

GLOBAL X ETFs RESEARCH

The Next Big Theme: March 2022



Authored by:

Renewable Energy

Energy on the Front Lines

In recent years, Europe imported about 45% of its natural gas, a third of its oil, and almost half of its coal from Russia.¹ However, Russia's invasion of Ukraine is expected to prompt a rapid shift away from Russian energy to local renewable energy sources such as wind, solar, and nuclear energy. Such a shift would align with the European Union's goal of carbon neutrality goal by 2050.² Germany already revealed plans to speed up wind and solar energy projects. The country plans to have renewables account for 80% of its electricity needs by 2030 and 100% by 2035.³ In the last 20 years, Germany successfully increased its share of renewable electricity consumption by nearly 10x from about 5% to 50%.⁴

Mayuranki De

Date: March 17, 2022
Topic: [Disruptive Technology](#), [Physical Environment](#), [People & Demographics](#)



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AgTech & Food Innovation

Agriculture in the Crosshairs

Prices of agricultural commodities, such as wheat and corn, have soared due to the war. Nearly 29% of the world's wheat comes from Russia and Ukraine.⁵ Farmers are seeing sizeable increases in input costs with fertilizer and pesticides prices nearly doubling, among other price spikes.⁶ It is reasonable to expect prolonged global supply chain issues for agricultural products. The Russian Ministry of Industry and Trade recommended suspending fertilizer exports in retaliation against Western sanctions, and Ukraine announced that it would suspend rye, oat, millet, buckwheat, salt, sugar, meat, and livestock exports. Agricultural technology can minimize input and maximize output, so as the war pressures already strained food systems, we expect countries to explore innovative commodity production further.

Disruptive Materials

Metals a Hot Commodity

The war between Russia and Ukraine is driving commodity prices through the roof. Prices of nickel more than doubled on the London Metal Exchange to surpass \$100,000 per metric ton.⁷ Russia is the world's third-largest producer of nickel, which can be found in stainless steel and lithium-ion batteries. Copper prices reached an all-time high, with prices now listed at \$4.90 per pound.⁸ Many renewable energy products use



copper for its conductivity. Palladium prices also surged to a new record, as Russia accounts for 40% of palladium mining production.⁹ Catalytic converters use the metal in gasoline-powered vehicles.

Cybersecurity & Blockchain

Pressing the Escape Key on Cyberattacks

The world's largest non-fungible token (NFT) platform, OpenSea, fell victim to a phishing attack last month, with users losing over \$1.7 million worth of NFTs.¹⁰ The hack occurred as the company released a smart contract upgrade that prompted users to transfer their NFTs from the Ethereum (ETH) blockchain to a new smart contract. The incident highlights the need for caution when navigating Web3 and its evolving landscape. Cybersecurity concerns escalated to the Senate, which recently passed the Strengthening Cybersecurity Act given worries about the potential for Russian cyberattacks against the United States as part of the war with Ukraine. The bill moved to the House for additional consideration. If the House passes the bill, critical infrastructure organizations would be required to report cyberattacks to the Cybersecurity and Infrastructure Security Agency within 72 hours and ransomware payments within 24 hours.

U.S. Infrastructure

The Infrastructure Investment and Jobs Act Starts to Deliver

The Biden Administration outlined initial investments for work on highways, water systems, ports, and other similar projects as part of the Infrastructure Investment and Jobs Act. Notably, the U.S. Department of Agriculture (USDA) is investing more than \$166.5 million in 108 infrastructure projects.¹¹ Also, the White House called attention to easing supply chain constraints by promoting domestic production of critical minerals, lithium and lithium batteries, and clean hydrogen, as well as the deployment of carbon capture, utilization, and sequestration technologies. The first round of funding targets states particularly affected by droughts and other natural disasters, in addition to underserved communities with limited resources.

