



Task Force 4
**Refuelling Growth: Clean Energy
and Green Transitions**



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RENEWABLE ENERGY SUPPLY AND RISK IN GLOBAL BANKING

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Abstract






Financial and economic concerns are paramount for the international banking industry to continue supporting and investing in the global renewable energy supply system. The transition to renewable energy to achieve the mission of decarbonisation is capital-intensive and needs substantial bank involvement to evaluate the risk-return profiles of such projects. However, given the projects' unpredictable cash flows, the inherent risk can expose the banking


sector to significant disruptions during challenging times. Expectedly, banks are unlikely to lend until the fear of default has been eliminated. This policy brief examines the critical difficulties posed by renewable energy supply concerns that worry an increasingly interested banking industry. It also addresses the question of how the G20 might be able to reduce these risks more effectively. The brief recommends several fiscal policy instruments and principles that could encourage investment in the renewable energy sector by banks.



The Challenge



1




Climate change, which was initially understood to be a purely environmental concern, has now evolved into a difficult and pressing issue for the global economy.¹ As a direct result, the corporate, banking, and financial sectors, are under significant pressure to invest in alternative forms of energy, driven by a global momentum towards decarbonisation and clean energy. The International Energy Agency forecasts that global renewable power capacity will surpass 4,800 gigawatts by 2026.² However, the growth rate in renewable energy capacity is still lower than the rate at which global electricity demand is growing. As a result, the consumption of fossil fuels for energy generation is still increasing.

Without financial help from banks, the odds of meeting the Sustainable Development Goals and the objectives of the Paris Agreement are low.³ This is due to the enormous amount of capital needed to transition to renewable energy sources. The Intergovernmental Panel on Climate Change suggests investing between US\$1.6 trillion and US\$3.8 trillion annually in the supply side of the renewable energy system until 2050, and US\$2.4 trillion in clean energy until

2035 to avoid the disastrous effects of global warming and the resulting climate change.⁴


Among the many barriers to progress in the renewable energy sector, financial hurdles are perhaps the most significant. Long-term funding—associated with high installation costs—is necessary for renewable energy projects. Without this essential funding, the only alternative is conventional, fossil fuel-based electricity generation. However, long-term financing is more challenging to secure, and financial institutions generally place more stringent requirements on such funding. With most countries now embracing bank-dominated economic systems, banks are looked at as key suppliers of funding for renewable projects. Considering the massive financing needed to replace fossil-fuelled resources with renewable energy resources, banks are expected to take extraordinary steps to support and finance these projects. At the same time, investing significant capital in renewable energy projects would make it difficult for banks to remain profitable. Ultimately, it will be challenging for banks to finance renewable energy projects unless global organisations like the G20 can alleviate their concerns



about the economic risks associated with the sector. Due to a limited supply of resources, commercial banks⁵ prefer to invest in assets that generate a higher rate of return while taking on minimum risk. This kind of investment preference has several significant negative implications for policies aimed at improving the environment. Generally, banks finance renewable energy initiatives under project financing domains where the loan security is primarily assumed based on future cash inflows. Due to the irregular power generation cycle of most renewable energy ventures, banks generally assume more risk while financing such projects. They have various reasons for classifying renewable energy projects as 'riskier'. Firstly, renewable energy technologies are comparatively new and untested. Success stories in one country might not apply to another due to regulatory and institutional environment differences. Secondly, the success of most renewable energy sources, such as solar, wind, and hydro, depends heavily on a factor that is entirely beyond human control, i.e., nature. This dependency of renewable energy projects on 'mother nature' increases uncertainty about the possible benefits and cash inflows expected from these projects.

Because of this unpredictable nature of renewable energy sources, it is impossible to generate fixed or target amounts of energy during any given season, month, or day. This natural shortcoming and unreliability in the supply of renewable energy make these sources unsuitable for baseload generation, which requires a stable, confident, and reliable energy supply throughout the day. This is why some renewable energy projects yield lower returns than those backed by fossil fuels. This shortcoming in grid-connected renewable energy sources is generally addressed by adding backup fossil fuel generators that drastically raise costs.

Expensive gas-fired generators are losing popularity worldwide due to this gap in the supply of renewable energy resources. At the same time, diesel-fired and greenhouse gas-emitting coal-fired generators are becoming common, often employed to back up renewable energy resources. The additional cost of installing non-green generators in renewable energy projects increases banks' exposure to risk. It reduces their projected cash inflows due to the higher cost of energy generation. Consequently, such projects are not picked for investment by banks that have



the option of choosing other more stable projects with guaranteed cash inflows.

Maturity mismatch is another concern for banks⁶ and a challenge for renewable energy projects in securing the required financial support. For a typical commercial bank, deposits are the primary source of funds available for lending. Most of these are short- or medium-term deposits that typically range from one year to five years. Due to their characteristic risk aversion, banks always aim to match their liabilities (deposits) with their assets (loans) to avoid any liquidity issues. Fear of maturity mismatch, or an imbalance between short-term liabilities and short-term assets, can have severe implications for renewable energy projects. Investing its funds in mega energy projects such as large solar farms, hydropower projects, or windmills could result in a maturity mismatch for the lending bank. Naturally, banks avoid investing in such risky projects. This risk is even more complicated in countries with underdeveloped capital markets and limited venture capital.

