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THE VALUE LINE®

# Climate Change Investing Service



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Welcome to the sixth issue of *The Value Line Climate Change Investing Service*. This publication, designed for the climate-conscious, profit-oriented investor, seeks to provide key climate news alongside a managed portfolio of twenty stocks, chosen by our analysts, which stand to benefit from responses to climate change. Selections are vetted based not only on time-tested financial measures, but also the potential impact of climate change and measures taken to combat it on their business. Our selections fall into two main groups: businesses that are focused on providing environmental solutions, and those that are likely to thrive in a changing climate. Every issue features new updates to our portfolio.

In order to help put our selections into context, subscribers will also receive concise reports covering pertinent scientific and economic developments, along with analysis of how these developments could impact their investments.

## THE PRESENT AND FUTURE OF ELECTRIC VEHICLE CHARGING

By Nathaniel Eakman

As we went to press, the U.S. Senate had passed and sent to the House a whopping trillion-dollar, 2,700-page infrastructure bill, in seeming fulfillment of what may be President Joe Biden's greatest legislative priority. Among the bill's myriad improvements to the nation's roads, rails, and digital infrastructure, it also sets aside \$7.5 billion for the construction of new electric vehicle (EV) charging stations, a figure which, though substantial, is still only half of the \$15 billion the president had originally sought for that purpose and which some experts fear may not be sufficient to spur widespread adoption of EVs. This of course raises the question: what is the state of the country's EV charging infrastructure today, and how far will that \$7.5 billion really go?

Before attempting to address that question in detail, it's important to understand how EV charging actually works. In general, there are three different kinds of EV charger, referred to as Levels 1, 2, and 3, powered by two kinds of technology. Level 1 and 2 chargers work using alternating current (AC) power, the same kind of electricity that comes out of a standard wall outlet. Although AC power is useful for moving electricity over long distances, its voltage is less consistent than direct current (DC) power, which is why battery-operated devices such as cell phones, laptops, and electric vehicles all actually run on DC. Thus, Level 1 and 2 EV chargers supply a car with AC power, which is then converted into DC power by the vehicle's onboard charger (adapter) and used to charge the vehicle's battery.

A Level 1 EV charger is essentially the same as the charger you might use for any other device and runs off of a standard 120-volt outlet. It is the slowest type of EV charger, providing only about two kilowatts (kW) of power, which equates to about five or six miles of driving distance per hour spent charging. Level 2 chargers, by contrast, run on 240 volts and are much more efficient, supplying somewhere between 4 kW on the low end to 18 kW on the high end. Level 1 chargers are most often used at homes or workplaces, where cars can be left to charge for extended periods, while Level 2 chargers are also frequently found in public parking lots, rest stops, and other such settings.

Level 3 chargers, meanwhile, are a different beast entirely. Also called DC Fast Charging, or DCFC, Level 3 chargers run on DC power, just like the cars they charge, allowing them to bypass a car's onboard charger and supply power directly to the battery. There are three subtypes of DCFC: CCS, CHAdeMO, and Tesla Supercharger. CCS, short for "Combined Charging System," also incorporates Level 1 and 2 AC-based charging and works on what's called an "open standard," meaning that anyone can use the underlying technology, and is in fact encouraged to do so for standardization purposes. By contrast, CHAdeMO, short for "CHARge de MOve," is overseen by the CHAdeMO Association, which certifies CHAdeMO cars and chargers. Finally, Tesla Supercharger is Tesla's proprietary DCFC system and currently only works with Tesla vehicles; however, CEO Elon Musk has announced plans to release specialized adaptors that will allow competitors' cars to work with Tesla Supercharger stations for a small fee. The difference between DCFC and other types of EV chargers is extraordinary; older and cheaper DCFC units are capable of producing 150 kW of power, while more expensive or modern ones see that number rise to 350kW. That incredible speed, however, comes with drawbacks. Notably, standard electrical service caps out at 240 volts, while DCFC requires 480 volts, raising costs.

Even bearing all of these variations in mind, the current state of the US EV charging infrastructure can be somewhat hard to parse. As of the start of 2021, there were approximately 40,000 EV charging stations in the US, with about 100,000 total charging outlets. Of those, the vast majority—about 33,900—are Level 2 chargers, with the remainder being DCFC stations (Level 1 chargers are not counted, since they can work off of any outlet). Of the three DCFC types, CHAdeMO initially appears to be the most common, with about 2,600 stations, followed by CCS with 2,400, and finally Tesla Supercharger with 1,100. However, these numbers are misleading, because the number of available outlets is not consistent across stations. In fact, looking instead at outlet numbers, the pattern is entirely reversed, with CHAdeMO having the fewest at approximately 4,000, then CCS with 5,100, and finally Tesla at the top of the pile with an estimated 10,000 outlets. Furthermore, both CCS and Tesla Supercharger have strongly outpaced CHAdeMO in terms of domestic growth in recent years, and while CHAdeMO remains important in certain foreign markets, such as Japan, experts expect it to eventually die off in the US. CCS, meanwhile, is America's fastest-growing standard for DCFC.

