ENVIRONMENTAL, SOCIAL AND GOVERNANCE PERFORMANCE AND FIRM VALUE OF PUBLICLY LISTED CLEAN TECHNOLOGY COMPANIES

Sunita Rao [*], Norma Juma [*], Rob Hull [*]

* School of Business, Washburn University, Topeka, KS, USA

OPEN ACCESS

How to cite: Rao, S., Juma, N., & Hull, R. (2023). Environmental, social and governance performance and firm value of publicly listed clean technology companies. In M. Tutino, V. Santolamazza, & A. Kostyuk (Eds.), *New outlooks for the scholarly research in corporate governance* (pp. 42–44). Virtus Interpress. https://doi.org/10.22495/nosrcgp8

Received: 24.04.2023
Accepted: 04.05.2023
Keywords: ESG, Clean Technology, Firm Value, Governance, Financial Markets
JEL Classification: G1, G3, Q4
DOI: 10.22495/nosrcgp8

Abstract

In this study, we examine environmental, social and governance (ESG) performance of clean technology companies and their relationship to firm value. Clean technologies are those that have a reduced environmental impact, i.e., have reduced environmental emissions or natural resource use, when compared with conventional technologies in providing similar products or services. It includes a wide variety of technologies for renewable energy generation, energy efficiency and energy storage, sustainable water management, sustainable mobility, waste management, and improved resource efficiency (Gosens et al., 2015). Currently, there are 64261[1] clean technology companies all over the world. Of these, 30051[1] companies are publicly listed and are actively trading.

It is important to study the ESG performance of clean technology companies and their relationship to firm value because such companies are perceived to have a 'clean' image and are seen as contributing to the improvement of the lives of people in developing and developed countries. Further, investments in clean technology are said to make companies and nations competitive and offer a better quality of life to

[1] These figures are as of March 6, 2023.

their citizens (Bezdek & Wendling, 2013). Although billions of dollars are invested in clean energy every year ("Record $30bn year for offshore wind", 2017), and such investments are expected to go increase (Wood, 2016), investors do not know anything about the ESG performance and their relationship to the firm value of such companies.

This is of particular concern because clean technology is emphasized heavily in President Biden's plan (Cartwright, 2021). More importantly, the recent Inflation Reduction Act (IRA) provides a substantial $370 billion allocation to climate change and clean energy enterprises (Cartwright, 2022). Our study is motivated by a desire to investigate if clean technology companies keep up with their image and if they are different from other companies and industries. In addition, the strong motivation for this study comes from the fact that energy drives economic growth and social development (Bórawski et al., 2020; International Energy Agency [IEA], 2015, p. 4), and, yet, the energy industry is a major contributor to global greenhouse emissions (Moore et al., 2018). In such a situation, clean technology companies can greatly aid in the fight to reduce pollution and carbon footprints. Further, the IEA reports that clean energy investment will increase by 8% to reach USD2.4 trillion in 2022 (IEA, 2022), as the contemporary strategic thinking is to stimulate and expand clean energy usage in various parts of the world (Xu et al., 2019). As an added bonus, investment in clean energy will generate 19 million jobs by 2050, which will more than compensate for the loss of jobs in the traditional energy sector (Gielen et al., 2019).

In this study, we have used the S&P Capital IQ database to identify clean technology companies. The following keywords were used to search: solar, fuel cell, thin film, wind turbine, renewable energy, photovoltaic, geothermal, alternative energy, clean tech, clean technology, green technology, nuclear power, smart grid, biomass, sustainable, sustainability, waste minimization, biodiesel, water reuse, wastewater reuse, ozone-based, and, ozone solutions. In this study, we have used the terms clean technology and renewable energy as synonyms.

REFERENCES

1. Bezdek, R. H., & Wendling, R. M. (2013). The return on investment of the clean coal technology program in the USA. *Energy Policy, 54*, 104–112. https://doi.org/10.1016/j.enpol.2012.10.076
2. Bórawski, P., Bełdycka-Bórawska, A., Jankowski, K. J., Dubis, B., & Dunn, J W. (2020). Development of wind energy market in the European Union. *Renewable Energy, 161*, 691–700. https://doi.org/10.1016 /j.renene.2020.07.081
3. Cartwright, E. D. (2021). Climate and clean energy to take center stage. *Climate and Energy, 37*(6), 13–14. https://doi.org/10.1002/gas.22207
4. Cartwright, E. D. (2022). A national climate and clean energy plan — Finally. *Climate and Energy, 39*(3), 14–16. https://doi.org/10.1002/gas.22310

5. Dinan, S. (2015, April 27). Obama-backed green energy failures leave taxpayers with $2.2 billion tab, audit finds. *The Washington Times*. https://www.washingtontimes.com/news/2015/apr/27/obama-backed-green-energy-failures-leave-taxpayers/
6. Gielen, D., Boshell, F., Saygin, D., Bazilian, M. D., Wagner, N., & Gorini, R. (2019). The role of renewable energy in the global energy transformation. *Energy Strategy Reviews*, *24*, 38–50. https://doi.org/10.1016/j.esr.2019.01.006
7. Gosens, J., Lu, Y., & Coenen, L. (2015). The role of transnational dimensions in emerging economy 'Technological Innovation Systems' for clean-tech. *Journal of Cleaner Production, 86*, 378–388. https://doi.org/10.1016/j.jclepro.2014.08.029
8. International Energy Agency (IEA). (2015). *Energy matters* (Report). https://www.iea.org/reports/energy-matters
9. International Energy Agency (IEA). (2021). *Global energy review 2021* (Report). https://www.iea.org/reports/global-energy-review-2021
10. International Energy Agency (IEA). (2022). *Record clean energy spending is set to help global energy investment grow by 8% in 2022* [Press release]. https://www.iea.org/news/record-clean-energy-spending-is-set-to-help-global-energy-investment-grow-by-8-in-2022
11. Moore, A., Price, J., & Zeyringer, M. (2018). The role of floating offshore wind in a renewable focused electricity system for Great Britain in 2050. *Energy Strategy Reviews 22*, 270–278. https://doi.org/10.1016/j.esr.2018.10.002
12. Wood, L. (2016, August 17). *Clean technology in defense industry report — Emerging trends and outlook 2016–2021 — Research and markets* [Press release]. Business Wire. https://www.businesswire.com/news/home/20160817005395/en/Clean-Technology-in-Defense-Industry-Report---Emerging-Trends-and-Outlook-2016-2021---Research-and-Markets
13. Record $30bn year for offshore wind but overall investment down. (2017, January 12). *Bloomberg New Energy Finance (BNEF)*. https://about.bnef.com/blog/record-30bn-year-offshore-wind-overall-investment/
14. Sadorsky, P. (2012). Correlations and volatility spillovers between oil prices and the stock prices of clean energy and technology companies. *Energy Economics, 34*(1), 248–255. https://doi.org/10.1016/j.eneco.2011.03.006
15. Xu, X., Wei, Z., Ji, Q., Wang, C., & Gao, G. (2019). Global renewable energy development: Influencing factors, trend predictions and countermeasures. *Resources Policy, 63*, Article 101470. https://doi.org/10.1016/j.resourpol.2019.101470