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INDEPENDENT EVALUATION OF GREEN CLIMATE FUND'S ENERGY SECTOR PORTFOLIO AND APPROACH

Executive summary



GREEN CLIMATE FUND
INDEPENDENT EVALUATION UNIT

Independent Evaluation of the Green Climate Fund's Energy Sector Portfolio and Approach

EXECUTIVE SUMMARY

02/2024

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First Edition

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Citation

The citation details for this evaluation are as follows:

Independent Evaluation Unit (2024). *Independent Evaluation of the Green Climate Fund's Energy Sector Portfolio and Approach*. Evaluation report No. 17 (February). Songdo, South Korea: Independent Evaluation Unit, Green Climate Fund.

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Printed on eco-friendly paper

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ABBREVIATIONS

AE	Accredited entity
APR	Annual performance report
B.37	Thirty-seventh meeting of the Board
GCF	Green Climate Fund
GHG	Greenhouse gas
IAE	International accredited entity
IEU	Independent Evaluation Unit
IRMF	Integrate results management framework
MDB	Multilateral development bank
NDA	National designated authority
RFP	Request for proposals
RMF	Results management framework
RPSP	Readiness and Preparatory Support Programme
SIDS	Small island developing States
UNFCCC	United Nations Framework Convention on Climate Change

EXECUTIVE SUMMARY

A. INTRODUCTION

This evaluation was approved by the Board of the Green Climate Fund (GCF) at its thirty-fourth meeting, through decision B.34/08, and as part of the Independent Evaluation Unit's (IEU) 2023 Workplan.

According to the Intergovernmental Panel on Climate Change, renewable energy must supply 70 to 85 per cent of all electricity by 2050 for the world to meet the Paris Agreement's goals and keep global temperatures well below 2°C. The Governing Instrument of the GCF aims for the GCF to contribute to the achievement of the objectives of the United Nations Framework Convention on Climate Change (UNFCCC). As an operating entity of the Financial Mechanism of the UNFCCC, the GCF provides support for climate change mitigation and adaptation projects and programmes in developing countries, working to advance and promote a paradigm shift towards low-emission and climate-resilient development pathways in developing countries.

This evaluation assesses whether and the extent to which GCF approaches and investments in the energy sector are effective in contributing to the objectives of the UNFCCC and other global agendas. It examines the GCF's effectiveness and efficiency in reducing the effects of climate change, and promoting a paradigm shift towards low-emission and climate-resilient development pathways through its investments in the energy sector. It analyses the results achieved and paradigm shift emerging on the ground. It also considers the diverse context of the countries and the markets and explores how these differences have informed, enabled, or constrained their engagement with the GCF.

B. METHODOLOGY

The evaluation used mixed methods for data collection and analysis, as established in the approach paper¹. The findings were based on an extensive document and literature review; semi-structured interviews with more than 200 stakeholders; six case studies and analysis; gender and Indigenous Peoples analysis; and benchmarking with comparator organizations and portfolio and data analysis, led by the IEU DataLab.

C. CONCLUSIONS

1. RELEVANCE

Conclusion 1. As a key operating entity under the financial mechanism of the UNFCCC, the GCF has a prominent position in the climate finance landscape through its reach, size, partners, legitimacy and modalities. However, the GCF's goals and intended pathways in catalysing a paradigm shift in the global energy sector seem less clearly articulated. For instance, the portfolio lacks intentionality for achieving a global energy transition, and its passively articulated strategic positioning translates into limited alignment across frameworks and guidance for project development.

¹ Independent Evaluation Unit, *Independent Evaluation of the GCF's Readiness and Preparatory Support Programme*, Evaluation Report No. 16 (Songdo, South Korea, Green Climate Fund, September 2023). Available at <https://ieu.greenclimate.fund/evaluation/RPSP2023>.

