



## CLIMATE EMERGENCY - CAN COMPANIES AROUND THE GLOBE ACHIEVE A CARBON-NEUTRAL FUTURE?

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### Abstract

**This article investigates on how companies are being affected by the complication of climate change across the globe since past decade and how they take action by identifying this emergency as the ‘need of the hour’.** The paper mainly focuses on companies’ shift from traditional investing methods to Sustainable and Responsible Investing (SRI) methods. It also highlights the importance of International Economic Law in formulating multiple strategies towards promoting and achieving a green economy. It reveals how companies need to take collective action in the investment value chain with respect to the financial aspect to deal with the quandary of climate change. It also focuses on how the assets of the firms, in India and at abroad, are being shifted into climate-friendly investments such as wind and solar energy through various investment instruments such as green bonds. It throws light on how investors now have a number of new options for shifting their portfolios from high-risk industries towards an Environmental, Social, and Governance (ESG) and forward-thinking industries at home and abroad, helping in reshaping the global economy. An explorative and field based research methodology was adopted to write the paper.

Keywords – Sustainable investing, carbon tax, green bonds, renewable investing, disinvestment, Environmental, Social and Governance (ESG) goals, Indian companies, green economy.

### Introduction

*“We’re in a giant car heading towards a brick wall and everyone’s arguing over where they’re going to sit.”- David Suzuki, Canadian academic.*

With climate emergency being the word of the year in 2019, it is evident that climate change is the biggest threat in the contemporary period. Humans have destabilized the biological system of the entire planet on multiple fronts. Human activities in order to meet the need of the hour, such as CO<sub>2</sub> emissions, burning of fossil fuels, clearance of forests and the list goes on, poses a huge risk to humanity. If this continues in the same pattern, it is leading to an irremediable cataclysm. Not only the climate change is being discussed on the aspects of environmental challenges, but also, first time in the history of mankind, climate change is causing a new type of psychological disorder known as ‘eco-anxiety’. While the term eco-anxiety was introduced relatively recently, the point that it is based upon is not new. An interesting version of the term eco-anxiety is ‘pre-traumatic stress disorder’—a term coined by Lise Van Susteren, a psychiatrist who specializes in the psychological effects of climate change<sup>1</sup>. It is not solely enough only to acknowledge this challenge, it is critical that we act upon it now.

According to the World Trade Organization (WTO), International economic law has a

<sup>1</sup> Myers, D. (2015) ‘Climate Change and Mental Health: Q&A with Lise Van Susteren, MD’. Retrieved from [https://www.globalhealthnow.org/2017-](https://www.globalhealthnow.org/2017-03/climatechange-and-mental-health-qa-lise-van-susteren-md)

[03/climatechange-and-mental-health-qa-lise-van-susteren-md](https://www.globalhealthnow.org/2017-03/climatechange-and-mental-health-qa-lise-van-susteren-md)



prominent role to play in the regulation of climate change, with respect to technology diffusion and unilateral, bilateral, regional and plurilateral responses to multilateral negotiation failure and this law places limitations on the right of national and sub-national governments to deal with climate emergency. Given the present issue in reaching multilateral agreements, mostly countries will have to develop and implement climate change policies and laws in the constraints of the existing legal, economic and financial framework<sup>2</sup>. Multilateral negotiation dysfunction, and the changes in the economic growth, technological capacity and Green House Gases (GHG) emissions of developing countries since 1992, has made the United Nations Framework Convention on Climate Change (UNFCCC) approach ineffective and out-dated to alleviate the problem of climate change<sup>3</sup>. To satisfy the different approaches to stricter international mitigation requirements and to address their own adaptation needs, low- and middle-income countries must solve supply-side constraints in a very manner that meets their obligations in numerous areas of international economic law.

### **Economic Outlook of Lucrative Industries**

Why do modern industrial economies pollute so much? Essentially, because it is more expensive to clean up the pollutants, than it is to dump them into the environment. Nobody wants to pollute, but environmental protection, like all other economic decisions,

comprises an economic trade-off. Companies, countries and consumers now need to decide how much they are ready to pay to keep the environment clean and healthy. And this decision, essentially, must be an economic one. According to International Energy Agency (IEA), energy-related greenhouse gas emissions will continue rising through at least 2040, due to absent effective new policies<sup>4</sup>. A carbon tax or carbon pricing is insufficient to deal with the challenge of climate change as it does little to stimulate investment in alternative sources of energy while leaving corporations and company's free to continue polluting. Hence, addressing climate requires collective action and collaboration across the investment value chain and financial industry can be used as a lever for environmental action by investing in new technologies.

