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Abstract

This brief article explores the new financial instruments that deliver both investible returns and environmentally positive outcomes - namely green bonds. While the total volume of green bonds issued has seen an upward trajectory, the promises of sustainability, especially in the post-pandemic recovery period look questionable. Green bonds form a central component of strategy and policy frameworks that could enhance the financial sector's ability to incorporate climate action into its business decision-making process. Further, they also provide a suitable way for the developing world to meet their Paris Agreement obligations and make progress towards the respective Sustainable Development Goals.

Keywords: Green Finance, ESG, Green Bonds, Climate Change, Sustainable Development Goals (SDGs), Sustainability.

Introduction

The development agenda received a critical rethinking as it became clear by the late 1980s that the pre-existing models of industrialisation prescribed to the 'third-world' meant deep neglect of the environment. If the industrialisation path of the West was adopted as the recipe for development by all nations, five or six planets would be required to act as mines and waste dumps (Sachs, 1992). Therefore, it is clear that the rapid expansion of the post-war economy, financed through Bretton Wood Institutions is not a model path; rather, it ought to be seen as an aberration.

The role of financial institutions is increasingly being recognised in this domain as a way to redeem the perceived environmental disregard. Fossil fuel still dominates global energy investment, threatening the expansion of green energy to meet climate and clean air goals

which, combined with the reluctance to shift from pro-coal policies by several developed and developing economies, keeps the goals of cutting CO2 emissions at odds. Financial institutions are crucial for any type of infrastructural projects and they lean more towards the conventional energy domain because of the existence of multiple risks involved with new technologies, not to mention the low initial rates of return.

Motives behind the push for Green Financing

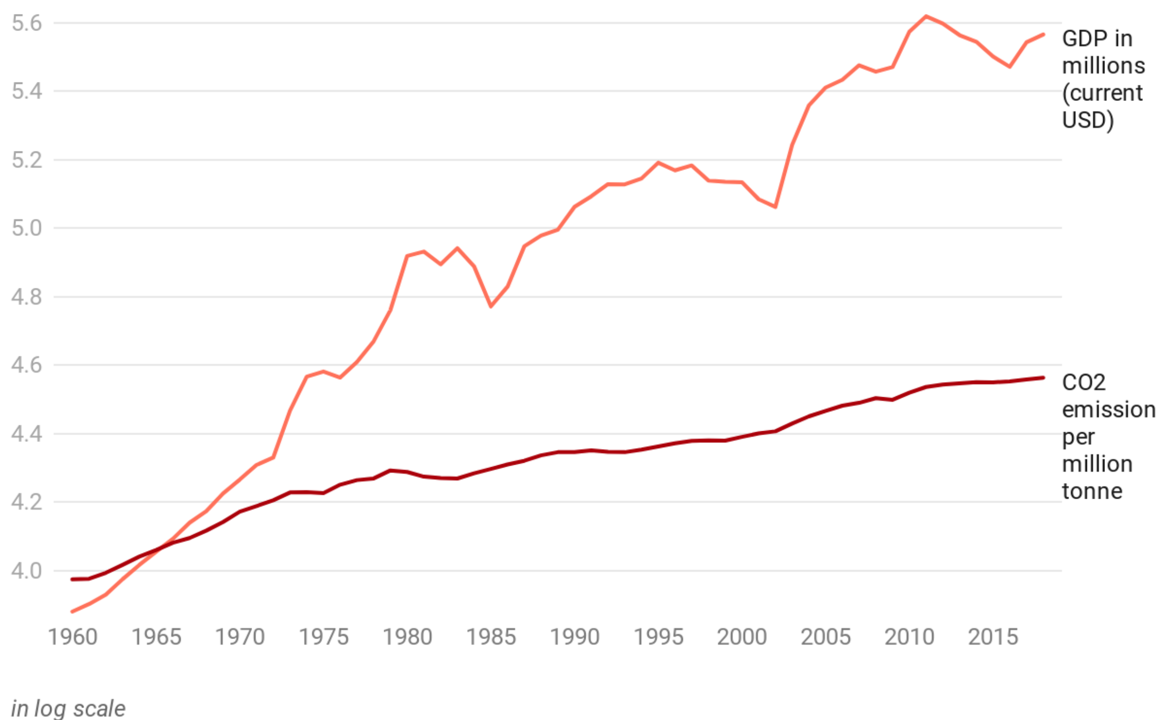

Figure 1 : Global Emissions v/s Global GDP (From 1960)
Source: Authors' computation from World Bank and Global Carbon Report