Electric Vehicles & Battery Tech

Tight Race Between Manufacturers

Tesla received final approval for its \$5.5 billion Gigafactory in Berlin, a long-awaited solution to many of the company's production and sales constraints in Europe. The company expects to deliver the first Model Ys from the new factory in March.¹² Tesla's battery supplier, Panasonic, is building a new production facility at its Wakayama factory in western Japan for "4680" battery cells. These new batteries are reportedly larger and cheaper, giving EVs greater range while making them more cost-effective. Volkswagen announced plans for an all-electric model called Trinity, to be built at their new \$2.2 billion new plant.¹³ Production should commence in 2026.¹⁴ Honda and Sony are teaming up to design, develop, and build EVs and mobility services, including network and entertainment technology features for its EVs, by 2025.¹⁵ Hyundai announced three new EV models, bringing its EV fleet to 31. The company has a global EV sales target of 1.9 million models annually through 2030.¹⁶

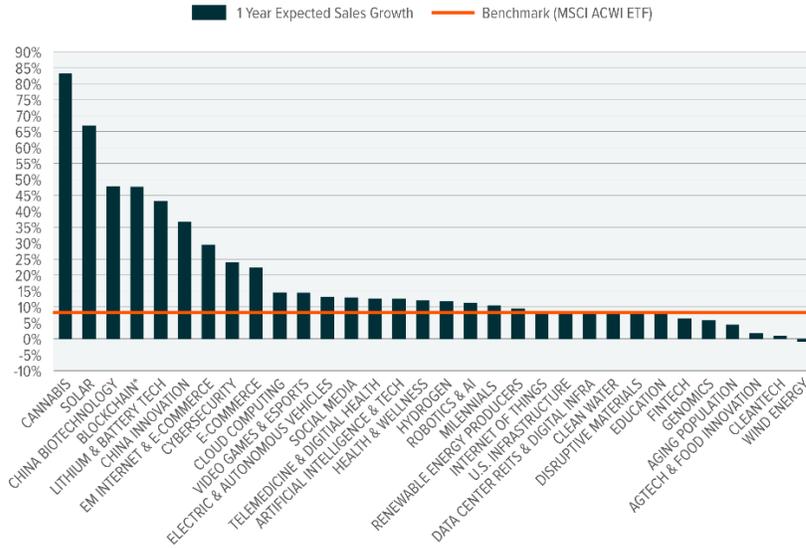
THE NUMBERS



The following charts examine returns and sales growth expectations by theme, based on their corresponding ETFs.

THEMATIC SALES GROWTH

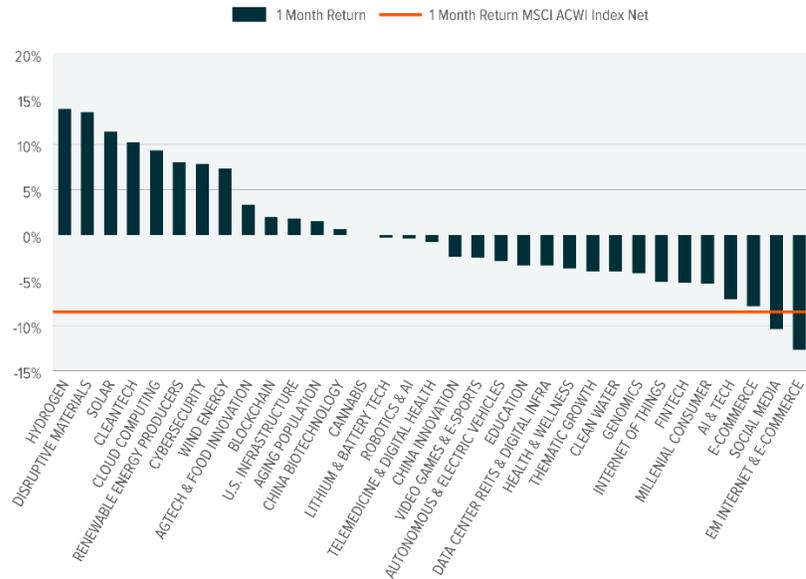
Source: Bloomberg, February 28, 2022, Global X ETFs.



