

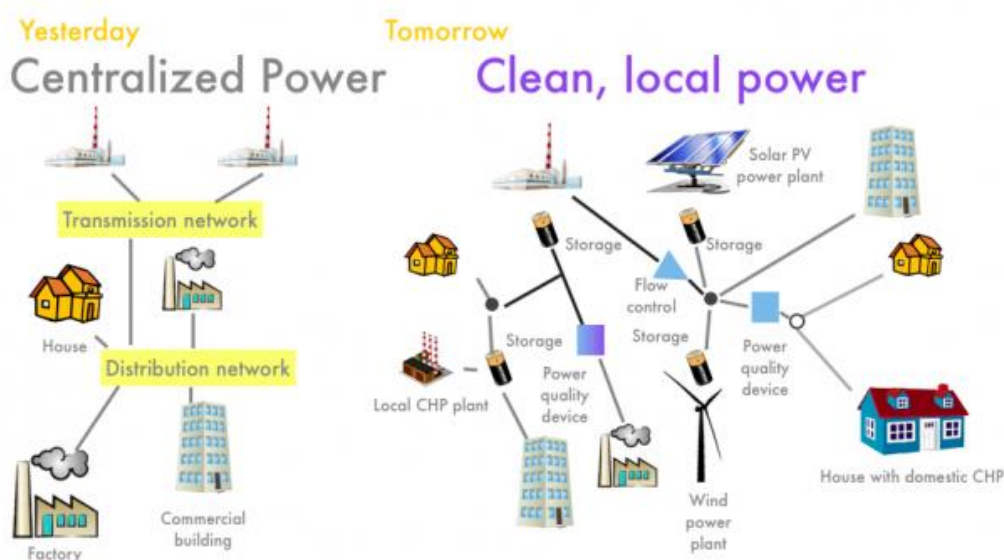


NEW TARIFFS CAN CREATE RIPPLES IN DISTRIBUTED SOLAR ECOSYSTEM. LONG TERM INVESTORS CAN TAKE REFUGE IN ENPHASE ENERGY (ENPH).

Key takeaway: Decentralized solar has been growing at a rapid pace for the past 10 years and its total install capacity is expected to reach 11-Gigawatt hour direct current (GWHdc) by 2027. This has benefitted companies across the solar industry such as panel manufacturers, installers, financiers, energy storage providers, etc. However, latest developments related to tariffs are expected to have a negative short-term demand impact, because the widely used Chinese components are going to cost more, leading to higher project costs or even project cancellations. However, in the long-term, these measures will strengthen the U.S. solar industry by reducing dependence on China as it gears up reach new levels of install capacity. For long-term investors, this offers a chance to start building positions in cleantech leaders like Enphase Energy (ENPH) that has a diversified customer base, best-in-class technology, is gaining market share, and is available at a modest valuation that will lend to multiple expansion when the cycle turns.

As the world grapples with the pressing challenges of climate change and energy security, distributed solar energy is emerging as a beacon of hope and innovation. This technology, which involves generating solar power closer to the point of use, rather than at a large, centralized plant, offers a transformative approach to energy production and consumption. The global energy landscape is undergoing a significant transformation driven by the need to reduce greenhouse gas emissions, enhance energy security, and provide reliable power to underserved regions. Traditional centralized power generation, often reliant on fossil fuels, contributes significantly to carbon emissions and faces vulnerabilities such as grid failures and fuel supply disruptions. Distributed solar energy addresses these issues by enabling localized power generation. This not only reduces transmission losses but also enhances the resilience of the energy system. In regions with inadequate grid infrastructure, distributed solar systems can provide reliable and clean energy, contributing to economic development and improved quality of life.

Chart 1: Centralized vs. Decentralized Power System



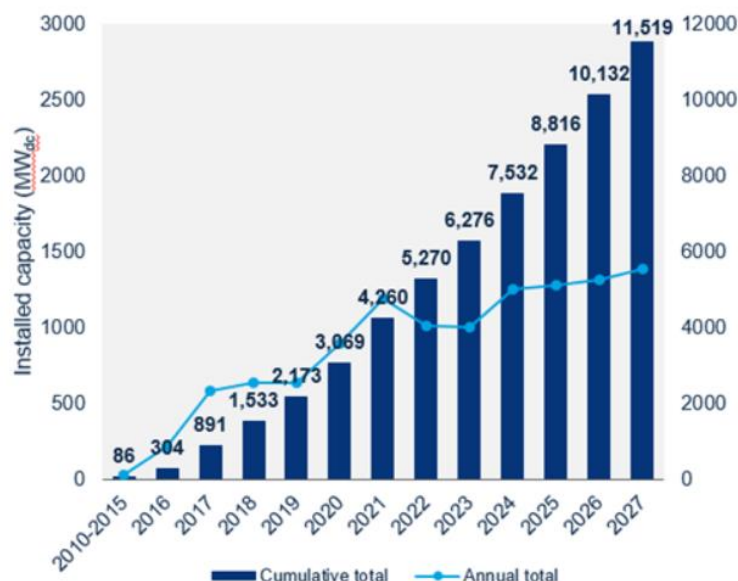
Source: Intro-act, [LinkedIn](#)

Here are key benefits of distributed solar energy:

- **Energy resilience and security:** By generating power closer to where it is consumed, distributed solar systems minimize energy losses associated with long-distance transmission. Distributed solar can support grid stability and reduce the risk of widespread outages by diversifying the energy supply.
- **Electrification of remote areas:** Distributed solar systems provide a viable solution for electrifying remote and underserved areas, where extending the grid infrastructure may be economically unfeasible.
- **Environmental sustainability:** By generating electricity from sunlight, distributed solar systems significantly reduce greenhouse gas emissions compared to fossil fuel-based power generation. Distributed solar energy is a cornerstone of the transition towards a renewable energy future, contributing to global efforts to combat climate change.
- **Economic growth:** The distributed solar industry creates jobs across various sectors, including manufacturing, installation, maintenance, and financing. Moreover, homeowners and businesses can achieve significant savings on their energy bills by generating their own power and reducing dependence on grid electricity.

Given its multiple benefits, the install capacity of distributed solar (community solar) has seen strong addition year-on-year and is expected to hit 11.5 Gigawatt hours direct current GWhdc by 2027, according to Wood Mackenzie estimates. Distributed or community solar installations across the U.S. have grown rapidly, as it increased from mere 86 MWhdc in 2015 to 4.2 GWhdc in 2021. Going forward, Wood MacKenzie expects the install capacity to increase at a CAGR of 116% between 2022 and 2027, to reach 11.5 GWhdc by 2027.

Chart 2: Cumulative Installed Capacity of Distributed Solar Power Projects



Source: Intro-act, Wood Mackenzie's US Distributed Solar service

The imposition and adjustment of import tariffs on solar power equipment have had a significant impact on the decentralized solar power industry in the U.S. These tariffs, primarily aimed at Chinese-made solar cells and modules, have created a complex landscape for solar energy deployment. Below is a summary of recent developments related to import tariffs and their implications on the solar industry.

- **Increase in Section 301 tariffs:** In 2024, the Biden administration increased tariffs on imported solar cells from China from 25% to 50%. This move is intended to counteract China's dominance in the global solar supply chain, which has been maintained through policies that create overcapacity and artificially low prices. The direct impact on costs for solar installations using Chinese-made components has risen, potentially increasing the overall cost of decentralized solar projects.
- **Reinstatement of bifacial solar panel tariffs:** The exemption for bifacial solar panels was removed, reinstating a 15% tariff. This change is expected to raise the costs for commercial, industrial, and utility-scale solar projects by 1-2%. Given that bifacial panels represent a significant portion of imported solar modules, the cost increase will affect many ongoing and future projects.
- **Anti-dumping and countervailing duties:** The Department of Commerce initiated investigations into alleged dumping and subsidizing of solar products by manufacturers in Southeast Asia, which could lead to tariffs as high as 280.18% on imports from these countries. The solar industry has started adjusting supply chains to mitigate these impacts, potentially sourcing more from countries like India, Singapore, and the Netherlands, which may not face such stringent tariffs.

The short-term impact of these changes could slow-down demand for distributed solar in the short term, but will eventually benefit U.S. companies. The decision will impact several type of companies involved in the distributed solar ecosystem such as solar panel manufacturers (First Solar, Sunpower), energy storage solution providers (Enphase Energy, Tesla), solar installation and servicing companies (Sunrun), integrated solar solution providers (NextEra Energy, Brookfield Renewable Partners), and solar financing and software companies (SolarEdge, Sunlight Financial Holdings). In the short term, the costs of projects and components will increase and some of the projects might get delayed or cancelled, which will hamper demand across the industry. However, this will eventually turn out to be positive for U.S.-based manufacturers as they will have to ramp up capacities and diversify their supply chains to lower their dependence on Chinese products.

We believe that companies from the solar ecosystem, that have diversified revenue streams to withstand the short-term demand shock, can benefit from the long-term opportunity these developments will create. Companies involved in installing and financing solar projects will be hit the hardest, but companies that provide energy storage solutions to a much-diversified client base, such as Enphase Energy (ENPH), and Tesla (TSLA), which has an even more diversified product offering, will benefit from the long-term opportunities. We spotlight Enphase Energy as our pick from this sector.

Company Spotlight: Enphase Energy, Inc. (NASDAQ: ENPH)

Enphase Energy, Inc. (NASDAQ: ENPH) has established itself as a prominent player in the renewable energy sector, particularly in home energy storage solutions. The company is known for its innovative microinverter technology, energy storage systems, and comprehensive energy management solutions, positioning itself as a key driver in the distributed solar power industry. Enphase Energy is headquartered in Fremont, California, and operates globally with a significant presence in the U.S., Europe, and Asia-Pacific. The company focuses on designing, developing, and manufacturing advanced home energy solutions, including microinverters, energy storage systems, and software for energy management. Enphase collaborates with various stakeholders in the energy sector, including residential solar installers, utilities, and technology partners, to expand its market reach and drive the adoption of clean energy technologies. Some of the innovative products offered by the company include:

- **Microinverters:** Enphase's core technology lies in its microinverters, which convert direct current (DC) generated by solar panels into alternating current (AC) at the panel level. This technology enhances system reliability, safety, and efficiency by allowing each panel to operate independently.
- **IQ Series Microinverters:** The latest IQ series microinverters are designed to optimize the performance of individual solar panels, increase energy harvest, and provide better reliability. These microinverters are compatible with both residential and commercial solar installations.
- **Energy Storage Solutions:** Enphase's Encharge™ energy storage system uses lithium iron phosphate (LiFePO4) batteries, known for their safety and longevity. The system allows homeowners to store excess solar energy and use it during periods of low sunlight or power outages, providing energy independence and resilience.
- **Energy Management:** The Enphase Enlighten™ platform offers real-time monitoring and management of solar energy systems. It utilizes advanced data analytics and machine learning to provide insights into system performance, energy production, and consumption patterns, helping users optimize their energy use.
- **Smart Home Integration:** Enphase systems are designed to integrate with smart home technologies, enhancing the overall efficiency and convenience of managing solar energy.

Chart 3: The Enphase Energy System for Homes



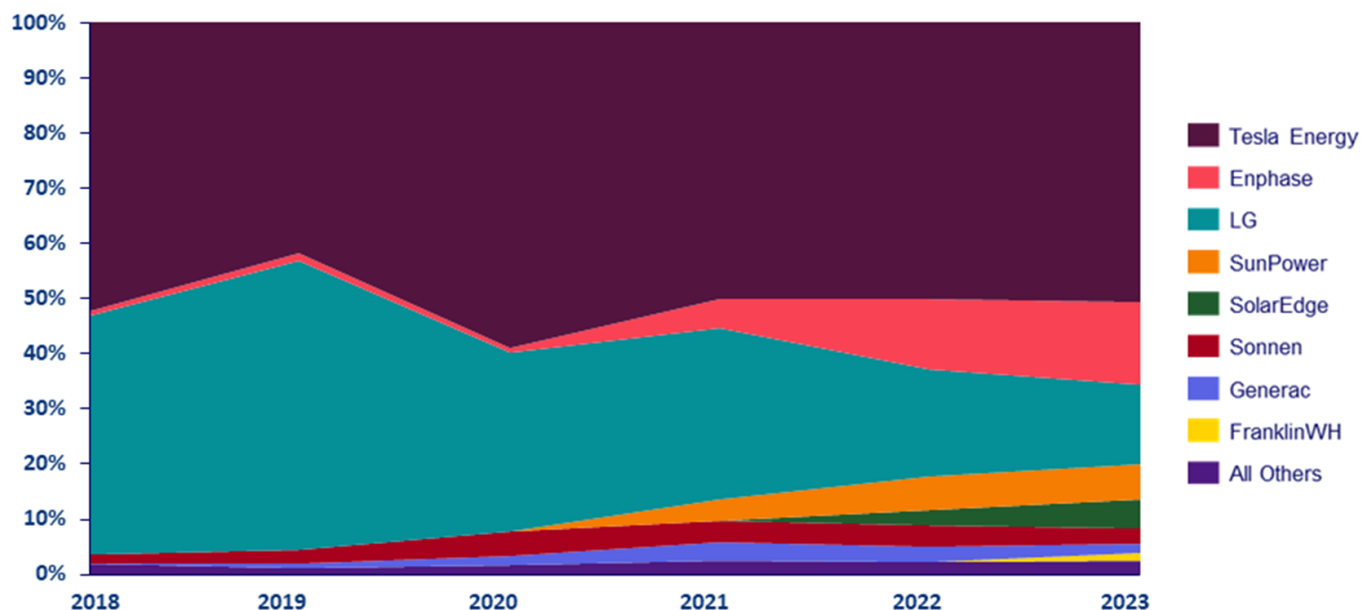
Source: Intro-act, Company Presentation

ENPH has taken multiple initiatives to drive share gains in the home consumer segment, including:

- **Acquisition of ClipperCreek:** In a strategic move to expand its product portfolio, Enphase acquired ClipperCreek, a provider of electric vehicle (EV) charging solutions. This acquisition enables Enphase to offer integrated EV charging solutions alongside its solar and storage products, addressing the growing demand for holistic clean energy solutions.
- **Product launches:** Enphase recently launched the IQ Battery 5P in Canada, expanding its energy storage offerings. The IQ Battery 5P is designed to deliver high power and long-duration storage, meeting the needs of residential and commercial customers.
- **Manufacturing streamlining:** To optimize its production capabilities, Enphase is ceasing operations at some of its contract manufacturing locations in Romania and Wisconsin. The company is consolidating manufacturing in the United States, focusing on its facilities in South Carolina and Texas.

Chart 4: Enphase Has Rapidly Gained Market Share in Last Two Years

US national solar-plus-storage battery manufacturer market shares by installation count



Source: Intro-act, Wood Mackenzie, Solar Power World

Cyclical slowdown in fundamentals and a rangebound stock create a buying opportunity for investors looking to own a best-in-class cleantech name at an attractive valuation. Enphase Energy company reported quarterly revenue of \$263.3 million in 1Q24, down from \$726.0 million in 1Q23, while gross margin came in at 45.0% as the company shipped 1,382,195 microinverters, or approximately 603.6 megawatts DC, and 75.5 megawatt hours of IQ® Batteries during the quarter. The company's revenue and shipments were lower sequentially, mainly due to soft U.S. demand, due to which it had to reduce shipments to manage channel inventories. ENPH exited the quarter with \$1.63 billion in cash, and made a capex of \$7.4 million, down from \$20.1 million in 4Q23. The company attributed lower capex requirement to the reduction in U.S. manufacturing spending. ENPH has guided its 2Q24 revenue to be in the range of \$290.0 million to \$330.0 million, and expects gross margin to be in the range of 42.0% to 45.0% with net IRA benefit.

The ENPH stock has been rangebound in the last six months and is trading at a steep discount when compared to its five-year average (time series) on multiple parameters. With the fundamentals of the company remaining solid

and market share gains accruing due to best-in-class technology and growth strategy, we believe this creates a great opportunity for long-term investors to enter the stock.

Chart 5: ENPH – Attractively Valued on a Time Series Basis – Multiple Expansion in the Cards

	Current	5 Yr Avg
P/E (LTM)	62.6	123.0
P/E (NTM)	31.3	45.9
PEG (NTM)	2.5	1.3
P/BV	17.8	46.5
P/CF	32.9	68.3
P/Sales	9.0	16.3
EV/EBITDA	48.1	75.6
EV/Sales	9.1	15.4

Source: Intro-act, FactSet. Data as of 6/18.

Chart 6: ENPH Trails the S&P 500 on a LTM basis



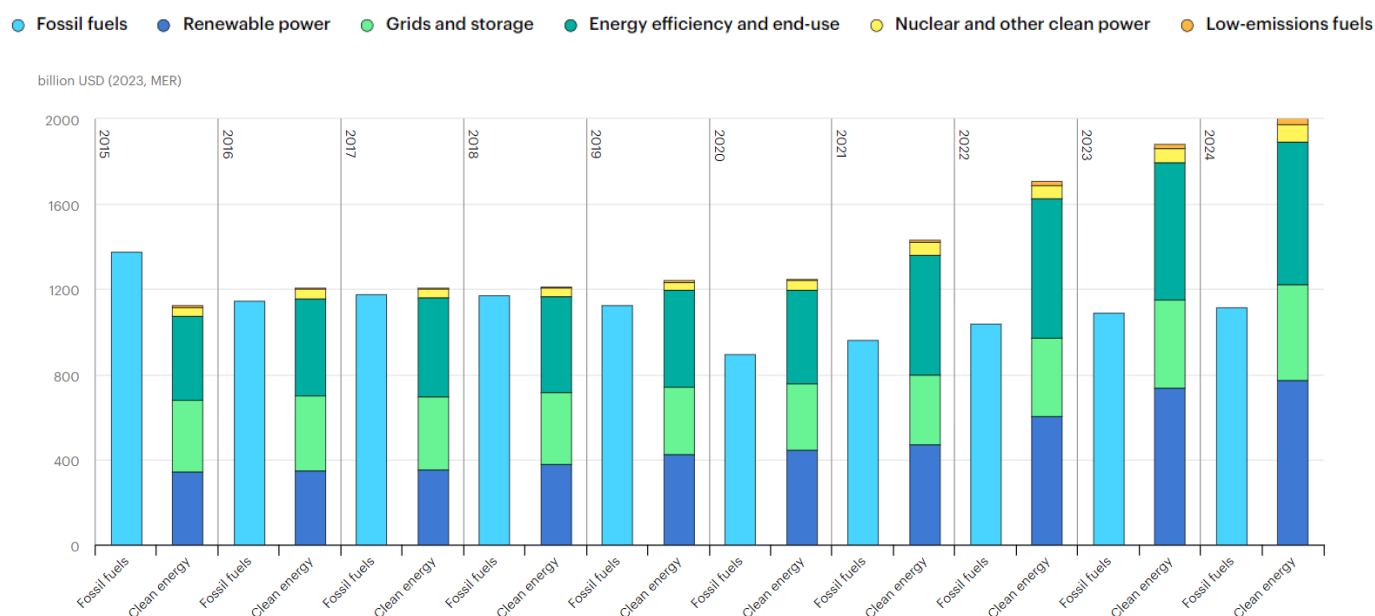
Source: Intro-act, FactSet. Data as of 6/18.

CLEANTECH NEWS

INDUSTRY TRENDS

Global spending on clean energy technologies and infrastructure on track to hit \$2 trillion in 2024. Global investment in clean energy is projected to reach \$2 trillion in 2024, almost double the amount going to fossil fuels. This is driven by lower costs for clean technologies and growing demand for clean energy. However, financing challenges remain in developing countries. Despite China's significant investment, there's a large gap between developed and developing economies in clean energy spending. The report also highlights the need for more investment in electricity grids and storage to support the clean energy transition. [Read More](#) (IEA)

Chart 7: Global Investment in Clean Energy and Fossil Fuels, 2015-2024



Source: Intro-act, IEA

National Grid unveils £60bn investment strategy. National Grid, a British utility company, is investing £60 billion over the next five years to modernize its electricity and gas networks. This investment aims to create a more digital and environmentally friendly energy system, while nearly doubling the company's asset value and creating over 60,000 jobs. To fund this expansion, National Grid will sell some assets and raise £7 billion through a stock issuance. Despite a slight decrease in overall profit, the company's core business remains strong, with rising investment and underlying earnings. [Read More](#) (Power Technology)

Environmental services segment still has plenty of M&A runway. The waste management industry beyond traditional municipal solid waste (MSW) is seeing a surge in acquisitions and investments. This trend is driven by limited disposal capacity and growing customer demand for sustainable waste treatment options. Companies are looking to expand their service offerings in areas like hazardous waste, industrial waste, and "waste-to-value" solutions. This fragmentation in the non-MSW sector presents significant opportunities for consolidation and vertical integration. Private equity and infrastructure funds are also fueling this activity with ample available capital. Industry leaders expect the pace of deals to continue, with companies like Republic Services, Crystal Clean, and Reworld actively pursuing acquisitions to expand their geographic reach, service capabilities, and sustainability practices. [Read More](#) (Waste Dive)

Generative AI and Cleantech show growth despite overall VC downturn. Despite a funding decline in 2023, the 2024 Global Startup Ecosystem Report reveals a mixed picture. Venture capital funding dropped significantly, with fewer exits and new unicorns. However, bright spots emerged in generative AI, which tripled its funding share, and cleantech, which saw a funding surge. Geographically, Silicon Valley retained its top spot, while Tokyo and Seoul climbed the rankings. The report highlights early-stage startup resilience and innovation, particularly in AI and cleantech. Although economic instability lingers, a first-quarter uptick in investment suggests a potential recovery and an opportune moment for investors to capitalize on new opportunities. [Read More](#) (Silicon Angle)

Chart 8: Cleantech Funding Increased 33% between 1H23 and 2H23



Source: Intro-act, Startup Genome

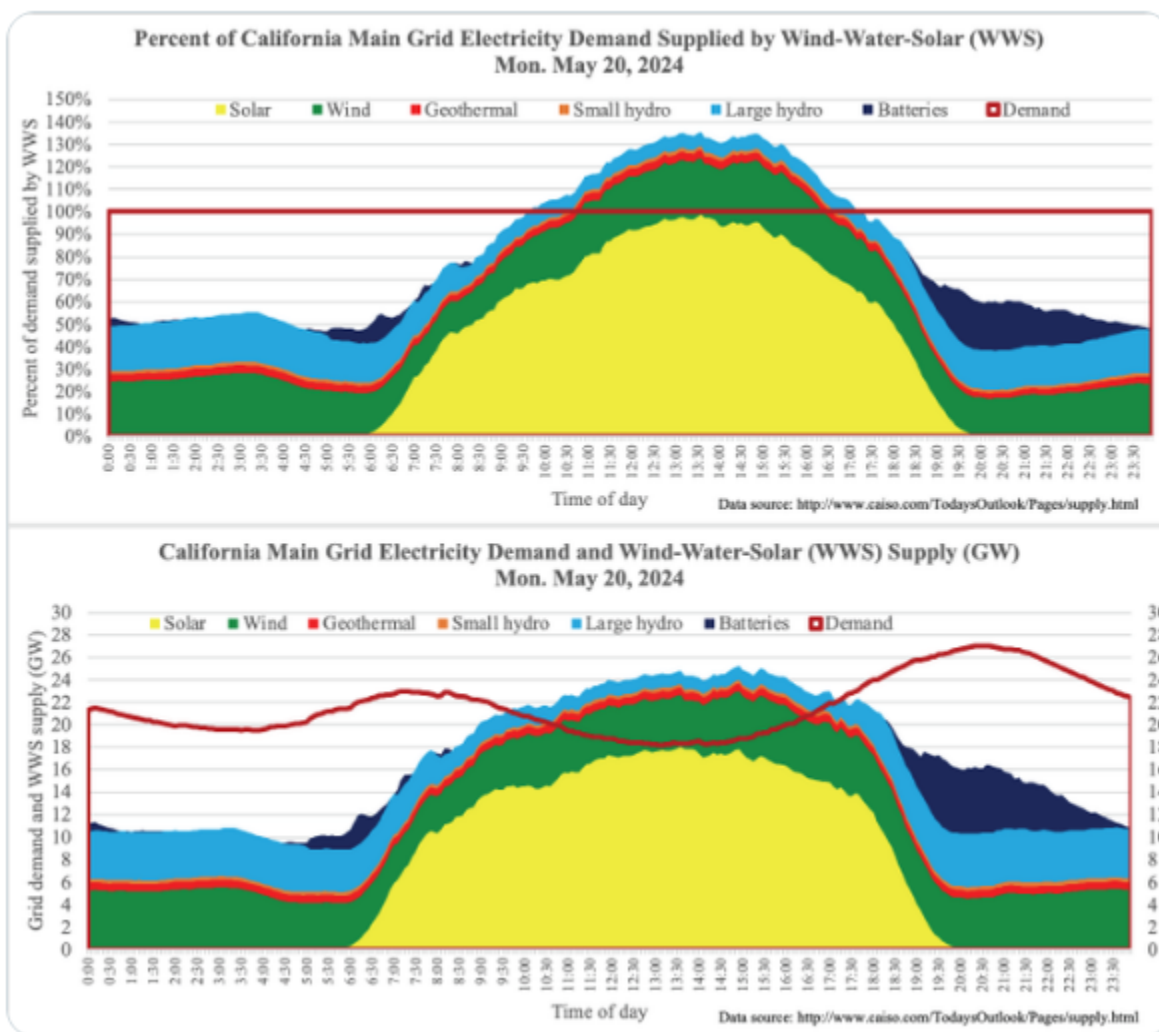
The US installed more solar in Q1 2024 than it did in all of 2018. Certainly! In Q1 2024, the US witnessed its largest quarter of solar manufacturing growth, adding a record-setting 11.8 gigawatts (GW) of new solar panel manufacturing capacity. This accounts for 75% of all new electricity-generating capacity added to the US grid during that period. The US Solar Market Insight Q2 2024 report by the Solar Energy Industries Association (SEIA) and Wood Mackenzie reveals that total US solar panel manufacturing capacity increased to 26.6 GW in Q1 2024, up from 15.6 GW in Q4 2023. The report also highlights that the US added over 40 GW of new solar capacity in 2023, more than initially reported. Wood Mackenzie projects an additional 40 GW installation in 2024. [Read More](#) (Electrek)

IEA: global renewables lagging behind COP28 climate targets. The International Energy Agency (IEA) warns that countries' current renewable energy plans fall short of goals set at COP28. The report investigates the gap between ambitions and implementation. While domestic targets aim for nearly 8,000 gigawatts of capacity by 2030, achieving COP28's target of tripling renewable capacity requires 11,000 gigawatts. Updating Nationally Determined Contributions (NDCs) is seen as a way to bridge the gap. The IEA emphasizes that reaching the target is achievable with continued growth in solar and wind power, but challenges like permitting and grid limitations remain. Tailored policies for different economies are recommended to achieve global climate goals. [Read More](#) (Energy Digital)

Renewables provided almost 30% of US electrical generation in March. Renewables are rapidly growing in the US, with solar leading the charge. Solar generation grew by 25.7% in Q1 2024 compared to last year, surpassing hydropower to become the second-largest renewable energy source behind wind. Renewables as a whole are approaching 30% of US electricity generation, outproducing both coal and nuclear power. This trend is expected to continue, with solar potentially becoming the second-largest source of all US electricity generation in the coming months. [Read More](#) (Electrek)

California exceeds 100% of energy demand with renewables over a record 30 days. California achieved a major milestone in clean energy by exceeding electricity demand with renewable sources like solar, wind, and hydro for a record 45 straight days. This doesn't mean renewables ran the entire grid 24/7, but rather they supplied more than enough power for short periods each day. This consistent surplus allows excess energy to be stored in batteries and used during peak demand times, reducing reliance on fossil fuels. The achievement highlights the potential of renewables and California's ongoing investment in expanding its clean energy infrastructure. [Read More](#) (Electrek)

Chart 9: Wind, Water, Solar Exceed 100% of Demand in California



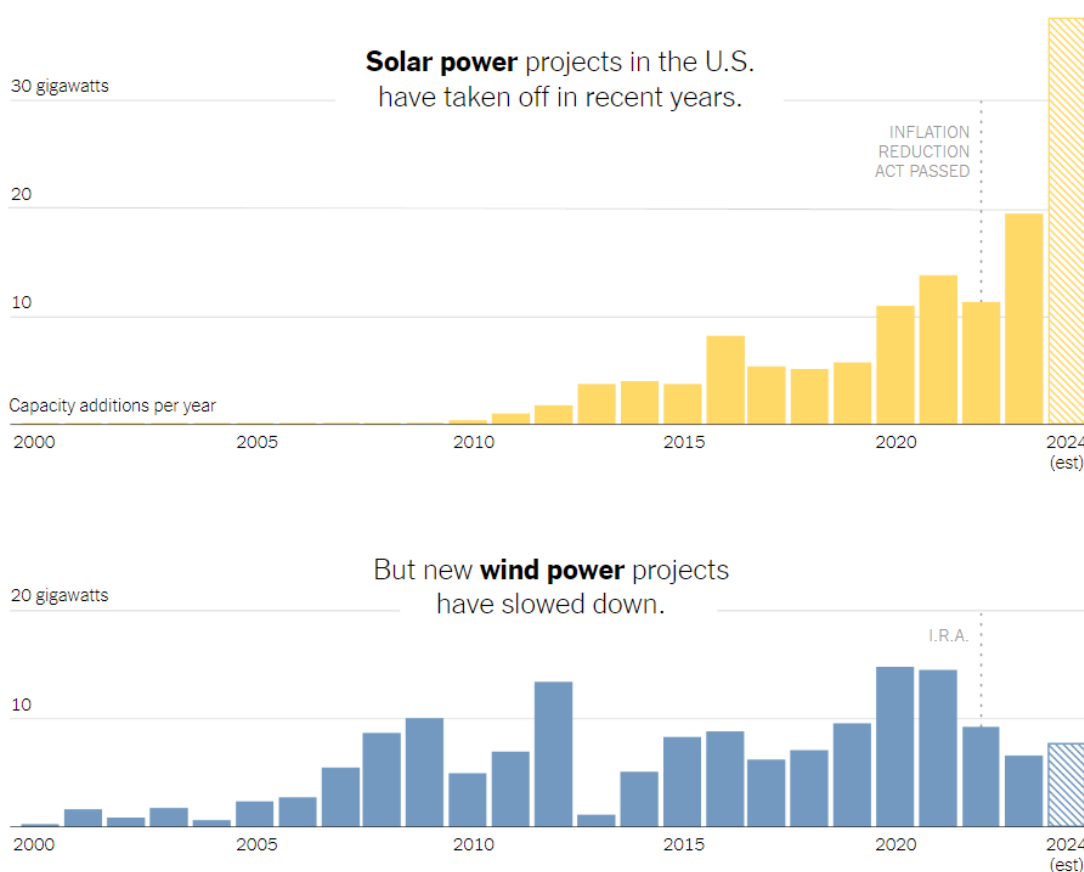
Source: Intro-act, Electrek, X.com, Caiso.com

How renewables could beat natural gas in US generating capacity within 3 years – in numbers. Solar power is rapidly growing in the US and could surpass natural gas as the leading source of electricity generation within three years. Solar accounted for nearly all new generating capacity added in March 2024, and it has been the top source for the past seven months. Renewables now make up almost 30% of US utility-scale generating capacity, with solar and wind leading the way. FERC forecasts predict that solar capacity will more than triple by 2027, exceeding the growth of wind and coal. This rapid growth could make solar the second-largest source of US electricity generation, surpassing coal and approaching natural gas. [Read More](#) (Electrek)

AI critical to success of energy sector, says Goldman Sachs. A major surge in AI adoption is happening within the energy sector. Goldman Sachs reports show nearly 70% of S&P 500 energy companies discussed AI in earnings calls, compared to just 19% last quarter. This rise reflects AI's growing importance for tasks like optimizing production, managing grids, and improving efficiency. While AI's potential is undeniable, challenges like cybersecurity and data bias need to be addressed to ensure a smooth transition to a more AI-powered energy future. [Read More](#) (Energy Digital)

As solar power surges, U.S. wind is in trouble. Despite tax breaks aimed at boosting renewable energy, wind power is struggling in the US while solar thrives. Wind farms face challenges like lack of suitable locations, lengthy permitting processes, and local opposition. Wind is crucial for reducing emissions because it complements solar by generating power at night. While the industry might rebound due to new incentives and manufacturing, political hurdles like permitting reform remain. The future of wind power hinges on overcoming these challenges to achieve clean energy goals. [Read More](#) (NY Times)

Chart 10: Solar Projects Taking off, and Wind Projects Slowing Down in the U.S.



