
THE FUTURE IS GREEN AND HIGHLY CONNECTED. AND IT STARTS NOW.

Mobeen Tahir — Associate Director, Research

11/10/2022

“We tell ourselves stories in order to live,” Joan Didion (writer and journalist).

Thematic investing brings this notion to the fore. Avenues of investing aligned with [megatrends](#) are inherently predicated on visions of the future. But what makes thematic investing a lot more palatable than prophesizing, is that certain megatrends are already in motion. [Thematic investors](#), therefore, need only observe the direction of the current and swim with the tide. The stories they tell themselves reveal what places they will witness along the way.

But, of course, timing does matter, and the [bear market](#) in 2022 has created an attractive entry point for long-term investors. Moreover, the investment industry now offers discerning investors ways to access differentiated themes aligned with unique megatrends.

So, for investors, this means more stories to choose from. But two themes appear especially interesting at present.

The Future Is Green—The Inevitable Energy Transition

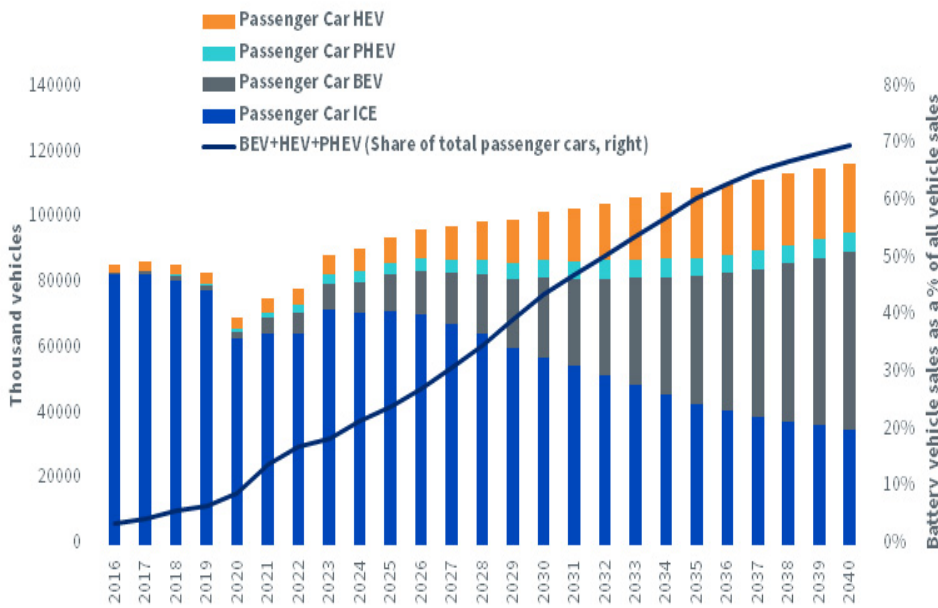
Following 18 months of intense wrangling, the U.S. has passed a \$700 billion economic package seen by many as a monumental step in tackling climate change. The bill includes \$369 billion for climate action, including tax credits for households to buy electric vehicles, and support for renewable energy, carbon sequestration research, hydrogen power and small-scale nuclear reactors.¹

Creating an energy sector that is both sustainable and sufficient will require major investment across all forms of clean energy including renewables, hydrogen, biofuels, hydro and even nuclear. Most recently, the European parliament has moved to classify future investment in natural gas and, more notably, nuclear power as environmentally sustainable (under certain conditions) in a pivotal shift that recognizes the need for an ‘all of the above’ approach to phasing out fossil fuels.

Low-Hanging Fruit

The energy sector accounts for around 75% of global greenhouse gas emissions, with road transportation accounting for the largest share at 11.9%.² It therefore makes sense to start where most progress can be made and can have the greatest impact. According to Bloomberg New Energy Finance’s Long Term Electric Vehicle (EV) Outlook 2022, the EV market represents an \$82 trillion market opportunity between now and 2050 in a net zero scenario. This takes into account not just the vehicles but also the ecosystem of industries surrounding them, including battery technology, commodities, charging infrastructure and recycling. With EV sales on an exponential trajectory already (see figure 1), such forecasts do not seem implausible.

Figure 1: Share & Total Market Size of Battery Electric Vehicles (BEVs)



Sources: WisdomTree, Wood Mackenzie, forecasts from 2021. ICE = Internal combustion vehicle, BEV = battery electric vehicle, PHEV = plug-in hybrid electric vehicle, HEV = hybrid electric vehicle, PC = passenger cars. **Forecasts are not an indicator of future performance.**

No Half Measures

The electrification of road transportation could create a 27% increase in electricity demand by 2050.³ It is therefore crucial that the electricity itself is also clean.

Among renewables, offshore wind is all the rage right now. And for good reasons. According to Wood Mackenzie, almost \$1 trillion is expected to flow into the offshore wind market over the next decade, given its scalability.