Note: Forward looking based on data and analysis from 2/28/2022. 1 year annualized forward sales growth is the consensus analyst expectations for total sales growth in the next 12 months. *Blockchain reflects figures according to BKCH ETF

FEBRUARY 2022 THEMATIC ETF RETURNS

Source: Bloomberg, February 28, 2022, Global X ETFs.



Note: The performance data quoted represents past performance and does not guarantee future results.



Performance data quoted represents past performance and does not guarantee future results. Investment return and principal value of an investment will fluctuate so that an investors' shares, when sold or redeemed, may be worth more or less than their original cost. Current performance may be higher or lower than the performance quoted. High short-term performance of the fund is unusual and investors should not expect such performance to be repeated. For performance data current to the most recent month end, please call 1-888-493-8631 or visit www.globalxetfs.com.

Standard Performance		Cumulative % Data as of month end 02/28/22				Avg. Annualized % Data as of quarter end 12/31/21				
	Gross Expense Ratio		1 Month	3 Month	Since Inception	1 Year	3 Year	5 Year	10 Year	Since Inception
Robotics & Artificial Intelligence Inception Date 9/12/2016	0.68%	NAV	0.41%	-18.41%	104.92%	8.83%	29.25%	19.84%	-	18.80%
		Market Price	-0.44%	-18.31%	104.93%	8.63%	29.54%	19.77%	-	18.79%
Fintech Inception Date 9/12/2016	0.68%	NAV	0.44%	-18.21%	109.07%	9.66%	29.89%	20.25%	-	19.19%
		Market Price	-4.92%	-25.68%	125.00%	-9.71%	23.91%	23.84%	-	21.48%
"Internet Of Things" Inception Date 9/12/2016	0.68%	NAV	-5.31%	-25.84%	125.12%	-9.72%	23.96%	23.79%	-	21.48%
		Market Price	-4.94%	-25.50%	132.96%	-9.26%	24.65%	24.61%	-	22.21%
"Cloud Computing" Inception Date 4/12/2019	0.68%	NAV	-4.46%	-11.52%	131.22%	23.80%	35.13%	21.31%	-	20.85%
		Market Price	-5.16%	-12.21%	129.97%	24.11%	35.25%	21.24%	-	20.88%
"Social Media" Inception Date 11/14/2011	0.65%	NAV	-4.45%	-11.46%	135.43%	24.28%	35.58%	21.72%	-	21.23%
		Market Price	-9.34%	-24.18%	42.96%	-3.26%	-	-	-	23.97%
"Artificial Intelligence & Technology" Inception Date 5/11/2018	0.68%	NAV	-9.25%	-24.20%	43.73%	-3.33%	-	-	-	24.13%
		Market Price	-9.30%	-24.06%	45.47%	-2.67%	-	-	-	24.64%
"Autonomous & Electric Vehicles" Inception Date 4/13/2018	0.68%	NAV	-10.35%	-20.66%	205.76%	-12.61%	25.09%	20.47%	15.53%	13.82%
		Market Price	-10.35%	-20.66%	205.76%	-12.61%	25.09%	20.47%	15.53%	13.82%
Lithium & Battery Tech Inception Date 7/22/2010	0.75%	NAV	-9.57%	-20.63%	224.11%	-12.33%	25.60%	21.06%	16.19%	14.42%
		Market Price	-6.39%	-15.01%	82.12%	17.03%	35.27%	-	-	23.52%
Genomics & Biotechnology Inception Date 4/5/2019	0.50%	NAV	-7.09%	-15.96%	81.51%	17.10%	35.46%	-	-	23.56%
		Market Price	-6.37%	-14.95%	84.74%	17.61%	35.82%	-	-	23.94%
Millennial Consumer Inception Date 5/4/2016	0.50%	NAV	-2.41%	-9.45%	92.40%	27.98%	38.52%	-	-	22.65%
		Market Price	-2.87%	-9.91%	91.92%	27.80%	38.67%	-	-	22.67%