So, against this backdrop, what does an investment of \$7.5 billion in EV charging infrastructure actually mean? In general, a new Level 2 outlet costs about \$2,000, while a DCFC outlet can cost between \$40,000 and \$100,000. Based on these numbers, even if the government were to exclusively pay for new DCFC outlets, built and installed as expensively as possible—an obviously unlikely proposition—they would still be able to build 75,000 new outlets, a full 75% increase over today's total number, or a 392% increase over the current number of DCFC outlets. A more realistic scenario sees the total number of EV charging stations and outlets swelling to several times its current size and the number of DCFC stations in particular increasing rather explosively. As a point of comparison, the country currently has approximately 150,000 gas stations, with an estimated 1.2 million pumps, and that number has been in decline since the mid-1990s. Given those numbers, the proposed \$7.5 billion investment represents a generous down payment on bringing EV infrastructure up to par, especially considering the ability of EV owners to also charge their vehicles at home. On the whole, while the funding may be less than President Biden had hoped, the effect on the nation's EV charging infrastructure—and on the EV market—is nonetheless set to be profound.

On the following pages, you'll find The Value Line Climate Change Investing Portfolio. In addition to our 20 selections, chosen by specialized analysts within the Value Line Research Department, we provide in-depth commentary and analysis explaining our underlying reasoning. We will also regularly highlight specific stocks that merit special attention by investors seeking to build and maintain a climate-conscious portfolio. As this is an actively managed portfolio, we will be rather aggressive when it comes to making trades; if individual components no longer merit inclusion, such as if a company experiences operational problems or their equity valuation becomes extended, we will quickly recommend that the position be exited and the resulting funds allocated to our new selection. In order to receive updates in the timeliest possible fashion, we encourage all subscribers to provide their email addresses.

## THE VALUE LINE CLIMATE CHANGE INVESTING PORTFOLIO

Company	Ticker	Our Rec.	Industry	Market Cap (Mil. \$)	Stock Price	Dividend Yield	Current P/E	Inception Date
<b>Beyond Meat</b>	BYND	Hold	FOODPROC	7,861.00	117.7	0		3/8/2021
<b>California Water</b>	CWT	Buy	WATER	3,286.90	64.74	1.44	34.81	3/8/2021
<b>Conagra Brands</b>	CAG	Buy	FOODPROC	16,227.01	34.07	3.34	13	3/8/2021
<b>Ecolab Inc.</b>	ECL	Buy	CHEMSPEC	63,122.24	221.29	0.87	41.92	3/8/2021
<b>Edgewell Personal Care</b>	EPC	Hold	HOUSEPRD	2,443.98	44.51	1.33	15.62	3/8/2021
<b>Emerson Electric</b>	EMR	Hold	ELECEQ	62,359.44	102.71	1.96	27.19	3/8/2021
<b>Essential Utilities</b>	WTRG	Buy	WATER	12,065.39	49.34	2.18	30.84	3/8/2021
<b>First Solar, Inc.</b>	FSLR	Buy	POWER	10,197.06	93.51	0	28	3/8/2021
<b>Kellogg</b>	K	Hold	FOODPROC	21,980.86	66.99	3.62	16.58	3/8/2021
<b>Lowe's Cos.</b>	LOW	Buy	BUILDSUP	139,081.80	182.26	1.65	16.36	3/8/2021
<b>Mueller Water Prod.</b>	MWA	Hold	MACHINE	2,461.92	15.36	1.42	23.27	3/8/2021
<b>Netflix, Inc.</b>	NFLX	Hold	ENTRTAIN	226,786.20	518.91	0	47.39	3/8/2021
<b>Nikola Corp.</b>	NKLA	Buy	HEAVYTRK	3,937.45	9.73	0		6/7/2021
<b>NRG Energy</b>	NRG	Buy	POWER	10,569.38	43.26	3.01	15.02	3/8/2021
<b>Ormat Technologies</b>	ORA	Buy	POWER	3,859.31	67.37	0.72	40.58	3/8/2021
<b>Owens Corning</b>	OC	Hold	BUILDING	10,230.83	93.94	1.05	14.08	3/8/2021
<b>Pentair plc</b>	PNR	Hold	DIVERSIF	13,146.30	78.89	1.01	24.5	3/8/2021
<b>Republic Services</b>	RSG	Hold	ENVIRONM	38,222.60	121.41	1.54	29.26	3/8/2021
<b>Trane Technologies plc</b>	TT	Buy	MACHINE	46,051.20	193.63	1.22	32.99	8/23/2021
<b>Waste Management</b>	WM	Hold	ENVIRONM	62,756.14	151.7	1.54	29.8	3/8/2021