### **Sustainable Investing**

Research suggests that opportunities arising from the energy transition will actually outweigh climate-related risks in the long term. Individual firms also have a steward duty to address climate-related opportunities to enhance the value of investment. Furthermore, financial institutions are realizing that the transitions to the lower-carbon future, including understanding which assets are to become stranded, will also create investment opportunities. An alliance of corporations known as "*we mean business coalition*", is advocating businesses to adapt sustainable practices in kind. The coalition

<sup>2</sup> Bradley J. Condon, Tapen Sinha. (2014) 'The role of international economic law in addressing climate change'. (117&125 pp.) Retrieved from [https://www.wto.org/english/res\\_e/booksp\\_e/cmark\\_chap8\\_e.pdf](https://www.wto.org/english/res_e/booksp_e/cmark_chap8_e.pdf)

<sup>3</sup> Bradley J. Condon, Tapen Sinha. The Role of Climate Change in Global Economic Governance, Oxford, Oxford University Press, 2013 (288 pp.)

<sup>4</sup> IEA (2019) 'World Energy Outlook 2019', IEA, Paris Retrieved from <https://www.iea.org/reports/world-energy-outlook-2019>



has organized more than 400 businesses such as IKEA, Sony, and Coco-Cola etc; to commit to sustainability<sup>5</sup>. Betwixt adopting science-based emission curtailment targets and increasing credence in renewable energy sources, firms are striving to be a driving force towards a carbon-neutral future. According to a Morgan Stanley equity search report, five out of 10 companies have identified climate change as a risk factor. Ergo, what can investors do to orient their portfolios with sustainable businesses? The simplest method would be disinvestment: avoid investing in the least sustainable companies that are contributing to climate change and economic damage that comes along with it. Recent survey shows that more than 400 institutions across 43 countries representing US\$2.6 trillion dollars in assets have already committed to disinvestment strategy. Yet avoiding unsustainable companies is just part of the investors duty to consider, and may not be the most strategic approach an investor can take. Nevertheless, big risks come from big opportunities. As stated by Bloomberg Business, investors with nearly \$800 million in assets have commenced to shift money into more climate-friendly investments such as wind and solar energy<sup>6</sup>. Investors now have a number of new options for shifting their portfolios from high-risk industries towards an ESG (Environmental, Social, and Governance) goal, sustainable and forward-thinking industries at home and abroad.

## PART 1: WHERE TO INVEST

### Investment Instruments

- Green bonds – Green bonds are designated bonds aimed at encouraging sustainability and cultivate environment friendly technologies. Green bond markets have grown significantly in recent years, with a record US\$41.8b issued in 2015<sup>7</sup>. Compared to other taxable bonds, green bonds comes tax incentives like tax exemptions credits which makes them more attractive and also provides a monetary incentive to tackle climate change. The scope for growth is enormous, given the potential for green bonds to finance the infrastructure, such as low carbon transport, required to achieve an energy efficient transition.
- Listed equities – Equity investment is the major source of capital to the company. Though it involves high risk, it assures significant capital or yield upside in the long run when issued by high growth companies.
- Equity Mutual Funds – Sustainable equity mutual funds has equal or lower volatility than traditional mutual funds and also has equal or higher median returns creating a positive relationship between corporate investment in sustainability and stock price and operational performance.
- Asset-backed securities (ABS) – Securitization offers growing scope for large asset owners to invest in small-scale assets, such as rooftop solar or wind. Residential solar ABS has been issued in markets including the US and China.