Aging Population Inception Date 5/09/2016	0.50%	NAV	-2.31%	-9.28%	94.14%	28.64%	38.90%	-	-	22.85%
		Market Price	-0.38%	-17.31%	189.52%	37.39%	47.35%	30.32%	12.97%	10.69%
Health And Wellness Inception Date 5/9/2016	0.50%	NAV	-0.32%	-15.95%	194.96%	36.74%	47.63%	30.37%	13.04%	10.68%
		Market Price	-0.35%	-17.23%	205.66%	38.46%	47.41%	30.29%	13.38%	11.20%
E-Commerce Inception Date 11/27/2018	0.50%	NAV	-4.14%	-24.72%	1.67%	-16.00%	-	-	-	10.02%
		Market Price	-4.21%	-24.82%	3.24%	-15.93%	-	-	-	10.85%
Us Infrastructure Development Inception Date 3/6/2017	0.47%	NAV	-4.07%	-24.66%	3.19%	-15.65%	-	-	-	10.57%
		Market Price	-5.04%	-15.15%	147.87%	14.08%	29.59%	22.78%	-	20.86%
Cannabis Inception Date 9/17/2019	0.51%	NAV	-5.44%	-15.00%	147.18%	13.81%	29.51%	22.72%	-	20.74%
		Market Price	-5.02%	-15.05%	154.81%	14.68%	30.29%	23.40%	-	21.40%
Video Games & Esports Inception Date 10/25/2019	0.50%	NAV	1.73%	-0.61%	85.93%	3.63%	15.60%	14.66%	-	12.86%
		Market Price	1.46%	-0.97%	89.70%	3.92%	15.51%	14.42%	-	13.27%
Cybersecurity Inception Date 10/25/2019	0.50%	NAV	1.74%	-0.57%	88.79%	3.78%	15.84%	14.93%	-	13.15%
		Market Price	-3.29%	-10.58%	74.47%	10.84%	18.07%	15.38%	-	12.74%
Thematic Growth Inception Date 10/25/2019	0.50%	NAV	-3.71%	-11.40%	75.96%	10.44%	17.91%	15.27%	-	12.86%
		Market Price	-3.28%	-10.52%	78.65%	11.18%	18.51%	15.82%	-	13.19%
Education Inception Date 7/10/2020	0.50%	NAV	-7.56%	-19.43%	58.27%	-13.02%	26.17%	-	-	22.25%
		Market Price	-7.94%	-19.57%	57.73%	-13.28%	26.18%	-	-	22.21%
Telemedicine & Digital Health Inception Date 7/29/2020	0.68%	NAV	-7.55%	-19.35%	60.51%	-12.68%	26.75%	-	-	22.76%
		Market Price	1.59%	-1.24%	83.73%	36.26%	29.43%	-	-	15.18%
China Biotech Innovation Inception Date 9/22/2020	0.67%	NAV	1.75%	-1.28%	83.79%	36.42%	29.46%	-	-	15.19%
		Market Price	1.70%	-1.02%	88.49%	37.08%	30.10%	-	-	15.72%
		NAV	-1.57%	-28.52%	-77.23%	-38.91%	-	-	-	-44.16%
		Market Price	0.00%	-28.46%	-77.52%	-39.26%	-	-	-	-44.80%
		NAV	-1.91%	-29.15%	-80.01%	-40.11%	-	-	-	-47.07%
		Market Price	-2.05%	-12.06%	74.85%	-7.92%	-	-	-	34.79%
		NAV	-2.45%	-11.80%	75.13%	-8.45%	-	-	-	34.57%
		Market Price	-2.08%	-12.00%	76.90%	-7.39%	-	-	-	35.44%
		NAV	7.66%	-2.45%	104.60%	13.67%	-	-	-	40.90%
		Market Price	7.83%	-2.45%	108.89%	13.23%	-	-	-	42.02%
		NAV	6.90%	-2.46%	104.82%	14.94%	-	-	-	41.33%
		Market Price	-4.08%	-21.03%	50.66%	3.30%	-	-	-	31.15%
		NAV	-3.96%	-21.35%	51.75%	3.19%	-	-	-	31.57%
		Market Price	-4.11%	-21.12%	49.65%	2.80%	-	-	-	30.74%
		NAV	-4.10%	-19.06%	-49.16%	-49.93%	-	-	-	-29.79%
		Market Price	-3.38%	-18.70%	-49.10%	-50.48%	-	-	-	-30.05%
		NAV	-4.10%	-19.01%	-48.77%	-49.67%	-	-	-	-29.38%
		Market Price	-0.21%	-11.21%	-4.83%	-14.16%	-	-	-	6.04%
		NAV	-0.82%	-11.53%	-5.22%	-14.21%	-	-	-	6.00%
		Market Price	-0.16%	-11.09%	-3.92%	-13.61%	-	-	-	6.67%
		NAV	1.42%	-24.06%	-19.68%	-12.00%	-	-	-	-3.77%
		Market Price	0.58%	-24.23%	-19.81%	-12.71%	-	-	-	-4.24%
		NAV	1.47%	-23.96%	-18.97%	-11.47%	-	-	-	-3.15%
		Market Price	1.47%	-23.96%	-18.97%	-11.47%	-	-	-	-3.15%



