index** to represent the innovative companies emerging in the space of distributed renewable energy, set to disrupt our traditional, centralized and fossil fuel-based energy model. DER usual size is between 1 kW and 10 MW and is also referred to as “behind the meter” solutions. The benchmark offers access to companies developing innovative technologies which enable electricity generation and storage using renewable energy sources in local, decentralised, and modular ways. Increasing pressures on central electricity grids, changing weather patterns, and increasing demand due to the significant ramp up expected in Electric Vehicles (EVs) and home electric heating alternatives, governments and consumers are increasingly looking to ways to increase security of supply and decentralised generation models are a key solution. Most electricity consumers will become “Prosumers” in the next decades.

- DER make economic sense, being embraced by consumers:** The key reason behind the increasing adoption of distributed energy and self-production is cost. A residential consumer in California pays a retail tariff of ca. \$198/MWh for electricity, while LCOSS (with investment tax credit) is at ca. \$124/MWh. Besides cost, an additional positive externality of DER is security of supply.
- Convergence of digitalization, decentralization and decarbonization make the solutions powerful and therefore supported by regulators:** The requirements to reduce network costs, to increase renewable energy sources that can reduce CO_{2e} emissions, to avoid overcapacity, to reduce peak load and grid losses, and to improve the security of energy supplies are reasons why many regulators across the planet are supporting a shift from centralised energy structures towards a decentralised model.
- Competitiveness of solar energy is ever expanding:** Solar panels have benefited from material reduction in cost, prices went down over 90% in the previous decades. Solar panels as well as further reductions in the cost of batteries continue to be expected during this decade, by a further 75%.

Exposure and Characteristics



TOTAL Capitalization \$1,418,183,403,195

% of Index

Mega Cap	1.59%	Small Cap	21.78%
Large cap	24.76%	Micro Cap	9.85%
Mid Cap	41.96%		

Exposure and Characteristics

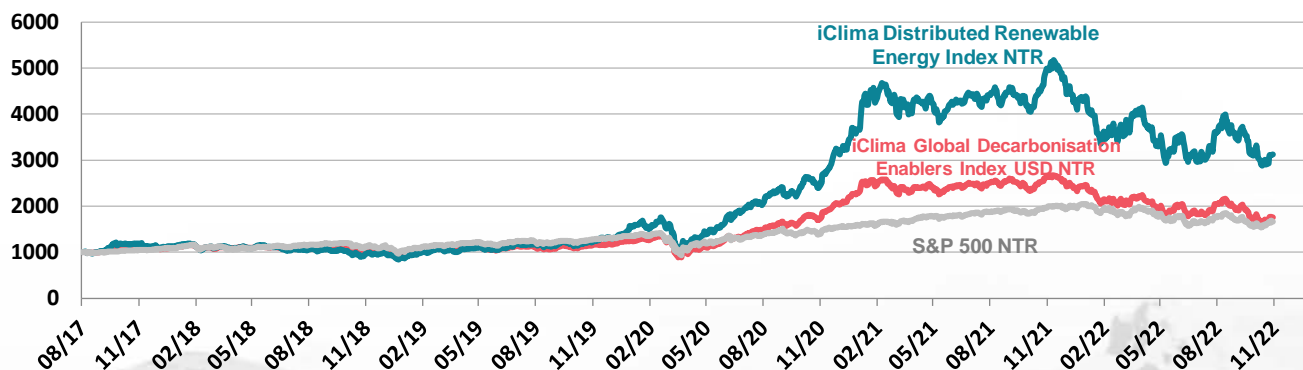
Security	% Weighted
VIVINT SMART HOME INC	3.38%
VALMONT INDUSTRIES	2.54%
STEM INC	2.51%
PROTERRA INC	2.29%
ENPHASE ENERGY INC	2.27%
QUANTA SERVICES INC	2.23%
RESIDEO TECHNOLOGIES INC	2.23%
PRYSMIAN SPA	2.22%
FLUENCE ENERGY INC	2.22%
EATON CORPORATION PLC	2.17%
TOTAL	24.06%