Source: Intro-act, The New York Times, U.S. Energy Information Administration. Notes: Annual utility-scale power capacity additions are shown. Estimates for 2024 include projects scheduled to come online this year.

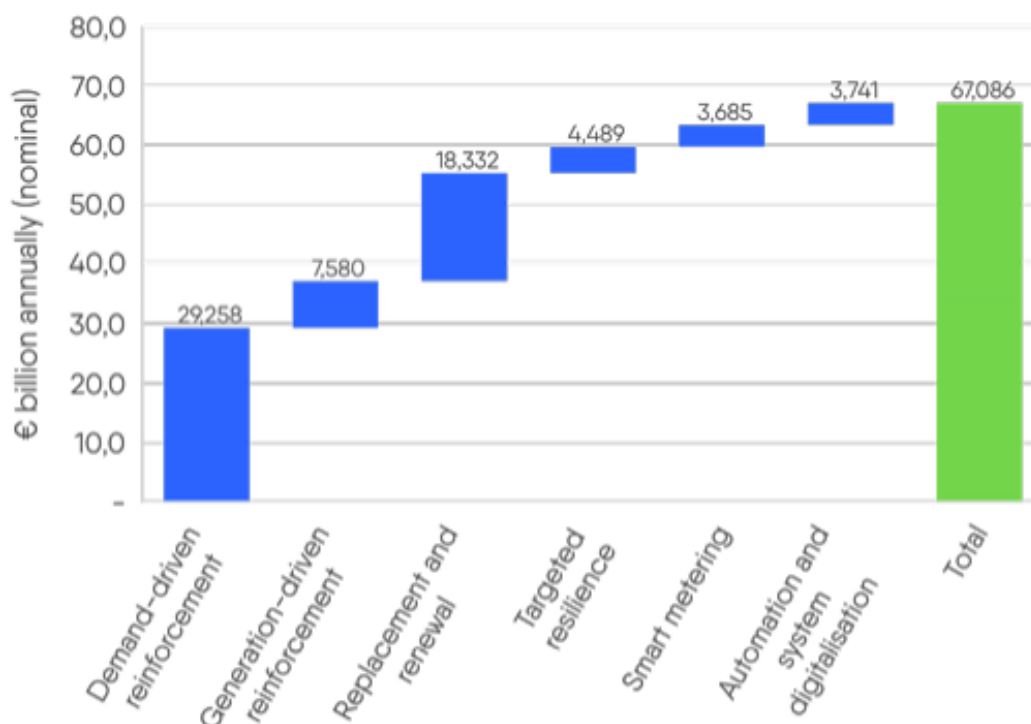
GlobalData: Renewables to lead Italy's energy mix by 2035. Italy is rapidly shifting towards renewable energy in order to reduce reliance on fossil fuel imports and ensure long-term energy security. By 2030, the country expects to have 107.7 gigawatts of renewable energy capacity, generating nearly 60% of its electricity. This ambitious target follows a 2022 drought that highlighted the vulnerability of hydropower and a surge in natural gas prices due to the war in Ukraine. Upgrading the national grid and developing clear roadmaps are crucial to achieving these goals and reducing dependence on imported energy. Italy's transition to renewables positions it as a leader in clean energy and prepares the country for a sustainable future. [Read More](#) (Energy Digital)

UK offshore wind goals 18 years behind – report. The UK could miss its 2030 offshore wind targets by up to 18 years, potentially not meeting them until 2048, according to a report by the IPPR. To achieve its 50GW goal by 2030, the UK must triple its offshore wind installations within the next seven years. The report highlights the UK's lack of wind turbine manufacturing facilities and its lag behind countries like Denmark, Germany, and Spain. The IPPR recommends reviving the UK's wind turbine manufacturing industry to reduce imports and energy dependence. Policy measures, such as contracts for difference, are needed to encourage offshore wind investment and ensure long-term returns. [Read More](#) (Power Technology)

How satellite-enabled IoT can help operators get clarity on supply chains. Energy companies are struggling with volatile prices, changing regulations, and pressure to be more sustainable. This is making it difficult for them to manage their supply chains effectively. Satellite-enabled industrial monitoring can help by providing real-time data on everything from the location of equipment to the health of pipelines. This data can then be used by AI platforms to identify problems and recommend solutions. This can improve efficiency, safety, and sustainability. For example, satellite-enabled monitoring can be used to detect methane leaks from oil and gas equipment. This can help companies reduce their environmental impact and comply with new regulations. [Read More](#) (Power Technology)

Double investments in power distribution or lose Europe's race to net-zero. A new study by Eurelectric shows Europe's electricity grids urgently need a massive upgrade to handle the shift towards renewable energy, electric vehicles, and heating. Investments in distribution grids need to double to €67 billion annually by 2050, enabling the connection of renewables and electric vehicles while creating jobs and improving energy security. Failure to invest could jeopardize the energy transition and leave Europe reliant on fossil fuels. The study recommends a two-pronged approach: national authorities need to streamline regulations and permitting processes, while policymakers should collaborate with industries to address supply chain challenges and ensure a skilled workforce to build the grids of the future. [Read More](#) (Eurelectric)

Chart 11: Annual Average Grid Investment in the EU27+Norway (2025-50)

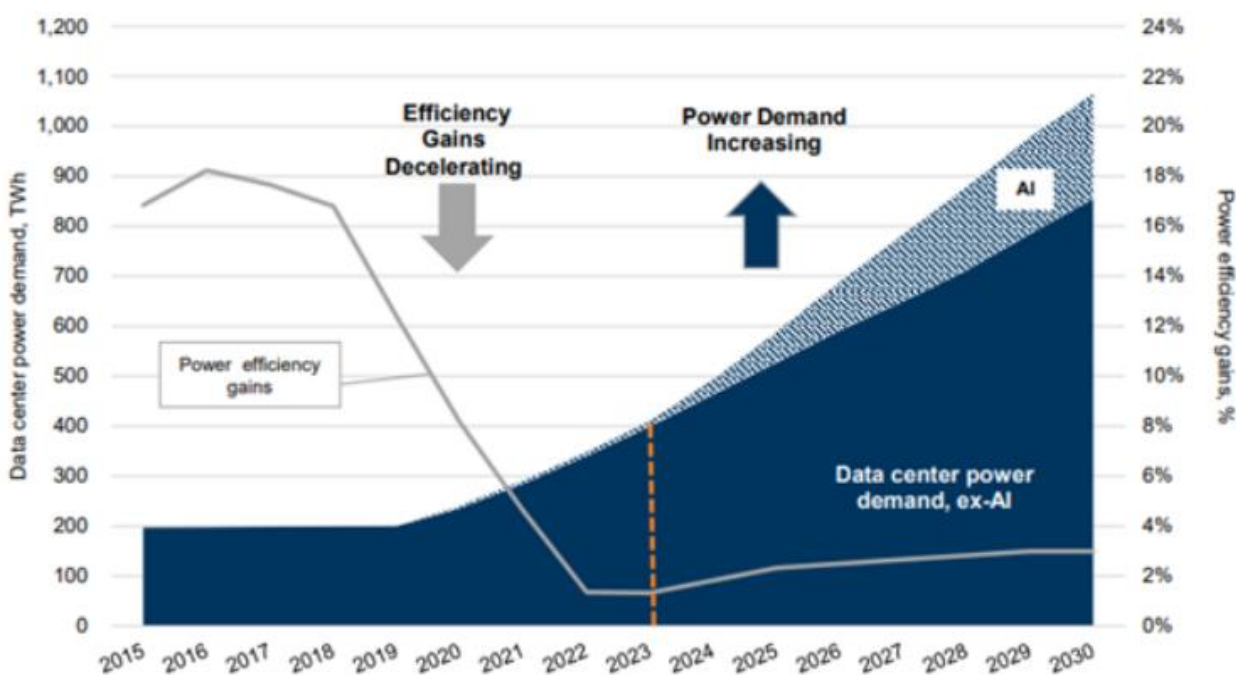


Source: Intro-act, [Ernst and Young](#)

Revolutionizing energy grid maintenance: How artificial intelligence is transforming the future. Argonne National Laboratory researchers developed AI-enabled software to predict failures in power grids before they occur. This is crucial because the US power grid is aging and stressed by the increasing demand for electricity and the integration of renewable energy sources. The software analyzes sensor data to forecast wear and tear and recommend maintenance before problems arise. This can save energy companies time and money and improve the reliability and security of the grid. The technology is being developed in collaboration with energy companies and could be applied to the entire grid, from power plants to power lines. [Read More](#) (Argonne National Laboratory)

AI's power consumption could put the grid — and energy regulators — to the test. The rise of AI presents a challenge for the power grid. While AI has the potential to improve grid efficiency and accelerate clean energy adoption, the massive energy consumption of AI data centers creates significant strain. Data center demand is projected to surge, requiring massive investments in new transmission lines and potentially delaying the retirement of fossil fuel plants. This situation creates a conflict between AI's environmental benefits and its reliance on large amounts of power. Regulators are grappling with how to allocate costs associated with data center growth and ensure the grid can handle the increased demand. [Read More](#) (Vinson & Elkins)

Chart 12: Cleantech Funding Increased 33% between 1H23 and 2H23



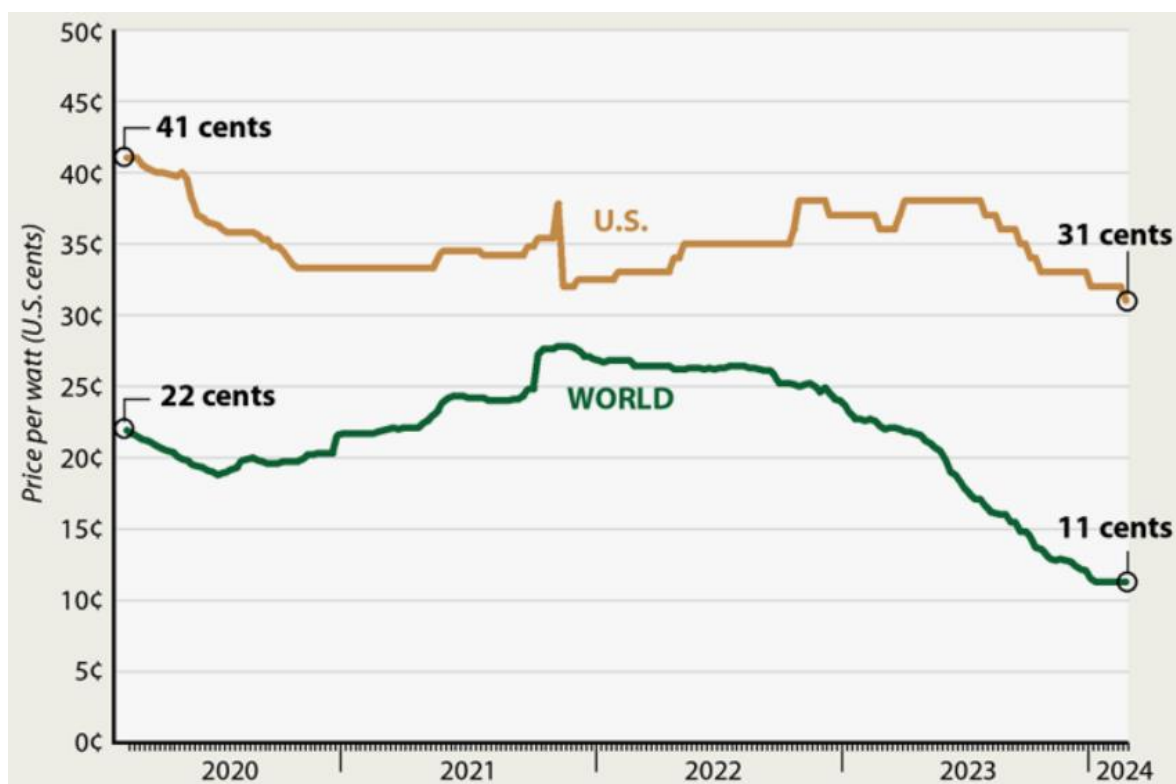
Source: Intro-act, Vinson&Elkins, Cisco, IEA, Goldman Sachs Global Investment Research

SMRs cost-effective in hydrogen production. A new study by Dutch company ULC Energy suggests a cost-effective method for clean hydrogen production. Combining Rolls-Royce's small modular reactors (SMRs) with Topsoe's solid oxide electrolysis cells (SOECs) could bring the price down to €3.50 per kilogram. This method is seen as a significant step towards large-scale clean hydrogen production for decarbonization. Both ULC Energy and Rolls-Royce highlight the advantages of this solution, including low cost, clean energy output, and scalability. [Read More](#) (Power Technology)

The world's only coal-to-nuclear reactor plant just broke ground in Wyoming. Bill Gates' TerraPower recently began construction on the Natrium nuclear reactor plant in Kemmerer, Wyoming. Once operational, Natrium will be the world's most advanced nuclear facility, producing cleaner energy with less waste than conventional reactors. It's a coal-to-nuclear conversion project, located near the retiring Naughton coal-fired plant. TerraPower aims to hire former coal workers for the facility. The 345 MW sodium-cooled fast reactor features a molten salt-based energy storage system, allowing seamless integration with renewables. Natrium's safety advantage lies in liquid sodium's ability to absorb excess heat without risk of meltdown, even during power loss. [Read More](#) (Electrek)

Solar panel prices are low again. Here's who's winning and losing. Solar panel prices are plummeting globally due to increased supply and manufacturing efficiency. However, US prices remain high because of trade policies. The Inflation Reduction Act aims to boost domestic manufacturing but also includes tariffs that could disrupt the market. Rooftop solar prices are also dropping due to competition among installers. Despite challenges for some solar companies, cheaper solar panels are generally beneficial for consumers and the environment. [Read More](#) (Inside Climate News)

Chart 13: Solar Module Prices U.S. cents per watt, March 2020 – Feb. 2024



Source: Intro-act, Inside Climate News. NOTE: Price is for monocrystalline silicon solar modules

Wind turbine blade recycling is underway in Iowa. A wind energy company in Iowa, REGEN Fiber, is building a facility to recycle old turbine blades that typically end up in landfills. This is a challenge because the blades are strong and difficult to break down. In the past, companies have stockpiled blades or even been sued for failing to recycle them. REGEN's process involves shredding the blades and turning them into materials used in construction products like concrete. They plan to begin by recycling 3,000 blades per year with room for future expansion. This development is a positive step for the wind energy industry as it works towards more sustainable practices. [Read More](#) (Iowa Capital Dispatch)

Why offshore wind power is struggling. America's first large-scale offshore wind farms began operations in early 2024, but rising costs and project cancellations by companies like Ørsted, Equinor, BP, and Avangrid have raised doubts about the industry's future. Cancellations, totaling over 12 gigawatts of power, reflect significant financial losses, including \$2.2 billion for Siemens Energy. Challenges include lengthy and uncertain permitting processes, rising supply costs, and regulatory hurdles like the Jones Act. Despite these issues, policy changes and incentives from the Inflation Reduction Act and state governments aim to stabilize the industry and encourage development, viewing offshore wind as a pathway to economic growth and clean energy. [Read More](#) (Governing)

Wind towers crumpled after Iowa wind farm suffers rare direct hit from powerful twister. A powerful tornado in southwest Iowa hit a wind farm, damaging five turbines, including one that caught fire. While such incidents are rare, the tornado recorded wind speeds over 100 mph before destroying the turbines. MidAmerican Energy Company, which operates the wind farm, described the event as unprecedented. Experts, like Jason Ryan from the American Clean Power Association, emphasize that turbines are typically not placed near homes. With nearly 73,000 turbines across the U.S., mainly in tornado-prone states, they are built to withstand severe weather but not direct hits from powerful tornadoes. Future design standards may consider this event for updates. [Read More](#) (AP News)

In a world first, China installs an 18 MW offshore wind turbine. China has installed the world's largest offshore wind turbine, generating 18 megawatts of power. This massive turbine has a rotor diameter exceeding a standard football field and can supply electricity to tens of thousands of homes. This development highlights China's push for larger and more efficient wind turbines to meet their growing energy demands and fulfill their clean energy goals. [Read More](#) (Electrek)

Waste heat from google data centre warming up Finnish Homes. Google is repurposing waste heat from its data center in Hamina, Finland to provide sustainable heating for 2,000 people. This project, a first for Google, captures heat from the data center (powered by 97% carbon-free energy) and redirects it to the local district heating network. This initiative reduces reliance on fossil fuels and supports Finland's commitment to environmental sustainability. Google plans to expand this project in 2025 to further optimize energy efficiency. [Read More](#) (Energy Digital)

New map shows vast potential for geothermal energy beneath entire US. A new geothermal map, GeoMap, reveals vast potential for geothermal energy across the US, especially in the West. The geothermal hotspots are located under military bases, coal plants, industrial facilities and even data centers. This clean energy source can be used for generating electricity, heating and cooling buildings. The data can be used for planning future geothermal projects and can help reduce reliance on fossil fuels. [Read More](#) (The Hill)

New method makes hydrogen from solar power and agricultural waste. University of Illinois Chicago engineers developed a new method to create hydrogen fuel from water using solar power and agricultural waste like manure. This significantly reduces the energy needed for hydrogen production, making it a cleaner and more sustainable process. Traditionally, hydrogen production relies on fossil fuels and releases greenhouse gasses. The new method uses biochar, a carbon-rich substance derived from waste materials, to lower the electricity required for splitting water into hydrogen. This process can be powered by renewable sources like solar panels and even captures the byproduct carbon dioxide for other uses. Researchers believe this technology has the potential to revolutionize clean energy production and empower farmers to become energy independent. [Read More](#) (University of Illinois)

REGULATORY UPDATES

US Commerce Department initiates antidumping and countervailing duty probes into solar cell imports. The US Department of Commerce is investigating whether solar cells from Cambodia, Malaysia, Thailand, and Vietnam are being sold below cost or with government subsidies. This follows a petition by American solar manufacturers who claim these imports are harming their industry. The investigation will determine if duties should be placed on the imports. A preliminary ITC decision is expected by June 10th, with final determinations from both ITC and Commerce by early 2025. [Read More](#) (Mayer Brown)

U.S. adds tariffs to shield struggling solar industry. Reinstated US tariffs target solar panels made by Chinese companies in Southeast Asia. This aims to protect American manufacturers struggling against lower-priced Chinese imports. The Biden administration hopes to balance supporting US solar production with ensuring enough panels for clean energy goals. The tariffs might not be very effective as some Chinese companies have already set up substantial manufacturing in Southeast Asia. US solar manufacturers are pushing for broader protections against potentially unfair practices from these countries. This clash highlights the difficulty of severing economic ties with China, a dominant player in green industries. [Read More](#) (NY Times)

Federal, state officials sign memorandum to boost wind power. Maryland and federal officials signed an agreement to collaborate on offshore wind power projects, supporting the Biden-Harris administration's "green and growing" economic agenda. This memorandum of understanding aims to help Maryland achieve 100% clean electricity by 2035. President Biden has set a goal of 30 gigawatts of offshore wind power by 2030, with 10 gigawatts approved so far. The agreement involves ongoing cooperation to identify wind turbine sites. Governor Wes Moore highlighted the potential for new jobs and higher wages in Maryland, contrasting with resistance faced in states like Texas. White House Climate Advisor Ali Zaidi emphasized the partnership's role in reducing energy costs and creating jobs. [Read More](#) (Maryland Matters)

Vermont becomes the first US state to pass a law requiring Big Oil to pay for climate damage. Vermont's Climate Superfund Act makes fossil fuel companies pay for climate change damages. The law, inspired by the federal Superfund program for toxic waste cleanup, aims to recover costs for repairs, renewable energy investments, and aid to communities affected by climate disasters. Governor Scott, concerned about legal challenges and costs, allowed the bill to become law without signing it. The law is expected to be contested by the oil industry, but if successful, it could be a model for other states and pressure fossil fuel companies to transition to clean energy. [Read More](#) (Electrek)

New York is first in the US to deploy the Home Energy Rebates program. Certainly! New York has taken the lead by launching the Home Energy Rebates program, aimed at assisting low- and middle-income households in saving up to \$14,000 on energy-efficient upgrades. This initiative is part of a nationwide effort backed by \$8.8 billion in federal funding to enhance energy efficiency and reduce household energy bills. The program encourages the installation of energy-saving measures like heat pumps, electrical panels, and insulation. By leveraging the Biden administration's Inflation Reduction Act, these upgrades are expected to save consumers up to \$1 billion annually and create around 50,000 jobs in residential construction and manufacturing. [Read More](#) (Electrek)

Biden's \$7B 'clean' hydrogen dream faces pipeline hurdle. President Joe Biden's plan to develop a clean hydrogen industry faces challenges due to the lack of regulations for transporting the fuel. To meet the expected demand, hydrogen must be delivered via trucks, existing natural gas infrastructure, and new pipelines. However, trucks alone won't suffice, and using existing pipelines raises safety concerns such as potential leaks and explosions. No federal agency currently oversees permits for interstate hydrogen pipelines, and many states lack regulations for intrastate transport. [Read More](#) (E&E News)

EARNINGS

American Superconductor reports fourth quarter and fiscal year 2023 financial results and provides business outlook. AMSC, a company providing power grid resiliency solutions, reported financial results for fiscal year 2023 (ended March 31, 2024). Their revenue increased year-over-year, driven by both Grid and Wind segments. The company had a net loss, but their non-GAAP net income showed improvement compared to the prior year. AMSC believes their strong financial performance positions them well for future growth. [Read More](#) (Green Stock News)

Engie revenue plummets 25% to €22bn in Q1 2024. Engie's Q1 2024 revenues dropped by 24.6% to €22bn. The Global Energy Management and Sales division saw a 31.6% decrease, while retail revenue fell by 26.6%. Energy solutions revenue dipped by 16.3%, and renewables by 2.2%. EBITDA decreased slightly to €5.4bn. Excluding nuclear, EBITDA stood at €4.8bn. EBIT fell by 3.2% to €3.7bn, excluding nuclear. However, renewable and flexible generation segments showed growth. [Read More](#) (Power Technologies)

CAPITAL MARKETS

Gorilla, a Belgian startup that helps energy providers crunch big data, raises \$25M. Belgian energy data company Gorilla has secured €23 million in funding to expand its data analytics platform for energy providers. This cloud-based platform helps companies understand consumption patterns, forecast future needs, and optimize operations. Gorilla plans to use the fresh investment to grow its presence in Germany and the US, where rising energy prices and complex energy landscapes are creating demand for data-driven solutions. The company believes this investment will empower energy retailers to become more agile and transition towards net-zero goals. [Read More](#) (Tech Crunch)

Smart Energies raises EUR 87m for solar with minimum land footprint. French solar energy company Smart Energies has secured €87 million (\$94.8 million) in funding from new and existing investors. This capital injection will accelerate the deployment of photovoltaic systems across Europe. Smart Energies specializes in building mid-scale solar projects on developed land, like rooftops and parking lots. The company currently operates over 500 solar sites with a total capacity of more than 160 MWp. With the new funds, Smart Energies plans to construct over 1,000 additional projects in the next four years. [Read More](#) (Renewables Now)

Cleantech leader Aymium closes \$210 million financing with global investors for advanced biocarbon production facility in Williams, California. Aymium, a leading biocarbon producer, secured \$210 million to build a facility in California. This facility will be the first to continuously use biocarbon to replace coal in power generation, reducing greenhouse gas emissions significantly. An international group of investors including financial institutions and energy companies are funding the project. Aymium's biocarbon is a renewable and carbon-negative alternative to coal that requires minimal modification to existing power plants. [Read More](#) (Business Wire)

Cleantech startup Aira Secures €200 million financing with BNP Paribas to drive heat pump installation. European cleantech startup Aira secured €200 million from BNP Paribas to finance heat pump installations in German homes. This is the first-ever use of heat pump securitization, allowing Aira to offer low or no upfront costs to homeowners. Heat pumps are a more sustainable alternative to traditional gas boilers, reducing household emissions by up to 75%. Aira plans to use this funding to expand its reach across Europe and make clean energy solutions more affordable for homeowners. [Read More](#) (ESG Today)

Chart 14: Snapshot of Aira Heat Pump



Source: Intro-act, Aira Website

Siemens Energy plans to sell Indian wind business at \$1bn valuation. Siemens Energy is selling its Indian wind turbine business, valued at \$1 billion, to focus on core markets and improve profitability. Barclays is managing the sale, with potential buyers including renewable energy companies and infrastructure funds. This move aligns with Siemens Gamesa's strategy to prioritize Europe and the US. Despite the sale, Siemens Gamesa remains committed to servicing its existing wind turbines in India. This sale is part of a larger Siemens Energy plan to integrate Siemens Gamesa and achieve profitability by 2026. [Read More](#) (Power Technology)

M&A

WM to acquire Stericycle in \$7.2B deal. Waste management giant Waste Management (WM) is acquiring Stericycle, a leader in medical waste collection and disposal, for \$7.2 billion. This deal will expand WM's healthcare waste services and position them as a one-stop shop for environmental solutions. Stericycle also offers secure information destruction through its Shred-It business. WM expects this acquisition to boost its earnings within a year and generate over \$125 million in annual savings. Stericycle sees this as an opportunity to leverage WM's broad network and improve its own environmental impact. [Read More](#) (Waste Dive)

Statkraft concludes acquisition of Spanish renewables company Enerfin. Statkraft, a Norwegian renewable energy company, has finalized its acquisition of Enerfin, a Spanish renewables company, for €1.56 billion. This deal strengthens Statkraft's position in the renewable energy market, particularly in Spain and Brazil, where it becomes a top 10 wind power producer. The acquisition adds 1.5GW of wind and solar projects to Statkraft's portfolio, along with a development pipeline. While Enerfin's core business aligns well with Statkraft's strategy, the company plans to sell Enerfin's assets in several countries to focus its resources on key markets. [Read More](#) (Power Technology)

India's Adani Energy Solutions acquires Essar Transco for \$227.5m. Adani Energy Solutions, a major Indian power transmission company, has acquired Essar Transco for Rs 19 billion. This deal expands AESL's reach in central India with a 673-kilometer transmission line. The acquisition aligns with AESL's plan to grow its network and improve efficiency. Notably, the company secured financing for the project at competitive rates, highlighting the strength of its existing assets and future potential. [Read More](#) (Power Technology)

Advanced Energy makes £571m offer to acquire XP Power. US company Advanced Energy Industries is offering to buy UK-based XP Power for £571 million (\$725.4 million). This follows three previous rejected offers, with the latest valuing XP Power at £19.50 per share. Advanced Energy believes acquiring XP Power's engineering expertise and product portfolio will strengthen its own offerings in areas like industrial, medical, and semiconductor power conversion equipment. This would allow them to provide a wider range of technologies, particularly for powering semiconductor equipment. [Read More](#) (Power Technology)

Rialto Bioenergy Facility sold to Sevana Bioenergy for \$20M. Idaho-based Sevana Bioenergy acquired the Rialto Bioenergy Facility in California for \$20 million. This facility processes food waste and biosolids to produce renewable natural gas (RNG). Despite its initial promise, Rialto struggled due to delays in California's SB 1383 organics recycling program. Sevana plans to gradually increase Rialto's production capacity and leverage its recent \$250 million investment to further expand RNG projects. [Read More](#) (Waste Dive)

COMPANY NEWS

Google partners with Nevada utility for geothermal to power data centers. Google partnered with Nevada utility NV Energy to increase its data center reliance on geothermal energy. This deal will raise Google's geothermal energy usage from 3.5 megawatts to 115 megawatts in six years, furthering their goal of using 100% clean energy by 2030. The agreement highlights a new approach for large companies in regulated power markets to secure clean energy sources. It involves collaboration with utilities on planning and creating new clean energy tariffs. This approach is gaining traction as companies seek reliable clean energy sources like geothermal, which is not dependent on weather conditions. [Read More](#) (Reuters)

Microsoft and G42 to build geothermal-powered data center in Kenya. Microsoft and G42 are investing \$1 billion to build a massive geothermal data center in Kenya. This project aims to boost Kenya's digital economy by providing affordable and clean cloud computing services. The data center, located in Olkaria and powered by geothermal energy, will have an initial capacity of 100MW and is expandable to 1GW. The partnership also includes improving internet connectivity across Kenya and developing AI solutions in English and Swahili. [Read More](#) (Data Center Dynamics)

Siemens Energy, Energinet sign €1.4bn deal to upgrade Denmark's grid. Siemens Energy won a €1.4 billion contract to upgrade Denmark's electricity grid in support of their goal to achieve net-zero emissions by 2045. They will deliver equipment for 50 new or upgraded substations over eight years, with a focus on the first four years. This project is crucial to integrate more renewable energy like wind and solar power into the grid, which requires efficient transmission over long distances. [Read More](#) (Power Technology)

Inseego announces industry's first FIPS 140-2 certified 5G mobile hotspot, MiFi® X PRO. Inseego, a leader in 5G mobile solutions, released the first FIPS 140-2 certified 5G mobile hotspot, MiFi X PRO. This certification ensures secure communication for government agencies, businesses and organizations that handle sensitive data like financial information, health records or government secrets. Existing MiFi X PRO users will receive the FIPS 140-2 update automatically. [Read More](#) (Green Stock News)

Enphase energy launches IQ8 microinverters in Finland. Enphase Energy, Inc., a global leader in microinverter-based solar and battery systems, has entered the Finnish solar market with its IQ8™ Microinverters, offering peak AC power up to 384 W. Finland's solar capacity, which reached about 1 GW by the end of 2023, is projected to nearly triple by 2030. The IQ8 Microinverters, designed to enhance energy production, support high-powered solar modules up to 560 W DC and come with a 25-year limited warranty. Enphase's products, integrated with the IQ® Gateway for monitoring and updates, aim to meet Finland's rising demand for reliable, high-performance home energy solutions. [Read More](#) (Green Stock News)

AMP, Virginia waste company collaborate on AI-powered facility to divert recycling from MSW. A Virginia waste management company, Recycling and Disposal Solutions (RDS), has launched a new AI-powered facility to sort recyclables and organics from household trash. This is the latest development in their partnership with AMP Robotics. The new facility processes 150 tons of waste daily, separating recyclables, organics, and leftover materials with minimal human intervention. This technology is designed to divert 60% of waste from landfills and extends the lifespan of landfills. This project is seen as a blueprint for other municipalities struggling with recycling and limited landfill space. [Read More](#) (Waste Dive)

Fulcrum BioEnergy abandons trash-to-fuel plant in Nevada. Fulcrum BioEnergy, a company aiming to convert trash into clean fuel, shut down its Nevada plant and laid off most employees. The company faced permitting issues, operational problems, and lack of investor confidence. This setback follows similar struggles for other companies in this field. However, an anonymous former employee believes the technology has potential and the Reno plant could be operational again if sold. [Read More](#) (Chemical and Engineering News)

Element 1 and Ballard Power Systems collaborate on revolutionary hydrogen power solutions. Element 1 and Ballard Power Systems are collaborating to make clean hydrogen energy more accessible. They've successfully paired a hydrogen generator with a fuel cell module, achieving lower pressure output than usual but with just software tweaks. This allows for on-site hydrogen production at a lower cost than traditional methods and eliminates the challenges of handling compressed or liquid hydrogen. [Read More](#) (Green Stock News)