Cleantech Inception Date 10/27/2020	0.50%	NAV	10.34%	-20.34%	8.06%	-21.72%	-	-	-	14.86%
		Market Price	10.16%	-19.71%	8.39%	-22.20%	-	-	-	14.53%
		Index	10.36%	-20.24%	5.74%	-23.52%	-	-	-	12.67%
Data Center Reits & Digital Infrastructure Inception Date 10/27/2020	0.50%	NAV	-3.45%	-11.26%	6.43%	20.82%	-	-	-	21.06%
		Market Price	-3.39%	-11.26%	6.42%	20.48%	-	-	-	21.49%
		Index	-3.39%	-11.25%	6.52%	20.81%	-	-	-	21.03%
Emerging Markets Internet & E-Commerce Inception Date 11/09/2020	0.65%	NAV	-12.18%	-20.91%	-42.46%	-38.24%	-	-	-	-29.33%
		Market Price	-12.74%	-20.30%	-42.12%	-38.27%	-	-	-	-29.52%
		Index	-11.70%	-20.45%	-41.70%	-37.81%	-	-	-	-28.85%
Renewable Energy Producers Inception Date 05/27/2015	0.65%	NAV	7.73%	-2.35%	30.73%	-12.27%	14.50%	11.63%	-	4.47%
		Market Price	7.99%	-1.90%	31.29%	-12.96%	14.40%	11.43%	-	4.44%
		Index	8.06%	-1.98%	34.55%	-11.82%	14.87%	12.12%	-	4.87%
China Innovation Inception Date 02/22/2021	0.75%	NAV	-0.99%	-16.04%	-36.12%	-	-	-	-	-
		Market Price	-2.38%	-15.75%	-36.00%	-	-	-	-	-
		Index	-1.23%	-7.91%	-27.17%	-	-	-	-	-
Clean Water Inception Date 04/08/2021	0.50%	NAV	-3.84%	-9.29%	1.16%	-	-	-	-	-
		Market Price	-4.02%	-9.39%	1.30%	-	-	-	-	-
		Index	-3.88%	-9.23%	1.42%	-	-	-	-	-
Agtech & Food Innovation Etf Inception Date 07/12/2021	0.50%	NAV	3.60%	-4.71%	-25.70%	-	-	-	-	-
		Market Price	3.26%	-5.53%	-25.74%	-	-	-	-	-
		Index	3.62%	-4.67%	-25.55%	-	-	-	-	-
Hydrogen Inception Date 07/12/2021	0.50%	NAV	15.12%	-25.63%	-27.59%	-	-	-	-	-
		Market Price	13.92%	-25.51%	-27.71%	-	-	-	-	-
		Index	15.18%	-25.55%	-27.40%	-	-	-	-	-
Blockchain Inception Date 07/12/2021	0.50%	NAV	2.37%	-45.73%	-29.84%	-	-	-	-	-
		Market Price	1.94%	-45.87%	-29.90%	-	-	-	-	-
		Index	2.31%	-45.97%	-30.18%	-	-	-	-	-
Solar Inception Date 09/08/2021	0.50%	NAV	11.81%	-15.23%	-9.94%	-	-	-	-	-
		Market Price	11.44%	-13.74%	-8.54%	-	-	-	-	-
		Index	11.84%	-15.15%	-9.75%	-	-	-	-	-
Wind Energy Inception Date 09/08/2021	0.50%	NAV	8.15%	-5.59%	-9.62%	-	-	-	-	-
		Market Price	7.33%	-4.33%	-8.49%	-	-	-	-	-
		Index	8.23%	-5.49%	-9.39%	-	-	-	-	-
Disruptive Materials Inception Date 01/24/22	0.59%	NAV	14.72%	-	11.92%	-	-	-	-	-
		Market Price	13.52%	-	12.76%	-	-	-	-	-
		Index	14.75%	-	11.97%	-	-	-	-	-