Sector Breakdown

	Distributed Power Sources	12.26%		Software & Systems for DER	15.58%
	Energy Storage	13.98%		V2G* & EV Charging Network	17.77%
	Microgrid & Smart Grid	20.49%		VPPs**	8.76%
	Smart Buildings & Energy Mgmt.	11.09%			

* Vehicle-to-grid ** Virtual power plants

Index Performance 2nd Aug 2017 to 31st Oct 2022



iClima Distributed Renewable Energy Index NTR

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2022	-17.43%	5.52%	5.65%	-17.28%	3.93%	13.00%	20.80%	-0.51%	-13.63%	0.84%			-28.54%
2021	15.83%	0.25%	-0.64%	0.59%	-0.75%	4.95%	-0.52%	1.54%	-6.67%	15.88%	-2.27%	2.73%	18.18%
2020	-4.30%	1.11%	-21.06%	19.54%	11.61%	18.45%	7.18%	17.16%	0.53%	0.15%	35.09%	13.61%	134.24%
2019	13.51%	6.02%	-5.14%	8.40%	-4.15%	10.97%	2.28%	-3.17%	2.44%	2.45%	9.39%	18.71%	77.66%
2018	1.26%	-4.15%	-1.10%	0.30%	2.03%	-6.20%	1.29%	0.65%	-3.00%	-8.36%	4.31%	-10.55%	-22.08%
2017									14.68%	1.66%	-5.14%	0.44%	

Methodology

Index components are selected based on a list of products and services that enable the development of Distributed Generation business models based on renewable energy sources. Companies providing these products and services allow for a combination of Decentralisation (of energy generation), Digitalisation (of energy consumption and management), Decarbonisation (by enabling CO₂e avoidance; more information on Decarbonisation can be found at www.iclima.earth) and Disruption (away from the traditional model of larger centralized and fossil fuel-based power generation sources usually away from the electrical load). Companies are then classified into the appropriate of four categories, namely: a. Pure Player, if DER revenue is above 90%; b. Majority Player, if DER revenues are between 50% and 90%; c. Partial Player, if DER revenues are between 20% and 50%; and d. Upcoming Player, if DER revenues are below 20% but the DER revenue line is observing double digit annual growth or has been publicly reported as a key vertical for the company.

Distributed Renewable Energy Solutions

The index well represents securities that are relevant solutions across seven different sectors, all segments directly related to the DER business model predicated on renewable energy. Sectors are Distributed Power Sources, Distributed Energy Storage, Vehicle to Grid (V2G) and Electric Vehicle (EV) Charging Networks, Virtual Power Plants (VPPs), Microgrid & Smart Grids, Smart Houses & Building Energy Management, and Software & Systems for Distributed Energy Resources.



Distributed Power Sources

Rooftop or ground mounted installation of solar PV, combined heat and power (CHP), micro CHP, microturbines, small wind power systems.



Distributed Energy Storage

Battery and fuel cells for energy storage, generation resources can include stationary batteries.



V2G and Charging Networks

EVs with V2G solutions. Charging networks. Net meters.



Virtual Power Plants

Aggregators of heterogeneous DER. Hardware or software. Key components, such as inverters.



Microgrids & Smart Grids

Multiple dispersed generation sources with ability to isolate such microgrids from larger networks. Solutions for voltage and frequency issues.



Smart Houses & Buildings, Energy Management

Smart appliances for net zero energy homes. Building heating and cooling optimization devices, smart thermostats, sensors and data collection.



Software & Systems

Blockchain as a service, demand response. Remote monitoring software. Advanced analytics. Advanced Distribution Management Systems (ADMS), Asset Performance Management (APM), and Distributed Energy Resource Management Systems (DERMS).

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