But more renewable power will also require more energy storage. Battery technology again comes into play. Lithium-ion batteries, effective for shorter duration storage, will be complemented by emerging longer duration storage technologies. This will ensure the energy supply is not only reliable for a few hours, but days and weeks.

The Future Is Highly Connected—The Ongoing Digital Transition

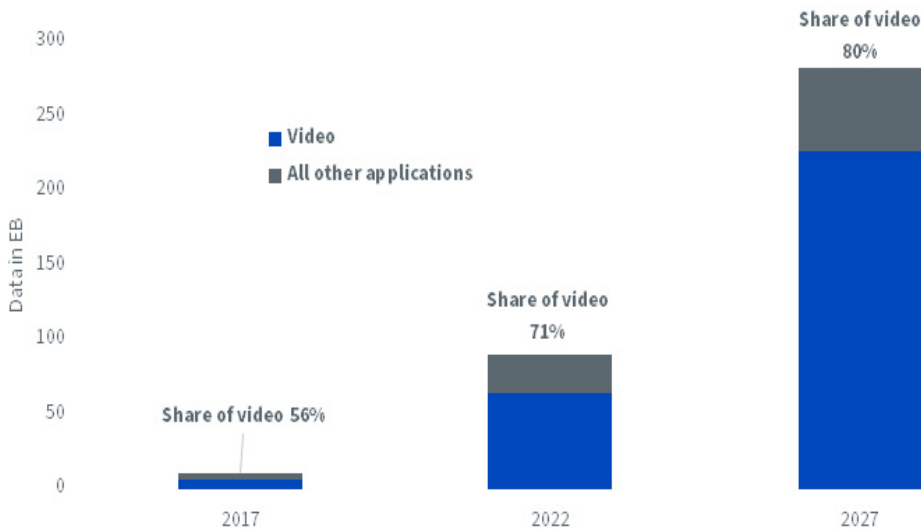
According to Statista, the number of internet of things (IoT) connected devices worldwide rose from 8.6 billion in 2019 to 11.3 billion in 2021 and will likely reach 29.4 billion by 2030.⁴ The world is becoming increasingly connected. And there are many facets to it.

Every Cloud Has a Silver Lining

The world has shifted quickly from renting cassettes and DVDs to cloud-based streaming services that use artificial intelligence to offer a personalized experience. Video streaming is not just occupying our television screens. It dominates our mobile phone usage as well.

According to Ericsson, global mobile data traffic has risen from 10.9 exabytes (EB) in 2017 to 90.4 EB in 2022 and is expected to reach 282.8 EB by 2027, with video the primary driver of this data binging (see figure 2 below).

Figure 2: Video Drives Surge in Mobile Data Traffic



Source: Ericsson Mobility Report 2022. Note: One exabyte (EB) equals one million terabytes. **Forecasts are not an indicator of future performance and any investments are subject to risks and uncertainties.**

Gartner forecasts that public cloud end user spending will grow by 20.4% in 2022 to 494.7 billion, up from 410 billion in 2021. This number will reach nearly \$600 billion in 2023.⁵ Now, for end users sitting in their homes streaming content, movies and TV shows, everything may be in the ‘cloud.’ But for YouTube and Netflix and Spotify, this data needs to be stored somewhere physically. The explosion in data usage will require more data centers and ever-increasing internet speeds. For investors looking at [cloud computing](#) as a megatrend, the opportunity is not just in the software, but also the real estate that provides the necessary infrastructure.

This Megatrend Is Not Optional

If a business hastens to shift to the cloud, collect all the necessary user data to improve its service, but then bungles it all up by falling victim to a cyber attack, the result could be catastrophic. More connectedness means more points of vulnerability for nefarious types to exploit. Cybersecurity Ventures expect global annual cybercrime costs to reach \$10.5 trillion by 2025, up from \$3 trillion in 2015.

As a consumer of any product or service, [cybersecurity](#) is something you never want to hear about. If everything is in order, nothing happens. But that is only possible if businesses ensure robust guardrails are in place. Cybersecurity, therefore, is a megatrend that is not optional, but mandatory. It is what makes a connected world sustainably possible.

But What about the Risks?

Yes, further [hawkishness](#) from [central banks](#) could create more turbulence. Nevertheless, [monetary policy](#) shouldn’t alter the direction of travel. So, keep an eye on those [inflation](#) prints and the response from central banks.

[Deglobalization](#) could also pose a challenge, especially for the energy transition, which depends on certain [commodities](#). Supply chains span the globe and a coordinated effort to tackle climate change would be more fruitful than a fragmented one.

Conclusion

The protagonists will change, the antagonists will change, and there will be unforeseen twists and turns. And for each investor, the plot may thicken somewhat differently. But the stories are underway. And now is an excellent time for investors to not only observe that the world is becoming greener and more connected, but help drive the change they want to see.