P/S AND EV/S

Source: Bloomberg, data is as of 2/28/22 and 1/31/22, Global X ETFs.

Ticker	Name	P/S		EV/S	
		2/28/22	1/31/22	2/28/22	1/31/22
BUG	Global X Cybersecurity ETF	8.42	7.80	9.71	9.24
GNOM	Global X Genomics & Biotechnology ETF	7.12	7.58	6.88	7.38
CLOU	Global X Cloud Computing ETF	6.66	7.56	7.07	7.84
BKCH	Global X Blockchain ETF	6.33	7.60	8.56	9.65
HYDR	Global X Hydrogen ETF	6.25	5.48	5.80	5.04
CHB	Global X China Biotech Innovation ETF	5.95	5.87	5.75	5.69
VPN	Global X Data Center REITs & Digital Infrastructure ETF	5.20	5.86	6.44	6.97
KEJI	Global X China Innovation ETF	4.59	4.74	3.47	3.79
AGNG	Global X Aging Population ETF	4.31	4.31	4.94	4.92
HERO	Global X Video Games & Esports ETF	3.99	3.81	3.69	3.58
SOCL	Global X Social Media ETF	3.97	4.50	3.85	4.37
BOTZ	Global X Robotics & Artificial Intelligence ETF	3.96	4.00	3.81	4.15
AIQ	Global X Artificial Intelligence & Technology ETF	3.67	3.65	3.73	3.77
FINX	Global X FinTech ETF	3.61	3.89	24.72	24.27
EDOC	Global X Telemedicine & Digital Health ETF	3.56	3.60	3.90	3.98
RNRG	Global X Renewable Energy Producers ETF	3.47	3.24	5.45	5.53
RAYS	Global X Solar ETF	3.08	2.73	4.02	3.76
AQWA	Global X Clean Water ETF	2.94	3.11	3.96	4.14
POTX	Global X Cannabis ETF	2.90	2.97	6.35	6.18
SNSR	Global X Internet of Things ETF	2.89	3.04	3.20	3.36
SPX	S&P 500 Index	2.80	2.96	3.09	3.25
MILN	Global X Millennial Consumer ETF	2.64	2.87	3.03	3.25
LIT	Global X Lithium and Battery Tech ETF	2.41	2.43	2.64	2.65
DMAT	Global X Disruptive Materials ETF	2.25	2.03	2.59	2.36
EWEB	Global X Emerging Markets Internet & E-commerce ETF	2.15	2.46	2.02	2.36
ACWI	MSCI ACWI Index	2.03	2.12	2.31	2.43
WNDY	Global X Wind Energy ETF	1.84	1.69	3.00	2.85
EDUT	Global X Education ETF	1.64	1.65	1.47	1.79
KROP	Global X AgTech & Food Innovation ETF	1.56	1.55	1.83	1.84
CTEC	Global X Cleantech ETF	1.54	1.36	1.76	1.62
PAVE	Global X U.S. Infrastructure Development ETF	1.48	1.52	1.80	1.80
BFIT	Global X Health & Wellness ETF	1.43	1.49	1.61	1.67
EBIZ	Global X E-commerce ETF	1.39	1.72	1.38	1.81
DRIV	Global X Autonomous & Electric Vehicles ETF	1.11	1.23	1.17	1.38