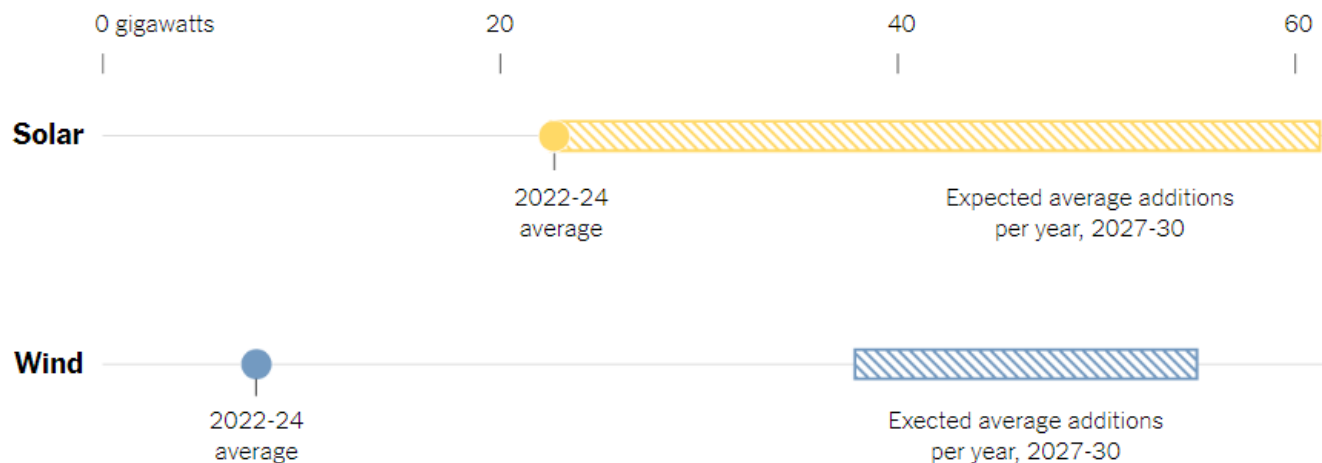
Shell Aviation & Emirates boost SAF use at Heathrow. Emirates airline partnered with Shell Aviation to use sustainable aviation fuel (SAF) at London Heathrow Airport for the first time. This is the largest SAF purchase for Emirates and will be used for flights departing Heathrow until summer 2024. SAF can reduce lifecycle carbon emissions by up to 80% compared to regular jet fuel. Both Emirates and Heathrow see SAF as a key part of reducing their environmental impact and are looking for ways to encourage more SAF production. Emirates airline partnered with Shell Aviation to use sustainable aviation fuel (SAF) at London Heathrow Airport for the first time. [Read More](#) (Energy Digital)

Vattenfall advances plans for new nuclear reactor in Sweden. Swedish renewable energy company Vattenfall is progressing towards developing new nuclear reactors near the Ringhals nuclear power plant. The company is assessing small modular reactor (SMR) proposals from Rolls-Royce SMR and GE Hitachi Nuclear Energy, while also considering large-scale reactor proposals from Westinghouse, EDF, and KHNP. A comprehensive analysis of the SMR proposals will follow. Vattenfall aims to set a timeline for SMR deployment on the Värö Peninsula and expand Sweden's nuclear energy capabilities. [Read More](#) (Power Technology)

DTEK and GE Vernova to develop wind power in Ukraine and EU. Ukrainian energy company DTEK and GE Vernova signed a memorandum of understanding to collaborate on wind power projects in Ukraine and the European Union. This partnership will focus on developing renewable energy sources and improving Ukraine's electricity grid. They aim to modernize the grid for better reliability, lower energy loss, and future adaptability. This builds on past successes like the Prymorska wind farm and the Tyligulska wind power plant's first phase. DTEK and GE Vernova hope this agreement will not only restore Ukraine's energy infrastructure but also create a clean and sustainable energy system for the long term. [Read More](#) (Power Technology)

CLEANTECH CHART OF THE MONTH

Chart 15: Wind Struggling to Meet Average Capacity Additions Projections (Post I.R.A.); Solar on Track



Source: Intro-act, The New York Times, Clean Investment Monitor. Note: Expected ranges are based on the projected effects of the Inflation Reduction Act from three modeling groups: the Rhodium Group, Energy Innovation and the REPEAT project

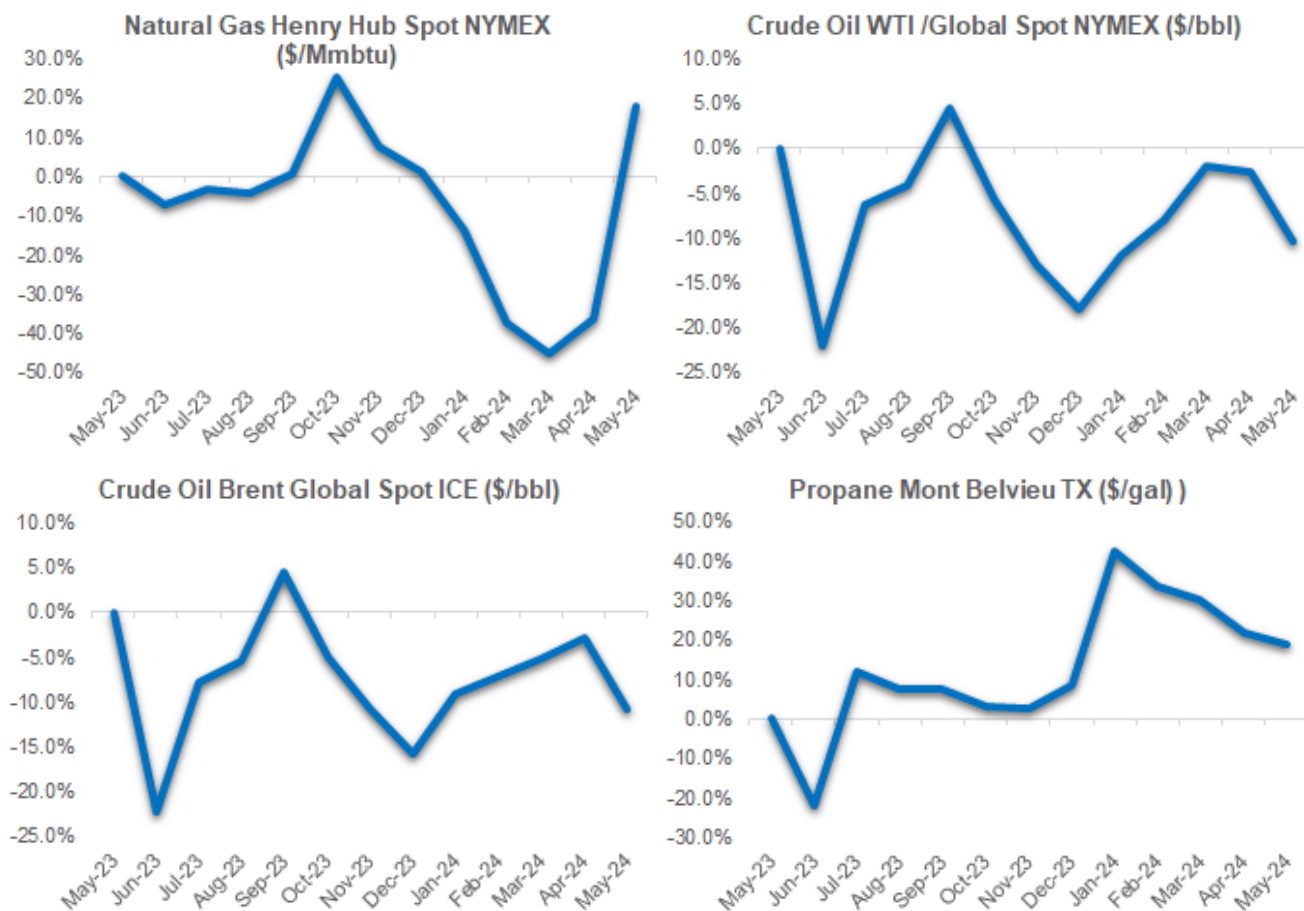
CLEANTECH COMMODITIES

Chart 16: Cleantech Commodities Price Returns

CleanTech Commodities	Price as of 31st May 2024	1M	3M	6M	1Y	YTD
Natural Gas and Crude Oil						
Natural Gas Henry Hub Spot NYMEX (\$/Mmbtu)	2.59	▲ 54.29%	▲ 55.21%	▼ -5.75%	▼ -3.28%	▲ 0.47%
Crude Oil WTI /Global Spot NYMEX (\$/bbl)	76.98	▼ -7.80%	▼ -2.83%	▲ 1.74%	▼ -15.19%	▲ 7.08%
Crude Oil Brent Global Spot ICE (\$/bbl)	81.11	▼ -8.07%	▼ -4.09%	▼ -0.75%	▼ -15.39%	▲ 4.40%
Propane Mont Belvieu TX (\$/gal)	0.73	▼ -2.66%	▼ -14.07%	▲ 11.06%	▲ 5.77%	▲ 4.86%
Refined Products						
Gasoline Conv Regular NY Harbor (\$/gal)	2.53	▼ -7.57%	▲ 5.69%	▲ 10.07%	▼ -8.78%	▲ 17.00%
Diesel No. 2 Low Sulfur NY Harbor (\$/gal)	2.46	▼ -1.95%	▼ -7.72%	▼ -14.98%	▼ -26.52%	▼ -2.69%
Heating Oil No. 2 NY Harbor (\$/gal)	2.40	▼ -0.58%	▼ -7.56%	▼ -14.57%	▼ -25.62%	▼ -1.88%
Jet Fuel Kerosene-Type U.S. Gulf Coast (\$/gal)	2.40	▼ -2.79%	▼ -5.92%	▼ -3.03%	▼ -24.07%	▲ 1.52%
Gasoil Near Term (IIEU \$/mt)	731.75	▼ -5.46%	▼ -11.49%	▼ -8.70%	▼ -26.93%	▼ -2.53%
Ethanol Iowa (CRB \$/gallon)	1.68	▲ 8.77%	▲ 18.37%	▼ -9.46%	▼ -26.37%	▲ 3.65%
WTI USG 3:2:1 Crack Spread	19.14	▼ -12.20%	▼ -23.92%	▲ 14.94%	▼ -35.45%	▼ -1.48%
Carbon Prices						
Carbon Emissions (EUR/ tonne)	74.07	▲ 7.04%	▲ 31.24%	▲ 4.63%	▼ -8.30%	▼ -5.01%
Metals						
Copper Cash Official LME (\$/mt)	9985.00	▲ 0.12%	▲ 19.02%	▲ 19.84%	▲ 21.32%	▲ 17.80%
Lithium Carbonate 99%Min China (CNY/ tonne)	103500.00	▼ -5.48%	▲ 9.52%	▼ -3.72%	▼ -63.10%	▲ 19.65%
Nickel Cash Official LME (\$/mt)	19830.00	▲ 4.51%	▲ 13.74%	▲ 21.40%	▲ 7.13%	▲ 21.66%
Cobalt Cash Official LME (\$/mt)	26910.00	▼ -2.92%	▼ -4.57%	▼ -18.48%	▼ -18.43%	▼ -6.27%
Platinum Indust (Engelhard) (\$/ozt)	1055.00	▲ 11.76%	▲ 17.88%	▲ 11.88%	▲ 13.44%	▲ 3.43%
Uranium Near Term (NYM \$/lbs)	88.75	▼ -1.33%	▼ -6.03%	▲ 10.39%	▲ 28.53%	▼ -2.74%

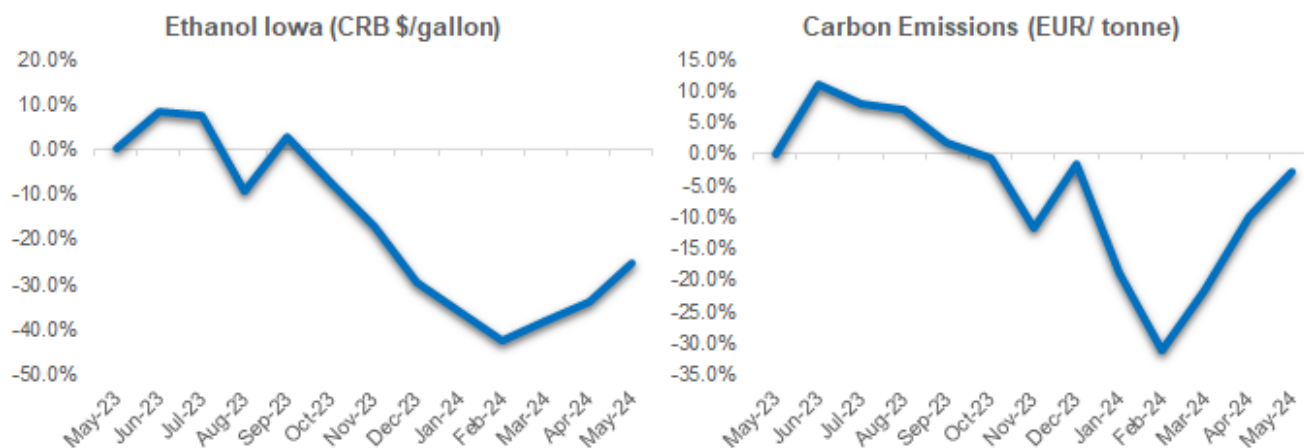
Source: Intro-act, FactSet, Investing.com. Data as of 05/31/24.

Chart 17: Indexed Change in Natural Gas and Crude Oil Prices in Last 12 Months



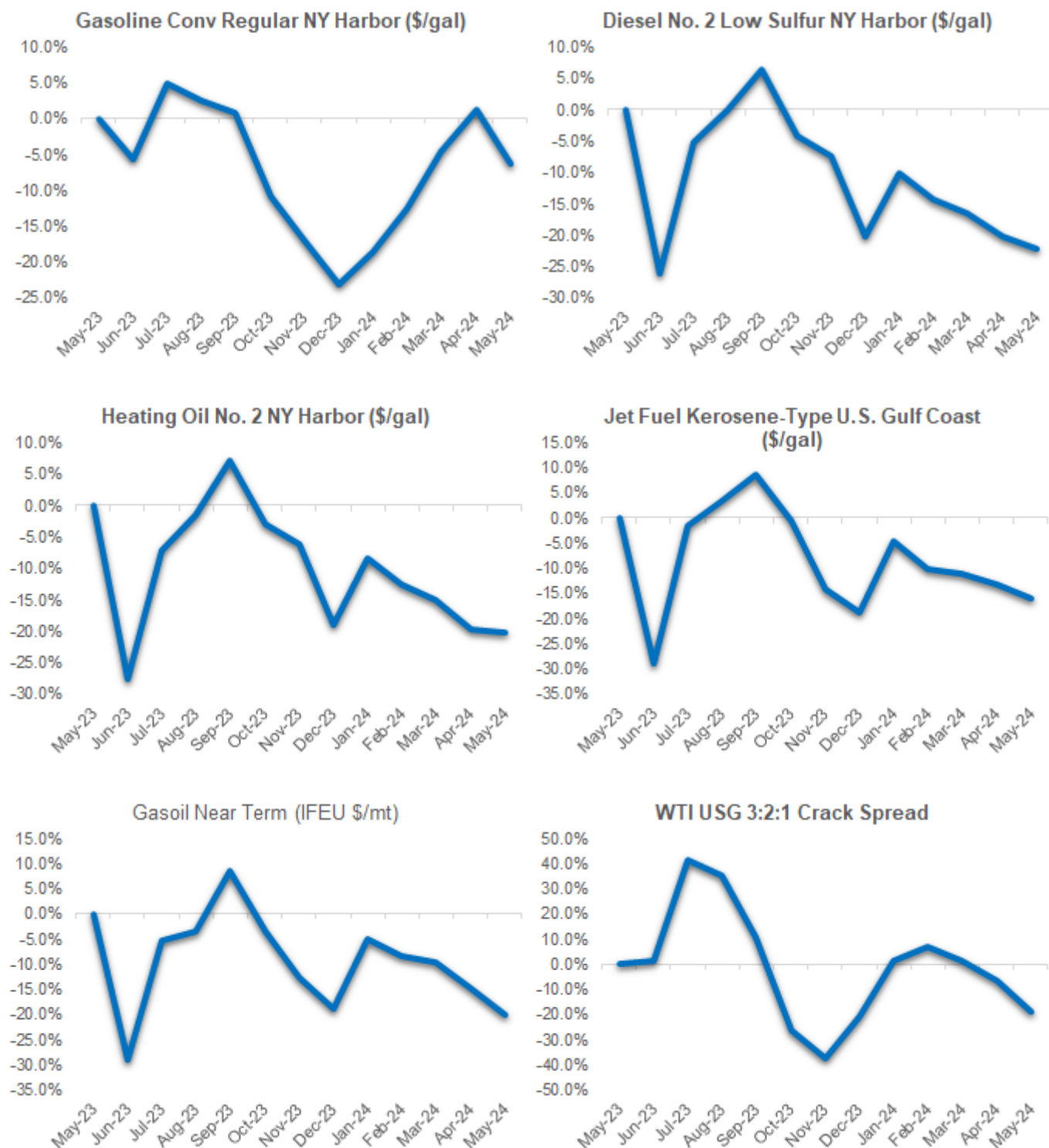
Source: Intro-act, FactSet, Investing.com. Data as of 05/31/24.

Chart 18: Indexed Change in Ethanol and Carbon Emission Prices in Last 12 Months



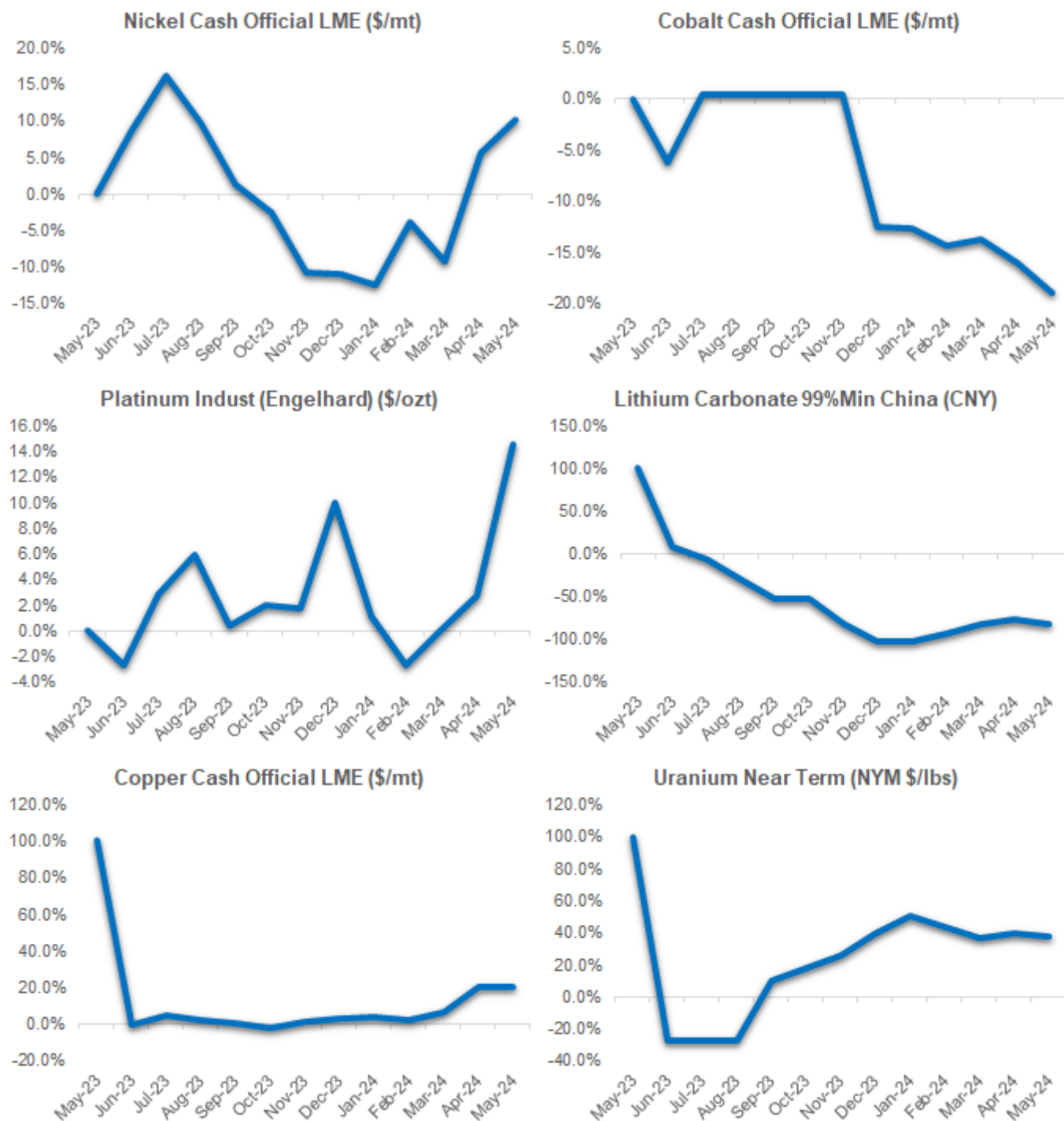
Source: Intro-act, FactSet, Investing.com. Data as of 04/30/24.

Chart 19: Indexed Change in Refined Products in Prices Last 12 Months



Source: Intro-act, FactSet. Data as of 05/31/24.

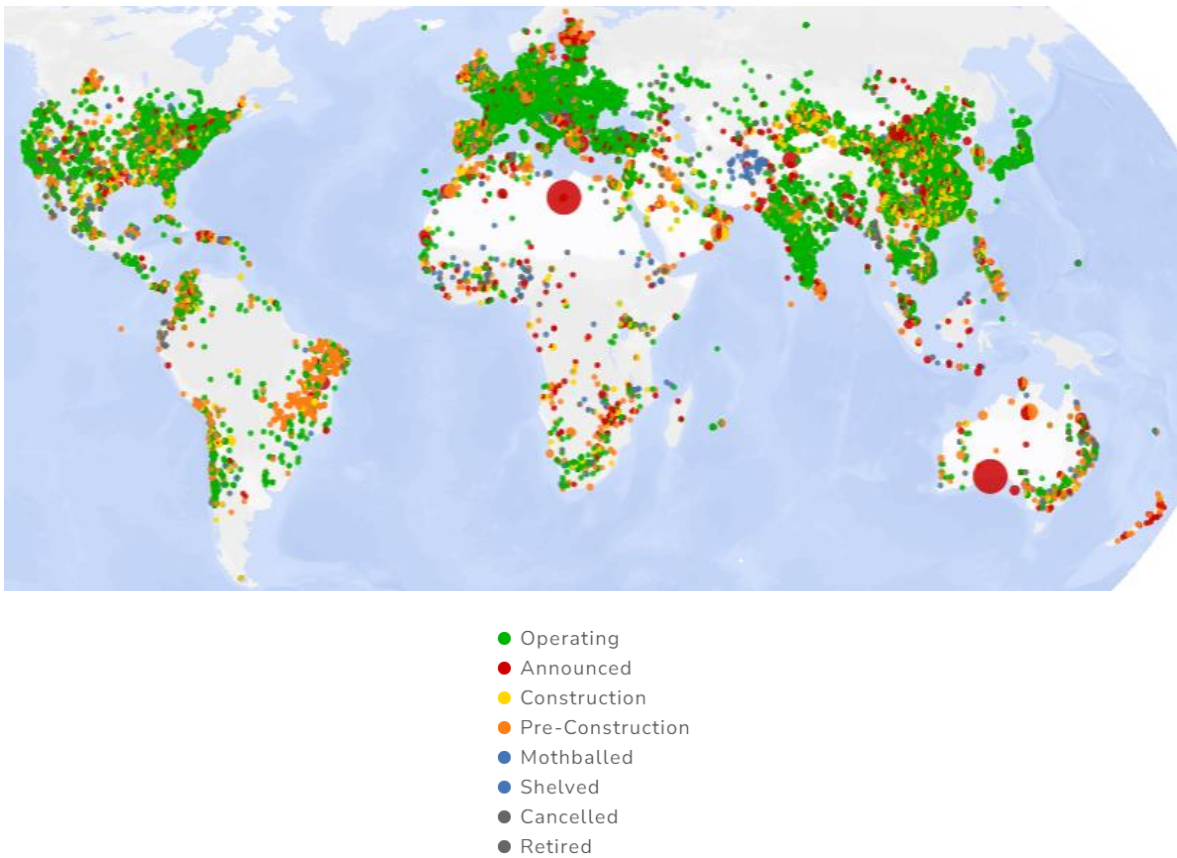
Chart 20: Indexed Change in Cleantech Metal Prices Last 12 Months



Source: Intro-act, FactSet. Data as of 05/31/24.

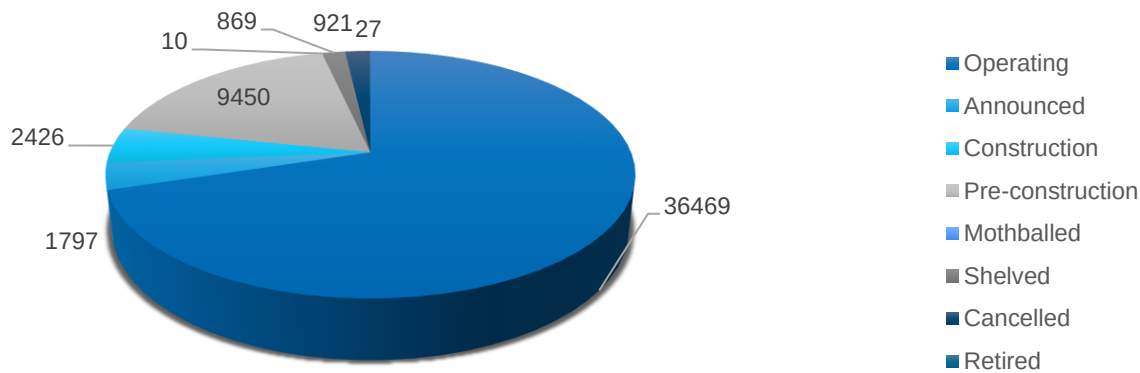
CLEANTECH INSTALLATIONS

Chart 21: Global Solar Power Tracker (June 20, 2024)



Source: Intro-act, Global Energy Monitor

Chart 22: Worldwide Solar Farm Phases. Total Farms: 51,048 as of June 20, 2024



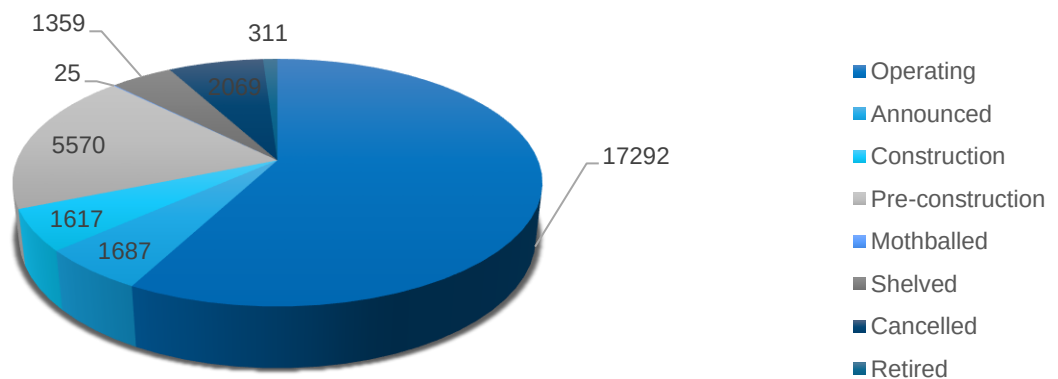
Source: Intro-act, Global Energy Monitor

Chart 23: Global Wind Power Tracker (June 20, 2024)



Source: Intro-act, Global Energy Monitor

Chart 24: Worldwide Wind Farm Phases. Total Farms: 29,930 as of June 20, 2024



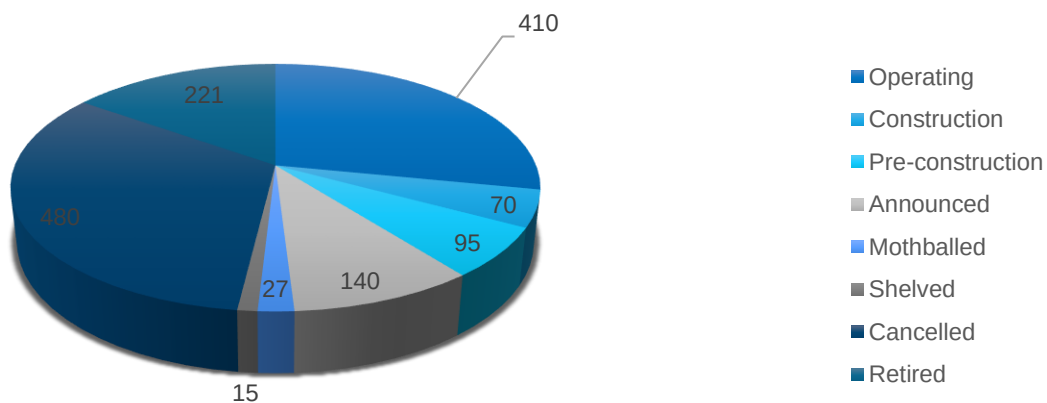
Source: Intro-act, Global Energy Monitor

Chart 25: Global Nuclear Power Tracker (June 20, 2024)



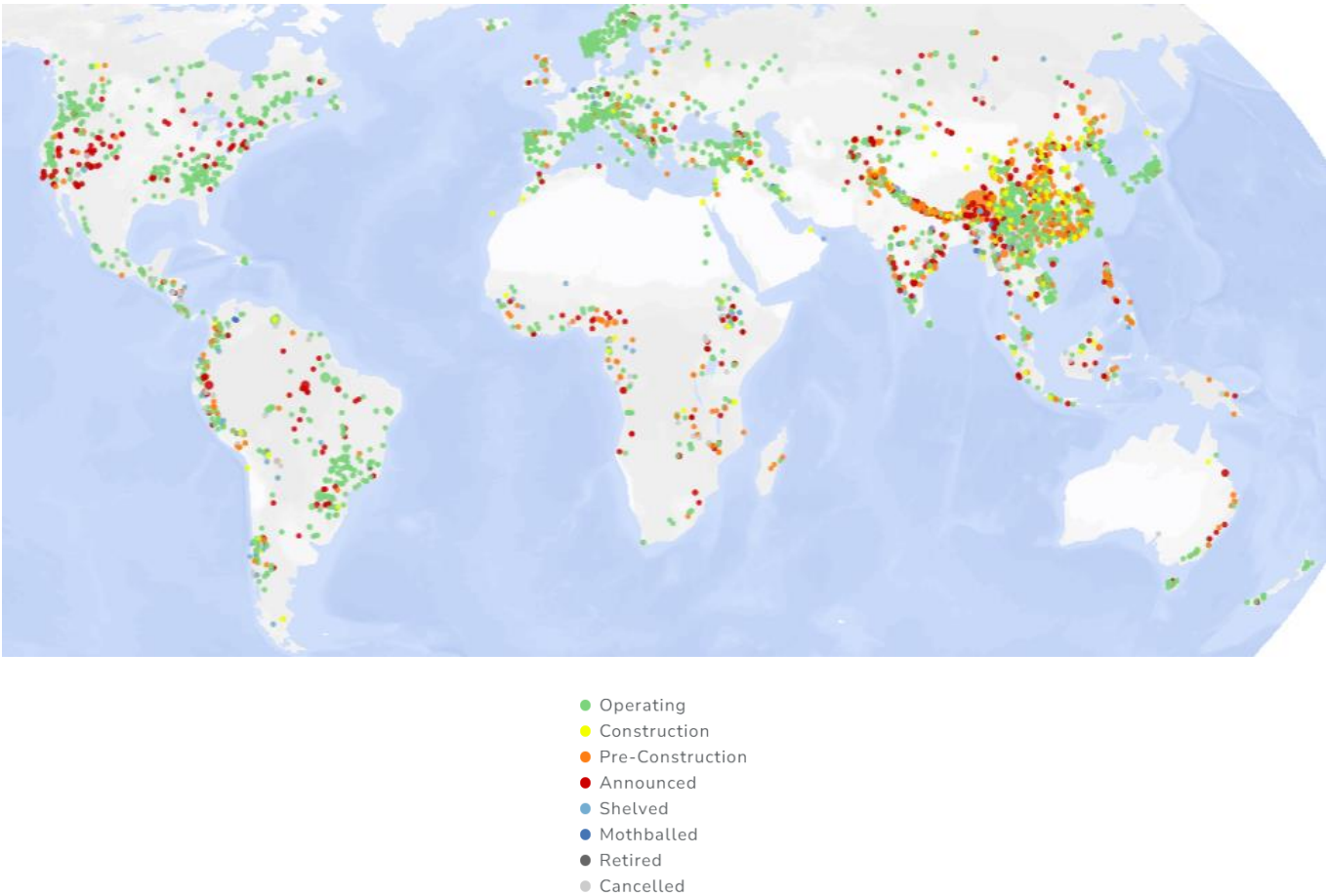
Source: Intro-act, Global Energy Monitor

