

Monthly Solar Energy Market Report

December 2022

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 30/11/2022

This report was written by, and is the opinion of the TANN index providers EQM Indexes

Key Takeaways

California adds ambitious targets to revised climate change strategy. The California Air Resources Board has unveiled a new version of its strategy for battling climate change. If adopted by the air board at its December 15 meeting, the plan would radically reshape California's economy, alter how Californians' vehicles, buildings, and appliances are powered, and ultimately serve as a blueprint for other states and countries to follow. The plan sets a more aggressive goal of cutting carbon emissions 48% below 1990 levels by 2030 — up from the 40% by 2030 required under state law — until reaching net-zero emissions in 2045. Air board officials said they are confident the state can achieve the new target largely because of new mandates and policies enacted this year. State officials phased out sales of new gas-powered cars by 2035, set a more stringent low-carbon fuel standard, and streamlined siting and permitting of renewable energy projects. The move to decarbonize and transition away from fossil fuels will also drastically increase electricity use with solar playing an important role.

Utility-scale solar power generation in the U.S. is surging. This year, almost half the 46.1 gigawatts (GW) of generating capacity added to the grid will be solar, according to the U.S. Energy Information Administration, and solar has contributed more than 30% of all new capacity in five of the last six years.

According to the IEA, the world installed 174GW of solar PV in 2021, a 20% jump on the previous year, and is expected to deploy 260GW this year, barring any major disruptions to international trade. Those, among many others, were the findings of the International Energy Agency's (IEA) Trends in PV Applications 2022 report, which also examined solar installations across different countries and regions as well as the key drivers for growth.

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

Solar PV capacity is set to almost triple between 2022-2027, surpassing coal and becoming the largest source of power capacity in the world, according to the International Energy Agency (IEA). This will be as much renewable power added in the next five years as on the past twenty, as countries seek to take advantage of the energy security benefits that renewables provide. This very large, expected increase is 30% higher than the amount of growth that was forecast just a year ago, demonstrating the speed with which governments have added additional policy weight behind renewables. The war in Ukraine is a decisive moment for renewables in Europe where governments and businesses are looking to rapidly replace Russian gas with alternatives. The amount of renewable power capacity added in Europe in the 2022-27 period is forecast to be twice as high as in the previous five-year period, driven by a combination of energy security concerns and climate ambitions.

In addition to Europe, significant increases in renewable power growth over the next five years is expected by China, the United States and India. All three countries are implementing policies and introducing regulatory and market reforms more quickly than previously planned to combat the energy crisis. As a result of its recent 14th Five-Year Plan, China is expected to account for almost half of new global renewable power capacity additions over the 2022-2027 period. Meanwhile, the US Inflation Reduction Act has provided new support and long-term visibility for the expansion of renewables in the United States.

Solar Energy Performance

As of 30.11.2022

	1M	3M	6M	YTD	12M	SI
Solar Energy UCITS ETF	13.64%	-6.95%	5.57%	-5.74%	-14.65%	-3.41%
<i>EQM Global Solar Energy Index</i>	<i>13.85%</i>	<i>-6.65%</i>	<i>6.18%</i>	<i>-4.85%</i>	<i>-13.94%</i>	<i>-1.75%</i>

Please note that all performance figures are showing net data. Source: Bloomberg / HANetf. Data as of 30/11/2022. 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.

Important Information

Communications issued in the UK (ETFs and ETCs)

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Communications issued in the European Economic Area ("EEA") relating to ETFs

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Communications issued in the EEA relating to ETCs

The content in this document is issued by the relevant Issuer.

The Issuers

1. HANetf ICAV, an open-ended Irish collective asset management vehicle issuing under the terms in the Prospectus and relevant Supplement for the ETF approved by the Central Bank of Ireland ("CBI") ("ETF Prospectus") is the issuer of the ETFs. Investors should read the current version of the ETF Prospectus before investing and should refer to the section of the ETF Prospectus entitled 'Risk Factors' for further details of risks associated with an investment in the ETFs. Any decision to invest should be based on the information contained in the ETF Prospectus.
2. HANetf ETC Securities plc, a public limited company incorporated in Ireland, issuing:
 - i. the precious metals ETCs under the terms in the base prospectus approved by both the Central Bank of Ireland ("CBI"), the UK Financial Conduct Authority ("FCA") and the final terms of the precious metals (together, "Metals ETC Prospectuses");
 - 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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