P/S and EV/S refer to price-to-sales and enterprise value-to-sales, respectively.



F12 MONTH SALES GROWTH, PSG, AND EVSG

Source: Bloomberg, data is as of 2/28/22 and 1/31/22, Global X ETFs.

Ticker	Name	F12M Sales (%)		PSG		EVSG	
		2/28/22	1/31/22	2/28/22	1/31/22	2/28/22	1/31/22
POTX	Global X Cannabis ETF	83.2%	82.0%	0.03	0.04	0.08	0.08
RAYS	Global X Solar ETF	66.9%	65.7%	0.05	0.04	0.06	0.06
CHB	Global X China Biotech Innovation ETF	47.8%	46.8%	0.12	0.13	0.12	0.12
BKCH	Global X Blockchain ETF	47.7%	69.1%	0.13	0.11	0.18	0.14
LIT	Global X Lithium and Battery Tech ETF	43.2%	38.2%	0.06	0.06	0.06	0.07
KEJI	Global X China Innovation ETF	36.7%	34.5%	0.12	0.14	0.09	0.11
EWEB	Global X Emerging Markets Internet & E-commerce ETF	29.5%	29.1%	0.07	0.08	0.07	0.08
BUG	Global X Cybersecurity ETF	24.0%	23.4%	0.35	0.33	0.40	0.39
EBIZ	Global X E-commerce ETF	22.3%	25.8%	0.06	0.07	0.06	0.07
CLOU	Global X Cloud Computing ETF	14.5%	15.0%	0.46	0.51	0.49	0.52
HERO	Global X Video Games & Esports ETF	14.4%	24.0%	0.28	0.16	0.26	0.15
DRIV	Global X Autonomous & Electric Vehicles ETF	13.2%	11.6%	0.08	0.11	0.09	0.12
SOCL	Global X Social Media ETF	13.0%	17.8%	0.31	0.25	0.30	0.24
EDOC	Global X Telemedicine & Digital Health ETF	12.6%	11.6%	0.28	0.31	0.31	0.34
AIQ	Global X Artificial Intelligence & Technology ETF	12.5%	12.9%	0.29	0.28	0.30	0.29
BFIT	Global X Health & Wellness ETF	12.0%	11.7%	0.12	0.13	0.13	0.14
HYDR	Global X Hydrogen ETF	11.8%	8.9%	0.53	0.62	0.49	0.57
BOTZ	Global X Robotics & Artificial Intelligence ETF	11.3%	12.6%	0.35	0.32	0.34	0.33
MILN	Global X Millennial Consumer ETF	10.5%	12.4%	0.25	0.23	0.29	0.26
RNRG	Global X Renewable Energy Producers ETF	9.5%	14.1%	0.36	0.23	0.57	0.39
SNSR	Global X Internet of Things ETF	8.7%	8.5%	0.33	0.36	0.37	0.40
SPX	S&P 500 Index	8.7%	10.0%	0.32	0.30	0.35	0.33
ACWI	MSCI ACWI Index	8.5%	9.8%	0.24	0.22	0.27	0.25
PAVE	Global X U.S. Infrastructure Development ETF	8.4%	9.5%	0.18	0.16	0.21	0.19
VPN	Global X Data Center REITs & Digital Infrastructure ETF	8.3%	15.5%	0.63	0.38	0.78	0.45
AQWA	Global X Clean Water ETF	8.0%	10.2%	0.37	0.31	0.49	0.41
DMAT	Global X Disruptive Materials ETF	7.8%	9.4%	0.29	0.22	0.33	0.25
EDUT	Global X Education ETF	7.7%	8.6%	0.21	0.19	0.19	0.21
FINX	Global X FinTech ETF	6.3%	7.5%	0.57	0.52	3.92	3.22
GNOM	Global X Genomics & Biotechnology ETF	5.8%	10.2%	1.23	0.75	1.19	0.73
AGNG	Global X Aging Population ETF	4.4%	7.1%	0.97	0.61	1.11	0.70
KROP	Global X AgTech & Food Innovation ETF	1.8%	2.6%	0.87	0.60	1.01	0.71
CTEC	Global X Cleantech ETF	0.9%	-0.9%	1.63	-1.51	1.87	-1.80
WREX	Global X Wind Energy ETF	-0.9%	5.1%	-1.95	0.33	-3.18	0.56