Chart 26: Worldwide Nuclear Power Plants. Total Farms: 1,458 as of June 20, 2024



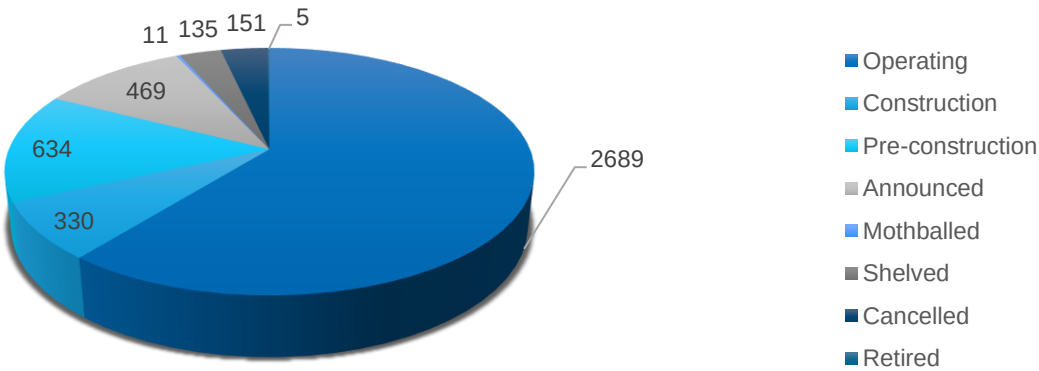
Source: Intro-act, Global Energy Monitor

Chart 27: Global Hydropower Tracker (June 20, 2024)



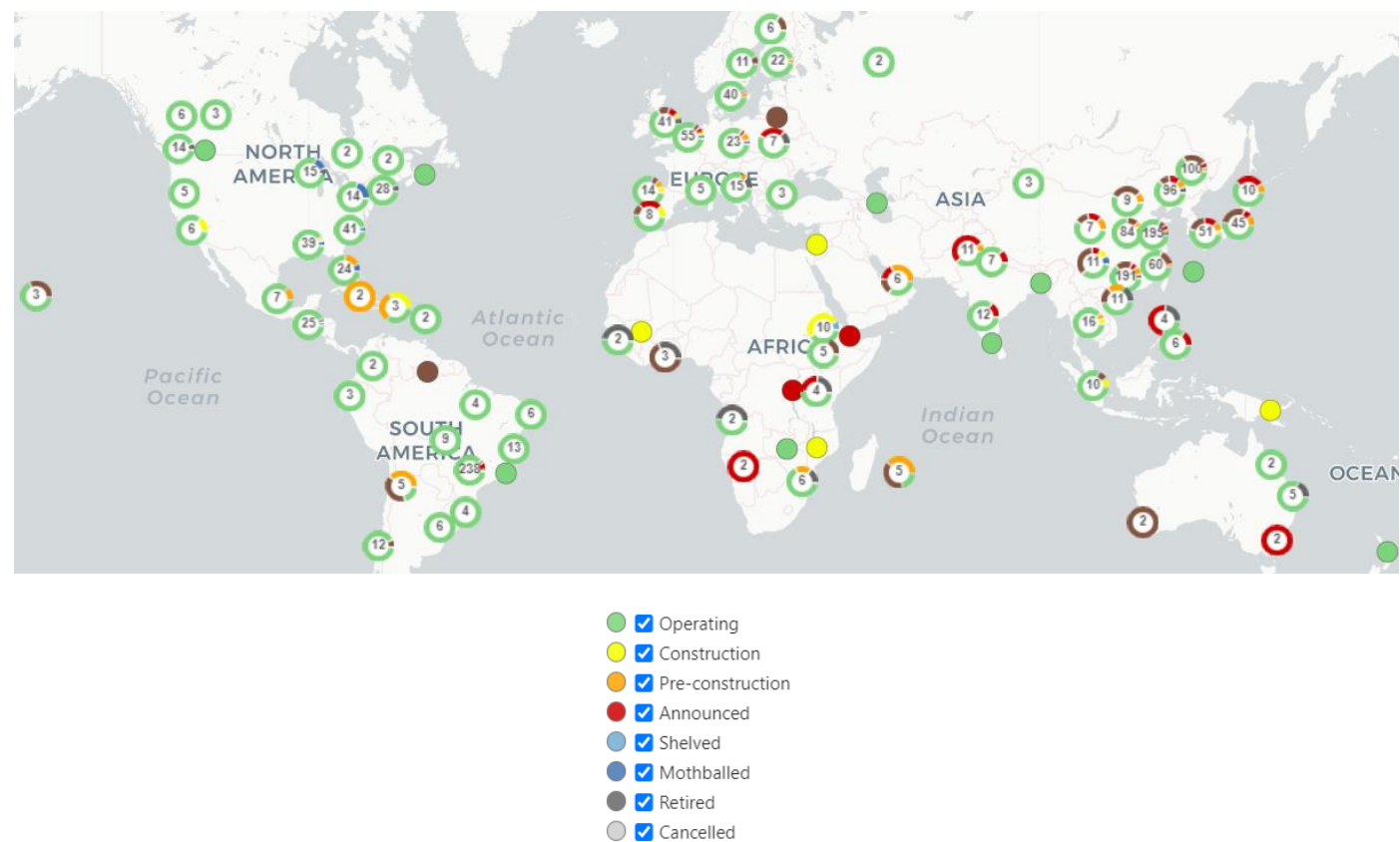
Source: Intro-act, Global Energy Monitor

Chart 28: Worldwide Hydropower Plants. Total Farms: 4,424 as of June 20, 2024



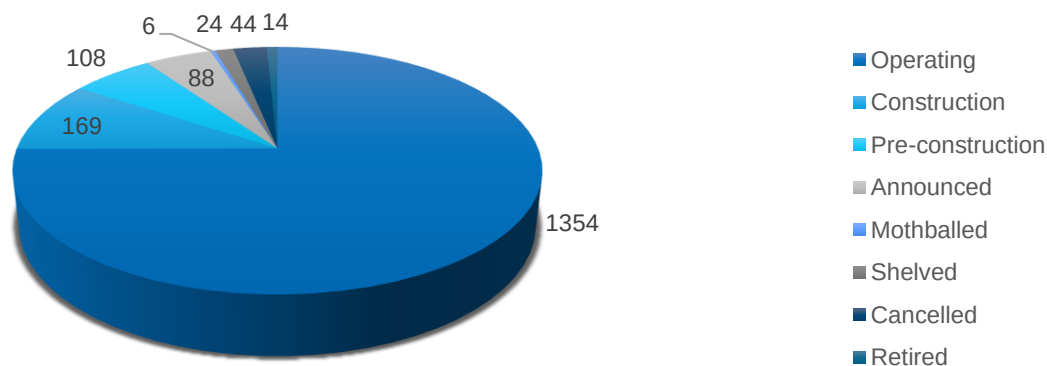
Source: Intro-act, Global Energy Monitor

Chart 29: Global Bioenergy Power Tracker (June 20, 2024)



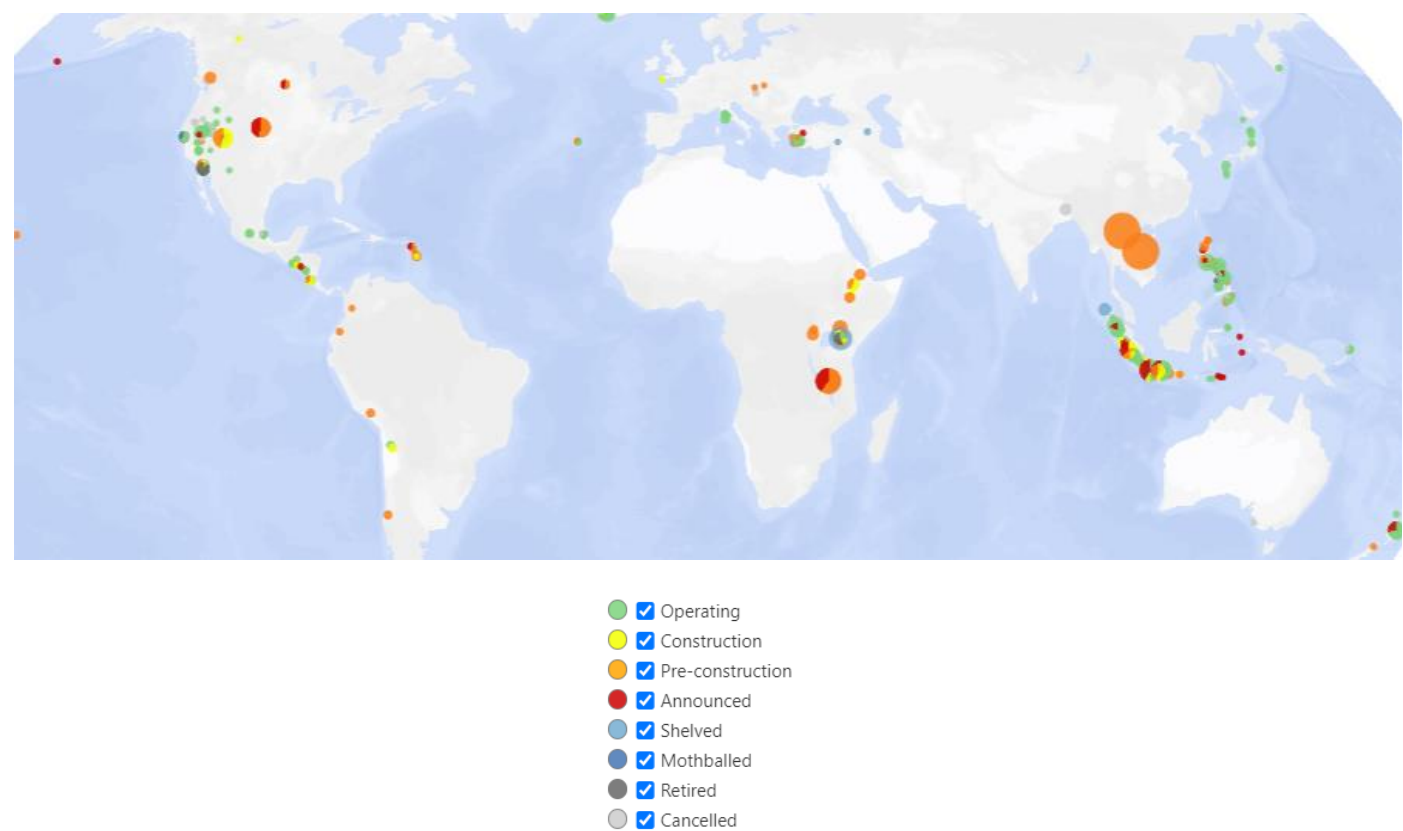
Source: Intro-act, Global Energy Monitor

Chart 30: Worldwide Bioenergy Power Plants. Total Farms: 1,807 as of June 20, 2024



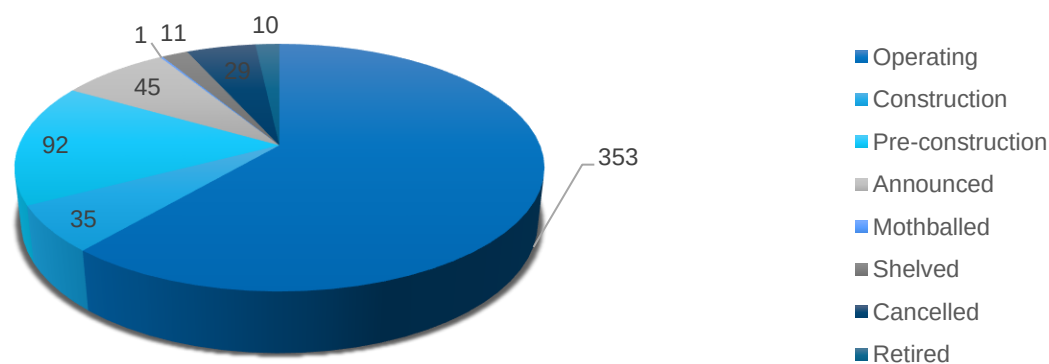
Source: Intro-act, Global Energy Monitor

Chart 31: Global Geothermal Power Tracker (June 20, 2024)



Source: Intro-act, Global Energy Monitor

Chart 32: Worldwide Geothermal Power Plants. Total Farms: 576 as of June 20, 2024



Source: Intro-act, Global Energy Monitor

CLEANTECH CAPITAL MARKET ACTION

M&A Activity

Target	Target Industry	Target Country	Acquirer	Deal Size (\$m)	Announcement Date
EcoGreen Industries LLC	Wholesale Distributors	United States	High Precision Gas LLC	-	01-May-2024
Solar Analytics Pty Ltd.	Alternative Power Generation	Australia	CATCH Power Australia Pty Ltd.	-	08-May-2024
Eragene ICT Sdn. Bhd.	Electrical Products	Malaysia	UVcell Solar, Inc.	-	13-May-2024
Aurora Arc Wind Pty Ltd.	Engineering & Construction	Australia	Aurora Energy Services Ltd.	-	15-May-2024
GIGA Storage BV	Electrical Products	Netherlands	InfraVia Capital Partners SAS	-	15-May-2024
Revive Terra Corp.	Environmental Services	Canada	Sustainable Green Team Ltd.	-	15-May-2024
County Sanitation	Trucking	United States	CARDS Holdings, Inc. (Arkansas)	-	20-May-2024
Solar Energy Vodinci doo	Alternative Power Generation	Croatia	Janaf OIE doo	-	22-May-2024
Circle Waste Ltd.	Environmental Services	United Kingdom	Reconomy (UK) Ltd.	-	29-May-2024
Neoen SA	Electric Utilities	France	Temasek Capital Pte Ltd.; Brookfield Asset Management (Infrastructure); Brookfield Renewable Corp.; Neoen SA /Pvt Group/	3,497.35	30-May-2024
Innovative Pelleting Solutions GmbH	Industrial Machinery	Germany	CPM Holdings, Inc.	-	31-May-2024
Ecogreen Energy Pvt Ltd.	Trucking	India	Cube Bio-Energy Pvt Ltd.	0.12	01-Jun-2024

Source: Intro-act, FactSet

PE/ VC Funding Activity

Company	Funding Round	Raised (\$m)	Investors	Date
Énerg'iv SEMLAFA	Private Sh	16.0	BPCE SA	5/1/2024
Eclipse SAS	Series A	5.9	Wind Venture SAS	5/1/2024
Ion Energy Corp. Ltd.	Series A	3.0	Beacon Venture Capital Co., Ltd., Solar United Network Pte Ltd.	5/1/2024
Stargate Hydrogen Solutions OÜ	Seed Round	44.9	UG Investments OÜ	5/2/2024
Future Energy Services GmbH	Seed Round2	10.7	Balderton Capital (UK) LLP, Speedinvest GmbH, Tiny Supercomputer Management GmbH, The Delta Europe GmbH, Magnetic Management GmbH, AENU Advisor GmbH	5/2/2024
Seqana	Seed Round	2.2	ReGen Ventures Management Pty Ltd	5/2/2024
cylib GmbH	Series A	59.2	NRW.Bank (Private Equity), Kai Hansen, Robert Bosch Venture Capital GmbH, Speedinvest GmbH, Torge Thönnessen, Porsche Ventures, Vsquared Ventures Management GmbH, WF World Fund Management GmbH, Karim Jalbout, 10x Founders GmbH, Andrej-Nicolai Henkler, DeepTech & Climate Fonds Management GmbH, Leopold Koenig	5/3/2024
Samara Energia SL	Series A	9.7	Seaya Capital Gestión SGEIC SA, Ring SAS, Arvantis Group Holding GmbH, Green Generation Management GmbH, Athletico Ventures, Move Energy Fund Management B.V.	5/4/2024
Zanskar Geothermal & Minerals Inc	Series B	30.0	Union Square Ventures LLC, Obvious Management Services LLC, First Star Ventures LLC, Munich Re / HSB Ventures, Clearvision Ventures Management LLC, Safar Partners LLC, Lowercarbon Capital LLC	5/6/2024
Energio SAS	Series A	17.8	SIGEFI Private Equity SA, Gaztransport & Technigaz SA, Crédit MUTUEL ALLIANCE FEDERALE	5/6/2024
Zhongteng Micronet (Beijing) Technology Co., Ltd.	Series B	13.9	Shenzhen Co-Win Venture Capital Investments Ltd., Shanghai Holystar Information Technology Co., Ltd.	5/6/2024
Ecozen Solutions Pvt Ltd.	Private Sh	2.9	Dare Ventures Ltd.	5/6/2024
Basquevolt SA	Series B	-	KIC InnoEnergy SE	5/6/2024

Wisconsin Battery Co.	Seed Round	5.0	Infinity Power Solutions, Inc.	5/8/2024
Huiyao Pinshang Energy Technology Co. Ltd.	Series A	13.8	Zero2IPO Group, Shenzhen Fortune Venture Capital Co. Ltd., Shanghai Nuotie Asset Management Co., Ltd.	5/9/2024
Heelstone Renewable Energy LLC	Private Sh	-	Q-Energy Private Equity SGEIC SA	5/10/2024
HIF Global LLC	Series A	164.0	Idemitsu Kosan Co., Ltd.	5/13/2024
Active Surfaces Inc.	Seed Round2	5.6	QVT Financial LP, Lend Lease Ventures Pty Ltd, SeaX Ventures LLC, Safar Partners LLC, Type One Ventures LLC, New Climate Ventures Management LLC, Umami Capital LLC, Sabanci Climate Ventures	5/13/2024
65.6MW Renewable Energy Portfolio	Private Sh	-	NextEnergy Capital Ltd.	5/13/2024
Re-Power Inc.	Series A	1.3	Nissay Capital Co., Ltd., KUSABI /Venture Capital/	5/14/2024
Sylvester & Cockrum, Inc.	Private Sh	-	Nexcore, Inc.	5/14/2024
Durogreen Waste Management Pvt Ltd.	Series A	-	Bizdateup Technologies Pvt Ltd.	5/14/2024
VFlowTech Pte Ltd.	Series A2	-	PSA Unboxed Pte Ltd	5/15/2024
Qualitas Energy /60MW Balearic Islands Solar Storage/	Private Sh	-	Mirova SA	5/15/2024
Clover Sustainability AB	Seed Round2	5.5	QED Investors LLC, Lowercarbon Capital LLC, 9900 CAPITAL LTD	5/16/2024
SolarSquare Energy Pvt Ltd.	Series B	4.2	Rainmatter Capital Pvt Ltd., Good Capital Management Ltd., Lowercarbon Capital LLC, Climate Angels, Gruhas PropTech LLP	5/16/2024
XGS Energy, Inc.	Series A4	20.0	B Current Impact Investment, Inc., Valo Ventures Management LP, Thin Line Capital LLC, VoLo Earth Ventures Management LLC, MIH Capital Ltd.	5/17/2024
Carbon2zero BV	Series A	2.3	Cavalry Ventures Management GmbH, Uebermorgen Ventures AG, Entourage Studio, Imec.Istart Future Fund	5/17/2024
Renergy BV	Series A	1.3	The Birdhouse CVBA	5/17/2024
Aeromine Technologies , Inc.	Series A2	9.0	Thornton Tomasetti, Inc., Veriten LLC	5/20/2024

Green Lantern Solar /8 500KW Solar Projects/	Private Sh	-	Sea Oak Capital LLC	5/21/2024
Verse, Inc. (California)	Series A	20.5	CIV LLC, GV Management Co. LLC, Coatue Management LLC (Private Equity), MCJ Collective	5/22/2024
Ore Energy B.V.	Seed Round	10.8	Positron Ventures	5/22/2024
Quidnet Energy, Inc.	Private Sh	10.0	Hunt Energy Network LLC	5/22/2024
Evreka Yazilim Donanim Danismanlik Egitim San. ve Tic. Ltd Sti	Series C	-	Driventure	5/24/2024
Beijing Linyi Yunchuan Energy Technology Co. Ltd.	Private Sh	-	Jiangsu Huaqiang New Energy Technology Co Ltd.	5/31/2024
Solatom CSP SL	Series B	-	Suma Capital SGEIC SA, Centro para el Desarrollo Tecnológico Ind /Private Equity/, Ingeniería y Marketing SA, Enagas Emprande SL, White Summit Capital AG, ENION Venture Partners SGEIC SA	5/31/2024
Greenvolt – Energias Renováveis SA	Private Sh	-	Kohlberg Kravis Roberts & Co. LP	5/31/2024

Source: Intro-act, FactSet

CLEANTECH INSTITUTIONAL INVESTOR LEAGUE

Chart 33: Cleantech Institutional Owners League (Current)

Rank	Institution Name	Invested in Cleantechs (\$)	Q/Q Change (\$)	# Cleantech Positions	% of Instit Ownership
1	The Vanguard Group, Inc.	107,499,631,006	8,270,415,152	277	11.0%
2	BlackRock Fund Advisors	59,404,373,494	4,335,302,553	237	6.1%
3	SSgA Funds Management, Inc.	39,353,980,705	756,568,071	284	4.0%
4	Fidelity Management & Research Co. LLC	22,784,358,928	4,633,368,215	136	2.3%
5	Geode Capital Management LLC	21,087,161,184	2,306,579,533	222	2.2%
6	Capital Research & Management Co. (Global Investors)	18,626,332,147	2,441,470,445	21	1.9%
7	BMO Asset Management, Inc.	14,352,434,974	11,391,645,821	133	1.5%
8	BlackRock Advisors (UK) Ltd.	13,542,885,953	1,270,001,577	200	1.4%
9	T. Rowe Price Associates, Inc. (Investment Management)	12,903,105,786	59,183,947	57	1.3%
10	Capital Research & Management Co. (World Investors)	12,448,600,554	2,548,423,494	24	1.3%
11	Capital Research & Management Co. (International Investors)	11,914,033,176	1,814,896,035	15	1.2%
12	JPMorgan Investment Management, Inc.	10,569,951,776	(1,031,155,046)	123	1.1%
13	BlackRock Investment Management (UK) Ltd.	10,122,678,535	433,431,182	169	1.0%
14	Dimensional Fund Advisors LP	9,070,255,018	768,911,721	272	0.9%
15	Northern Trust Investments, Inc. (Investment Management)	8,784,587,544	(36,493,833)	223	0.9%
16	Charles Schwab Investment Management, Inc.	8,751,501,878	1,036,352,798	217	0.9%
17	Wellington Management Co. LLP	8,308,853,210	(468,910,732)	66	0.9%
18	State Farm Investment Management Corp.	7,230,814,227	(207,456,743)	4	0.7%
19	Invesco Capital Management LLC	6,711,028,172	452,873,693	206	0.7%
20	Legal & General Investment Management Ltd.	6,048,122,474	194,008,885	195	0.6%
21	RBC Global Asset Management, Inc.	5,868,651,961	249,547,340	97	0.6%
22	Pictet Asset Management SA	5,600,165,414	447,142,053	150	0.6%
23	Massachusetts Financial Services Co.	5,543,397,563	(255,021,048)	27	0.6%
24	Morgan Stanley Smith Barney LLC (Investment Management)	5,351,463,917	(77,296,995)	112	0.5%
25	Amundi Asset Management SA (Investment Management)	5,294,210,882	(301,248,835)	112	0.5%
	Others	539,662,430,695	31,642,061,982	59,755	55.2%
	TOTAL	976,835,011,173	72,674,601,265	63,334	100.0%

Source: Intro-act, 13F Filings

Chart 34: Top 25 Cleantech Buyers (Q/Q)

Rank	Institution Name	Invested in Cleantechs (\$)	Q/Q Change (\$)	# Cleantech Positions	% of Instit Ownership
1	BMO Asset Management, Inc.	14,352,434,974	11,391,645,821	133	1.5%
2	The Vanguard Group, Inc.	107,499,631,006	8,270,415,152	277	11.0%
3	Fidelity Management & Research Co. LLC	22,784,358,928	4,633,368,215	136	2.3%
4	BlackRock Fund Advisors	59,404,373,494	4,335,302,553	237	6.1%
5	Capital Research & Management Co. (World Investors)	12,448,600,554	2,548,423,494	24	1.3%
6	Capital Research & Management Co. (Global Investors)	18,626,332,147	2,441,470,445	21	1.9%
7	Geode Capital Management LLC	21,087,161,184	2,306,579,533	222	2.2%
8	Swedbank Robur Fonder AB	3,169,928,439	1,841,704,680	76	0.3%
9	Capital Research & Management Co. (International Investors)	11,914,033,176	1,814,896,035	15	1.2%
10	BlackRock Advisors (UK) Ltd.	13,542,885,953	1,270,001,577	200	1.4%
11	TCI Fund Management Ltd.	4,764,658,505	1,092,496,254	1	0.5%
12	Charles Schwab Investment Management, Inc.	8,751,501,878	1,036,352,798	217	0.9%
13	JPMorgan Securities LLC (Investment Management)	2,475,019,173	1,002,066,377	107	0.3%
14	Canada Pension Plan Investment Board	3,026,123,245	1,000,621,703	32	0.3%
15	GIC Pte Ltd. (Investment Management)	1,064,197,844	985,314,786	2	0.1%
16	Nomura Asset Management Co., Ltd.	4,810,312,972	904,543,550	90	0.5%
17	Brookfield Asset Management PIC Canada LP	5,206,311,940	894,746,816	3	0.5%
18	UBS Securities LLC	1,909,700,058	889,088,557	111	0.2%
19	Union Investment Privatfonds GmbH	2,208,708,022	882,907,628	23	0.2%
20	Pacer Advisors, Inc.	1,666,719,047	849,320,322	58	0.2%
21	Goldman Sachs & Co. LLC (Private Banking)	2,606,161,106	829,599,645	100	0.3%
22	Fidelity Investments Canada ULC	2,614,215,958	770,050,180	39	0.3%
23	Dimensional Fund Advisors LP	9,070,255,018	768,911,721	272	0.9%
24	PRIMECAP Management Co.	2,622,999,767	762,395,632	8	0.3%
25	SSgA Funds Management, Inc.	39,353,980,705	756,568,071	284	4.0%

Source: Intro-act, 13F Filings

Chart 35: Top 25 Cleantech Sellers (Q/Q)

Rank	Institution Name	Invested in Cleantechs (\$)	Q/Q Change (\$)	# Cleantech Positions	% of Instit Ownership
1	China Asset Management Co., Ltd.	187,168,620	(3,051,491,761)	3	0.0%
2	E Fund Management Co., Ltd.	1,126,398	(2,668,207,337)	2	0.0%
3	Harvest Fund Management Co., Ltd.	5,031,013	(1,314,040,037)	10	0.0%
4	The Caisse de depot et placement du Quebec	745,127,146	(1,251,744,971)	14	0.1%
5	China Universal Asset Management Co., Ltd.	166,919	(1,214,463,051)	1	0.0%
6	HuaAn Fund Management Co., Ltd.	96,538,143	(1,201,528,734)	1	0.0%
7	JPMorgan Investment Management, Inc.	10,569,951,776	(1,031,155,046)	123	1.1%
8	Managed Account Advisors LLC	3,000,662,649	(743,703,891)	50	0.3%
9	Bosera Asset Management Co., Ltd.	7,810,077	(649,416,057)	2	0.0%
10	Sumitomo Mitsui Trust Asset Management Co., Ltd.	399,504,115	(612,829,414)	48	0.0%
11	Qube Research & Technologies Ltd.	327,738,684	(605,496,922)	68	0.0%
12	Mawer Investment Management Ltd.	69,686,339	(526,550,004)	1	0.0%
13	Wellington Management Co. LLP	8,308,853,210	(468,910,732)	66	0.9%
14	Origin Asset Management LLP	21,449,664	(440,103,572)	4	0.0%
15	Peconic Partners LLC	15,185,000	(337,224,049)	1	0.0%
16	Amundi Asset Management SA (Investment Management)	5,294,210,882	(301,248,835)	112	0.5%
17	Barclays Capital Luxembourg SARL	13,139,341	(298,341,064)	1	0.0%
18	Nikko Asset Management Co., Ltd.	3,763,047,885	(295,057,937)	47	0.4%
19	Macquarie Investment Management Business Trust	1,393,120,084	(275,153,339)	50	0.1%
20	Credit Mutuel Asset Management SA	236,842,976	(270,083,661)	1	0.0%
21	CCB Principal Asset Management Co., Ltd.	41,285,925	(265,292,030)	9	0.0%
22	Massachusetts Financial Services Co.	5,543,397,563	(255,021,048)	27	0.6%
23	Mediolanum International Funds Ltd.	76,801,076	(249,503,914)	12	0.0%
24	TwinBeech Capital LP	53,909,612	(245,171,013)	12	0.0%
25	Jane Street Capital LLC	1,046,777,738	(241,106,675)	99	0.1%

Source: Intro-act, 13F Filings

ETF SPOTLIGHT

Global X Cleantech ETF (CTEC)

Closing Price (\$)	CUSIP	Expense Ratio	Inception
9.86	37954Y228	0.5	27/10/2020
AUM (\$ million)	Shares Outstanding (#)	Fund Flows (1M, \$)	Fund Flows (YTD, \$)
517.3	5,221,139	(254,547.35)	(5,139,648.95)

Fund Description

The CTEC Fund is an environmentally focused investment opportunity, designed to mirror a global index of companies driving technological advancements that mitigate environmental harm. This fund commits at least 80% of its assets to securities within the underlying index, in addition to American Depositary Receipts (ADRs) and Global Depositary Receipts (GDRs) linked to those securities. The underlying index comprises businesses primarily dedicated to Cleantech, including renewable energy, energy efficiency, smart grid solutions, lithium-ion batteries, fuel cells, and pollution prevention. These companies are carefully selected based on their generation of at least 50% of revenues from Cleantech-related activities and must meet specific market capitalization and liquidity criteria. The fund aims to harness the growth potential of Cleantech, and any modifications to the 80% investment policy necessitate a 60-day prior notice to shareholders. With eligibility spanning countries such as the United States, Japan, China, the United Kingdom, and others, this fund offers diversification for eco-conscious investors seeking Cleantech exposure.

