Monthly Solar Energy Market Report

June 2023

HANetf & EQM Indexes
Solar Energy UCITS ETF
TANN
69bps
IE00BMFNWC33
Product Inception Date: 09/06/2021

For Professional Clients Only. Capital at risk.
All data as of 31/05/2023
This report was written by, and is the opinion of the TANN index providers EQM Indexes

Solar ETF Key Takeaways: The Year So Far

Solar accounts for more than half of all US renewables development pipeline as of Q1 2023. In 2022, renewables accounted for almost 80% of all capacity added to the grid in 2022. Among renewable sources, solar was the technology with the highest share of capacity addition – beating onshore wind for the second time – with nearly 40% of the total market, while battery storage had a 13% share. Looking at the 1Q23 upcoming pipeline for different renewable technologies, solar accounted for 58% of all capacity, with more than 80GW for a total of 137GW by the end of 2022 across solar, wind and storage. At the upstream level, the solar industry has been burgeoning since the passage of the IRA in August last year, with 27 announcements for new manufacturing plants, expansions or re-opening of manufacturing across the solar PV value chain.

The EU generated more electricity from renewables than fossil fuels for the first winter on record. Renewables accounted for 40% of the electricity mix between October and March, with fossil fuels at 37%. As Europe headed towards the end of 2022, the ongoing gas crisis combined with low nuclear and hydro output led to concerns about how countries would keep the lights on over winter. Now, looking back over the last six months, it is clear that Europe's power system successfully rode out the storm.

China's solar exports up 64% in 2022, will continue to dominate global PV manufacturing. China's solar exports have continued to grow as demand from global consumers and developers increased, while its dominance in PV manufacturing will likely continue, according to Wood Mackenzie's recent study. Looking ahead, China's export capacity for upstream wafers and cells will grow to more than 230GW in 2026, higher than the global market demand, excluding China, of 170GW. In addition, the available module capacity for export in China is also expected to grow gradually to 149GW by 2026. China's local module manufacturing cost last year was only US$0.24 per watt, significantly lower than the US (US$0.56), Europe (US$0.52), and India (US$0.33). Southeast Asia's manufacturing cost was close to China as it stood at US$0.26 per watt.

China's solar boom is already accelerating past last year's record surge. China's solar sector is accelerating an already world-beating pace of installations as costs tumble and demand keeps rising, putting it on track to rush past last year's record. The country installed almost three times the volume of solar capacity between January and the end of April than in the same period in 2022, and is on track to add more panels this year than the entire total in the US. Falling costs in the solar supply chain and rising consumption of electricity in the world's No. 2 economy are fueling demand for the clean power source. China, which remains heavily reliant on coal despite its huge renewables fleet, is aiming to press ahead with expansions to meet President Xi Jinping's goal of reaching net zero by 2060. The nation could install 154 gigawatts of solar capacity this year, BloombergNEF said on Monday, raising its China forecast from a previous total of 129 gigawatts. The US had a cumulative total of 144 gigawatts installed at the start of 2022, according to BNEF data. Expectations are that installations in China could surge to 200 to 300 GW next year. The rise in China's deployments means the world is on track to have a total of 5,300 gigawatts of capacity by 2030 — about the volume of solar that is required in scenarios under which global net zero targets are met.

Sources available upon request. Please remember that all performance figures are showing net data. Past performance is not indicative of future performance, and when you invest in ETFs your capital is at risk.

Macro Outlook

Global investment in clean energy is on course to rise to $1.7 trillion in 2023, with solar set to eclipse investment oil production for the first time as affordability and security concerns triggered by the global energy crisis strengthen the momentum behind more sustainable options. According to the International Energy Agency, annual clean energy investment is expected to rise by 24% between 2021 and 2023, driven by renewables and electric vehicles, compared with a 15% rise in fossil fuel investment over the same period. But more than 90% of this increase comes from advanced economies and China. This presents a serious risk of new schisms in global energy if clean energy transitions do not increase in the developing world.

Led by solar, low-emissions electricity technologies are expected to account for almost 90% of investment in power generation. Clean energy investments have been supported by a variety of factors in recent years, including global pledges to decarbonize, volatile fossil fuel prices that raised concerns about energy security -- especially following Russia's invasion of Ukraine, --. and major policies such as the US Inflation Reduction Act and initiatives in Europe, Japan, China and elsewhere.

However, the biggest shortfalls in clean energy investment are in developing countries. There are some successes, such as investments in solar in India and Poland, and renewables in Brazil and parts of the Middle East. Nonetheless, investment in many countries is being held back by factors including higher interest rates, unclear policy frameworks and market designs, weak grid infrastructure, financially strained utilities, and a high cost of capital. Much more needs to be done by the international community, especially to drive investment in lower-income economies, where the private sector has been reluctant to venture.