In order to go ahead with attaining the 2030 Sustainable Development Goals (SDGs), there is a major push required for green projects and boosted funding for environment-friendly investments through instruments like green bonds, green banks, carbon credits and community-based green funds etc., collectively called 'green finance'.
Green finance predominantly consists of financial instruments like debt and equity. While equity financing is the investment in the company stock for an ownership interest, called stocks or shares, debt financing is used at later stages of development of a company to raise

funds for its projects. Debt and equity funds form the basic vehicles of investment in environment-related finance (Krushelnytska, 2020).

As less than 15% of required capital flows into environmental conservation, a large chunk of it is contributed by philanthropic entities rather than by corporations leading to a financial gap of $70 billion in the climate finance accounting (Krushelnytska,2020). Leveraging healthy ways to conserve healthy ecosystems and funding projects in renewable energy and energy efficiency is imperative, as green finance is a need of the ailing world. But in reality, what this environment-friendly financing measure does is the reduction of the perception of risks to encourage investments for environment-friendly projects and internalisation of the environmental externalities. Another risk that the same holds is that of ‘greenwashing’, which is the practice of diverting green bond revenues to projects or activities that have marginal or negative environmental benefits.

Sustainable growth agenda still seems too ambitious as the current trajectory of fossil fuel usage in the world threatens to increase the planet’s temperature by 4-6 degrees Celsius above the pre-industrial level. Though a commitment to keep global temperature below 2 degrees was agreed upon under the Paris agreement in 2015, governments are yet to act upon creating a low-carbon energy system.

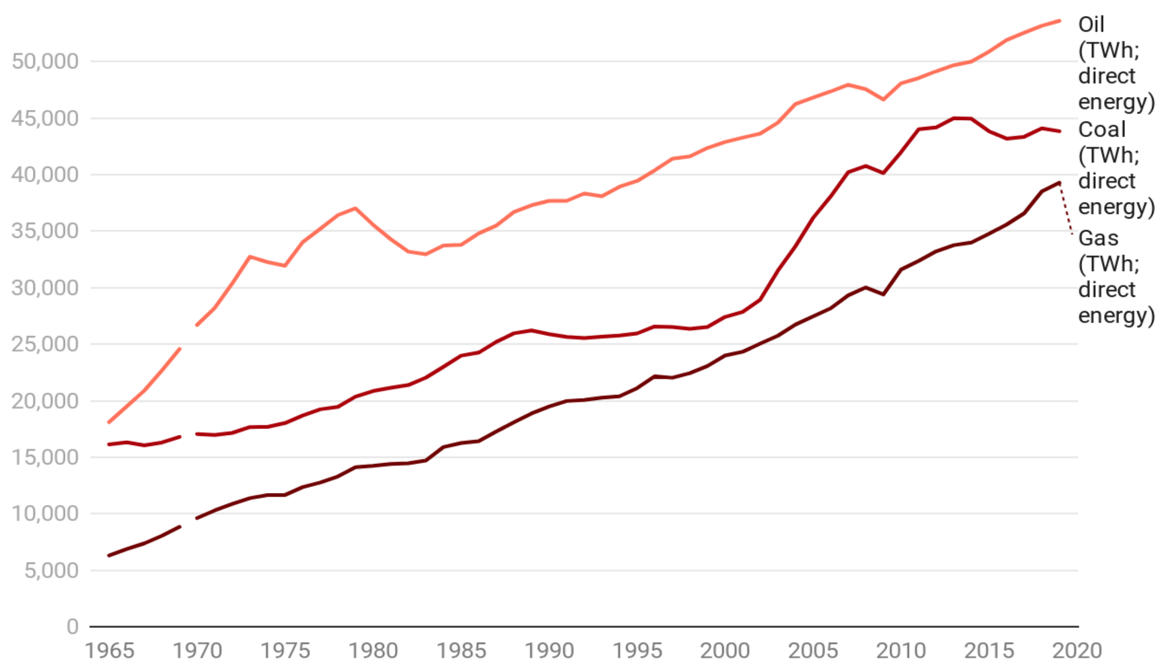

Figure 2 : Global Fossil Fuel Consumption
Source: BP Statistical Review of World Energy