ETF Returns Annualized (As of 05/31/2024)

1 Year	3 Year	5 Year	Since Inception
-30.01%	-19.49%	-	-10.72%

ETF Returns Cumulative (As of 05/31/2024)

1 Month	3 Month	YTD	Since Inception
14.04%	9.38%	-8.41%	-33.47%

Top 10 Holdings (updated as of 06/19/24)

Holdings	% Allocation	Market Value
FIRST SOLAR INC	10.4%	\$4,801,371.00
NEXTRACKER INC-CL A	6.2%	\$2,873,024.96
ENPHASE ENERGY INC	5.8%	\$2,694,743.43
VESTAS WIND SYSTEMS A/S	5.6%	\$2,581,592.46
SAMSUNG SDI CO LTD	5.6%	\$2,576,114.11
XINYI SOLAR HOLDINGS LTD	5.2%	\$2,397,049.20
JOHNSON MATTHEY PLC	4.4%	\$2,028,025.74
NORDEX SE	4.3%	\$1,972,520.85
BLOOM ENERGY CORP- A	4.2%	\$1,927,243.50
EB ENVIRONMENT	3.9%	\$1,812,332.91

Source: Intro-act, FactSet

For more information on CTEC visit: <https://www.globalxetfs.com/funds/ctec/>

iShares Global Clean Energy ETF (ICLN)

Closing Price (\$)	CUSIP	Expense Ratio	Inception
15.08	464288224	0.41	24/06/2008
AUM (\$ million)	Shares Outstanding (#)	Fund Flows (1M, \$)	Fund Flows (YTD, \$)
260.8	163,300,000	15,923,680	(463,355.710)

Fund Description

The ICLN Fund offers investors exposure to a carefully curated selection of global companies at the forefront of the clean energy sector. This fund seeks to replicate the performance of the S&P Global Clean Energy Index™, comprising approximately 100 clean energy-related companies. To be eligible for inclusion in this index, companies must meet specific criteria, including a minimum total market capitalization of \$300 million, float-adjusted market capitalization of \$100 million, and a median daily value traded of \$3 million over six months, all on developed market exchanges. The index construction process involves rigorous screening, utilizing classifications such as the Global Industry Classification Standard (GICS) and FactSets Revere Business Industry Classification System (RBICS), along with environmental, social, and governance (ESG) considerations. Clean energy exposure scores are assigned based on a company's primary business, with additional evaluation of carbon-to-revenue footprint to ensure alignment with sustainable and environmentally responsible practices. The result is a diversified fund that offers investors an opportunity to participate in the global clean energy revolution while adhering to stringent ESG criteria.

ETF Returns Annualized (As of 05/31/2024)

1 Year	3 Year	5 Year	Since Inception
-17.15%	-12.22%	9.62%	-5.57%

ETF Returns Cumulative (As of 05/31/2024)

YTD	1 Month	3 Months	Since Inception
-10.21%	0.50%	-10.21%	-62.53%

Top 10 Holdings (updated as of 06/19/24)

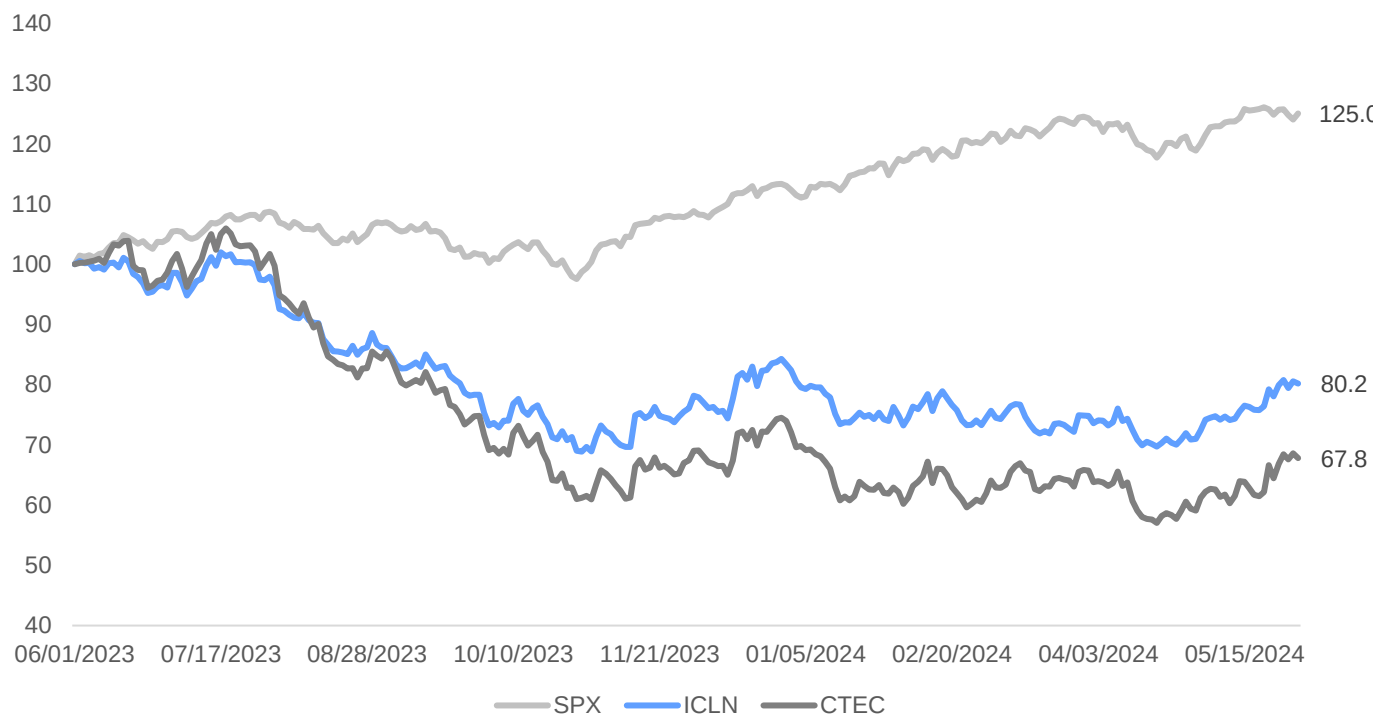
Holdings	% Allocation	Market Value
FIRST SOLAR INC	10.8%	\$246,636,195.84
ENPHASE ENERGY INC	7.6%	\$173,319,618.45
IBERDROLA SA	6.2%	\$143,194,350.07
CONSOLIDATED EDISON INC	5.8%	\$132,829,189.68
VESTAS WIND SYSTEMS	5.4%	\$122,884,347.55
OERSTED	4.5%	\$102,896,521.37
CHINA YANGTZE POWER LTD A	3.6%	\$83,326,921.37
NEXTRACKER INC CLASS A	3.5%	\$79,359,487.22
EDP ENERGIAS DE PORTUGAL SA	3.3%	\$75,495,662.94
CHUBU ELECTRIC POWER INC	3.0%	\$67,981,464.25

Source: Intro-act, FactSet

For more information on ICLN visit: <https://www.ishares.com/us/products/239738/ishares-global-clean-energy-etf>

ETF Performance vs. S&P 500

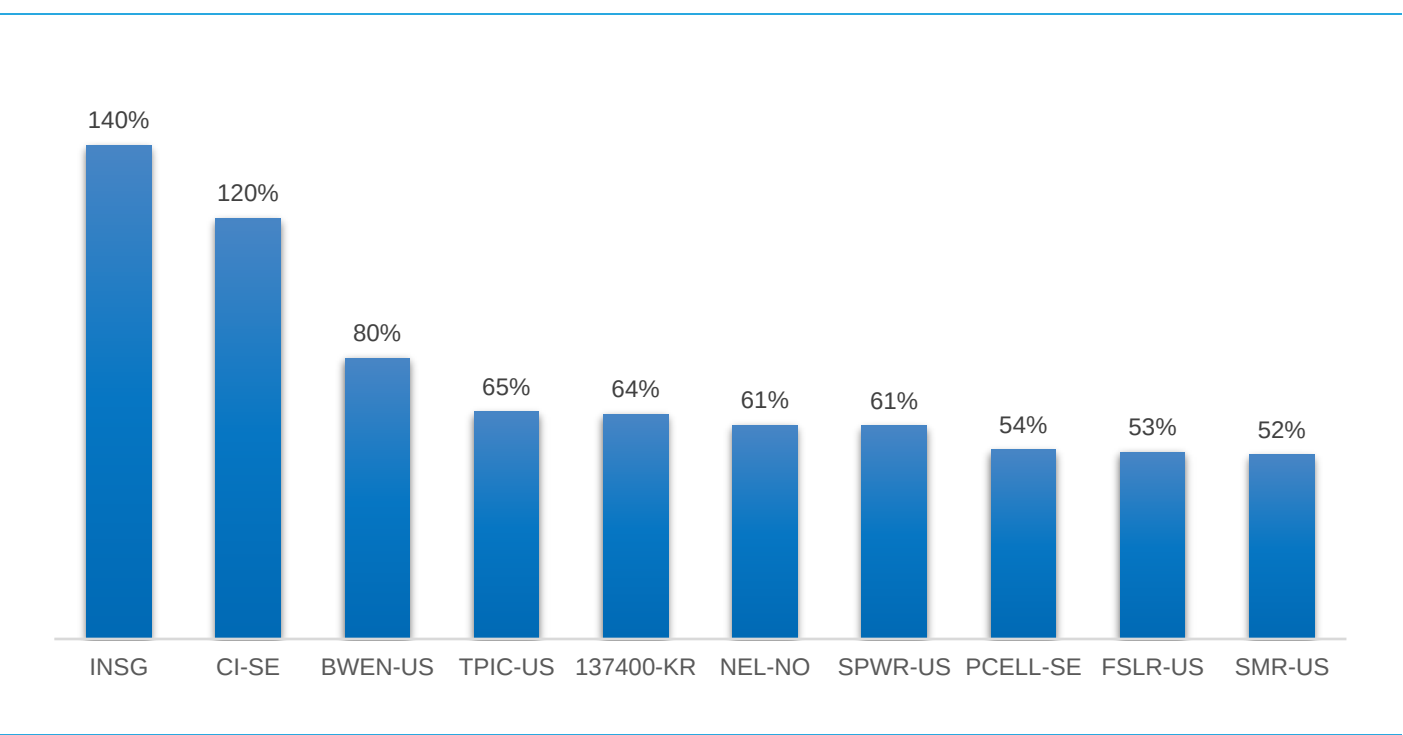
Chart 36: 12-month Indexed Returns of ICLN and CTEC vs. S&P 500



Source: Intro-act, FactSet, Data as of 5/31/2024.

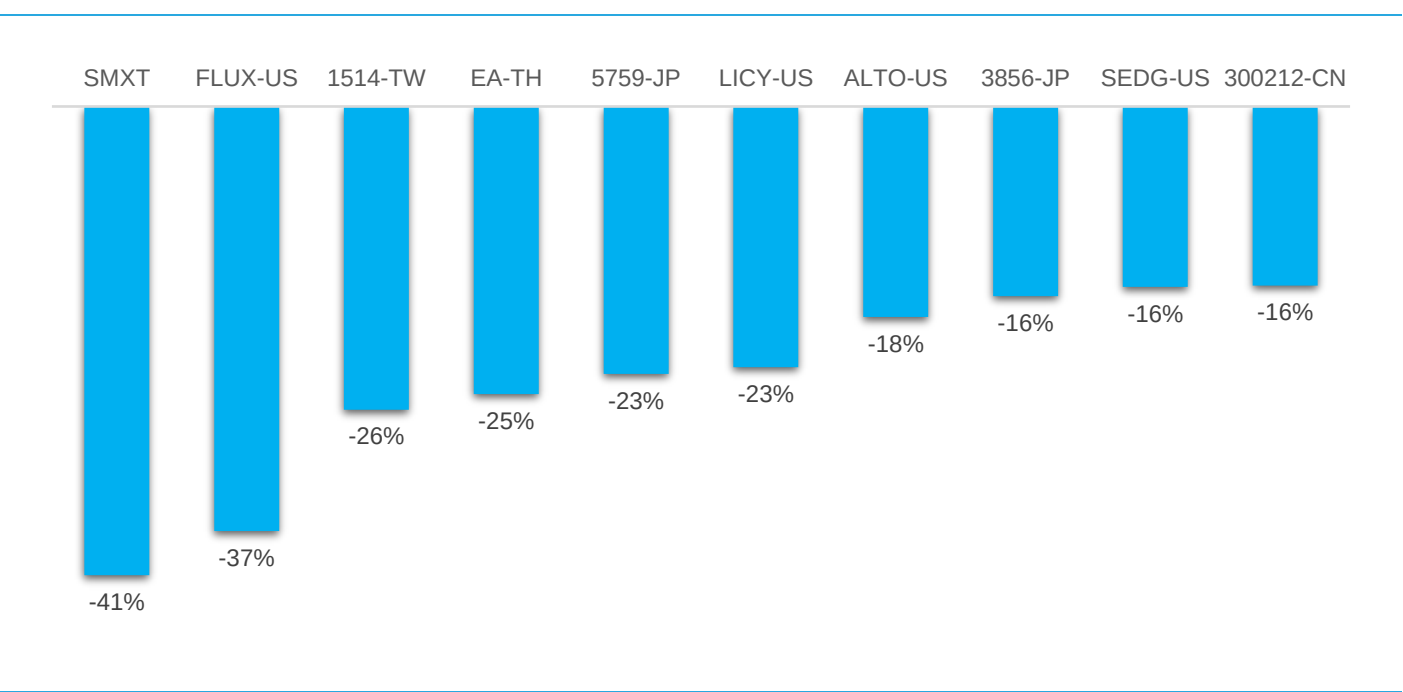
GAINERS AND LOSERS – CLEANTECH STOCKS

Chart 37: Top 10 M/M Cleantech Gainers (May 2024)



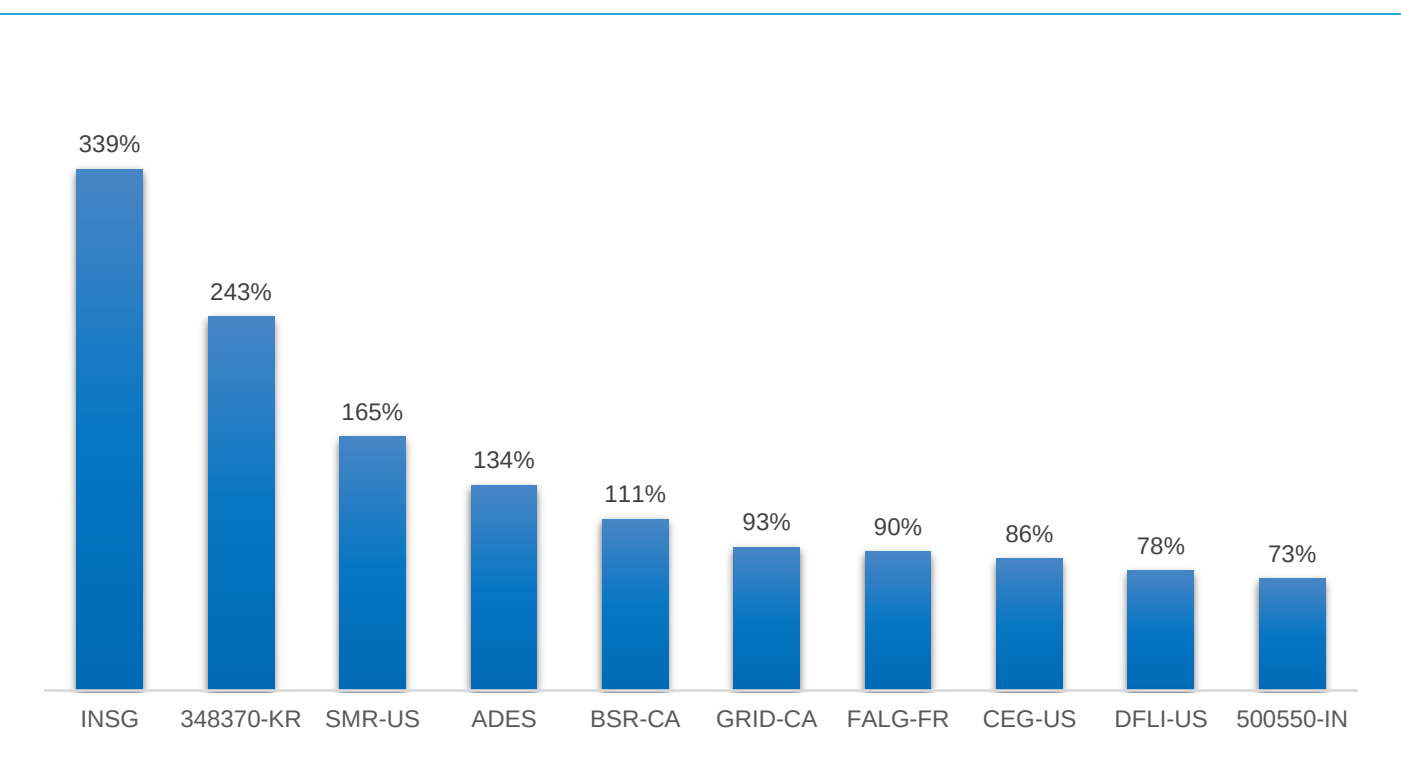
Source: Intro-act, FactSet

Chart 38: Top 10 M/M Cleantech Losers (May 2024)



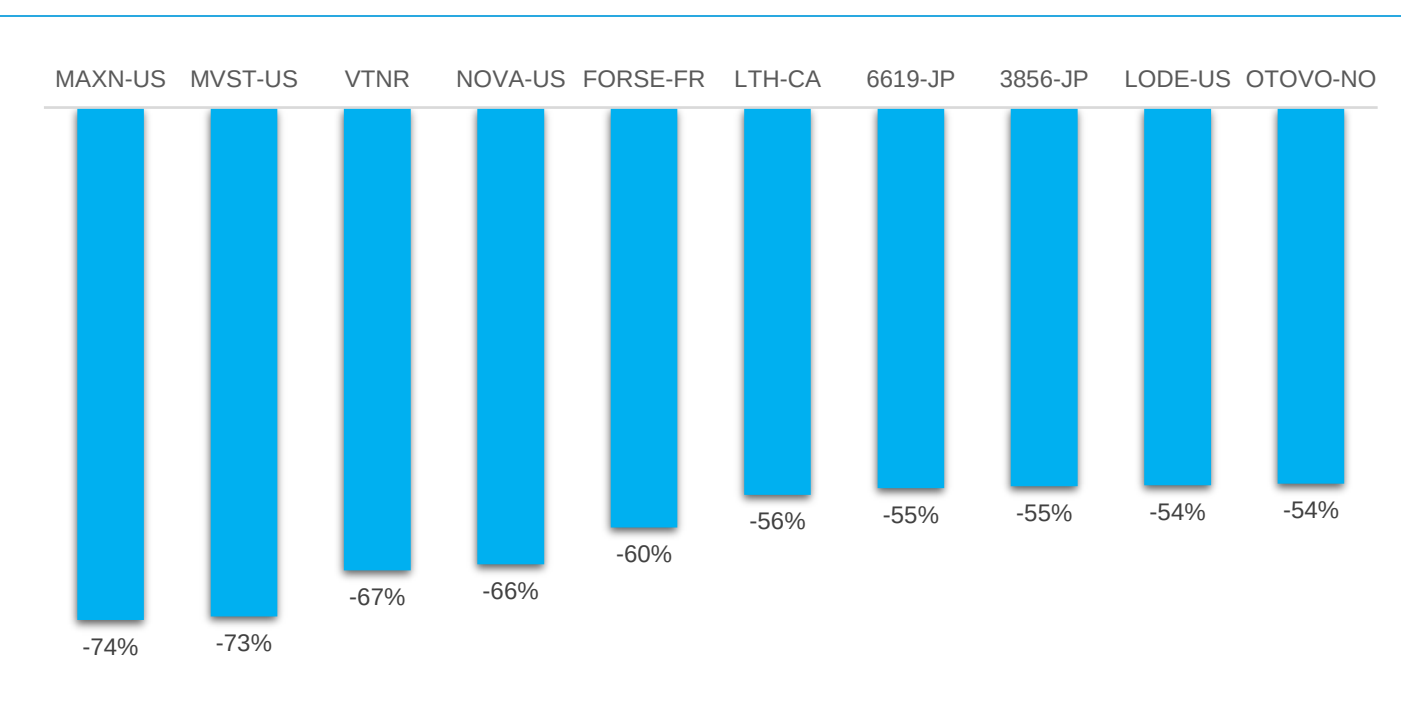
Source: Intro-act, FactSet

Chart 39: Top 10 YTD Cleantech Gainers



Source: Intro-act, FactSet. YTD Data Through end of May 2024.

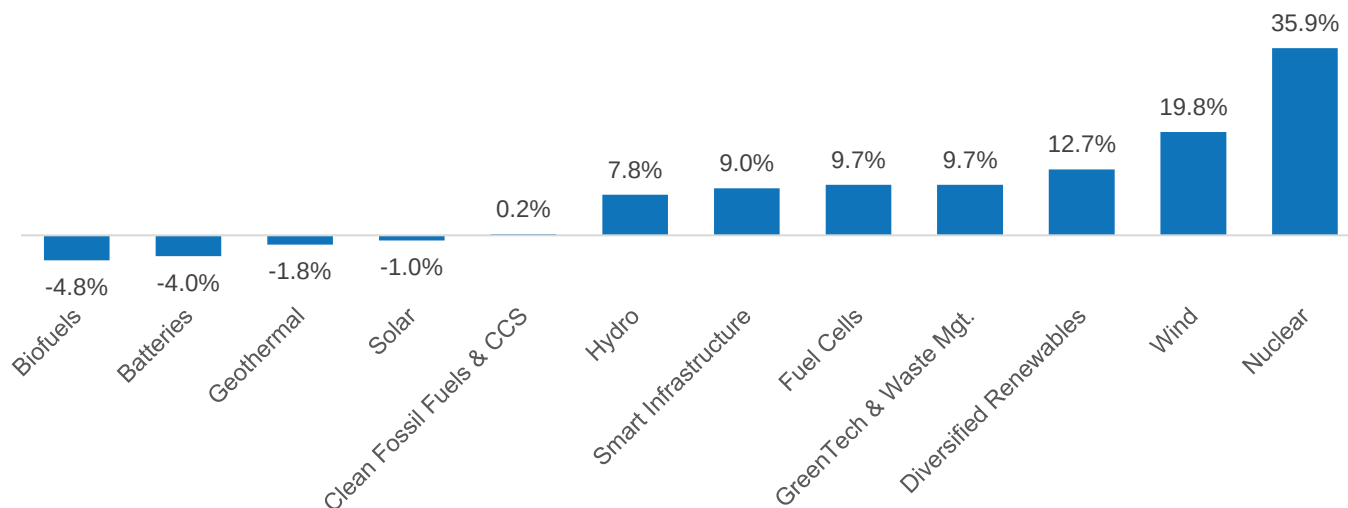
Chart 40: Top 10 YTD Cleantech Losers



Source: Intro-act, FactSet. YTD Data Through end of May 2024.

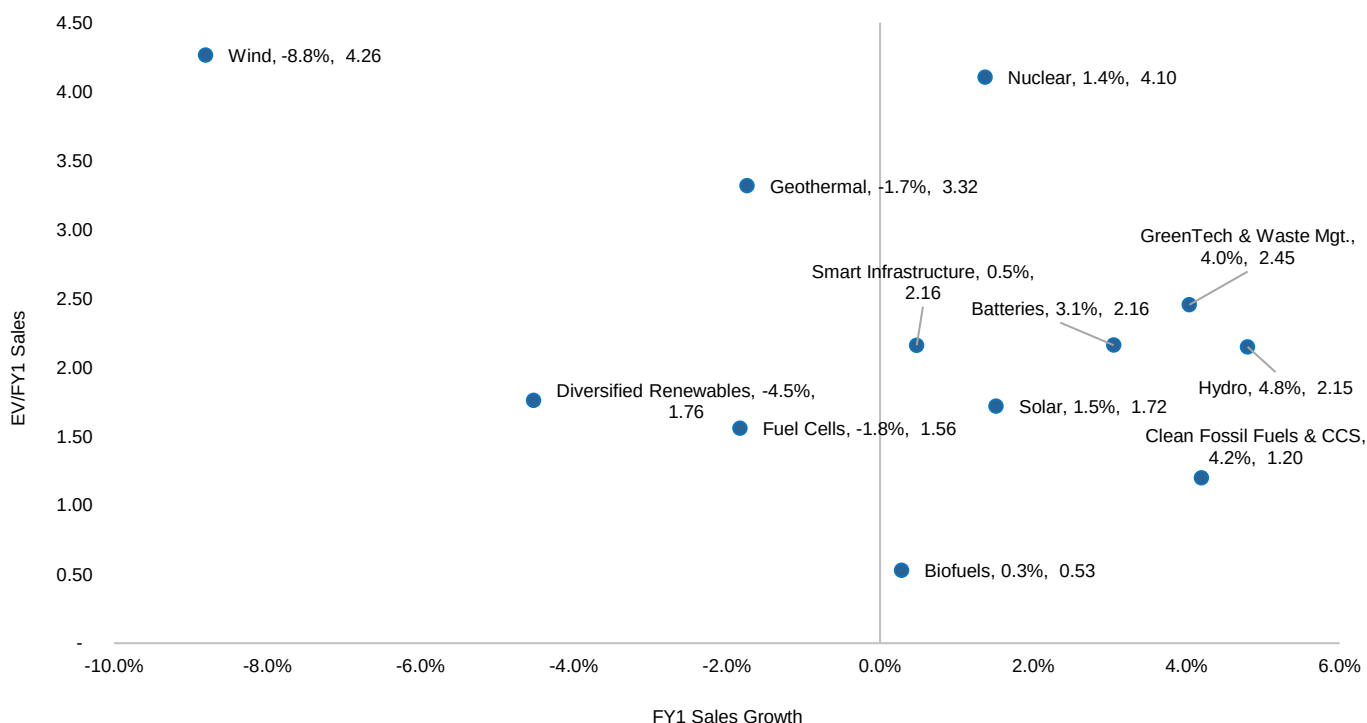
SEGMENT RETURN AND VALUATION

Chart 41: YTD Stock Price Returns by Segment



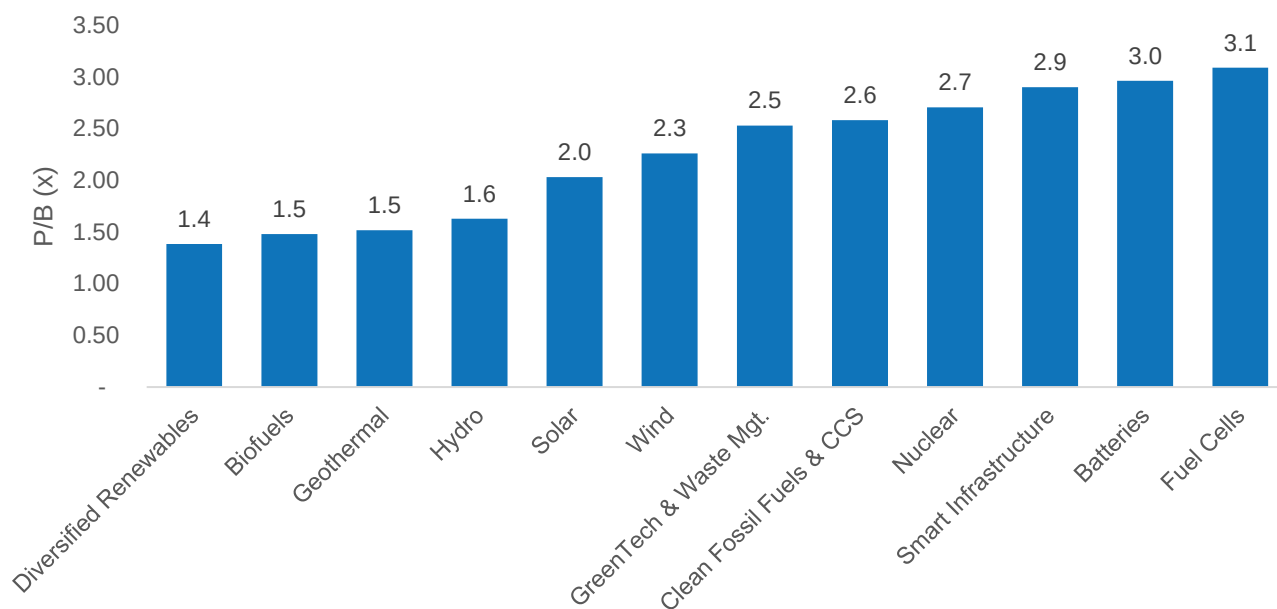
Source: Intro-act, FactSet. YTD Data Through end of May 2024.

Chart 42: Cleantech Industry Growth and Valuation by Segment



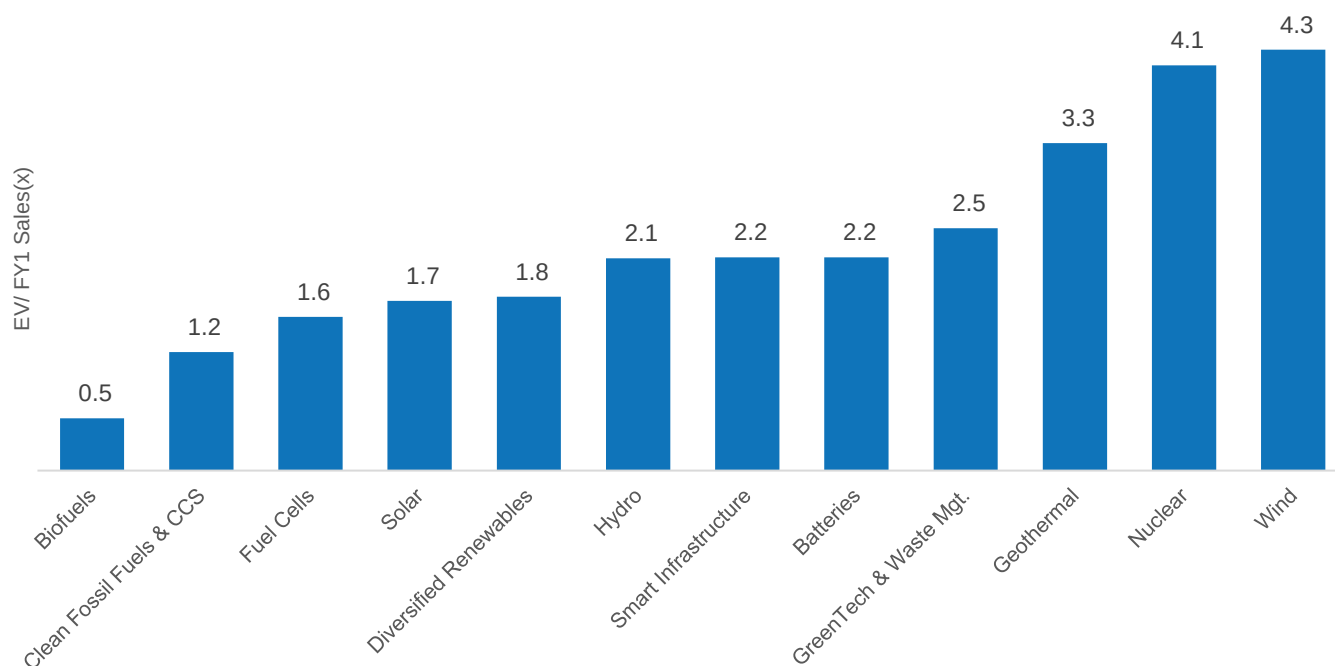
Source: Intro-act, FactSet. Data Through end of May 2024. FY1 data is the first unreported financial year.

