Change Finance, PBC

The Canary in the Coal Stocks

The Impending Danger of Stranded Asset Risk

"While it is a very interesting novelty, we have come to the conclusion that it has no commercial possibilities."

This was the response from the Western Union Telegraph Company in 1876 to an opportunity to purchase the patent for the telephone.[1] Just a few years later, the telephone exploded in popularity, and the telegraph vanished into obscurity. Western Union's conclusion demonstrates a lack of foresight and should serve as a warning to all business leaders and investors. History repeats itself, and from automobiles to iPhones, technological disruptions have regularly taken seemingly well-informed industry insiders by surprise.[2]

Today, global investors value companies in the fossil fuel industry at approximately $4 trillion.[3] At Change Finance, we believe these investors are the latest to fail to acknowledge a tectonic shift that is already realigning capital markets.

The impending danger should be apparent to those paying attention to the canary in the coal mine. Of course, this metaphorical canary's final resting place is not an underground mine, but in the wreckage of coal investments that have decimated investment portfolios over the past decade.

S&P 500 TR vs DOW JONES U.S. COAL TR

Figure 1

Source Data: S&P Dow Jones Indices

Stranded Assets (n): *assets that have suffered from unanticipated or premature write-downs, devaluations or conversion to liabilities.*

In the energy sector, this refers to fossil fuel reserves which may need to be written down

COAL'S DECLINE

Consider that the Dow Jones U.S. Coal Index offered a -10.59% annualized return over the last ten years as of 4/30/2019.[4] Figure 1 illustrates the degree to which that index of coal and coal-related companies has underperformed the S&P 500® Index which boasts an annualized return of 15.32% over the same period.[5]

Why? Free markets have incentivized a shift to less expensive sources of energy. The dramatic expansion of hydraulic fracturing, commonly known as fracking, in North America has led utilities to favor natural gas which offers a lower levelized cost of producing a megawatt hour of electricity.[6] Research conducted by Lazard demonstrates the levelized cost of energy (LCOE) associated with a natural gas combined cycle facility ranges between $41 and $74. Figure 2 shows how this has undercut the coal industry in many regions where the LCOE can be as high as $143.[7] Coal's fate at the hands of natural gas is evidence that free markets can rapidly shift toward cheaper sources of energy with little concern for the stakeholders in legacy industries.

OIL AND GAS OUTLOOK

Now consider the LCOE of wind power at $29 to $56 and utility-scale thin-film solar at $36 to $44 in Figure 2; two sources of energy whose costs continue to fall each year.[7] Research suggests that new renewable energy + storage capacity could be less expensive than operating existing natural gas facilities as soon as 2035.[8] New gas plants constructed today could be rendered obsolete much sooner than expected in a pattern that mirrors the hardship faced by the coal industry.

Not only is demand for fossil fuels for electricity generation likely to weaken rapidly as new, cheaper renewable capacity comes online, demand for fossil fuels in the transportation sector is likely to decline as well. Globally, 2017 saw a 53% increase in sales of electric vehicles versus 2016.[9] More than a dozen countries, including four of

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the five largest automobile markets in the world, have announced some ban on fossil-fuel driven vehicles.[10] Bloomberg New Energy Finance predicts that by 2024, electric vehicles will be cost-competitive with gasoline vehicles even without subsidies or incentives.[11]

In another report, "2020 Vision: why you should see the fossil fuel peak coming," Carbon Tracker, a leading financial think tank focused on the energy transition, warns that fossil fuel demand will peak just four years from now, in 2023. Incumbency, the report says, will be no protection: "[d]emand for incumbents peaks early, and investors in incumbents lose money early."[12]

MANAGING THE RISK

The Enhanced ESG investment methodology at Change Finance is intended to insulate investors from 21st Century risks associated with unsustainable corporate behavior. If the proverbial canary is correct, and demand for coal, oil, and natural gas plummets, then reserves remaining in the ground are unlikely to see the light of day. These reserves form the foundation of energy sector market capitalization, and if they become stranded assets (i.e., functionally worthless), we believe investors isolated from companies that hold those assets or that extract, process, or burn fossil fuels will be in a stronger financial position.