## PORTFOLIO HIGHLIGHTS

This month we are adding leading air conditioning manufacturer Trane Technologies (TT) to the Climate Change Portfolio. Air conditioning is a significant user of electrical power. We selected the company because it should benefit from increasing global temperatures, but there are two other equally significant reasons underlying the investment. First, emissions from heating and cooling buildings, as well as refrigerating foods, account for 25% of global carbon dioxide emissions, and that figure is expected to rise to 35% in just 10 years. In the era of carbon neutral goals and regulations, that is a staggering opportunity. As purveyors of some of the world's most efficient cooling systems, Trane is well positioned to help meet such goals. It is also working on technology to develop an emission-free coolant and, in fact, hopes to reduce CO<sub>2</sub> emissions by a gigaton—one billion tons of CO<sub>2</sub>—by 2030. That goal can only be achieved by upgrading existing infrastructure with more efficient heating and cooling systems and refrigerants. Another major opportunity for Trane is the focus on improving indoor air quality, resulting from the pandemic. As communities return to offices and schools, filtering air and removing pathogens is a rapidly-growing new market. Warehouses and restaurants also will seek to be providing safer air quality to help protect customers and employees. Management believes this is a new \$2 billion annual market.

Today's latest equipment is often so efficient that Trane can save existing office buildings 25%-30% in HVAC operating costs by upgrading from existing infrastructure, so the payback for implementing new systems is a large driver of sales. One measure of Trane's efficiency is its very high share of the market for cooling server farms powering the cloud and internet infrastructure. Outside of electric vehicles, the expanding use of computing power is one of the largest growth engines of electricity usage, and highly efficient cooling systems are necessities for such operations. These customers tend to only purchase best in class, which augurs well for Trane.

Trane spun out of the industrial conglomerate Ingersoll Rand to list on the NYSE in February of 2020. While it has operated for decades, as a newly independent company less than 18 months old, management has embarked on an aggressive cost cutting program with a target of expanding its operating margins by almost 50%. Thus, while the top line will be driven by robust end market opportunities, there is also plenty of room to improve profitability at the expense level. The company has a market cap of \$45 billion, and its balance sheet is in good shape, with only slightly more than a \$1.5 billion in debt in excess of cash on the books. We expect Trane to earn \$5.75 per share in 2021, up almost 25% from 2019's pre-pandemic levels. For next year, we expect earnings to grow at a mid-teens rate on what may prove to be a modest 5% increase in revenues. With only 28% of its business coming from outside of the U.S., international markets are one of Trane's fastest growing and another large opportunity in addition to the ones mentioned above. While the stock isn't cheap at 31 times our earnings estimate for next year, we like the trends playing out in the company's favor and the position of Trane for the coming year and beyond.

To make room for Trane we are going to take advantage of an even higher priced (in terms of price:earnings ratio) company on our list. While we also like Generac's position and robust backlog, the stock is up almost 36% since we launched the Climate Portfolio with it as an inaugural member on March 8th, just five months ago. For comparison, the S&P 500 is up about 15%. The stock trades at 40 times our earnings estimate for this year, which was boosted by Winter Storm Uri in the first quarter. While the backlog of orders extends

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for much of the rest of the year, partly due to restocking of inventory, we think the strength of the first quarter will be hard to duplicate without a similar catalyst. We continue to like the drivers of the stock, namely the decreased reliability of the electric grid in today's deregulated power infrastructure environment combined with greater variability of weather. Longer term, though, we have concerns about the company's reliance on gasoline and diesel as the main fuels powering its generators. While we expect that they will adapt with the times, the transition to alternative fuels might open the door to new competition, potentially from hydrogen fuels based Plug Power (PLUG) or even electric Megapacks from Tesla (TSLA).

### **Portfolio Highlights**

It was bound to happen. The climate portfolio ran into some turbulent weather in July and posted its first monthly loss. The portfolio was down about 1.5% compared to a 2.5% positive return for the S&P 500. The loss was led by our least seasoned position, Nikola (NKLA), which was added about two months ago, as its former founder, who left the firm in September of last year, was indicted for making potentially fraudulent claims about the development of its trucks. The company states it is cooperating fully with the federal authorities and is not a target of the probe. It put out a press release that it is on track to deliver its first battery-powered trucks later this year. They also continue to make progress on building out their hydrogen fueling infrastructure for the company's first hydrogen-fueled trucks, to be delivered late next year. While this is a speculative position, we still like the long-term potential for hydrogen to replace diesel trucks in the not too distant future. Hydrogen should be on parity with the cost of diesel by 2025, and its potential to dramatically reduce carbon emissions with green hydrogen should make adoption robust over the latter half of the decade. Nikola should be a large part of that adoption and we continue to hold it.

Our biggest winner for the month was California Water Services Group (CWT), which should be a major beneficiary of the buildout of additional water infrastructure on the west coast. 94% of their revenues come from California, where drought and persistent dry weather conditions necessitate the capacity expansion. As a regulated utility, California Water should be well positioned to increase its earnings through its allowed return on that capital spending.



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