Chart 43: Price-to-Book Multiple by Segment



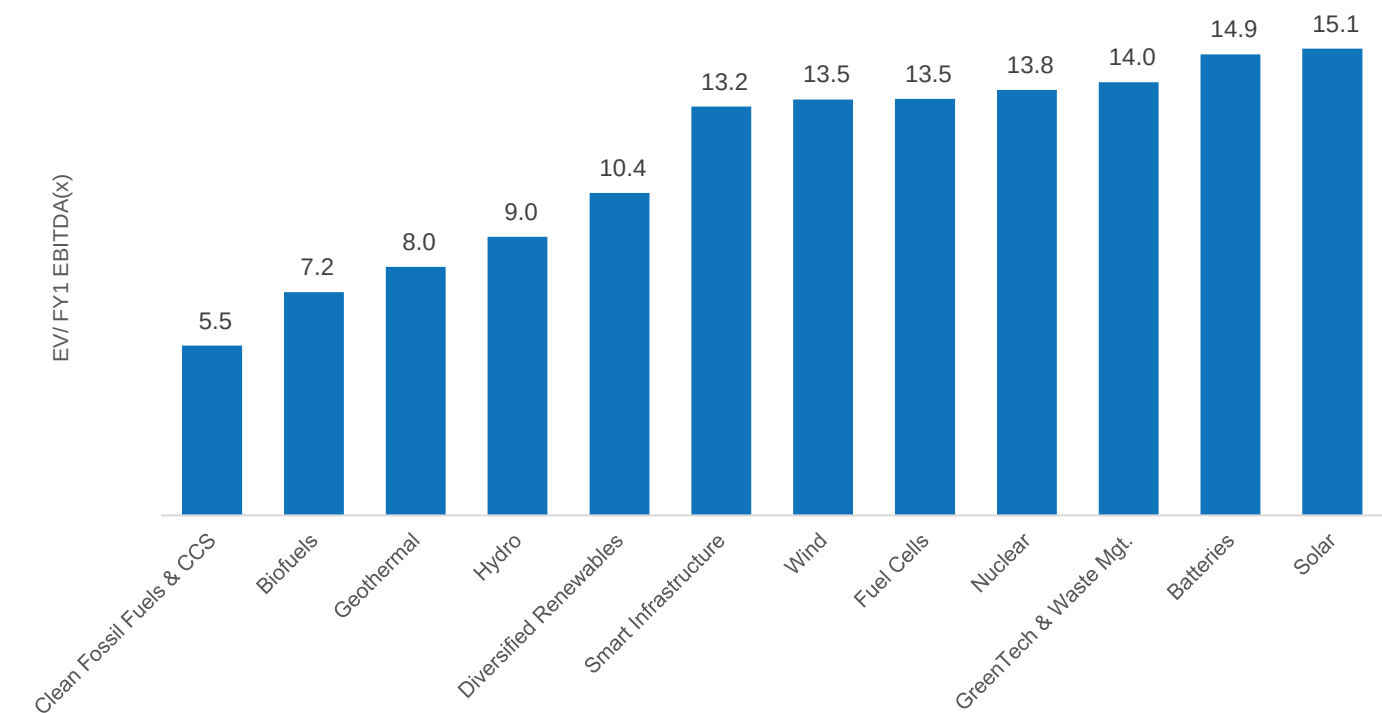
Source: Intro-act, FactSet. Data Through end of May 2024.

Chart 44: EV to FY1 Sales Multiple by Segment



Source: Intro-act, FactSet. Data Through end of May 2024. FY1 data is the first unreported financial year.

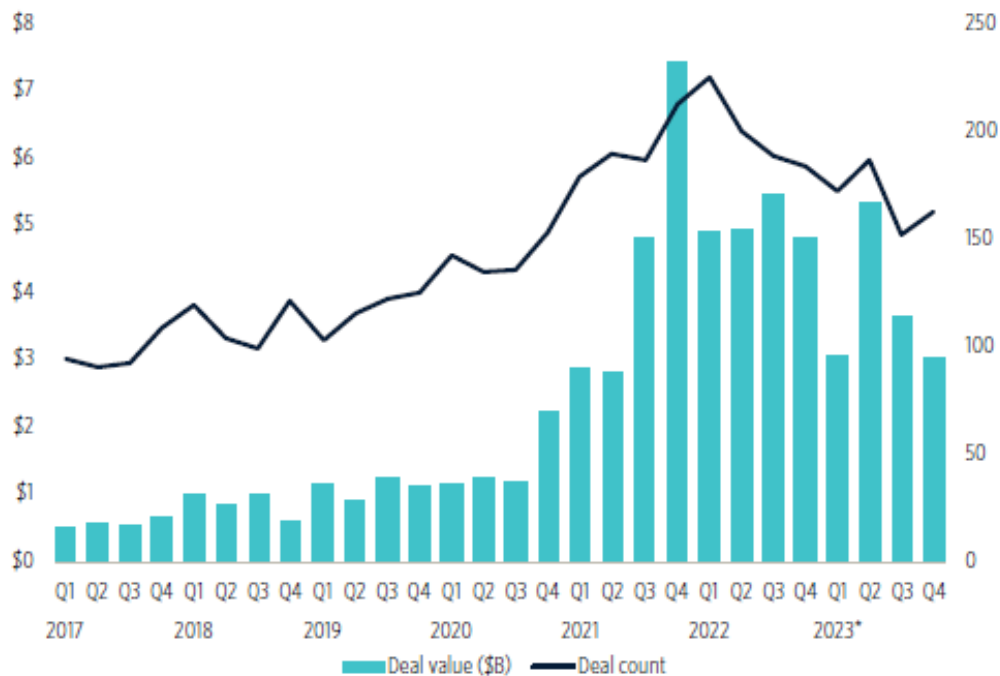
Chart 45: EV to FY1 EBITDA Multiple by Segment



Source: Intro-act, FactSet. Data Through end of May 2024. FY1 data is the first unreported financial year.

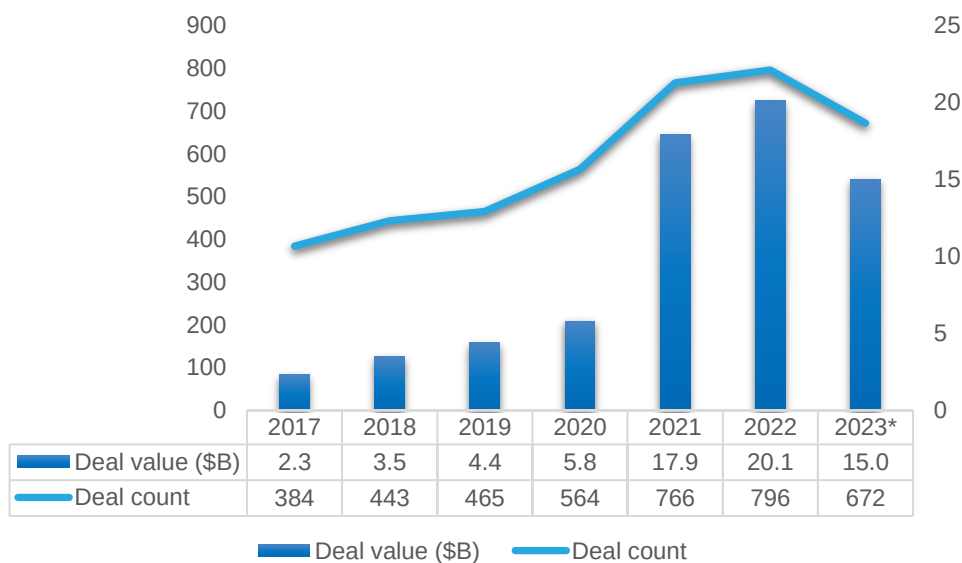
CLEANTECH CAPITAL MARKET TRENDS

Chart 46: Clean Energy VC Deal Activity by Quarter



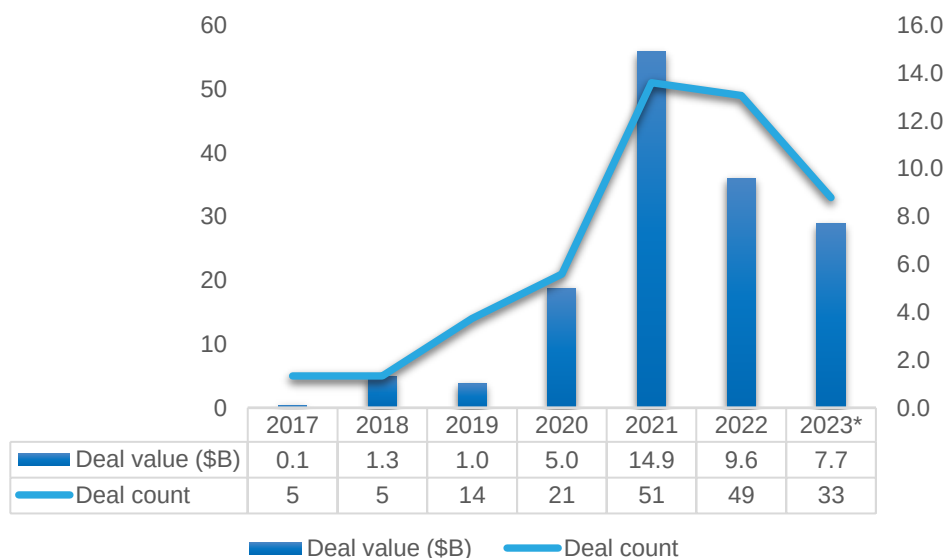
Source: Intro-act, Pitchbook, *Data as of December 31, 2023.

Chart 47: Clean Energy VC Deal Activity



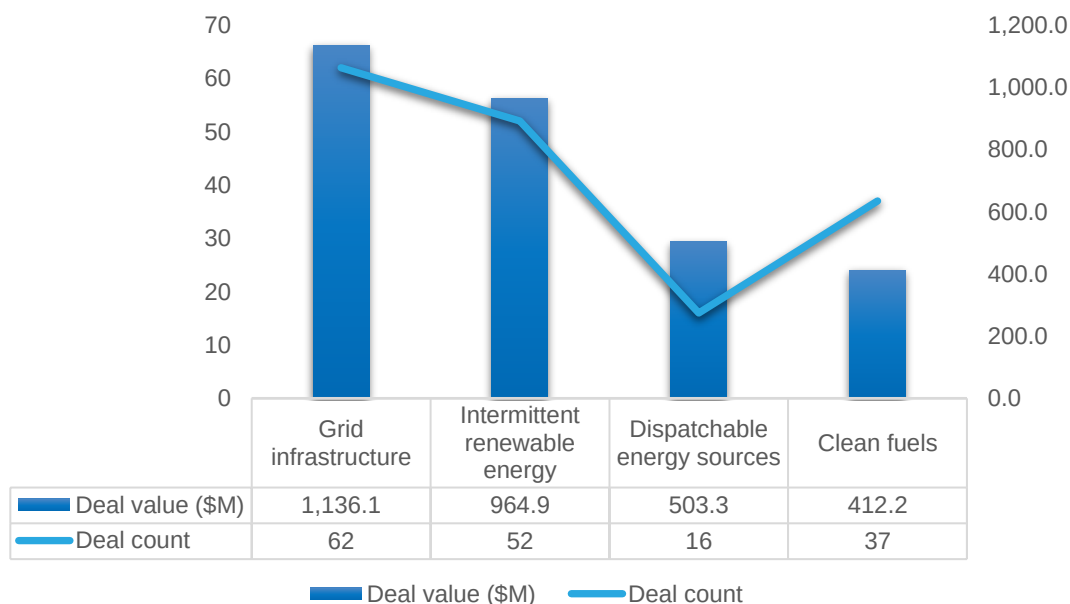
Source: Intro-act, Pitchbook, *Data as of December 31, 2023

Chart 48: Clean Energy VC Exit Activity



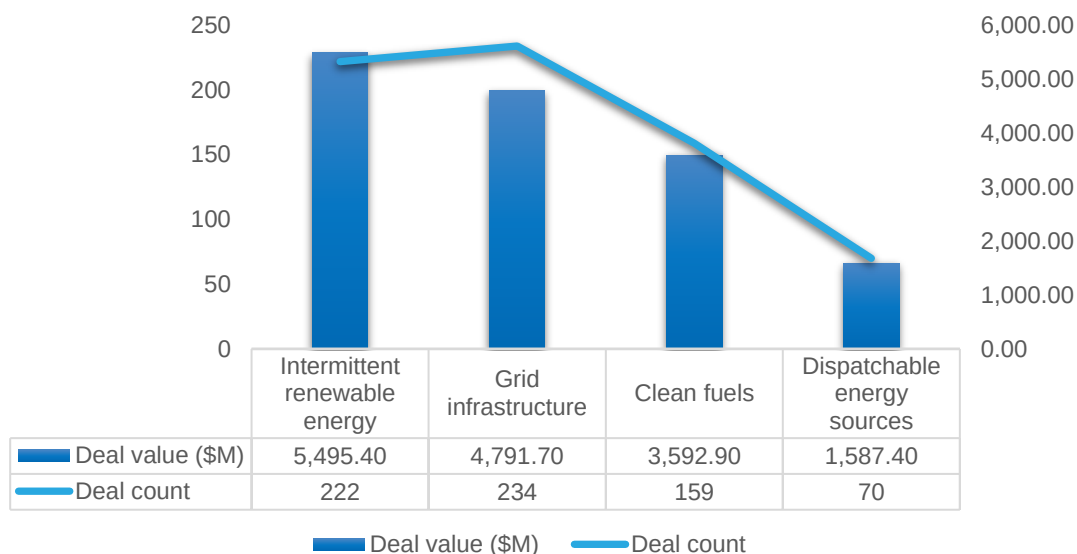
Source: Intro-act, Pitchbook, *Data as of December 31, 2023.

Chart 49: Q4 2023 Clean Energy VC Deal Activity by Segment



Source: Intro-act, Pitchbook, *Data as of December 31, 2023.

Chart 50: Trailing 12-Month Clean Energy VC Deal Activity by Segment*



Source: Intro-act, Pitchbook, *Data as of December 31, 2023.

Chart 51: Top-10 Clean Energy VC Deals in Q4 2023

Company	Close date (2023)	Category	Deal Value(\$M)
Huasun Energy	15 November	Solar photovoltaic	274.5
X Energy	5 December	Nuclear fission	235.0
Eavor	25 October	Geothermal	182.0
Numbat	16 October	Analytics & grid management	148.2
Aerospace Lithium Battery	20 November	Battery storage	137.6
Skeleton Technologies	13 October	Nonbattery storage	114.5
Element Energy	15 November	Battery storage	111.0
MyLight Systems	30 November	Solar photovoltaic	108.1
Husk Powering Possibilities	24 October	Solar photovoltaic	103.0
Sungrow Hydrogen Energy	30 December	Hydrogen	92.6

Source: Intro-act, Pitchbook, *Data as of December 31, 2023.

Chart 52: Top VC Investors in Clean Energy Companies since 2017*

Investor	Deal count	Investor type
Climate Capital	39	VC
Equinor Ventures	36	CVC
Energy Impact Partners	35	VC
Shell Ventures	34	CVC
Lowercarbon Capital	28	VC
Prelude Ventures	25	VC
Chevron Technology Ventures	25	CVC
ENGIE New Ventures	24	CVC
EDP Ventures	22	CVC
SET Ventures	20	VC

Source: Intro-act, *Data as of December 31, 2023.

Chart 53: Top VC-backed Clean Energy Companies by Total VC Raised to Date*

Company	VC (\$M) raised to date	Category
SVOLT	3,231.3	Battery storage
Commonwealth Fusion Systems	1,999.0	Nuclear fusion
TAE	1,344.8	Nuclear fusion
Sila	933.5	Battery storage
Hithium	909.5	Battery storage
Enerkem	893.9	Waste to energy/fuel
TerraPower	865.0	Nuclear fission
Form Energy	816.0	Non-battery storage
Huasun Energy	748.5	Solar photovoltaic
Gokin Solar	746.2	Solar photovoltaic

Source: Intro-act, *Data as of December 31, 2023.

CLEANTECH SPAC ACTION

Chart 54: Cleantech SPACs (Searching)

S. No	SPAC Name	Ticker	Trust Value (\$ Mn)	IPO Date	Completion Date
1	Global Lights Acquisition Corp	GLAC	69	11/14/2023	5/14/2025
2	Legato Merger Corp. III	LEGT	201	2/6/2024	5/6/2026
3	Nabors Energy Transition Corp. II	NETD	300	7/13/23	7/13/25
4	Spring Valley Acquisition Corp. II	SVII	230	10/12/2022	10/17/2025

Source: Intro-act, Boardroom Alpha

Chart 55: Cleantech SPACs (Business Combination Agreement Announced)

S.No	SPAC Name	Ticker	Target Company	EV(\$ Mn)	Expected Closing
1	AltC Acquisition Corp.	ALCC	Oklo	850	3Q23
2	Aquaron Acquisition Corp.	AQU	Bestpath	1200	2Q24
3	Blue World Acquisition Corp	BWAQ	Vietnam Sunergy Cell Company	0	2Q24
4	ESGEN Acquisition Corp	ESAC	Sunergy	475	2Q23
5	Finnovate Acquisition Corp.	FNVT	Scage International Limited	1,000	2Q24
6	Focus Impact BH3 Acquisition Company	BHAC	XCF Global Capital	1,840	3Q24
7	Project Energy Reimagined Acquisition Corp.	PEGR	Heramba Electric	450	1Q24
8	Portage Fintech Acquisition Corp.	PFTA	Rbio Energy	350	3Q24
9	RMG Acquisition Corp. III	RMGC	H2B2 Electrolysis Technologies	0	3Q23
10	TMT Acquisition Corp.	TMTC	eLong Power Holding Limited	450	4Q24
11	TortoiseEcofin Acquisition Corp. III	TRTL	One Energy Enterprises LLC	300	3Q23
12	Roth CH Acquisition V Co.	ROCL	New Era Helium Corporation	90	1Q24

Source: Intro-act, Boardroom Alpha

Chart 56: Cleantech SPACs (Closed Deals Since January 2022)

S. No	SPAC Name	Ticker (Old)	DE-SPAC	Ticker	Closing Date
1	Decarbonization Plus Acquisition Corporation II.	DRCN	TRITIUM DCFC LTD	DCFC	13-Jan-22
2	Ivanhoe Capital Acquisition Corp	IVAN	SES Holdings	SES	3-Feb-22
3	CITIC Capital Acquisition Corp	CCAC	Quanergy Systems	QNGY	8-Feb-22
4	Novus Capital Corporation II	NXU	Energy Vault	NRGV	11-Feb-22
5	Spartan Energy Acquisition Corp.	SPAQ	Fisker Inc.	FSR	15-Mar-22
6	Poema Global Holdings Corp.	PPGH	GOGORO INC	GGR	4-Apr-22
7	Spring Valley Acquisition Corp	SV	Spring Valley Acquisition Corp	SMR	2-May-22
8	ArcLight Clean Transition Corp. II	ACTD	OPAL FuelsGroups	OPAL	21-Jul-22
9	Founder SPAC	FOUN	Rubicon Technologies	RBT	15-Aug-22
10	Kensington Capital Acquisition Corp. IV	KCAC	Amprius Technologies	AMPX	14-Sep-22
11	Chardan NexTech Acquisition 2 Corp..	CNTQ	Dragonfly Energy Corp.	DFLI	7-Oct-22
12	Executive Network Partnering Corp	ENPC	Granite Ridge Resources	GRNT	24-Oct-22
13	ACE Convergence Acquisition Corp	ACEV	Tempo Automation	TMPO	22-Nov-22
14	Decarbonization Plus Acquisition Corp IV	DCRD	Hammerhead Resources	HHRS	23-Feb-23

15	Roth CH Acquisition IV Co.	ROCG	Tigo Energy Inc	TYGO	23-May-23
16	Rice Acquisition Corp. II	RONI	NET Power	NPWR	8-Jun-23
17	ROC Energy Acquisition Corp.	ROC	Drilling Tools International	DTI	20-Jun-23
18	Freedom Acquisition I Corp	FACT	Complete Solar, Inc.	CSLR	17Jul-23
19	TLG Acquisition One Corp.	TLGA	Electriq Power	ELIQ	31-Jul-23
20	Genesis Unicorn Capital Corp.	GENQ	Environmental Solutions Group Holdings Limited	ESGL	2-Aug-23
21	Perception Capital Corp. II	PCCT	Spectaire Inc.	SPEC	19-Oct-23
22	HNR Acquisition Corp	HNRA	Pogo Resources, LLC	HNRA	15-Nov-23
23	Nabors Energy Transition Corp.	NETC0	Vast	VSTE	18-Dec-23
24	Dune Acquisition Corporation	DUNE	Global Hydrogen Energy	HGAS	21-Dec-23
25	Clean Earth Acquisitions Corp.	CLIN	Alternus Energy Group Plc	ALCE	22-Dec-23
26	Nubia Brand International Corp.	NUBI	Honeycomb Battery Co.	STI	2-Feb-24
27	ESGEN Acquisition Corp	ESAC	Sunergy	ZEO	13-Mar-24

28	Power Digital Infrastructure Acquisition II Corp.	XPDB	Montana Technologies	AIRJ	14-Mar-24
29	Keyarch Acquisition Corp	KYCH	ZOOZ Power Ltd.	ZOOZ	4-Apr-24

Source: Intro-act, Boardroom Alpha

CLEANTECH EVENTS CALENDAR

S. No.	Event	Place	Dates
1	Global conference on Renewable Energy and Climate Change	Chiang Mai, Thailand	22-Jun to 23-Jun-2024
2	24th World Hydrogen Energy Conference (WHEC 2024)	Cancun, US	23-Jun to 27-Jun-2024
3	Global Energy Transition 2024	New York, US	25-Jun to 27-Jun-2024
4	International Conference on Renewable Energy Resource and Energy Storage	Hue, Vietnam	26-Jun to 26-Jun-2024
5	10th Global Summit on Renewable Energy and Resources	London, UK	27-Jun to 28-Jun-2024
6	10th GoGreen Summit	Singapore	29-Jun to 30-Jun-2024
7	Global Energy Transition Congress and Exhibition	Milan, Italy	01-Jul to 03-Jul-2024
8	Green Hydrogen Summit UK & Ireland	London, UK	01-Jul to 02-Jul-2024
9	Global conference on Renewable Energy and Climate Change	Tokyo, Japan	06-Jul to 07-Jul-2024
10	Solar Business Expo (SBE)	Calgary, Canada	10-Jul to 11-Jul-2024
11	Global Meet on Renewable and Non-Renewable Energy (RNRE 2024)	San Diego, US	15-Jul to 17-Jul-2024
12	International Conference on Mechanical, Materials and Renewable Energy	Texas, USA	16-Jul to 17-Jul-2024
13	9th International Conference on Green Energy Technologies (ICGET 2024)	Berlin, Germany	21-Jul to 23-Jul-2024
14	Mercom India Renewables Summit 2024	New Delhi, India	25-Jul to 26-Jul-2024
15	3rd International Conference on Green Energy and Environmental Technology (GEET 24)	Lisbon, Portugal	29-Jul to 31-Jul-2024
16	Global conference on Renewable Energy and Climate Change (GCRECC)	Oxford, UK	18-Aug to 19-Aug-2024

Source: Intro-act, Multiple web sources

CLEANTECH COMP TABLE

						Price Performance						Sales			EBITDA			Book Value	
						% to High	% to Low	% YTD	FY0	FY1	EV/Sales	FY0	FY1	EV/ EBITDA	Book/ Share	P/ Book			
Peer Set																			
Biofuels			Ticker	156,963	247,336	-5%			466,944	468,246	0.5 x	41,371	34,231	7.2 x	1.5 x				
1	VALERO ENERGY CORP	VLO-US	157.1	51,384	60,034	18%	-31%	21%	144,766	131,271	0.5 x	14,580	10,019	6.0 x	79.69	2.0 x			
2	ARCHER DANIELS MIDLAND	ADM-US	62.4	30,873	38,108	40%	-19%	-14%	93,935	90,639	0.4 x	6,185	4,927	7.7 x	46.25	1.3 x			
3	WILMAR INTERL LTD	F34-SG	2.3	14,638	38,882	33%	-1%	-13%	67,155	70,212	0.6 x	3,565	3,889	10.0 x	3.15	0.7 x			
4	BUNGE GLOBAL SA	BG-US	107.6	15,234	19,026	8%	-20%	7%	59,540	55,867	0.3 x	3,531	2,513	7.6 x	74.52	1.4 x			
5	DARLING INGREDIENTS INC	DAR-US	40.4	6,455	11,082	77%	-16%	-19%	6,788	5,969	1.9 x	1,612	1,324	8.4 x	28.75	1.4 x			
6	ENERGY ABSOLUTE PC	EA-TH	0.6	2,322	4,102	200%	-26%	-52%	837	801	5.1 x	353	321	12.8 x	0.30	2.0 x			
7	COSAN SA	CSAN3-BR	2.6	4,856	19,846	69%	-13%	-35%	7,930	29,803	0.7 x	4,493	3,478	5.7 x	2.11	1.2 x			
8	SD GUTHRIE BERHAD	5285-MY	0.9	6,244	7,790	14%	-3%	-7%	3,825	3,943	2.0 x	707	798	9.8 x	0.54	1.7 x			
9	VALMET OYJ	VALMT-FI	26.8	4,940	6,058	16%	-22%	-7%	5,951	5,799	1.0 x	771	802	7.6 x	14.01	1.9 x			
10	VERBIO SE	VBK-DE	24.4	1,553	1,633	106%	-26%	-26%	2,103	1,932	0.8 x	254	162	10.1 x	15.62	1.6 x			
11	SAO MARTINHO SA	SMT03-BR	5.2	1,828	3,382	65%	-3%	-13%	1,276	1,435	2.4 x	679	746	4.5 x	3.56	1.5 x			
12	GREEN PLAINS INC	GPRES-US	17.2	1,110	1,545	110%	-16%	-32%	3,296	2,589	0.6 x	44	89	17.3 x	13.73	1.3 x			
13	FIRST RESOURCES	EB5-SG	1.0	1,652	1,802	16%	-6%	-3%	981	1,078	1.7 x	274	370	4.9 x	0.81	1.3 x			
14	COFCO BIOTECH	000930-CN	0.9	1,593	1,966	31%	-18%	-8%	2,812	2,812	0.7 x	6	106	18.6 x	0.77	1.1 x			

15	ANDERSONS INC	ANDE-US	52.3	1,782	2,319	17%	-18%	-9%	14,750	12,118	0.2 x	405	335	6.9 x	37.59	1.4 x
16	MONTAUK RENEWABLES	MNTK-US	5.4	770	764	104%	-37%	-40%	175	215	3.5 x	48	77	9.9 x	1.79	3.0 x
17	ADECOAGRO S A	AGRO-US	9.8	1,025	2,079	27%	-9%	-11%	1,442	1,506	1.4 x	470	524	4.0 x	13.24	0.7 x
18	RAIZEN SA	RAIZ4-BR	0.5	737	14,310	80%	-10%	-34%	42,321	42,885	0.3 x	2,984	3,037	4.7 x	0.39	1.4 x
19	GREENVOLT ENERGI	GVOLT-PT	9.0	1,255	2,335	2%	-43%	0%	370	594	3.9 x	115	205	11.4 x	3.60	2.5 x
20	CROPENERGIES AG	CE2-DE	13.6	1,184	1,124	3%	-45%	7%	-	-	-	-	-	-	9.61	1.4 x
21	LONGYAN ZHUOYUE	688196-CN	3.8	462	458	89%	-16%	-19%	388	462	1.0 x	18	26	17.7 x	3.11	1.2 x
22	SHANDONG MINHE ANI	002234-CN	1.4	491	568	96%	-16%	-18%	288	418	1.4 x	(31)	61	9.2 x	0.89	1.6 x
23	REX AMERICAN RES	REX-US	50.0	875	581	22%	-35%	6%	833	695	0.8 x	-	62	9.4 x	29.96	1.7 x
24	ENVIVA INC	EVA-US	0.6	42	1,610	2386%	-56%	-43%	-	-	-	-	-	-	4.16	0.1 x
25	AUDAX RENOVABLES	ADX-ES	2.1	955	1,283	3%	-46%	47%	2,487	2,342	0.5 x	106	124	10.3 x	0.50	4.2 x
26	JALLES MACHADO SA	JALL3-BR	1.3	390	975	49%	-7%	-20%	327	357	2.7 x	205	212	4.6 x	1.31	1.0 x
27	HENAN BCCY ENVIRON	300614-CN	1.5	241	292	191%	-22%	-43%	-	-	-	-	-	-	1.36	1.1 x
28	DALMIA BHARAT	500097-IN	4.4	359	331	33%	-8%	-10%	347	423	0.8 x	49	61	5.4 x	4.35	1.0 x
29	CAMLIN FINE	532834-IN	1.1	188	260	99%	-15%	-31%	194	267	1.0 x	14	45	5.8 x	0.67	1.7 x
30	GEVO INC	GEVO-US	0.7	162	(37)	172%	-17%	-41%	17	18	-2.0 x	(44)	(45)	-	2.26	0.3 x
31	TUNAS BARU LAMPUNG	TBLA-ID	0.0	251	1,049	38%	-14%	-6%	-	-	-	-	-	-	0.09	0.5 x
32	ALTO INGREDIENTS	ALTO-US	1.5	116	181	227%	-15%	-43%	1,223	1,020	0.2 x	21	19	9.8 x	3.49	0.4 x
33	DHAMPUR SUGAR MILL	500119-IN	2.6	170	201	51%	-12%	-15%	261	297	0.7 x	32	31	6.5 x	1.90	1.4 x

34	AEMETIS INC	AMTX-US	3.5	153	574	161%	-20%	-34%	187	334	1.7 x	(22)	8	73.0 x	(5.45)	-0.6 x
35	DHAMPUR BIO	543593-IN	1.4	95	120	63%	-5%	-22%	-	-	-	-	-	-	1.83	0.8 x
36	CODEXIS INC	CDXS-US	3.4	238	196	45%	-57%	11%	70	65	3.0 x	(48)	(34)	-	1.12	3.0 x
37	LGI LIMITED	LGI-AU	2.0	176	182	4%	-40%	46%	20	23	8.1 x	9	11	17.2 x	0.39	5.1 x
38	AGRIA GROUP	AGH-BG	11.9	81	257	18%	-13%	5%	-	-	-	-	-	-	24.75	0.5 x
39	COMSTOCK INC	LODE-US	0.3	35	23	284%	-30%	-54%	1	2	10.7 x	-	-	-	0.60	0.4 x
40	FERMENTALG	FALG-FR	0.6	34	37	67%	-65%	91%	4	12	3.1 x	(8)	(7)	-	0.65	1.0 x
41	GREENLANE	GRN-CA	0.1	11	6	221%	-22%	-29%	43	44	0.1 x	(8)	(2)	-	0.12	0.6 x

						Price Performance			Sales			EBITDA			Book Value	
			Price	Mkt Cap (\$ Mns)	Ent Val (\$ Mns)	% to High	% to Low	% YTD	FY0	FY1	EV/Sales	FY0	FY1	EV/ EBITDA	Book/ Share	P/ Book
Peer Set																
Clean Fossil Fuels & CCS			Ticker	144,985	181,306			0%	145,062	151,151	1.2 x	33,348	32,969	5.5 x		2.6 x
42	AIR PRODS & CHEMS	APD-US	266.7	59,289	72,332	15%	-20%	-3%	12,600	12,318	5.9 x	4,702	5,050	14.3 x	67.10	4.0 x
43	ENI SPA	ENI-IT	15.7	51,688	75,142	9%	-12%	-3%	100,947	104,319	0.7 x	22,530	21,173	3.5 x	18.29	0.9 x
44	SHANXI LU'AN ENVIR	601699-CN	3.1	9,366	6,360	27%	-34%	1%	5,958	5,620	1.1 x	1,999	1,908	3.3 x	2.30	1.4 x
45	HENAN SHENHUO COAL	000933-CN	3.2	7,183	9,356	10%	-45%	35%	5,212	5,461	1.7 x	1,518	1,398	6.7 x	1.29	2.5 x
46	CNOOC ENERGY	600968-CN	0.6	5,866	4,960	11%	-37%	44%	6,811	7,537	0.7 x	820	846	5.9 x	0.34	1.7 x
47	CALIFORNIA RES	CRC-US	47.4	3,232	3,458	23%	-11%	-13%	2,801	2,935	1.2 x	866	1,258	2.7 x	30.54	1.6 x
48	KEDA INDUSTRIAL GR	600499-CN	1.3	2,557	3,039	30%	-10%	-7%	1,343	1,658	1.8 x	350	402	7.6 x	0.86	1.6 x
49	AKER SOLUTIONS ASA	AKSO-NO	4.4	2,144	1,349	9%	-26%	6%	3,397	4,414	0.3 x	122	356	3.8 x	3.92	1.1 x
50	GUIZHOU PANJIANG R	600395-CN	0.9	1,935	3,628	12%	-18%	4%	1,298	1,565	2.3 x	232	288	12.6 x	0.74	1.2 x
51	TECNICAS REUNIDAS	TRE-ES	13.8	1,105	931	6%	-45%	53%	4,475	4,827	0.2 x	193	222	4.2 x	4.36	3.2 x
52	AKER CARBON CA	ACC-NO	0.7	427	326	122%	-30%	-47%	149	186	1.8 x	(19)	(14)	-	0.10	6.9 x
53	TIDEWATER	LCFS-CA	5.6	194	425	24%	-24%	-9%	72	310	1.4 x	34	81	5.3 x	10.85	0.5 x