<sup>5</sup> Retrieved from <https://www.wemeanbusinesscoalition.org/>

<sup>6</sup> Chris Martin. (2015) 'Fossil-Fuel Divestment Movement Exceeds \$2.6 Trillion'. Retrieved from [bloomberg.com/news/articles/2015-09-22/fossil-fuel-divestment-movement-exceeds-2-6-trillion](http://bloomberg.com/news/articles/2015-09-22/fossil-fuel-divestment-movement-exceeds-2-6-trillion)

<sup>7</sup>Sean Kidney. (2016) 'OVERVIEW - USD 41.8bn green bonds issued in 2015, that's the biggest ever!' Retrieved from <https://www.mckinsey.com/industries/oil-and-gas/our-insights/energy-2050-insights-from-the-ground-up>



- Property and real estate – One third of global greenhouse gas emissions are a result of energy use in construction, presenting large opportunities for climate change mitigation.

The above mentioned are some of the investment instruments used to deal with the challenge of climate change. The below mentioned examples are some of areas where investors can invest seeking both competitive financial returns and positive societal impact.

## **PART 2: INVESTING IN RENEWABLE MARKET**

### **1. Renewable Energy Sources**

The future is leaning toward renewable energy. According to research by McKinsey and Company, 77% of the new global electrical generation from now until 2050 will come from

Wind and Solar energy<sup>8</sup>.

- Wind and Solar Power

The product manufacturing companies of wind and solar are usually growth-oriented, don't pay dividends and often have high valuations which may or may not be profitable at the present time. However, long term potential of solar power is the real thing. First Solar (FSLR) is an Arizona-based solar technologies company focused on R&D. As a dominant player in the solar panel space, and in light of the fact that First Solar is excluded from tariffs on solar panels, this

company is poised for continued success going forward<sup>9</sup>. Vestas (VWS) is a leading Danish maker of wind turbines, employing over 20,000 people with revenues of nearly 10 billion Euros<sup>10</sup>. Another way to reduce risk is to buy ETFs (Exchange-Traded Funds) that focus on renewable energy for instant diversification. Most of these ETFs are weighted by market capitalization rather than equally-weighted, which means they invest more heavily in the most highly-valued companies<sup>11</sup>.

- Hydropower

In the current economic climate, investing in hydropower is one of the few areas where a secure long-term income is available. Provided that good quality sites are selected and developed using good quality hardware, the returns can be extremely attractive. Aquila Capital, the investment company specializing in alternative investments, is in agreement with Portugal's largest utility EDP to acquire a portfolio of 21 operational small hydropower plants with a capacity of around 100 MW in northern and central Portugal<sup>12</sup>.

### **2. Infrastructure- Buildings and Smart Mobility**

The GHG emissions from buildings contribute almost 20% of global emissions. Sidewalk Labs, part of Alphabet Inc is harnessing digital technologies to solve

<sup>8</sup> Scott Nyquist. (2016) 'Energy 2050: Insights from the ground up'. Retrieved from <https://www.mckinsey.com/industries/oil-and-gas/our-insights/energy-2050-insights-from-the-ground-up>

<sup>9</sup> Richard Martin. (2016) 'How First Solar is avoiding the industrial turmoil'. Retrieved from <https://www.technologyreview.com/s/601219/how-first-solar-is-avoiding-the-industry-turmoil/>

<sup>10</sup> Vestas Co.(2014) Retrieved from [https://openei.org/wiki/Vestas#cite\\_note-about-7](https://openei.org/wiki/Vestas#cite_note-about-7)

<sup>11</sup> 'What is EFT trading?' Retrieved from <https://www.iforex.in/what-is-etf>

<sup>12</sup> Saad, A Sulehri. (2018) 'EDP to sell 100-MW hydro portfolio in Portugal to Aquila Capital'. Retrieved from <https://www.spglobal.com/marketintelligence/en/news-insights/trending/mmth0hdcrm-upppnsb8jza2>



today's pressing urban problems such as solutions to hectic traffic congestions and traffic flows which helps reduce pollution dramatically<sup>13</sup>. The market for Electric Vehicles keeps on improving thanks to advances in technology (batteries, light materials) and government support across the globe (anti-pollution regulations, subsidies). In 2020, yearly sales of Electric Vehicles are to represent 3.9 million of new vehicles, or 3% of the global vehicles market. Investment opportunities related to smart mobility will also include specific commodities for car batteries (lithium, nickel, and cobalt), suppliers of electrical equipment and software or other innovative services for consumers such as carpooling<sup>14</sup>.