An Uncertain Path to Sustainability

Many ills ail the green finance sector, which hamper it from fighting climate change effectively. State-controlled Chinese coal power plants or oil and gas production units in the Middle East cannot be influenced by fund managers who extend their influence to only a minuscule part of the economy as many emissions occur outside of big private businesses (The Economist, 2020).

On the other hand, climate-stress tests and penalising banks for their lending to vulnerable or environmentally harmful projects by some bank regulators hoping to cut emissions is also not helpful. Rules on carbon emissions remain mostly unchanged and only a fraction of their assets are invested in fossil fuels or detrimental projects. Funds required for clean and renewable energy and infrastructure, especially in the developing regions, are yet to be realised which would be conducive to keep temperatures within 2 degrees of pre-industrial levels. Table 1 is a stark reminder of the disparity when it comes to the bonds issued with US and Europe taking a major share and China coming at third place. With very little investment being raised from the developing world (which are also assumed to take the worst hit with climate change), the sustainability of the initiative is under doubt and shows that the developing countries are yet to jump on the green bandwagon. There exists a significant gap with the current issuance being around $300 billion and the expected requirement is up to $3 trillion in emerging markets, in order to keep in tune with the Paris Agreement (UNCTAD, 2014).

Year	Total Green Bond Volume (Global)	Europe	USA	China
2007	0.807	0.807		
2008	0.414			
2009	0.909		0.480	
2010	4.300	0.003	0.290	
2011	1.300	0.051	0.665	
2012	3.500	0.748	0.585	
2013	11.300	4.300	5.300	
2014	36.800	16.800	11.200	0.208
2015	44.500	15.000	22.500	0.095
2016	84.500	20.600	38.000	17.700
2017	158.000	56.100	71.200	15.600
2018	171.200	66.400	55.300	22.000
2019	258.900	108.000	82.400	19.900

in USD Billion

Table 1 : Yearly Green bond volume by currency (in USD)

Source: Climate Bond Initiative

One major issue with green financing is measuring the carbon footprint of projects. It is difficult to get corporations to disclose their total net carbon footprint (including emissions of products and supply chains) (The Economist, 2020). Objectively tracking carbon performance and comparing it with others is an illusion because an honest disclosure is elusive, with dubious tactics and opaque records aiding to hide the fact that many portfolios that claim to be climate-friendly are often involved with big polluters as they contain their securities. Another major issue that remains is that of taxonomy of the various sectors under green bonds since China has included 'clean coal' from 2015 onwards, although the same is proposed to be exempted and is barred under European Union's taxonomy (Liu, 2020).

Incentives also matter. Shutting down lucrative oil fields does not carry any financial incentive to let firms start investing in experimental energy systems. Externalities of greenhouse gas emissions are hard to measure since they are not appropriately priced into the cost of energy. Further, although green investors may carry out climate-friendly decisions for

the firms, they don't carry enough weight and influence to determine the overall attitude or energy policy of the firms.

The role of the financial industry in decarbonising the economies is increasingly being recognized as institutional investors throng to invest in green finance, with 500 Environmental, Social and Governance (ESG) funds being launched in 2020 and a lot of asset managers claims to have forced industries finance new clean projects and cut emissions (Kern, 2014). The biggest challenges that environment-friendly financing faces is the identification of the right projects, devising comprehensive plans that include the private and public sectors as well as different countries along with proper structuring of the financing.

Major hurdles in ESG financing

The majority of ESG issuance must be focused on developing regions since most of the growth here is supported by non – green, traditional, carbon intensive activities. Not to mention the market size and population factor too makes the former an optimal choice for sustainable growth. However despite the accumulated market capitalization of green bonds nearing $1 trillion, a very minimal amount of the same is issued in developing regions with the major exception of China (which still has a low share of 9%). One can assert there is a fair level of correlation between economic development and appetite for ESG considerations but the lack of awareness as well as contractual protection from practices like 'greenwashing' remains a significant constraint. The absence of quality or relevant data from the developing regions also hampers the interest of potential investors (AIIB, 2014).