						Price Performance			Sales			EBITDA			Book Value				
						% to High	% to Low	% YTD	FY0	FY1	EV/Sales	FY0	FY1	EV/ EBITDA	Book/ Share	P/ Book			
Peer Set						Price	Mkt Cap (\$ Mns)	Ent Val (\$ Mns)											
Diversified Renewables						Ticker	386,165	732,831				13%	435,894	416,182	1.8 x	70,773	70,190	10.4 x	1.4 x
54	ENBRIDGE INC	ENB-CA	36.6	77,719	148,698	5%	-15%	1%	32,551	25,257	5.9 x	12,223	13,222	11.2 x	19.82	1.8 x			
55	HITACHI	6501-JP	102.7	95,257	102,116	7%	-44%	42%	62,089	58,459	1.7 x	7,712	8,170	12.5 x	39.17	2.6 x			
56	ENGIE	ENGI-FR	16.9	41,071	83,037	8%	-17%	-4%	89,257	84,903	1.0 x	16,216	15,455	5.4 x	11.95	1.4 x			
57	NIDEC CORPORATION	6594-JP	49.9	29,760	33,246	24%	-29%	24%	15,148	15,951	2.1 x	1,905	2,424	13.7 x	17.42	2.9 x			
58	RWE AG	RWE-DE	37.8	28,134	28,782	23%	-14%	-17%	31,103	26,725	1.1 x	9,122	5,762	5.0 x	46.92	0.8 x			
59	CHUBU ELEC POWER	9502-JP	13.8	10,450	29,304	5%	-17%	7%	23,042	22,073	1.3 x	3,402	2,262	13.0 x	21.76	0.6 x			
60	ZHEJIANG ZHENENG	600023-CN	0.9	12,402	18,445	5%	-40%	42%	13,244	12,676	1.5 x	2,267	2,593	7.1 x	0.72	1.3 x			
61	BROOKFIELD RENEWABLE	BEP-US	27.9	8,003	79,563	9%	-29%	6%	5,038	6,030	13.2 x	2,130	2,378	33.5 x	17.59	1.6 x			
62	TOKYO ELEC POWER	9501-JP	6.0	9,609	50,127	21%	-41%	14%	43,883	43,604	1.1 x	-	4,178	12.0 x	13.95	0.4 x			
63	FUJI ELECTRIC CO.	6504-JP	59.5	8,879	9,306	17%	-38%	44%	7,014	7,181	1.3 x	994	1,089	8.5 x	26.84	2.2 x			
64	MERCURY NZ LTD	MCY-NZ	4.1	5,721	6,890	8%	-19%	-2%	1,611	2,111	3.3 x	496	545	12.6 x	2.12	1.9 x			
65	BHARAT HEAVY ELECT	500103-IN	3.6	12,471	12,895	8%	-72%	54%	2,850	3,809	3.4 x	60	213	60.6 x	0.90	4.0 x			
66	SOJITZ CORPORATION	2768-JP	26.1	5,876	10,960	9%	-26%	19%	15,316	16,021	0.7 x	847	1,070	10.2 x	26.97	1.0 x			
67	ULTRAPAR	UGPA3-BR	4.4	4,917	6,333	44%	-22%	-18%	25,374	24,127	0.3 x	1,215	1,041	6.1 x	2.41	1.8 x			
68	HUBEI ENERGY GR	000883-CN	0.8	5,329	11,719	6%	-33%	38%	2,576	3,067	3.8 x	797	1,056	11.1 x	0.70	1.2 x			

69	IHI CORPORATION	7013-JP	25.8	3,985	7,808	10%	-32%	34%	8,501	9,939	0.8 x	(19)	1,172	6.7 x	15.81	1.6 x
70	CIA ENERG MG-CEMIG	CMIG4-BR	1.9	3,607	7,017	13%	-13%	4%	7,011	6,530	1.1 x	1,578	1,468	4.8 x	1.52	1.2 x
71	ELEC POWER DEV	9513-JP	16.8	3,075	13,788	6%	-14%	4%	8,070	7,710	1.8 x	1,438	1,320	10.4 x	42.31	0.4 x
72	ENCAVIS AG	ECV-DE	18.6	2,996	5,065	0%	-38%	8%	505	505	10.0 x	354	343	14.8 x	6.36	2.9 x
73	CENTRAIS ELET BRAS	ELET6-BR	7.4	2,084	25,584	36%	-5%	-21%	7,405	7,124	3.6 x	3,499	4,105	6.2 x	8.92	0.8 x
74	TERNA ENERGY SA	TENERGY-GR	19.8	2,335	3,273	18%	-31%	13%	351	-	-	-	-	-	4.58	4.3 x
75	TAURON POLSKA	TPE-PL	1.0	1,802	5,907	8%	-41%	8%	11,553	9,235	0.6 x	1,476	1,299	4.5 x	2.67	0.4 x
76	ROMANDE ENERGIE	REHN-CH	63.2	1,801	1,765	6%	-12%	7%	998	968	1.8 x	220	186	9.5 x	89.86	0.7 x
77	RENEW ENERGY	RNW-US	6.0	1,525	9,344	30%	-20%	-22%	1,158	1,259	7.4 x	831	902	10.4 x	3.35	1.8 x
78	GEK TERNA S.A	GEKTERNA-GR	18.2	1,882	3,968	2%	-32%	39%	-	-	-	-	-	-	10.98	1.7 x
79	FIRST GEN	FGEN-PH	0.3	1,101	1,946	27%	-3%	-3%	2,575	2,576	0.8 x	841	890	2.2 x	0.87	0.4 x
80	KEPCO PLANT	051600-KR	26.8	1,207	1,172	10%	-12%	1%	1,149	1,127	1.0 x	186	176	6.7 x	19.66	1.4 x
81	BCPG PCL	BCPG-TH	0.2	542	1,415	67%	-14%	-30%	140	116	12.2 x	106	109	13.0 x	0.28	0.6 x
82	SHANGHAI ELECTRIC	2727-HK	0.2	587	8,854	26%	-12%	-4%	15,883	16,367	0.5 x	735	802	11.0 x	0.47	0.4 x
83	ABO WIND AG	AB9-DE	60.1	555	735	14%	-29%	32%	326	376	2.0 x	64	70	10.5 x	22.69	2.7 x
84	PETROVIETNAM	NT2-VN	0.9	261	224	53%	-10%	-10%	259	162	1.4 x	47	17	13.3 x	0.54	1.7 x
85	AKER HORIZONS	AKH-NO	0.3	200	1,620	167%	-19%	-33%	-	-	-	-	-	-	0.32	0.9 x
86	ENER INNOV	EIDF-ES	7.7	459	516	332%	-56%	12%	206	143	3.6 x	(11)	18	28.6 x	0.48	16.3 x
87	RENEWABLE JAPAN	9522-JP	6.3	189	965	57%	-25%	-25%	223	-	-	-	-	-	2.31	2.7 x

88	ALTIVUS RENEWABLE	ARR-CA	6.6	204	137	11%	-28%	11%	8	11	12.6 x	4	7	18.8 x	6.72	1.0 x
89	CLEARWISE AG	ABO-DE	2.3	170	308	18%	-26%	-4%	48	41	7.5 x	35	26	11.8 x	2.29	1.0 x

						Price Performance			Sales			EBITDA			Book Value	
			Price	Mkt Cap (\$ Mns)	Ent Val (\$ Mns)	% to High	% to Low	% YTD	FY0	FY1	EV/Sales	FY0	FY1	EV/EBITDA	Book/Share	P/Book
Peer Set																
Batteries			Ticker	300,145	345,043			-4%	154,940	159,666	2.2 x	18,652	23,110	14.9 x		3.0 x
90	CATL	300750-CN	27.3	120,093	114,818	28%	-28%	19%	55,710	57,612	2.0 x	9,841	11,184	10.3 x	6.52	4.2 x
91	LG ENERGY SOLUTION	373220-KR	239.1	55,942	63,430	103%	-1%	-28%	25,254	22,090	2.9 x	3,202	3,698	17.2 x	63.87	3.7 x
92	ORSTED A/S	ORSTED-DK	61.0	25,630	35,639	62%	-42%	10%	11,876	11,669	3.1 x	2,700	3,697	9.6 x	20.33	3.0 x
93	LUCID GROUP INC	LCID-US	2.8	6,552	5,485	195%	-19%	-33%	595	735	7.5 x	(2,609)	(2,306)	-	1.83	1.5 x
94	SOLAREDGE TECH.	SEDG-US	49.0	2,807	2,831	490%	-25%	-48%	2,977	1,364	2.1 x	330	(242)	-	39.45	1.2 x
95	GENERAC	GNRC	147.2	8,923	10,216	7%	-46%	14%	4,023	4,181	2.4 x	638	719	14.2 x	39.19	3.8 x
96	LITTELFUSE INC	LFUS-US	256.6	6,360	6,744	21%	-17%	-4%	2,363	2,207	3.1 x	529	427	15.8 x	99.42	2.6 x
97	WUXI LEAD INTELLIG	300450-CN	2.8	4,322	4,536	88%	-11%	-23%	2,292	2,642	1.7 x	341	468	9.7 x	1.10	2.5 x
98	CHINA SHIPBUILDI.G	600482-CN	2.8	6,105	5,761	23%	-24%	10%	6,224	7,550	0.8 x	-	-	-	2.33	1.2 x
99	CNGR ADVANCED	300919-CN	4.9	4,575	7,781	30%	-23%	-1%	4,730	5,439	1.4 x	538	676	11.5 x	3.01	1.6 x
100	ENERSYS	ENS-US	107.8	4,330	4,927	5%	-23%	7%	3,582	3,704	1.3 x	516	544	9.1 x	43.55	2.5 x
101	SHENZHEN KEDALI	002850-CN	12.8	3,453	3,700	48%	-39%	7%	1,452	1,780	2.1 x	307	334	11.1 x	5.52	2.3 x
102	GOTION HIGH-TECH	002074-CN	2.8	3,710	9,048	40%	-20%	-8%	4,363	5,241	1.7 x	401	581	15.6 x	1.89	1.5 x
103	VOLTRONIC POWER	6409-TW	52.3	4,590	4,443	24%	-25%	-6%	600	649	6.8 x	146	154	28.8 x	3.35	15.6 x
104	WUXI AUTOWELL	688516-CN	7.9	2,469	2,650	72%	-21%	-14%	873	1,384	1.9 x	222	339	7.8 x	1.77	4.4 x
105	FARASIS ENERGY	688567-CN	1.6	1,996	1,901	113%	-14%	-29%	2,270	2,147	0.9 x	(91)	128	14.8 x	1.15	1.4 x

106	FLUENCE ENERGY INC	FLNC	25.1	3,214	2,859	25%	-48%	5%	2,218	2,968	1.0 x	(61)	64	44.5 x	3.24	7.7 x
107	ZHUHAI COSMX	688772-CN	2.0	2,224	2,814	66%	-22%	-36%	1,582	1,825	1.5 x	298	270	10.4 x	0.86	2.3 x
108	BEIJING EASPRING	300073-CN	5.5	2,663	2,155	37%	-32%	2%	2,093	1,583	1.4 x	322	192	11.2 x	3.59	1.5 x
109	HUNAN CHANGYUAN	688779-CN	0.7	1,377	1,610	129%	-12%	-31%	1,481	1,248	1.3 x	15	82	19.7 x	0.54	1.3 x
110	ZHEJIANG HANGKE	688006-CN	2.8	1,693	1,387	68%	-13%	-15%	543	644	2.2 x	123	170	8.1 x	1.21	2.3 x
111	GUANGZHOU GREAT	300438-CN	3.1	1,566	1,948	144%	-25%	-22%	957	1,116	1.7 x	87	193	10.1 x	1.48	2.1 x
112	SHENZHEN SENIOR	300568-CN	1.3	1,605	2,008	86%	-8%	-39%	416	583	3.4 x	167	220	9.1 x	1.02	1.3 x
113	KEHUA DATA CO	002335-CN	3.4	1,549	1,955	77%	-26%	-14%	1,123	1,412	1.4 x	186	189	10.4 x	1.34	2.5 x
114	ZHEJIANG NARADA	300068-CN	1.4	1,201	2,247	116%	-10%	-25%	2,024	2,443	0.9 x	109	205	10.9 x	0.87	1.6 x
115	ANKER INNOVATIONS	300866-CN	9.7	1,903	4,689	11%	-31%	1%	2,416	2,912	1.6 x	286	300	15.6 x	2.18	4.4 x
116	SUNNOVA ENERGY	NOVA-US	5.2	647	8,891	370%	-35%	-66%	721	890	10.0 x	275	347	25.6 x	12.94	0.4 x
117	W-SCOPE CHUNGJU	393890-KR	25.5	860	989	169%	-16%	-26%	228	305	3.2 x	72	63	15.7 x	21.68	1.2 x
118	V-GUARD INDUSTRIES	532953-IN	4.4	1,930	1,955	13%	-31%	26%	576	665	2.9 x	50	65	30.2 x	0.46	9.5 x
119	SINENG ELECTRIC CO	300827-CN	4.0	1,425	1,530	54%	-35%	-7%	681	980	1.6 x	65	92	16.7 x	0.70	5.7 x
120	GUIZHOU ZHENHUA E-	688707-CN	1.6	837	1,111	185%	-14%	-43%	950	714	1.6 x	57	44	25.4 x	1.31	1.3 x
121	PEOPLE AND TECH.	137400-KR	47.7	1,086	1,140	41%	-45%	25%	404	769	1.5 x	62	130	8.8 x	15.97	3.0 x
122	NIKOLA CORP	NKLA-US	0.5	694	623	625%	-8%	-41%	36	127	4.9 x	(540)	(386)	-	0.44	1.2 x
123	VARTA AG	VAR1-DE	11.6	493	1,100	127%	-31%	-50%	887	933	1.2 x	23	73	15.1 x	4.46	2.6 x
124	FREYR BATTERY	FREY-US	2.4	335	104	321%	-50%	28%	0	1	157.5 x	(75)	(85)	-	4.17	0.6 x

125	SHENZHEN CLICK	002782-CN	1.6	783	807	39%	-30%	-19%	-	-	-	-	-	-	0.53	3.0 x
126	ENCHEM CO LTD	348370-KR	212.0	4,104	4,168	38%	-83%	243%	-	-	-	-	-	-	6.85	30.9 x
127	LI-CYCLE	LICY-US	4.1	92	497	1096%	-33%	-12%	18	17	29.3 x	(149)	(92)	-	10.85	0.4 x
128	HNAC TECHNOLOGY	300490-CN	1.2	460	553	130%	-22%	-28%	-	-	-	-	-	-	0.98	1.2 x
129	GOGORO INC	GGR-US	1.5	359	650	143%	-17%	-43%	350	386	1.7 x	29	54	12.1 x	0.94	1.6 x
130	MICROVAST	MVST-US	0.4	119	243	678%	-20%	-73%	307	377	0.6 x	(20)	12	20.4 x	1.73	0.2 x
131	ZHEJIANG POWER	688184-CN	2.1	128	361	78%	-20%	-22%	-	-	-	-	-	-	2.50	0.9 x
132	CALB GROUP CO LTD.	3931-HK	1.9	1,182	7,874	35%	-27%	-14%	3,736	4,382	1.8 x	379	575	13.7 x	2.75	0.7 x
133	FUJIAN NEBULA	300648-CN	2.7	393	523	79%	-31%	-29%	-	-	-	-	-	-	0.78	3.4 x
134	ENERGY VAULT	NRGV-US	1.3	195	58	171%	-22%	-44%	342	85	0.7 x	(62)	(45)	-	1.44	0.9 x
135	W-SCOPE CO	6619-JP	2.9	158	779	281%	-2%	-55%	322	396	2.0 x	77	107	7.3 x	6.49	0.4 x
136	EOS ENERGY	EOSE-US	0.7	148	323	696%	-14%	-35%	16	69	4.7 x	(133)	(104)	-	(0.71)	-1.0 x
137	ALLIS ELECTRIC	1514-TW	3.3	835	890	72%	-56%	36%	301	302	3.0 x	33	31	29.1 x	0.66	5.0 x
138	VITZROCELL CO LTD	082920-KR	15.4	348	278	23%	-25%	24%	131	139	2.0 x	36	43	6.5 x	7.77	2.0 x
139	VULCAN ENERGY	VUL-AU	3.2	542	464	17%	-60%	48%	7	8	60.7 x	(38)	(64)	-	1.68	1.9 x
140	NHOA	NHOA-FR	0.6	168	86	468%	-8%	-8%	295	390	0.2 x	(18)	(9)	-	1.04	0.6 x
141	LEOCH INTL	842-HK	0.2	245	555	31%	-22%	13%	1,864	-	-	-	-	-	0.43	0.4 x
142	FORSEE POWER	FORSE-FR	1.1	81	125	231%	-23%	-60%	183	199	0.6 x	(7)	(2)	-	0.90	1.3 x
143	LARGO INC	LGO-CA	2.2	141	179	116%	-38%	-5%	199	160	1.1 x	5	(16)	-	3.57	0.6 x

144	FDK CORPORATION	6955-JP	4.6	158	234	52%	-6%	-8%	403	-	-	-	-	-	2.87	1.6 x
145	MPLUS CORP	259630-KR	7.3	90	69	105%	-3%	-17%	-	-	-	-	-	-	4.58	1.6 x
146	NIPPON DENKAI LTD	5759-JP	5.9	53	123	160%	-4%	-21%	107	127	1.0 x	-	-	-	4.73	1.2 x
147	FLUX PWR HLDGS	FLUX-US	3.0	51	65	94%	-13%	-26%	66	62	1.1 x	(4)	(3)	-	0.33	9.3 x
148	PIONEER PWR	PPSI-US	3.8	38	32	158%	-12%	-44%	41	53	0.6 x	1	4	8.6 x	1.86	2.1 x
149	IDEAL PWR INC	IPWR-US	7.4	57	34	90%	-10%	-5%	0	-	-	-	-	-	2.94	2.5 x
150	GELION UK LTD	GELN-GB	0.2	32	23	85%	-25%	-24%	3	3	8.9 x	(7)	(7)	-	0.14	1.6 x
151	KYOTO GROUP	KYOTO-NO	1.3	25	22	67%	-22%	-19%	-	-	-	-	-	-	0.75	1.8 x

						Price Performance			Sales			EBITDA			Book Value	
			Price	Mkt Cap (\$ Mns)	Ent Val (\$ Mns)	% to High	% to Low	% YTD	FY0	FY1	EV/Sales	FY0	FY1	EV/EBITDA	Book/Share	P/Book
Peer Set																
Fuel Cells		Ticker		51,014	57,147			10%	37,362	36,678	1.6 x	1,533	4,236	13.5 x		3.1 x
152	CUMMINS INC	CMI	281.7	38,535	43,820	8%	-24%	18%	34,065	32,874	1.3 x	3,017	5,048	8.7 x	66.28	4.3 x
153	PLUG POWER INC	PLUG-US	3.3	2,473	2,843	304%	-32%	-26%	891	925	3.1 x	(1,073)	(596)	-	4.27	0.8 x
154	BLOOM ENERGY	BE-US	16.3	3,705	4,613	15%	-48%	10%	1,333	1,452	3.2 x	73	133	34.7 x	2.05	7.9 x
155	NEL ASA	NEL-NO	0.8	1,273	978	84%	-47%	12%	165	191	5.1 x	(48)	(29)	-	0.35	2.1 x
156	BALLARD PWR SYS	BLDP-CA	3.1	922	228	66%	-21%	-17%	102	111	2.1 x	(153)	(139)	-	3.16	1.0 x
157	DOOSAN FUEL CELL	336260-KR	17.7	1,159	1,698	38%	-33%	-2%	195	303	5.6 x	15	33	52.0 x	4.51	3.9 x
158	SHINRY TECH.	300745-CN	2.7	446	353	163%	-34%	-29%	-	-	-	-	-	-	2.01	1.3 x
159	CERES POWER	CWR-GB	2.8	533	359	107%	-43%	18%	28	61	5.9 x	(63)	(41)	-	1.19	2.3 x
160	FUELCELL ENERGY	FCEL-US	0.9	406	313	204%	-29%	-49%	123	105	3.0 x	(105)	(94)	-	1.40	0.6 x
161	NANOFILM TECH.	MZH-SG	0.6	378	365	112%	-23%	-18%	132	147	2.5 x	27	43	8.4 x	0.43	1.3 x
162	SFC ENERGY AG	F3C-DE	24.7	429	381	11%	-31%	15%	128	163	2.3 x	17	23	16.9 x	8.41	2.9 x
163	POWERCELL SWEDEN	PCELL-SE	3.8	200	199	148%	-39%	-17%	30	34	5.8 x	(5)	(4)	-	0.46	8.3 x
164	HYZON MOTORS INC	HYZN	0.5	131	52	308%	-31%	-41%	0	17	3.0 x	(131)	(138)	-	0.41	1.3 x
165	BUMHAN FUEL CELL	382900-KR	19.2	168	141	24%	-35%	24%	23	36	3.9 x	(2)	10	13.9 x	8.69	2.2 x
166	BEIJING SINOHYTEC	2402-HK	4.2	107	659	53%	-37%	-3%	111	168	3.9 x	(18)	(8)	-	2.47	1.7 x
167	TECO 2030 ASA	TECO-NO	0.2	32	43	347%	-30%	-53%	7	53	0.8 x	(9)	(1)	-	0.02	11.1 x

168	S-FUELCELL	288620-KR	12.8	89	76	30%	-25%	-4%	24	33	2.3 x	(0)	2	38.7 x	7.22	1.8 x
169	ADVENT TECH.	ADN-US	3.6	9	13	736%	-23%	-46%	-	-	-	-	-	-	15.74	0.2 x
170	CELL IMPACT AB	CI-SE	0.0	18	13	652%	-64%	38%	5	4	2.9 x	(9)	(5)	-	0.05	0.7 x

						Price Performance						Sales			EBITDA			Book Value	
						% to High	% to Low	% YTD	FY0	FY1	EV/Sales	FY0	FY1	EV/ EBITDA	Book/ Share	P/ Book			
Peer Set																			
Geothermal		Ticker		8,420	13,882			-2%	4,259	4,185	3.3 x	1,697	1,725	8.0 x		1.5 x			
171	ORMAT TECH.	ORA-US	75.4	4,556	6,781	16%	-22%	-1%	829	893	7.6 x	482	531	12.8 x	38.93	1.9 x			
172	PERTAMINA GEOTHERM	PGEO-ID	0.1	3,026	3,077	47%	-32%	-4%	412	406	7.6 x	335	329	9.3 x	0.05	1.5 x			
173	FIRST PHILIPPINE	FPH-PH	1.1	501	3,563	10%	-2%	-4%	2,939	2,806	1.3 x	823	806	4.4 x	5.54	0.2 x			
174	POLARIS RENEWABLE	PIF-CA	10.1	213	346	16%	-19%	1%	79	79	4.4 x	58	58	6.0 x	12.75	0.8 x			
175	ENVIRONMENT FRIEND	3777-JP	0.3	72	65	34%	-12%	-12%	113	-	-	-	-	-	0.07	3.7 x			
176	BLUESTONE RES	BSR-CA	0.3	52	51	81%	-63%	111%	-	0	-	-	-	-	0.17	2.1 x			

						Price Performance			Sales			EBITDA			Book Value	
			Price	Mkt Cap (\$ Mns)	Ent Val (\$ Mns)	% to High	% to Low	% YTD	FY0	FY1	EV/Sales	FY0	FY1	EV/EBITDA	Book/Share	P/Book
Peer Set																
GreenTech & Waste Mgt.			Ticker	118,457	162,369			10%	63,594	66,163	2.5 x	9,802	11,575	14.0 x		2.5 x
177	WASTE CONNECTIONS	WCN	164.3	42,398	50,392	6%	-23%	10%	8,022	8,811	5.7 x	2,523	2,887	17.5 x	30.19	5.4 x
178	XYLEM INC	XYL	141.0	34,190	35,632	4%	-38%	23%	7,364	8,564	4.2 x	1,392	1,724	20.7 x	42.04	3.4 x
179	GFL ENVIRONMENTAL	GFL	31.5	11,476	19,052	28%	-15%	-9%	5,562	5,879	3.2 x	1,483	1,632	11.7 x	14.08	2.2 x
180	CASELLA WASTE	CWST	100.6	5,746	6,775	1%	-27%	18%	1,265	1,496	4.5 x	295	356	19.0 x	17.66	5.7 x
181	STERICYCLE INC	SRCL	51.5	4,782	6,685	15%	-27%	4%	2,659	2,698	2.5 x	417	477	14.0 x	27.18	1.9 x
182	ACEA SPA	ACE-IT	18.9	4,020	10,264	2%	-44%	24%	5,071	4,891	2.1 x	1,517	1,531	6.7 x	12.58	1.5 x
183	KEPPEL INFRA.	A7RU-SG	0.3	1,894	4,461	16%	-6%	-11%	1,554	1,527	2.9 x	304	299	14.9 x	0.12	2.9 x
184	SIMS LTD	SMSMY	7.1	1,363	1,830	53%	-2%	-33%	5,234	5,378	0.3 x	308	179	10.2 x	9.35	0.8 x
185	CHINA TIANYING INC	000035-CN	0.7	1,718	2,866	22%	-37%	3%	735	1,030	2.8 x	220	353	8.1 x	0.62	1.1 x
186	ENERGY RECOVERY	ERII	13.5	774	669	128%	-8%	-28%	128	146	4.6 x	29	28	24.1 x	3.77	3.6 x
187	SHANGHAI ENV.	601200-CN	1.3	1,422	2,970	12%	-15%	0%	883	897	3.3 x	242	247	12.0 x	1.33	1.0 x
188	PURECYCLE TECH.	PCT	5.2	854	1,133	129%	-54%	28%	0	29	39.7 x	(92)	(58)	-	2.05	2.5 x
189	MONTROSE ENV	MEG-US	47.0	1,602	1,869	6%	-53%	46%	624	708	2.6 x	79	96	19.5 x	10.60	4.4 x
190	GS ENGINEERING	006360-KR	10.8	927	3,524	58%	-13%	-6%	10,068	9,403	0.4 x	(144)	350	10.1 x	36.86	0.3 x
191	ENVIRI CORP	NVRI	8.9	709	2,215	13%	-36%	-2%	2,069	2,444	0.9 x	293	331	6.7 x	6.25	1.4 x
192	NGL ENERGY	NGL-US	5.7	753	4,531	9%	-35%	2%	6,957	6,999	0.6 x	610	664	6.8 x	1.01	5.6 x

193	CECO ENVIRONMENTAL	CECE	25.0	874	983	7%	-54%	23%	545	598	1.6 x	58	70	14.1 x	6.63	3.8 x
194	WELLE ENV.	300190-CN	0.4	351	745	49%	-24%	-21%	305	360	2.1 x	35	57	13.1 x	0.65	0.7 x
195	TSUKISHIMA HOLDING	6332-JP	8.9	408	533	14%	-10%	0%	797	-	-	-	-	-	12.99	0.7 x
196	VERTEX ENERGY INC	VTNR	1.1	106	549	504%	-16%	-67%	3,177	2,825	0.2 x	17	48	11.5 x	1.91	0.6 x
197	VA TECH WABAG	533269-IN	11.7	731	724	20%	-55%	56%	343	396	1.8 x	45	54	13.3 x	3.23	3.6 x
198	GREENTECH ENV.	688466-CN	1.8	224	217	66%	-29%	-27%	79	105	2.1 x	18	23	9.5 x	1.30	1.4 x
199	EKOPAK NV	EKOP-BE	20.5	304	337	13%	-9%	-3%	39	78	4.3 x	4	9	36.5 x	4.14	5.0 x
200	CSD WATER SERVICE	603903-CN	1.1	225	463	58%	-20%	-20%	-	-	-	-	-	-	0.97	1.1 x
201	DANIMER SCIENTIFIC	DNMR	0.8	91	442	289%	-23%	-24%	47	83	5.4 x	(39)	(29)	-	2.24	0.3 x
202	DYNAGREEN ENV.	1330-HK	0.3	135	2,068	16%	-16%	11%	547	489	4.2 x	205	241	8.6 x	0.79	0.4 x
203	GREEN IMPACT	GIP-CA	2.0	44	77	225%	-13%	-39%	118	120	0.6 x	(0)	3	28.8 x	3.41	0.6 x
204	ASCENT INDUSTRIES	ACNT-US	10.3	105	135	8%	-30%	8%	193	200	0.7 x	(16)	1	193.6 x	10.07	1.0 x
205	TACMINA CORP	6322-JP	12.2	94	67	9%	-13%	6%	71	-	-	-	-	-	8.81	1.4 x
206	NAGAOKA INTL	6239-JP	9.7	68	53	30%	-43%	43%	56	-	-	-	-	-	5.62	1.7 x
207	EVERGEN INFRA.	EVGN-CA	1.4	20	42	60%	-7%	-24%	6	11	3.8 x	0	4	11.1 x	2.86	0.5 x
208	PUEQU CO LTD	9264-JP	10.7	50	65	50%	-54%	20%	47	-	-	-	-	-	5.68	1.9 x

						Price Performance			Sales			EBITDA			Book Value	
			Price	Mkt Cap (\$ Mns)	Ent Val (\$ Mns)	% to High	% to Low	% YTD	FY0	FY1	EV/Sales	FY0	FY1	EV/EBITDA	Book/Share	P/Book
Peer Set																
Hydro		Ticker		258,560	403,633			8%	179,207	187,807	2.1 x	41,261	44,742	9.0 x		1.6 x
209	VINCI	DG-FR	124.2	73,253	93,421	6%	-16%	2%	74,052	77,294	1.2 x	12,839	13,361	7.0 x	53.47	2.3 x
210	CEZ	CEZ-CZ	41.7	22,422	28,923	20%	-18%	-3%	14,670	14,927	1.9 x	5,377	5,244	5.5 x	21.40	1.9 x
211	ENDESA SA	ELE-ES	19.9	21,034	33,807	18%	-13%	-3%	27,584	25,938	1.3 x	4,092	5,332	6.3 x	7.20	2.8 x
212	HUANENG LANCANG	600025-CN	1.4	24,575	42,597	9%	-30%	12%	3,238	3,503	12.2 x	2,300	2,525	16.9 x	0.42	3.2 x
213	S.P.E.E.H. HIDRO	H2O-RO	29.1	13,099	12,142	4%	-24%	2%	2,646	2,197	5.5 x	1,754	1,383	8.8 x	12.78	2.3 x
214	TATA POWER CO	500400-IN	5.2	16,721	22,450	6%	-50%	31%	7,442	8,491	2.6 x	1,326	1,556	14.4 x	1.13	4.6 x
215	MERIDIAN ENERGY	MEL-NZ	4.2	10,751	11,475	0%	-33%	18%	1,912	2,752	4.2 x	472	543	21.1 x	1.40	3.0 x
216	ORKLA ASA	ORK-NO	8.0	7,967	9,944	6%	-18%	3%	6,407	6,651	1.5 x	893	949	10.5 x	4.56	1.7 x
217	BROOKFIELD RENEWABLE	BEP.UT-CA	27.9	8,016	60,887	9%	-29%	6%	5,038	6,030	10.1 x	2,130	2,378	25.6 x	12.91	2.2 x
218	NHPC LTD	533098-IN	1.3	12,889	16,702	10%	-57%	65%	1,134	1,423	11.7 x	579	793	21.1 x	0.47	2.8 x
219	BROOKFIELD RENEW.	BEPC-US	31.5	5,666		5%	-32%	10%	4,551	6,092	-	3,053	3,186	-		-
220	IDACORP INC	IDA-US	95.5	4,840	7,515	12%	-9%	-3%	1,766	1,803	4.2 x	529	558	13.5 x	57.50	1.7 x
221	PORTLAND GEN	POR-US	44.6	4,591	9,156	12%	-15%	3%	2,923	3,061	3.0 x	880	1,049	8.7 x	33.57	1.3 x
222	CHINA SOUTHERN	600995-CN	1.5	4,791	7,152	8%	-28%	8%	779	861	8.3 x	498	736	9.7 x	0.91	1.6 x
223	SJVN LTD	533206-IN	1.7	6,565	8,151	23%	-72%	53%	309	522	15.6 x	236	444	18.3 x	0.44	3.8 x
224	COLBUN S.A.	COLBUN-CL	0.1	2,290	3,387	29%	-5%	-18%	2,013	1,676	2.0 x	745	649	5.2 x	0.18	0.7 x