### 3. Carbon capture and storage

The Intergovernmental Panel on Climate Change (IPCC) estimates that we will need to remove massive amount of CO<sub>2</sub> to avoid the worst of global warming. New research has shown different ways of capturing carbon from our atmosphere. New technology allows the capturing of CO<sub>2</sub> in power plants and even the use of CO<sub>2</sub> to grow plants. The iPath Global Carbon ETN allows you an exchange-traded product that invests in Intercontinental Exchange (ICE)-listed carbon futures<sup>15</sup>. Europe currently has a robust market for carbon futures thanks to mandatory emissions programs, and this year the benchmark for European carbon hit a 10-year high.

### Can India pull off sustainable investing?

India accounts for just 0.1% of the overall global market for sustainable investment. However, investors are now looking at the Indian market from the ESG perspective. The emerging trend of sustainable capital flow makes it necessary for Indian corporates to accept the change. Currently, low demand for ESG in the Indian market is an important factor for India's slow motion but supportive regulatory measures, increasing awareness, and push from investors can help boost India's sustainable investment footprint. India has enacted regulations on improving corporate governance, with requirements to have independent directors, more accountability, transparent boards, etc., addressing potential conflicts of interests of stakeholders apart from the Corporate Social Responsibility (CSR) programme in section 135 under the Companies Act 2013<sup>16</sup>. However, environmental and social norms still remain low. Foreign capital plays a significant role in the Indian market. As investors become more docile, they may be forced to avoid businesses that do not meet their specification which affects the valuations of such firms. Norway's Government Pension Fund Global (GPF), the world's largest sovereign wealth fund, managing around \$1 trillion—put many Indian metal, coal and thermal power companies on its exclusion or watch lists, citing environmental and climate fluctuation distress. In April 2016, GPF divested from 13 leading Indian coal firms and made sturdy observations on ongoing transgressions in operations and increasing unaddressed

<sup>13</sup> Retrieved from <https://www.sidewalklabs.com/>

<sup>14</sup> IEA (2019) 'Global EV Outlook 2019', IEA, Paris <https://www.iea.org/reports/global-ev-outlook-2019>

<sup>15</sup> Barclays Bank PLC (2015) Retrieved from <https://www.ipathetn.com/US/16/en/details.app?instrumentId=31022>

<sup>16</sup> Corporate Social Responsibility (CSR). Retrieved from <https://www.fiinnovation.co.in/corporate-social-responsibility/>



human rights risks in a large Indian natural resource company. Several other top-league funds such as T-Rowe Price and Blackrock are also moving their portfolio to only include ESG-compliant firms<sup>17</sup>.

A growing trend within in the sustainable investment space is thematic investment. Capital deployed for specific theme related investments have seen an increase globally within the previous couple of years. In India, an emerging trend of investment in clean energy space, water management etc. segment has been seen. For instance, the KBI Institutional Water Fund concentrates on investing mainly in securities of companies comprised in the water sector. The rising interest of investors in thematic investment in India is catalysed by the fiscal policies of the country to a large extent and also the increasing demand for development of green infrastructure to attain its renewable energy target of 175 GW by 2022<sup>18</sup>. Niche thematic investment is an agreeable investment opportunity which might potentially increase the probability of delivering high returns over time by investing in well-researched segments after reviewing of the sector exposure. Various initiatives in India like 'Extension Scheme for Generation Based Incentive for Grid Connected Wind Power Projects'<sup>20</sup>, which intends to broaden investor base and facilitate Foreign Direct Investment (FDI) in the wind energy sector; inclusion of renewable energy under India's

central bank (RBI) revised guidelines for all scheduled commercial banks on priority sector lending<sup>19</sup>; and ratification of the Paris Climate Accord has made the investment landscape beneficial for investors intending to call on capital in thematic streams and hence growth potential for thematic investment strategy is foreseen for the country. Till now, approximately \$40 million is deployed through niche themed investors in India.