Solar ETF Performance

As of 31.05.2023

	1M	3M	6M	YTD	12M	SI
Solar Energy UCITS ETF	**-2.78%**	**-5.74%**	**-13.39%**	**-3.09%**	**-8.56%**	**-16.34%**
EQM Global Solar Energy Index	*-2.81%*	*-5.63%*	*-13.14%*	*-2.84%*	*-7.77%*	*-14.66%*

Please note that all performance figures are showing net data. Source: Bloomberg / HANetf. Data as of 31/05/2023 Performance before inception is based on back tested data. Back testing is the process of evaluating an investment strategy by applying it to historical data to simulate what the performance of such strategy would have been. Back tested data does not represent actual performance and should not be interpreted as an indication of actual or future performance. Past performance for the index is in USD. Past performance is not an indicator for future results and should not be the sole factor of consideration when selecting a product. Investors should read the prospectus of the Issuer ("Prospectus") before investing and should refer to the section of the Prospectus entitled 'Risk Factors' for further details of risks associated with an investment in this product. When you invest in ETFs and ETCs, your capital is at risk.

Product Details

Solar Energy UCITS ETF (TANN) is a UCITS compliant exchange traded fund domiciled in Ireland. The Solar Energy UCITS ETF 'TANN' seeks to offer pure-play exposure to the rapidly growing global solar industry.

The TANN Solar ETF tracks the EQM Global Solar Energy Index (SOLARNTR) which is focused on companies that derive significant revenue from solar energy-related business operations including manufacturing of photovoltaic, solar cells, and systems; producers of solar power generation, equipment, and components; providers of solar power system installation, development, and financing; and/or manufacturing of solar-powered charging and energy storage systems.

TANN is scheduled under Article 8 under the Sustainable Finance Disclosure Regulation (SFDR). Companies will be ESG screened for compliance with UN Global Compact principles plus operational business involvement in the fields of oil sands, fossil fuel, or controversial weapons.

Visit the TANN Fund Page for more information.

Trade TANN

Exchange	BBG Code	RIC	ISIN	Valoren	SEDOL	Currency	TER
London Stock Exchange	TANN LN	TANN.L	IE00BMFNWC33	-	BMTR168	USD	0.69%
London Stock Exchange	TANP LN	TANP.L	IE00BMFNWC33	-	BMTR1D5	GBP	0.69%
Borsa Italiana	TANN IM	TANN.MI	IE00BMFNWC33	-	BL6KDR8	EUR	0.69%
Deutsche Boerse Xetra	TANN GY	TANNG.DE	IE00BMFNWC33	-	BL6KDT0	EUR	0.69%

Stephen Derkash

Mr. Derkash leads EQM's Global and ESG Product initiatives. He has over twenty years of global portfolio management, investment banking and equity research experience, and has worked as a Portfolio Manager at Millennium Management, a $40 billion hedge fund, and at UBS Asset Management. He is the Founder of BlueRunner Global Advisors, a boutique investment advisory firm focused on emerging markets equity investing, and prior to Millennium and UBS, Stephen worked with Nicholas-Applegate Capital Management, in sell-side research with a leading European bank in Brazil, and on the emerging markets investment banking team at Lehman Brothers in New York. He holds an MBA from Wharton, an MA in International Studies from the University of Pennsylvania's Lauder Institute, and a BA from Georgetown University.

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   ii. the carbon securities ETCs under the terms in the base prospectus approved by the UK Financial Conduct Authority ("FCA") and the relevant final terms of the carbon securities (together, "FCA Carbon ETC Prospectus"); and
   iii. the carbon securities ETCs under the terms in the base prospectus approved by the Central Bank of Ireland ("CBI") and the final terms of the carbon securities (together, "CBI Carbon ETC Prospectus").

   Investors should read the latest versions of the relevant ETC prospectus before investing and should refer to the section of the relevant ETC prospectus entitled 'Risk Factors' for further details of risks associated with an investment in the ETCs. Any decision to invest should be based on the information contained in the relevant ETC prospectus.

3. ETC Issuance GmbH, a limited liability company incorporated under the laws of the Federal Republic of Germany, issuing under the terms in the Base Prospectus approved by the Bundesanstalt für Finanzdienstleistungsaufsicht ("BaFin") and the final terms ("Cryptocurrency Prospectus") is the issuer of the ETC Group ETCs. Investors should read the latest version of the Cryptocurrency Prospectus before investing and should refer to the section of the Cryptocurrency Prospectus entitled 'Risk Factors' for further details of risks associated with an investment in the ETCs contained in the Cryptocurrency Prospectus. Any decision to invest should be based on the information contained in the Cryptocurrency Prospectus.

The ETF Prospectus, Metals ETC Prospectus, FCA Carbon ETC Prospectus, CBI Carbon ETC Prospectus and Cryptocurrency Prospectus can all be downloaded from www.hanetf.com.

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