	2015	2016	2017	2018	2019
China	1,295	21,211	22,245	31,030	31,400
Hong Kong (China)	0	1,206	618	2,692	2,550
India	1,151	1,570	3,804	700	3,073
Indonesia	0	0	0	1,975	750
Japan	840	1,098	3,338	4,174	7,216
Malaysia	0	0	755	223	660
Philippines	0	226	150	150	1,498
Singapore	0	0	571	1,341	2,649
South Korea	0	900	650	2,077	3,576
Taiwan	0	0	172	447	1,018
Thailand	0	0	0	213	734
Vietnam	0	27	0	0	0

in USD millions

Table 2 : Yearly Green bond volume issued in Asia (in USD)
Source: Moody's

There also exists market barriers that lessen the initiative further in developing countries like minimum size, currency considerations and the high transaction costs (Banga, 2018). This needs to be seen with the fact that the former has very limited access to international capital markets. Many of the projects being implemented in these regions are of small scale in nature which also reduces the incentive for investment. Finally government priorities on policy implementation are often conflicting, with environment friendly projects often ending up being unpopular mandates (Obradovich and Zimmerman, 2016).

Though green bonds have witnessed an upward trajectory in recent years, the advent of Covid-19 pandemic stalled the growth. Nevertheless, the pandemic has been instrumental in accelerating the issuance of sustainability and social bonds, as the private sector is helping in

the recovery and response measures. Institute of International Finance has reported recent monthly volumes of more than $7 billion in social bond issuances, compared to a monthly average of $1.2 billion in 2018-19, and with the prospect of a further surge. The focus is also shifting from a narrow 'environment' based financing towards a broader 'sustainability' based approach in green financing. The 'Implications of the COVID-19 Pandemic for Global Sustainable Finance; report from the UN Environment Program points a "surge on social issues" with regards to the ESG. However a lack of standardisation and concrete directives dilute the possibility of predicting their long-term impact. How much do the social bonds change the hue of ESG in general is a smaller issue compared to the welcome development of growing concerns over responsible investing.

Concluding Notes

The role of government thus becomes extremely important. The motivation of the private sector is not substantial enough to take on initiatives of bringing about the required emission cuts coupled with adequate green investments. Governments need to force firms to improve upon their disclosure. Many countries – including Australia, Brazil, Canada, Denmark, France, Netherlands, New Zealand, Norway, Sweden and the UK require investors to include information on environmental, social and governance aspects in their financial disclosures (UNEP, 2020).

Measurable objectives are necessary to have coherence. Carbon taxes can unleash the power that the financial sector holds, as it will bestow a strong motivation upon banks and investors to move the capital from dirty industries to the cleaner ones and allow for trading of carbon prices.

Firstly, it is imperative to have an enabling environment which facilitates green financing, that includes the rule of law, conducive business climate and a helpful investment regime. Ratification of the Paris agreement and a commitment towards the Sustainable Development Goals (SDGs) is a way to support the strategic framework for green finance and therefore boosting private capital for green investing. An explicit policy signalling is a way to incentivise the outcome. As Germany has shown in its presidency of G20 in 2016, establishing a clearly defined green agenda is decisive (Berensmann and Lindenberg ,2016).

This can be a step in coordinating the financial and environmental policies, as well as regulation, evident by the case of China.

Secondly, the definition of green finance needs to be clear and transparent to prevent loopholes in greenwashing of the commitments. Rules and directions for disclosure can promote the development of green financing assets as well as capacity-building platforms (GFSG, 2016). A set of principles and guidelines can help a lot for the implementation and monitoring of those policies. These principles would be properly coupled with regulatory and financial incentives to make the structure efficient.

Climate finance and consequently a green way for development can take big leaps if the actors overcome the challenges in the path of ambitious sustainability goals and the nations cooperate to push the trajectory of green financing upward.

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