The negative effect of banks' risk-aversion on renewable energy projects becomes more pronounced when

combined with the tightening of regulations by the Basel Committee on Banking Supervision for credit lending, including credit risk measurement. Due to inherent uncertainty about power generation and cash inflows from renewable energy projects, banks, as noted, classify them as risky investments. Under the Basel capital requirements on lending, banks must ask for and maintain more equity contributions when lending to such ventures. These additional requirements lower banks' interest in renewable energy projects and inhibit them from providing these projects the required financial support.


Switching to renewable energy requires a significant investment of funds and the participation of many financial institutions. Yet, as noted, the financial sector's exposure to renewable energy projects could cause concerns about their continued solvency. This is especially true when one considers the unpredictability of the cash inflows created by these projects. If worries about going bankrupt are not relieved, securing support from banking institutions for renewable energy projects will prove difficult.



The G20's Role



2




The G20 governments have established long-term sustainable growth targets supported by the G20 Operational Guidelines for Sustainable Financing. The 2021 Financing for Sustainable Development Report stated that although the COVID-19 pandemic has had a significant deleterious effect on progress (seen starkly in the 140,000,000 job losses and 120,000,000 more people forced into extreme poverty), the commitment to sustainable finance remains intact, including one of its key focus areas—renewable energy supplies.⁷

In today's world, where rising energy prices drive inflation and preserving natural resources and the environment is paramount, sustainable finance is indispensable. Banks are monetary entities that aid regional development programmes through economic activities and financial networks to support the G20 governments' sustainable growth targets. Consequently, energy-efficient projects that place a high priority on increasing the supply of renewable energy may benefit from the various offers and initiatives introduced by banks that are based in G20 countries. The G20-driven banks have also brought


the above issues to the attention of the Financial Stability Board. As these banks play a significant role in the world economy, G20 banking regulators are responsible for comprehending the banking industry's needs and demands for increased funding and clarifying the future regulatory landscape for the entire banking industry.

The G20 countries are, without doubt, home to the world's largest banks, but they are also among the countries most vulnerable to the effects of climate change. Thus, several countries have already established policies to promote renewable energy use. For instance, by 2050, the EU intends to have achieved its objective of being the first carbon-neutral continent. To help these countries achieve such ambitious objectives, their financial institutions must offer funding on a comparable scale. In 2023 a group of multinational researchers supported the switch to renewable energy sources using leading G20 sample banks.³ They have stated that the increased financing of renewable energy reduces banking risk by improving its outlook; this will also be an effective long-term option for the world's largest lenders in the G20 countries.



A range of theoretical frameworks provide further context for the above study's results. Stakeholder theory suggests that corporations have a more comprehensive range of interests to protect than just the profits of their shareholders. When a bank invests in renewable energy, it matches its goals with its stakeholders' interests. A G20 bank cannot win over the citizens of

developed countries and prosper in their communities if it ignores the concerns of its constituents particularly those regarding environmental sustainability. This legitimacy via interest alignment is a central tenet of legitimacy theory. When a company's goods are well-liked and well-respected, it can charge more for them, thereby increasing its profits.



Recommendations to the G20



3

- Encourage banks to invest in renewable energy using the regulatory authority of the central banks of the G20 member countries. In this regard, national measures to raise knowledge will benefit the business and financial sectors.⁸ The G20 members can follow the best practices developed by other G20 countries. For example, The Indian parliamentary committee has recommended that loans to renewable energy projects be restructured so that the equated monthly instalment is maintained at a higher level during the peak season of income production and at a lower level during the off-season. In addition, it has requested that the Ministry of Energy and Power participate in discussions with state governments to avoid any unilateral cancellation/renegotiation of power purchase agreements as it causes uncertainty and negatively affects investment in the renewable energy sector.⁹
- Big banks should be persuaded to invest in renewable energy technology owing to their size and potential for impact. With fewer non-performing loans and solid corporate governance, big banks can boost renewable energy adoption in high-income countries, notably in the G20 member states. Regulators must lean on large banks, cultivating their size and scope of impact for the betterment of the environment and society.
- Fiscal incentives boosted with taxation implications can be offered to banks to facilitate investment in sustainable energy. For example, a limited amount of investment can be considered tax-free to boost investments in the clean energy sector.
- Better corporate governance and training should be provided to help banks operate better internally when investing in renewable energy. Through research and dialogue, regulators and banks can overcome unwillingness to invest. With better borrower understanding banks can develop a far more effective business case for renewables.
- A controlled government subsidy can be provided to banks to improve their sectoral investment further. It will lower risk and enhance private financial sector investment.¹⁰
- An overall national renewable energy policy coordination framework should be created and shared with all the G20 states so



that members can understand the need of the hour better. This will eliminate poor coordination and collaboration across key government departments, typically

resulting in inefficient public resource allocation and utilisation, delays in consensus formation, and policy inaction.

Attribution: Tonmoy Choudhury et al., “Renewable Energy Supply and Risk in Global Banking,” *T20 Policy Brief*, June 2023.

Endnotes

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