Note: F12 Sales Growth refers to the consensus analyst expectations for total sales growth in the next 12 months. PSG and EVSG refer to Price-to-Sales over F12 Sales Growth and Enterprise Value over F12 Sales Growth, respectively. N/As reflect a negative growth number in the denominator and similar to traditional PEG ratios aren't typically displayed as such (hence the N/A).

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- **Physical Environment:** [U.S. Infrastructure Development ETF \(PAVE\)](#), [CleanTech ETF \(CTEC\)](#), [Renewable Energy Producers \(RNRG\)](#), [Clean Water ETF \(AQWA\)](#), [Hydrogen ETF \(HYDR\)](#), [Solar ETF \(RAYS\)](#), [Wind Energy ETF \(WNDY\)](#)
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1. Clifford, C. (2022, March 2). Russia's war with Ukraine offers critical lessons for global energy markets. *CNBC*.
2. Ibid.
3. Carrell, P., & Thomasson, E. (2022, February 28). Germany to speed renewables push due to Ukraine crisis. *Reuters*.
4. Ibid.
5. Yahoo! Finance. (2022, March 2). 'We've got a real shortage' of wheat, corn supplies amid Russia-Ukraine war, farmer says [Video]. *Yahoo! News*.
6. Wax, E. (2022, February 28). Ukraine war 'will be painful' for EU food and farming, Commission official warns. *Politico*.
7. Meredith, S. (2022, March 8). Nickel prices double to record \$100,000 a ton, trading suspended in London. *CNBC*.
8. Mining.com Staff Writer. (2022, March 7). Copper price retreats after hitting all-time high. *Mining.com*.
9. Golubova, A. (2022, March 7). What's next for palladium price after metal hits record highs on Ukraine crisis? *Kitco*.



10. Chawla, V. (2022, February 21). OpenSea hack: Key takeaways on Web3 security. *Crypto Briefing*.
11. U.S. Department of Agriculture. (2022, March 3). *President Biden and USDA invest more than \$166.5 million in infrastructure to protect American communities* [Press release].
12. John, D. (2022, February 27). Giga Berlin expected to receive final approval this week, grand opening ceremony and first deliveries tentatively scheduled for March 22: Report. *Drive Tesla: Canada*.
13. Oliva, J. (2022, March 6). Electric VW Trinity to be built at a new \$2.2-billion factory. *Motor1.com*.
14. Ibid.
15. Lavars, N. (2022, March 6). Sony and Honda team up to build electric vehicles. *New Atlas*.
16. Ehringer, N. (2022, March 6). The EVs are coming; the EVs are coming! The Hyundai family announces future EV plans. *Motor Biscuit*.

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