In 2015, India committed a concept to pull off 175 GW of renewable infrastructure by 2022. This can be enumerated as part of its commitment in the INDC (Intended Nationally Determined Contribution) and part of its drive toward energy security. Financing this outcome requires long-term capital that's searching for infrastructure returns<sup>20</sup>. Estimates show that capital requirement is in the range of \$2.5 trillion to \$2.7 trillion between now and the year 2030. An advantageous policy landscape further makes funding of low-carbon transport, renewable energy projects, smart city project, energy efficiency projects etc., an attractive opportunity for investors. Green bonds are an effective tool to potentially provide long-term source of low-cost capital. The flourishing of green bonds is probably to continue and thematic investors may subscribe to green bonds in India. India projects manager, a green bond focused catalyst said, "There is a good growth

<sup>17</sup> Sachin, P Mampatta. (2019) 'Largest wealth fund may off-load \$658- million stake in Indian oil firm' Retrieved from [https://www.business-standard.com/article/companies/largest-wealth-fund-may-offload-658-million-stake-in-indian-oil-firms-119031300038\\_1.html](https://www.business-standard.com/article/companies/largest-wealth-fund-may-offload-658-million-stake-in-indian-oil-firms-119031300038_1.html)

<sup>18</sup> The NITI Aayog (2015) 'Report of the expert group on 175GW RE by 2022' (2 pp.) <https://niti.gov.in/writereaddata/files/175-GW-Renewable-Energy.pdf>

<sup>19</sup> Ministry of New and Renewable Energy (2011) 'Generation Based Incentive Scheme' Retrieved from <https://pib.gov.in/newsite/PrintRelease.aspx?relid=78829>

<sup>20</sup> Ministry of Electronics and Information Technology. 'India's intended nationally determined contribution'. Retrieved from <http://vikaspedia.in/energy/environment/climate-change/india2019s-intended-nationally-determined-contribution>



potential of the green bonds market in India majorly driven by India's renewable energy targets, smart city mission, etc. but significant hurdles exist in terms of financing mechanism, quality of projects structuring, financial health of Municipal Corporations/ULB's, etc. which needs to be catered to so as to "catalyse the market." Some leading Indian business firms have begun to incorporate sustainability into their core functions. Conglomerates like Aditya Birla Group, Mahindra Group, Tata group etc.; corporates such as Wipro, Infosys, Yes Bank etc.; Public Sector Undertakings such as SAIL (Steel Authority of India), GAIL India etc.; have all developed sustainability visions. The vision is typically tracked at a board level; and is operationally implemented by sustainability teams. Investor relations work to capture the actions and disclose ESG information within the sustainability reports and business responsibility reports<sup>21</sup>. However, all of this is limited only to some Indian corporates and firms.

Investors have a positive outlook towards India with respect to sustainable and responsible investing. Until recently, application of such investment strategies was thought to be a non-viable option in India for manifold reasons including low availability of data and low focus on corporate responsibility and governance. However, now with companies reporting on various ESG related frameworks such as Business Responsibility Reports, Global Report Initiative (GRI) reports etc., Indian businesses have become relatively more forthcoming on ESG data. Some companies are also positively responding to global

standards and demand for corporate accountability, and hence to the present attractive investment opportunities. That trend is likely to continue.

### Outcomes

Here are some of the beneficial outcomes of sustainable investing for tackling climate change.

- First and foremost, it slows down the effects of global warming by reducing CO<sub>2</sub> emissions, promoting a green economy.
- Increases the capacity for innovation and enhances competitiveness in Green Technology, thus creating employment globally.
- Sustainable investing is beneficial for investor, company as well as the environment, bringing a positive impact.
- The opportunity to maintain strong financial performance coupled with values-based investing is extremely attractive to many types of investors, especially millennials.

### Conclusion

Overall, the future is bright for sustainable investing. Financial institutions around the world have a unique opportunity to shape the global transition to a low carbon economy helping clients to optimize climate-related risks and opportunities. If companies and firms adhere to the policies and laws in a responsible manner, we are not far from reaching the status of green economy globally. Sustainability should be viewed as

<sup>21</sup> Chandan Bhavani, Arnesh Sharma. (2019) 'ESG investing scenario in India-Co creating a better future'. (10-24 pp.)

[https://www.yesbank.in/pdf/esg\\_investing\\_scenario\\_in\\_India](https://www.yesbank.in/pdf/esg_investing_scenario_in_India)



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a key commercial driver that can lead to improved financial and reputational outcomes, reducing the risk of a systemic financial crisis and helping in reshaping the global economy.

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