LEVELIZED COST OF ENERGY

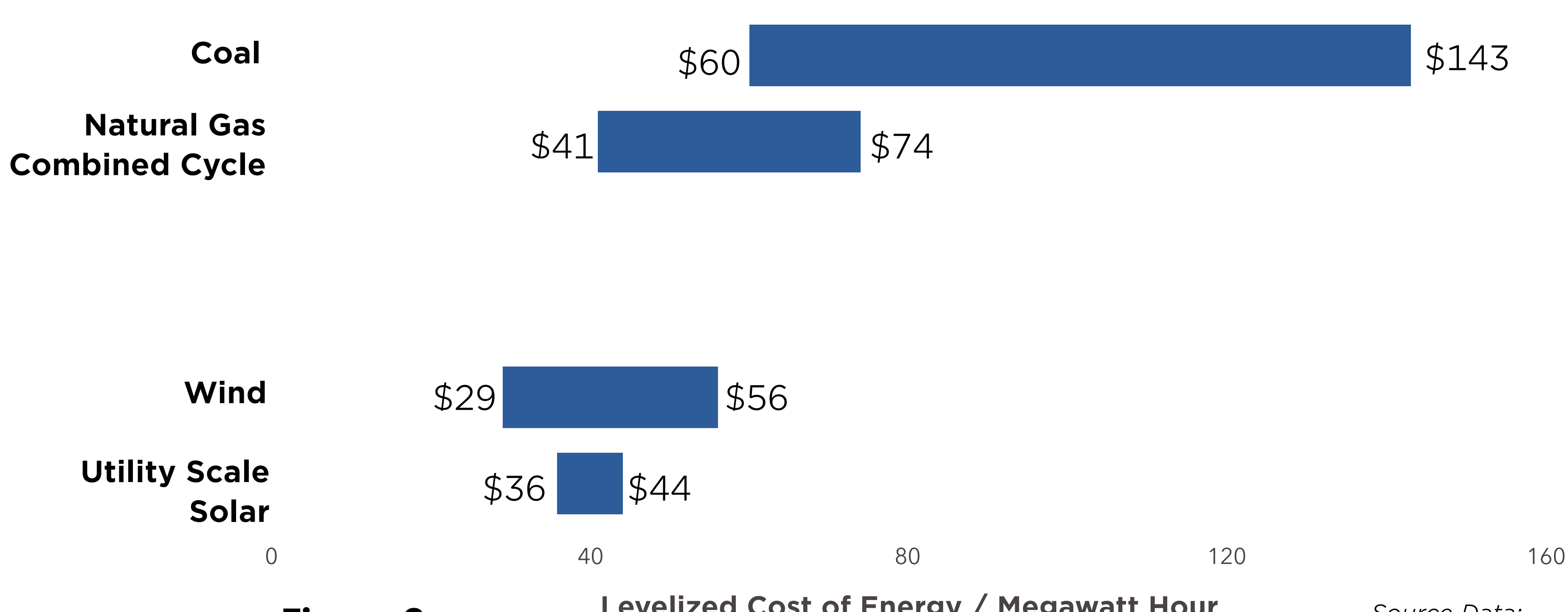

Figure 2

Source Data: Lazard

Footnotes

1 https://www.forbes.com/sites/erikaandersen/2013/10/04/it-seemed-like-a-good-idea-at-the-time-7-of-the-worst-business-decisions-ever-made/#1ec7142c3e80

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4 https://us.spindices.com/indices/equity/dow-jones-us-coal-index-usd

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8 https://www.vox.com/energy-and-environment/2018/7/13/17551878/natural-gas-markets-renewable-energy

9 https://www.forbes.com/sites/energyinnovation/2018/05/30/chinas-all-in-on-electric-vehicles-heres-how-that-will-accelerate-sales-in-other-nations/#2db47c63e5c1

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11 https://about.bnef.com/electric-vehicle-outlook/

12 https://www.carbontracker.org/reports/2020-vision-why-you-should-see-the-fossil-fuel-peak-coming/

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