BEHIND THE MARKETS PODCAST: A CONVERSATION ABOUT DEEP DECARBONISATION

Christopher Gannatti - Global Head of Research, WisdomTree. 25 May 2023

On 14 April 2023, we had the pleasure of speaking with Nat Bullard, an independent energy analyst focused on deep decarbonisation. The genesis of the discussion was around a specific set of slides that Nat tends to update on an annual basis, with the most current version, released in late January 2023, containing 141 slides.

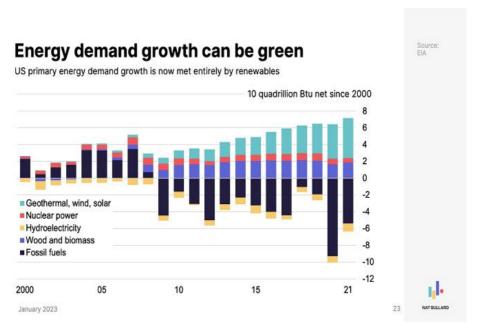
Progress is already being made

The conversation was grounded in the fact that the world is on a journey, and a critical destination is getting to 'net zero' carbon emissions by 2050. While news sources and reporting may vary, it's important to try to take that step back and recognise the true progress that has been made so far.

In Figure 1, Nat presents that primary energy demand growth in the United States (US) is currently met by renewable sources; fossil fuel growth has actually been negative in the figure.

Figure 1: Energy demand growth can be green





Source: https://www.nathanielbullard.com/presentations.

Historical performance is not an indication of future performance and any investments may go down in value.

In the discussion, we also talked about how each topic in the energy transition—if people are talking about transportation, construction, food, etc.—could be viewed as its own trillion dollar ecosystem. At WisdomTree, we are frequently discussing different strategies through which to gain investment exposure to the energy transition, so we were excited to see Nat's chart, shown in Figure 2, indicating that energy transition investment is up 40x since 2004.

The first trillion is the hardest

Energy transition investment grew 28% in 2022, and is up 40x since 2004

\$1,250 billion

\$1,000

\$750

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

\$250

Figure 2: The first trillion is the hardest

Source: https://www.nathanielbullard.com/presentations.

Historical performance is not an indication of future performance and any investments may go down in value.



The world remains awash with 'interesting' policy decisions

It is unlikely that political concerns can fully be decoupled from the progress the world is trying to make on decarbonisation. We discussed, for example, the policy in Germany that is moving to shut down nuclear reactors which, admittedly, may have been made prior to having the knowledge that Russia as a source of natural gas was no longer going to be an option.

We also discussed Figure 3, where we see that the US currently uses about 40% of its corn crop for ethanol, noting that 40% of [the US] corn crop meets 10% of [the US] motor gasoline demand. This policy began at a time when the US was not the world's largest oil producer, like it is today. It stays in effect because of political interests, rather than it being a good or efficient idea to use the corn in this way—it's possible that a better use of this corn could be food. Remember, the first US presidential primary is held in Iowa, a major corn producing state!

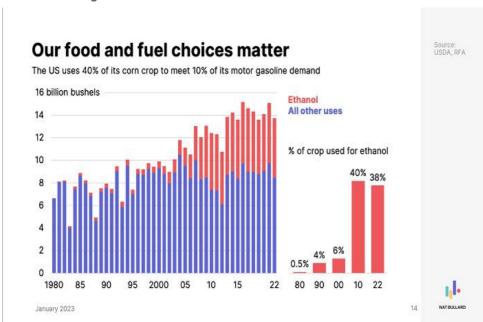


Figure 3: Our food and fuel choices matter

 $Source: \ \underline{https://www.nathanielbullard.com/presentations}.$

Historical performance is not an indication of future performance and any investments may go down in value.

What are our true priorities and what will we permit?

Towards the end of the discussion, Nat posed an interesting question, stated above. We have to be clear on both our priorities and what we'll permit on this journey that we are all taking to net zero carbon emissions by 2050. An important topic in that discussion is batteries. What Nat shows in Figure 4 is that the biggest battery makers, currently, are all based in Asia, and a lot of them are in China. This can be changed, but it won't be simple, easy, or inexpensive, and these types of activities may not always be 'clean' or healthy for the environment in all facets.



Batteries are Asian No European or US lithium-ion battery maker cracked the top 10 in capacity in 2022 CATL China 199 gigawatt-hours LG Korea 138 BYD 120 Panasonic 61 SK Innovation Samsung SDI EVE 31 Lishen 30 Guoxuan Farasis January 2023

Figure 4: Batteries are [currently] dominated by Asian producers

Source: https://www.nathanielbullard.com/presentations.

Historical performance is not an indication of future performance and any investments may go down in value.

Ultimately, it was clear at the end of the discussion that we'll have to regularly catch up with Nat on his research as we continue to see the world (hopefully) making progress on decarbonisation. To listen to the full discussion from April 14, 2023, click <u>here</u>.

Related products

- + <u>WisdomTree Recycling Decarbonisation UCITS ETF USD Acc (WRCY)</u>
- + WisdomTree Battery Solutions UCITS ETF USD Acc (VOLT/CHRG)

View the online version of this article here.



Important Information

Marketing communications issued in the European Economic Area ("EEA"): This document has been issued and approved by WisdomTree Ireland Limited, which is authorised and regulated by the Central Bank of Ireland.

Marketing communications issued in jurisdictions outside of the EEA: This document has been issued and approved by WisdomTree UK Limited, which is authorised and regulated by the United Kingdom Financial Conduct Authority.

WisdomTree Ireland Limited and WisdomTree UK Limited are each referred to as "WisdomTree" (as applicable). Our Conflicts of Interest Policy and Inventory are available on request.

For professional clients only. The information contained in this document is for your general information only and is neither an offer for sale nor a solicitation of an offer to buy securities or shares. This document should not be used as the basis for any investment decision. Investments may go up or down in value and you may lose some or all of the amount invested. Past performance is not necessarily a guide to future performance. Any decision to invest should be based on the information contained in the appropriate prospectus and after seeking independent investment, tax and legal advice.

The application of regulations and tax laws can often lead to a number of different interpretations. Any views or opinions expressed in this communication represent the views of WisdomTree and should not be construed as regulatory, tax or legal advice. WisdomTree makes no warranty or representation as to the accuracy of any of the views or opinions expressed in this communication. Any decision to invest should be based on the information contained in the appropriate prospectus and after seeking independent investment, tax and legal advice.

This document is not, and under no circumstances is to be construed as, an advertisement or any other step in furtherance of a public offering of shares or securities in the United States or any province or territory thereof. Neither this document nor any copy hereof should be taken, transmitted or distributed (directly or indirectly) into the United States.

Although WisdomTree endeavours to ensure the accuracy of the content in this document, WisdomTree does not warrant or guarantee its accuracy or correctness. Where WisdomTree has expressed its own opinions related to product or market activity, these views may change. Neither WisdomTree, nor any affiliate, nor any of their respective officers, directors, partners, or employees accepts any liability whatsoever for any direct or consequential loss arising from any use of this document or its contents.