Mobeen Tahir is an employee of WisdomTree UK Limited, a European subsidiary of WisdomTree Asset Management Inc.’s parent company, WisdomTree Investments, Inc.

¹ Source: Financial Times, 9/8/22.

² Our World in Data, based on 2020 figures.

³ Bloomberg New Energy Finance Long Term Electric Vehicle Outlook 2022.

⁴ Source: Statista, in cooperation with Transforma Insights, May 2022.

⁵ Source: Gartner, April 2022.

For standardized performance and the most recent month-end performance click [here](#) NOTE, this material is intended for electronic use only. Individuals who intend to print and physically deliver to an investor must print the monthly performance report to accompany this blog.

Related Funds

+ [WisdomTree Cybersecurity Fund](#)

+ [WisdomTree Battery Value Chain and Innovation Fund](#)

+ [WisdomTree Cloud Computing Fund](#)

View the online version of this article [here](#).

IMPORTANT INFORMATION

U.S. investors only: Click [here](#) to obtain a WisdomTree ETF prospectus which contains investment objectives, risks, charges, expenses, and other information; read and consider carefully before investing.

There are risks involved with investing, including possible loss of principal. Foreign investing involves currency, political and economic risk. Funds focusing on a single country, sector and/or funds that emphasize investments in smaller companies may experience greater price volatility. Investments in emerging markets, currency, fixed income and alternative investments include additional risks. Please see prospectus for discussion of risks.

Past performance is not indicative of future results. This material contains the opinions of the author, which are subject to change, and should not to be considered or interpreted as a recommendation to participate in any particular trading strategy, or deemed to be an offer or sale of any investment product and it should not be relied on as such. There is no guarantee that any strategies discussed will work under all market conditions. This material represents an assessment of the market environment at a specific time and is not intended to be a forecast of future events or a guarantee of future results. This material should not be relied upon as research or investment advice regarding any security in particular. The user of this information assumes the entire risk of any use made of the information provided herein. Neither WisdomTree nor its affiliates, nor Foreside Fund Services, LLC, or its affiliates provide tax or legal advice. Investors seeking tax or legal advice should consult their tax or legal advisor. Unless expressly stated otherwise the opinions, interpretations or findings expressed herein do not necessarily represent the views of WisdomTree or any of its affiliates.

The MSCI information may only be used for your internal use, may not be reproduced or re-disseminated in any form and may not be used as a basis for or component of any financial instruments or products or indexes. None of the MSCI information is intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. Historical data and analysis should not be taken as an indication or guarantee of any future performance analysis, forecast or prediction. The MSCI information is provided on an "as is" basis and the user of this information assumes the entire risk of any use made of this information. MSCI, each of its affiliates and each entity involved in compiling, computing or creating any MSCI information (collectively, the "MSCI Parties") expressly disclaims all warranties. With respect to this information, in no event shall any MSCI Party have any liability for any direct, indirect, special, incidental, punitive, consequential (including loss profits) or any other damages (www.msci.com)

Jonathan Steinberg, Jeremy Schwartz, Rick Harper, Christopher Gannatti, Bradley Krom, Tripp Zimmerman, Michael Barrer, Anita Rausch, Kevin Flanagan, Brendan Loftus, Joseph Tenaglia, Jeff Weniger, Matt Wagner, Alejandro Saltiel, Ryan Krystopowicz, Kara Marciscano, Jianing Wu, Brian Manby and Scott Welch are registered representatives of Foreside Fund Services, LLC.

WisdomTree Funds are distributed by Foreside Fund Services, LLC, in the U.S. only.

You cannot invest directly in an index.

DEFINITIONS

Megatrends : A major movement, pattern or trend emerging in the macroenvironment; an emerging force likely to have a significant impact on the kinds of products consumers will wish to buy in the foreseeable future.

Thematic investing : A form of investment which aims to identify macro-level trends, and the underlying investments that stand to benefit from the materialisation of those trends

Bear market : A sustained downturn in market prices, increasing the chances of negative portfolio returns.

Cloud computing : computing capabilities deployed via internet connection in form of applications, platform services, or infrastructure.

cybersecurity : Refers to the measures taken to protect devices, networks, and data from unauthorized access and criminal use

Hawkish : Description used when worries about inflation are the primary concerns in setting monetary policy decisions.

Central bank : Refers to the the monetary authority of any country.

Monetary policy : Actions of a central bank or other regulatory committee that determine the size and rate of growth of the money supply, which in turn affects interest rates.

Inflation : Characterized by rising price levels.

Deglobalization : The process of diminishing interdependence and integration between certain units around the world, typically nation-states.

Commodity : A raw material or primary agricultural product that can be bought and sold.