225	BORALEX INC	BLX-CA	25.4	2,608	5,125	11%	-27%	-1%	733	659	7.8 x	499	517	9.9 x	12.11	2.1 x
226	WEBUILD SPA	WBD-IT	2.3	2,322	3,193	23%	-27%	15%	10,882	11,982	0.3 x	892	993	3.2 x	1.54	1.5 x
227	INNERGEX	INE-CA	7.2	1,463	6,237	43%	-27%	3%	772	777	8.0 x	545	551	11.3 x	3.37	2.1 x
228	AKSA ENERJI	AKSEN.E-TR	1.4	1,774	2,244	11%	-33%	44%	908	1,197	1.9 x	223	216	10.4 x	0.80	1.8 x
229	ENEL GENERACION	ENGEPEC1-PE	0.6	1,758	2,058	79%	-16%	-9%	-	-	-	-	-	-	0.28	2.0 x
230	TANGSHAN JIDONG	000401-CN	0.6	997	4,071	81%	-11%	-27%	3,907	3,937	1.0 x	351	612	6.7 x	1.45	0.4 x
231	BESTWAY MARINE	300008-CN	0.5	947	936	44%	-24%	-2%	498	552	1.7 x	35	39	23.9 x	0.16	3.5 x
232	SCATEC ASA	SCATC-NO	8.3	1,319	3,716	2%	-42%	3%	445	576	6.4 x	343	399	9.3 x	5.49	1.5 x
233	MANAWA ENERGY	MNW-NZ	2.6	808	1,089	22%	-6%	-5%	289	318	3.4 x	88	90	12.1 x	2.35	1.1 x
234	CK POWER PUBLIC	CKP-TH	0.1	879	1,800	9%	-23%	13%	285	284	6.3 x	111	100	18.1 x	0.09	1.2 x
235	MEIDENSHA CORP	6508-JP	27.2	1,240	1,497	2%	-52%	58%	1,846	1,934	0.8 x	152	179	8.4 x	17.73	1.5 x
236	NAFCO CO LTD	2790-JP	18.4	549	336	6%	-36%	55%	1,226	-	-	-	-	-	37.87	0.5 x
237	TORISHIMA PUMP	6363-JP	21.7	629	609	3%	-46%	48%	522	547	1.1 x	55	68	9.0 x	12.53	1.7 x
238	NORTHWEST PIPE	NWPX-US	35.5	352	536	4%	-28%	17%	444	468	1.1 x	51	59	9.0 x	34.70	1.0 x
239	TOKYO ENERGY	1945-JP	8.9	312	342	10%	-30%	25%	569	-	-	-	-	-	13.03	0.7 x
240	LITHIUM IONIC	LTH-CA	0.6	74	78	245%	-23%	-56%	-	0	-	-	(15)	-	0.01	86.8 x
241	GIA LAI ELECTRIC.	GEG-VN	0.5	187	661	25%	-14%	3%	-	-	-	-	-	-	0.44	1.3 x
242	INDIAN HUME PIPE	504741-IN	3.8	198	264	30%	-38%	29%	166	191	1.4 x	21	19	13.6 x	1.75	2.2 x
243	DAIDO METAL	7245-JP	3.8	181	468	27%	-12%	-1%	823	886	0.5 x	89	92	5.1 x	9.29	0.4 x

244	DAT PHUONG	DPG-VN	2.3	144	202	8%	-43%	40%	-	-	-	-	-	-	1.13	2.0 x
245	REACH SUBSEA	REACH-NO	0.6	173	251	5%	-49%	44%	184	233	1.1 x	88	103	2.4 x	0.33	1.9 x
246	INIZIATIVE	IB-IT	15.6	81	195	9%	-10%	-4%	27	33	6.0 x	19	23	8.6 x	15.23	1.0 x
247	IMAGINEER CO	4644-JP	6.2	66	(5)	22%	-1%	-3%	38	-	-	-	-	-	7.91	0.8 x
248	SYNERTEC CORP	SOP-AU	0.1	28	20	206%	-6%	-48%	10	13	1.6 x	(3)	(3)	-	0.01	4.2 x

						Price Performance			Sales			EBITDA			Book Value	
						% to High	% to Low	% YTD	FY0	FY1	EV/Sales	FY0	FY1	EV/ EBITDA	Book/ Share	P/ Book
Peer Set																
Nuclear		Ticker		214,368	389,739			36%	93,688	94,972	4.1 x	26,997	28,282	13.8 x		2.7 x
249	CONSTELLATION	CEG-US	217.3	68,485	78,133	9%	-60%	86%	24,918	24,149	3.2 x	4,025	4,517	17.3 x	35.55	6.1 x
250	PUBLIC SVC	PEG-US	75.8	37,735	58,559	0%	-29%	24%	11,237	9,995	5.9 x	4,928	4,137	14.2 x	31.50	2.4 x
251	ENTERGY CORP NEW	ETR-US	112.5	24,021	51,432	2%	-23%	11%	12,643	12,774	4.0 x	4,590	4,890	10.5 x	67.79	1.7 x
252	CHINA NATL NUCLE.P	601985-CN	1.3	24,973	80,239	11%	-30%	25%	10,333	10,914	7.4 x	6,122	6,635	12.1 x	0.68	1.9 x
253	CAMECO CORP	CCJ-US	55.5	24,101	25,004	1%	-47%	29%	1,922	2,249	11.1 x	617	1,074	23.3 x	10.40	5.3 x
254	BWX TECHNOLOGIES	BWXT-US	92.1	8,421	9,601	16%	-27%	20%	2,496	2,627	3.7 x	472	504	19.1 x	10.35	8.9 x
255	CHINA NUCLEAR ENGI	601611-CN	1.1	3,329	13,747	8%	-24%	13%	15,105	16,345	0.8 x	1,104	1,065	12.9 x	0.89	1.2 x
256	CGN POWER CO LTD	1816-HK	0.4	4,267	53,503	17%	-39%	46%	11,422	11,962	4.5 x	4,889	5,228	10.2 x	0.32	1.2 x
257	NEXGEN ENERGY LTD	NXE-US	7.8	4,200	4,047	14%	-44%	11%	2	2	1,659.4 x	(52)	(46)	-	1.27	6.1 x
258	URANIUM ENERGY	UEC-US	7.1	2,918	2,816	17%	-60%	12%	164	64	44.2 x	-	(2)	-	1.92	3.7 x
259	LANZHOU LS HEAVY	603169-CN	0.7	921	1,511	54%	-23%	-19%	713	885	1.7 x	63	79	19.2 x	0.34	2.1 x
260	DENISON MINES	DNN-US	2.4	2,159	2,054	2%	-52%	37%	1	3	668.4 x	68	(31)	-	0.52	4.7 x
261	ENERGY FUELS INC	UUUU-US	7.0	1,146	955	29%	-26%	-3%	38	70	13.6 x	(27)	(12)	-	2.34	3.0 x
262	SINOSEAL HOLDING	300470-CN	5.0	1,049	906	30%	-20%	-4%	189	213	4.3 x	61	72	12.6 x	1.77	2.8 x
263	BEIJER ALMA AB	BEIA.B-SE	20.6	1,106	1,470	9%	-30%	9%	658	684	2.1 x	120	127	11.5 x	6.40	3.2 x
264	JIANGSU SHENTONG	002438-CN	1.8	921	1,003	9%	-39%	8%	294	349	2.9 x	68	80	12.6 x	0.91	2.0 x

265	CENTRUS ENERGY	LEU-US	49.6	758	736	24%	-43%	-9%	320	351	2.1 x	62	57	12.8 x	2.11	23.5 x
266	EAGLE INDUSTRY	6486-JP	12.0	597	675	8%	-13%	16%	1,068	-	-	-	-	-	16.35	0.7 x
267	TAIHEI DENGYO	1968-JP	33.7	699	499	8%	-26%	12%	830	880	0.6 x	-	-	-	32.59	1.0 x
268	NUSCALE PWR	SMR-US	8.7	773	624	28%	-79%	165%	23	47	13.3 x	(147)	(127)	-	1.44	6.1 x
269	FISSION URANIUM	FCUUF	0.8	708	598	18%	-50%	3%	0	0	-	(9)	(13)	-	0.47	1.8 x
270	UR-ENERGY INC	URG	1.8	507	454	12%	-49%	17%	18	35	13.1 x	(16)	(15)	-	0.27	6.6 x
271	SUNG KWANG BEND	014620-KR	7.7	220	134	73%	-6%	-16%	187	184	0.7 x	39	36	3.7 x	13.25	0.6 x
272	WOOJIN INC	105840-KR	6.8	138	117	35%	-18%	-4%	96	102	1.1 x	14	15	7.9 x	6.24	1.1 x
273	STUDSVIK	SVIK-SE	12.5	103	108	16%	-36%	-3%	79	85	1.3 x	6	10	11.1 x	4.79	2.6 x
274	CHINA NUCLEAR	611-HK	0.0	76	803	28%	-19%	14%	-	-	-	-	-	-	0.12	0.3 x
275	TVE CO LTD	6466-JP	16.1	40	11	16%	-28%	14%	62	-	-	-	-	-	29.55	0.5 x

						Price Performance			Sales			EBITDA			Book Value	
						% to High	% to Low	% YTD	FY0	FY1	EV/Sales	FY0	FY1	EV/ EBITDA	Book/ Share	P/ Book
Peer Set																
Smart Infrastructure		Ticker		413,587	487,379	9%			224,499	225,574	2.2 x	36,606	36,825	13.2 x	2.9 x	
276	SIEMENS AG	SIE-DE	191.3	153,078	198,058	7%	-34%	3%	84,593	84,993	2.3 x	14,919	15,185	13.0 x	63.51	3.0 x
277	ABB LTD	ABB	54.8	103,055	105,058	6%	-39%	27%	32,235	33,429	3.1 x	5,825	6,369	16.5 x	6.88	8.0 x
278	STMICROELECTRONICS	STMPA-FR	41.1	37,100	34,290	35%	-10%	-17%	17,286	14,400	2.4 x	6,154	3,927	8.7 x	19.05	2.2 x
279	SIEMENS INDIA LTD	500550-IN	83.4	29,712	28,811	13%	-53%	73%	2,346	2,717	10.6 x	289	372	77.5 x	4.68	17.8 x
280	EVE ENERGY	300014-CN	5.4	9,998	13,713	61%	-22%	-9%	6,736	7,737	1.8 x	870	1,017	13.5 x	2.42	2.2 x
281	WESCO INTL INC	WCC-US	179.5	9,123	13,971	9%	-32%	3%	22,385	22,222	0.6 x	1,705	1,665	8.4 x	98.04	1.8 x
282	SENSATA TECH.	ST-US	41.3	6,229	9,158	15%	-26%	10%	4,054	4,122	2.2 x	907	929	9.9 x	19.77	2.1 x
283	ACUITY BRANDS INC	AYI	259.6	7,995	8,026	5%	-40%	27%	3,952	3,901	2.1 x	631	676	11.9 x	69.57	3.7 x
284	AGL ENERGY	AGL-AU	6.8	4,577	6,235	23%	-25%	5%	9,283	8,666	0.7 x	892	1,442	4.3 x	5.44	1.3 x
285	ADVANCED ENERGY	AEIS	107.4	4,022	4,032	18%	-24%	-1%	1,660	1,451	2.8 x	258	183	22.1 x	30.53	3.5 x
286	SHARP CORP	6753-JP	6.2	4,016	6,811	25%	-20%	-13%	14,949	14,981	0.5 x	386	511	13.3 x	1.40	4.4 x
287	HYUNDAI AUTOEVER	307950-KR	106.9	2,931	2,465	85%	-15%	-35%	2,294	2,504	1.0 x	234	246	10.0 x	41.35	2.6 x
288	ITRON INC	ITRI-US	107.6	4,933	5,138	3%	-48%	42%	2,174	2,378	2.2 x	226	277	18.6 x	29.76	3.6 x
289	VERRA MOBILITY	VRRM	26.6	4,436	5,355	7%	-36%	16%	817	880	6.1 x	372	404	13.3 x	2.70	9.9 x
290	BEIJING E-HUALU	300212-CN	2.6	1,859	2,586	131%	-12%	-42%	106	237	10.9 x	(157)	71	36.6 x	0.65	3.9 x
291	IREN SPA	IRE-IT	2.1	2,668	7,763	14%	-14%	-5%	6,988	6,768	1.1 x	1,293	1,322	5.9 x	2.37	0.9 x

292	HANNON ARMSTRONG	HASI	33.3	3,796	7,965	2%	-60%	21%	320	400	19.9 x	230	241	33.0 x	19.54	1.7 x
293	FIBOCOM WIRELESS	300638-CN	2.3	1,751	1,820	53%	-29%	-15%	1,065	1,305	1.4 x	137	131	13.9 x	0.60	3.8 x
294	KEC INTERNATIONAL	532714-IN	8.8	2,275	2,838	29%	-25%	25%	2,384	2,718	1.0 x	146	206	13.8 x	1.79	4.9 x
295	TKH GROUP NV	TWEKA-NL	46.5	1,963	2,451	18%	-23%	13%	2,006	1,981	1.2 x	304	320	7.7 x	22.79	2.0 x
296	HEXING ELECTRICAL	603556-CN	6.5	3,182	2,604	18%	-56%	60%	580	719	3.6 x	147	181	14.4 x	1.95	3.3 x
297	NV5 GLOBAL INC	NVEE-US	94.0	1,517	1,716	27%	-6%	-15%	862	939	1.8 x	137	160	10.7 x	49.10	1.9 x
298	TAIWAN SECOM CO	9917-TW	3.8	1,720	1,752	8%	-16%	2%	-	-	-	-	-	-	0.92	4.1 x
299	TOPCON CORPORATION	7732-JP	10.8	1,175	1,510	38%	-22%	3%	1,388	1,452	1.0 x	143	197	7.7 x	6.55	1.7 x
300	ALFEN NV	ALFEN-NL	39.3	854	912	88%	-26%	-41%	541	645	1.4 x	60	73	12.5 x	8.98	4.4 x
301	COSCO SHIPPING	002401-CN	2.2	804	562	109%	-15%	-15%	245	270	2.1 x	-	-	-	0.62	3.5 x
302	KAZAKHSTAN ELEC.	KEGC-KZ	3.3	870	1,163	6%	-10%	3%	560	629	1.8 x	245	313	3.7 x	5.74	0.6 x
303	PENTAMASTER CORP	7160-MY	1.0	734	668	18%	-19%	7%	145	162	4.1 x	29	39	17.3 x	0.22	4.6 x
304	SHANGHAI FUDAN	1385-HK	1.5	432	1,407	85%	-27%	-16%	491	539	2.6 x	143	158	8.9 x	0.93	1.6 x
305	JIAYUAN SCIENCE	301117-CN	4.5	418	344	133%	-36%	-41%	31	46	7.4 x	(1)	10	32.8 x	1.93	2.3 x
306	HANGZHOU EZVIZ	688475-CN	5.2	2,117	3,544	11%	-29%	16%	669	792	4.5 x	99	105	33.8 x	0.95	5.5 x
307	SHENZHEN LONGTECH	300916-CN	3.6	528	414	47%	-55%	6%	-	-	-	-	-	-	1.21	3.0 x
308	SHIJIAZHUANG KELIN	603050-CN	3.6	989	1,139	8%	-60%	72%	-	-	-	-	-	-	0.83	4.4 x
309	FARO TECHNOLOGIES	FARO	18.7	360	348	32%	-34%	-17%	359	359	1.0 x	12	28	12.3 x	13.64	1.4 x
310	AMERICAN SUPERCOND.	AMSC	19.2	710	620	43%	-73%	72%	146	158	3.9 x	(4)	1	664.7 x	3.91	4.9 x

311	JIANGSU TONGXIN.	301339-CN	2.7	154	684	37%	-43%	-4%	103	128	5.3 x	38	47	14.6 x	0.90	3.0 x
312	BILLION ELECTRONIC	3027-TW	1.3	150	133	45%	-15%	-6%	-	-	-	-	-	-	0.60	2.2 x
313	ENERGY S.P.A	ENY-IT	1.8	95	114	112%	-34%	-16%	69	70	1.6 x	11	12	9.8 x	1.06	1.7 x
314	DRAGONFLY ENERGY	DFLI-US	1.0	58	96	237%	-56%	78%	64	68	1.4 x	(17)	(14)	-	0.30	3.3 x
315	INVINITY ENERGY SY	IES-GB	0.3	62	40	164%	-21%	-36%	4	28	1.4 x	(22)	(27)	-	0.28	1.0 x
316	POWERFLEET INC	PWFL	5.3	570	286	7%	-69%	55%	134	276	1.0 x	7	50	5.7 x	1.55	3.4 x
317	CEPTON INC	CPTN-US	2.7	43	103	231%	-12%	-14%	13	21	4.9 x	(41)	(23)	-	(2.79)	-1.0 x
318	INSEEGO CORP	INSG	9.7	115	274	16%	-83%	339%	196	209	1.3 x	17	25	11.0 x	(8.89)	-1.1 x
319	ARQ INC	ADES	7.0	251	229	19%	-83%	134%	99	102	2.2 x	(3)	4	53.2 x	5.23	1.3 x
320	ORION ENERGY SYS	OESX	1.0	31	38	91%	-15%	11%	91	102	0.4 x	(7)	(3)	-	0.69	1.4 x
321	MERUS POWER OYJ	MERUS-FI	4.9	37	39	25%	-21%	9%	-	34	1.2 x	-	-	-	1.72	2.8 x
322	FERROAMP AB	FERRO-SE	1.3	40	36	12%	-56%	49%	34	26	1.4 x	(8)	(3)	-	0.70	1.8 x
323	TANTALUS SYSTEMS	GRID-CA	1.2	53	62	28%	-58%	93%	42	45	1.4 x	(0)	0	273.9 x	0.02	54.1 x

						Price Performance			Sales			EBITDA			Book Value	
			Price	Mkt Cap (\$ Mns)	Ent Val (\$ Mns)	% to High	% to Low	% YTD	FY0	FY1	EV/Sales	FY0	FY1	EV/EBITDA	Book/Share	P/Book
Peer Set																
Solar	Ticker			109,983	141,666			-1%	81,160	82,389	1.7 x	9,734	9,373	15.1 x		2.0 x
324	FIRST SOLAR INC	FSLR-US	271.8	29,090	27,773	13%	-52%	58%	3,319	4,518	6.1 x	1,167	1,995	13.9 x	64.48	4.2 x
325	ENPHASE ENERGY	ENPH-US	127.9	17,402	17,083	50%	-43%	-3%	2,291	1,469	11.6 x	752	452	37.8 x	6.79	18.8 x
326	JA SOLAR TECH.	002459-CN	2.1	6,899	9,982	191%	-12%	-28%	11,262	11,723	0.9 x	1,702	1,207	8.3 x	1.46	1.4 x
327	XINJIANG DAQO	688303-CN	3.7	7,927	5,170	61%	-12%	-11%	2,259	2,106	2.5 x	1,051	525	9.8 x	2.86	1.3 x
328	TRINA SOLAR	688599-CN	3.0	6,640	10,395	102%	-12%	-24%	15,649	16,017	0.6 x	1,352	1,221	8.5 x	1.99	1.5 x
329	SUZHOU MAXWELL	300751-CN	18.1	3,451	4,870	65%	-26%	0%	1,116	1,783	2.7 x	137	224	21.8 x	3.66	5.0 x
330	ARRAY TECH.	ARRY-US	14.2	2,152	2,909	88%	-25%	-16%	1,577	1,321	2.2 x	288	298	9.8 x	1.52	9.3 x
331	HENGDIAN GROUP	002056-CN	1.9	3,067	2,646	37%	-21%	1%	2,742	3,251	0.8 x	418	399	6.6 x	0.76	2.5 x
332	SUNRUN INC	RUN-US	14.5	3,205	15,531	65%	-42%	-26%	2,260	2,157	7.2 x	(1,427)	(32)	-	23.48	0.6 x
333	SHOALS TECH.	SHLS-US	7.9	1,341	1,495	260%	-20%	-49%	489	464	3.2 x	173	138	10.8 x	3.25	2.4 x
334	RISEN ENERGY	300118-CN	2.0	2,266	4,242	90%	-17%	-19%	-	-	-	-	-	-	1.82	1.1 x
335	DAQO NEW ENERGY	DQ-US	22.5	1,486	460	94%	-23%	-15%	2,309	2,020	0.2 x	942	289	1.6 x	71.78	0.3 x
336	CECEP SOLAR ENERGY	000591-CN	0.7	2,163	5,139	35%	-13%	-9%	1,318	1,158	4.4 x	-	-	-	0.82	0.9 x
337	NEXTRACKER INC	NXT-US	55.2	7,795	7,492	13%	-42%	18%	2,500	2,867	2.6 x	521	622	12.0 x	6.83	8.1 x
338	WUHAN DR LASER	300776-CN	7.0	1,915	1,626	46%	-27%	-17%	222	314	5.2 x	70	102	15.9 x	1.53	4.6 x
339	CANADIAN SOLAR	CSIQ	19.6	1,299	4,747	111%	-28%	-25%	7,614	7,679	0.6 x	719	791	6.0 x	38.24	0.5 x

340	JINKOSOLAR HLDG	JKS-US	29.7	1,581	7,059	61%	-29%	-17%	16,716	16,449	0.4 x	1,626	882	8.0 x	54.51	0.5 x
341	JOLYWOOD	300393-CN	1.0	1,113	1,990	94%	-14%	-30%	-	-	-	-	-	-	0.54	1.9 x
342	JIANGSU SHUANGXING	002585-CN	0.8	950	1,227	131%	-20%	-27%	-	-	-	-	-	-	1.12	0.7 x
343	BRAVIDA HOLDING AB	BRAV-SE	7.9	1,608	1,823	28%	-25%	-2%	2,814	2,807	0.6 x	222	217	8.4 x	3.96	2.0 x
344	SUNPOWER CORP	SPWR-US	3.3	586	876	265%	-47%	-31%	1,749	1,473	0.6 x	(84)	(29)	-	2.41	1.4 x
345	DAEJOO ELECTRONIC	078600-KR	84.1	1,303	1,381	41%	-41%	32%	138	190	7.3 x	11	29	48.2 x	7.90	10.6 x
346	WONIK IPS CO LTD	240810-KR	25.6	1,255	1,176	30%	-17%	-2%	514	541	2.2 x	20	43	27.3 x	12.53	2.0 x
347	UNITED RENEWABLE	3576-TW	0.4	611	860	69%	-9%	-22%	-	-	-	-	-	-	0.24	1.6 x
348	MAXEON SOLAR	MAXN-US	1.9	103	449	1464%	-41%	-74%	1,125	769	0.6 x	4	(111)	-	(1.34)	-1.4 x
349	HUBEI HUITIAN NEW	300041-CN	1.2	652	860	50%	-19%	-16%	539	587	1.5 x	63	68	12.6 x	0.73	1.6 x
350	ABALANCE CORP	3856-JP	10.6	190	473	662%	-26%	-54%	1,486	-	-	-	-	-	6.83	1.6 x
351	JIANGSU YUXING	300305-CN	1.2	452	568	39%	-45%	-11%	233	253	2.3 x	23	34	16.6 x	0.97	1.2 x
352	TES CO LTD	095610-KR	16.1	318	187	47%	-15%	16%	110	191	1.0 x	0	17	11.1 x	12.21	1.3 x
353	THAI SOLAR ENERGY	TSE-TH	0.0	64	185	140%	-8%	-39%	-	-	-	-	-	-	0.05	0.7 x
354	OTOVO ASA	OTOVO-NO	0.2	43	11	680%	-31%	-54%	102	70	0.2 x	(31)	(32)	-	0.30	0.5 x
355	CHUGAI RO CO LTD	1964-JP	20.6	161	153	11%	-35%	31%	186	-	-	-	-	-	23.60	0.9 x
356	SUZHOU DELPHI	688170-CN	3.5	281	286	105%	-21%	-36%	80	99	2.9 x	6	10	28.0 x	1.72	2.1 x
357	NPC INC.	6255-JP	7.5	166	131	14%	-53%	45%	62	70	1.9 x	8	15	8.8 x	2.50	3.0 x
358	INTEVAC INC	IVAC-US	3.8	102	45	19%	-20%	-11%	53	45	1.0 x	-	-	-	4.32	0.9 x

359	GANTAN BEAUTY	5935-JP	10.2	39	44	78%	-4%	-5%	92	-	-	-	-	-	9.11	1.1 x
360	SOLARMAX TECH.	SMXT	6.1	276	301	159%	-43%	-	-	-	-	-	-	-	(0.01)	- 471.2 x
361	SUPER TOOL	5990-JP	12.9	31	21	14%	-2%	-4%	37	-	-	-	-	-	28.95	0.4 x

						Price Performance			Sales			EBITDA			Book Value	
			Price	Mkt Cap (\$ Mns)	Ent Val (\$ Mns)	% to High	% to Low	% YTD	FY0	FY1	EV/Sales	FY0	FY1	EV/EBITDA	Book/Share	P/Book
Peer Set																
Wind		Ticker		553,209	828,224			20%	213,013	194,252	4.3 x	55,366	61,499	13.5 x		2.3 x
362	NEXTERA ENERGY	NEE-US	80.0	164,404	252,913	1%	-41%	32%	28,114	27,727	9.1 x	14,758	16,431	15.4 x	23.67	3.4 x
363	GE AEROSPACE	GE-US	165.1	180,763	182,260	9%	-38%	29%	64,565	37,155	4.9 x	7,814	8,081	22.6 x	27.27	6.1 x
364	IBERDROLA SA	IBDRY-US	52.5	84,374	145,552	2%	-21%	3%	53,333	52,951	2.7 x	15,639	16,709	8.7 x	31.21	1.7 x
365	DOMINION ENERGY	D-US	53.9	45,196	88,157	2%	-27%	15%	14,393	15,337	5.7 x	6,420	6,977	12.6 x	30.59	1.8 x
366	EVERSOURCE ENERGY	ES-US	59.2	20,864	48,996	26%	-12%	-4%	11,911	12,835	3.8 x	3,603	4,161	11.8 x	41.39	1.4 x
367	AVANGRID INC	AGR-US	36.0	13,936	27,981	9%	-24%	11%	8,309	8,465	3.3 x	2,222	2,515	11.1 x	51.37	0.7 x
368	NORTHLAND POWER	NPI-CA	17.1	4,383	9,752	23%	-18%	-6%	1,654	1,710	5.7 x	918	944	10.3 x	11.73	1.5 x
369	MING YANG SMART	601615-CN	1.4	3,189	5,546	81%	-22%	-19%	3,844	5,960	0.9 x	132	663	8.4 x	1.68	0.8 x
370	NEOEN SA	NEOEN-FR	41.1	6,256	9,516	0%	-43%	23%	568	685	13.9 x	514	580	16.4 x	18.96	2.2 x
371	SUZLON ENERGY	532667-IN	0.6	7,759	7,678	10%	-72%	24%	785	1,364	5.6 x	125	220	35.0 x	0.03	17.9 x
372	TITAN WIND ENERGY	002531-CN	1.5	2,647	4,080	56%	-25%	-10%	1,066	1,566	2.6 x	268	414	9.9 x	0.69	2.1 x
373	CECEP WIND-POWER	601016-CN	0.4	2,878	5,742	16%	-21%	5%	708	737	7.8 x	610	582	9.9 x	0.37	1.2 x
374	NORDEX SE	NDX1-DE	15.7	3,701	3,215	9%	-40%	36%	7,023	8,034	0.4 x	2	293	11.0 x	4.42	3.5 x
375	CLEARWAY ENERGY	CWEN-US	28.0	2,309	14,088	8%	-34%	2%	1,314	1,437	9.8 x	1,058	1,170	12.0 x	17.59	1.6 x
376	CS WIND CORP	112610-KR	38.1	1,608	2,167	82%	-15%	-29%	1,128	2,035	1.1 x	134	168	12.9 x	15.00	2.5 x
377	QINGDAO TIANNENG	300569-CN	0.7	714	1,355	72%	-21%	-31%	-	-	-	-	-	-	0.77	0.9 x

378	INOX WIND LTD	539083-IN	1.8	2,325	2,682	19%	-75%	19%	209	545	4.9 x	32	82	32.6 x	0.15	11.8 x
379	WINDEY ENERGY	300772-CN	1.5	1,017	1,788	29%	-35%	-2%	2,586	3,100	0.6 x	27	31	57.7 x	1.05	1.4 x
380	ALIMAK GROUP	ALIG-SE	10.8	1,162	1,443	11%	-50%	35%	681	675	2.1 x	128	127	11.3 x	6.60	1.6 x
381	VRL LOGISTICS	539118-IN	6.6	578	686	45%	-7%	-29%	347	392	1.7 x	47	58	11.9 x	1.24	5.3 x
382	JIANGSU HAILI WIND	301155-CN	6.8	601	1,545	80%	-31%	-19%	233	544	2.8 x	17	77	20.0 x	3.46	2.0 x
383	FICONT INDUSTRY	605305-CN	4.2	892	682	11%	-35%	29%	153	195	3.5 x	33	40	17.2 x	1.54	2.7 x
384	EUROGROUP	EGLA-IT	4.6	433	956	58%	-32%	13%	902	995	1.0 x	173	132	7.2 x	2.83	1.6 x
385	GURIT HOLDING AG	GURN-CH	66.2	310	379	67%	-8%	-32%	520	541	0.7 x	39	52	7.3 x	18.42	3.6 x
386	GOLDWIND SCI&TECH	2208-HK	0.5	358	7,961	68%	-26%	3%	6,952	7,711	1.0 x	714	957	8.3 x	1.18	0.4 x
387	CS BEARING CO LTD	297090-KR	5.8	159	174	96%	-5%	-32%	59	66	2.7 x	2	7	24.0 x	2.25	2.6 x
388	TPI COMPOSITES INC	TPIC-US	5.5	260	780	110%	-70%	32%	1,451	1,333	0.6 x	(86)	13	59.5 x	(3.88)	-1.4 x
389	BROADWIND INC	BWEN-US	3.8	83	114	26%	-48%	38%	203	151	0.8 x	21	14	8.3 x	2.64	1.4 x
390	WINDAR PHOTONICS	WPHO-GB	0.6	49	36	11%	-40%	-1%	2	5	6.6 x	(1)	1	47.4 x	0.00	504.0 x

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