- **The evaluation finds that the GCF programming and operations generally align with UNFCCC principles.** The new *Strategic Plan for the Green Climate Fund 2024–2027* emphasizes the GCF's role in a just transition. However, the GCF has yet to take initial steps to integrate just transition principles into its energy sector approach.
- **The GCF has many comparative advantages as a fund dedicated to climate action.** These include the size of its interventions and its coverage, diversity of instruments, risk appetite and legitimacy as a United Nations fund. Although the GCF is primarily seen as a finance provider, its position and priorities in the energy sector are less visible to partners.
- **Consequently, the portfolio does not actively seek synergies beyond project-level impacts. Further, the GCF does not have a strategically integrated approach to energy investment between supply-side and demand-side measures or across energy subsectors at the portfolio level.** The Fund is in the process of contributing extensively and effectively to the deployment of renewable energy generation. However, it is underfinancing energy efficiency compared to its potential for greenhouse gas (GHG) abatement. Evidence also suggests that the GCF does not significantly prioritize energy storage, transmission and distribution at scale or emphasize new or “emerging” energy sources. For example, the GCF could consider coupling supply-side and demand-side approaches to increase energy reliability and reduce vulnerability to climate change. Coupling is especially important for energy access projects where the supply side is fully decarbonized but the demand side still uses inefficient equipment and appliances that hinder a complete transition. This balanced approach is not evident in GCF energy sector investments to date.
- **From an energy sector perspective, project development and applying frameworks and tools for project development are not standardized and mainstreamed.** The limited alignment between concept note development, investment decisions and results management create challenges for country partners and implementing entities. Two important frameworks exemplify this dissonance: (i) the sectoral guidance that provides information on how targeted GCF investments aligned with country priorities could achieve optimal impact for identified sectors and subsectors, and (ii) the results areas defined by the integrated results management framework (IRMF) for results management of adaptation and mitigation projects/programmes.
- Sector-specific guidance is mainly contained in 10 sectoral guides provided by the GCF Secretariat. While these 10 guides may support project origination and development, the evaluation could not find evidence of their systematic use among stakeholders or that they resulted in high-quality and impactful funding proposals for the GCF Board's consideration. The set of sector guides addresses several aspects of the energy sector but is not comprehensive enough to include newer subsectors, technologies or impact areas. Also, as they are not widely known within the GCF ecosystem and among energy sector stakeholders, their utility as reference documents is inconsistent. The sectoral guides' limitations have led to energy-related GCF-funded activities being incorrectly classified and a lack of standardization and systematic cross-referencing in mapping GCF projects.
- **As per the guidance in the IRMF, GCF-funded projects in the energy sector are not always classified under climate change adaptation, presenting a missed opportunity to accurately manage or measure activity results.** The GCF does not comprehensively define the concept of adaptation in energy projects, as most frameworks and sector guidance fail to mention it. The only GCF-funded projects that clearly identify adaptation are those that include energy access. While energy efficiency and energy generation projects could provide solutions to climate change adaptation and resilience challenges in countries, they are not explicitly

considered adaptation projects. This challenge particularly applies to the energy portfolio in vulnerable countries, such as small island developing States (SIDS), least developed countries and African States.

2. ENERGY SECTOR PROGRAMMING

Conclusion 2. While the GCF's programming in the energy sector shows substantial volume, reach and use of a diverse set of financial instruments, the Fund has yet to identify and engage the right actors to support achieving strategic and coordinated programming at the country, regional and global levels. National designated authorities (NDAs) lack the necessary power to convene public and private entities in the energy sector, and the GCF has missed some opportunities to optimize dedicated support to countries. Co-benefits, in particular gender considerations, in the GCF-funded activities in the energy sector are insufficiently addressed for gender transformation and are limited to commentary on the process identified in gender action plans.

- **From the overall portfolio perspective, the GCF's use of diverse financial instruments is unmatched by other comparable agencies and funds.** The GCF portfolio includes large volumes of debt and reimbursable financing at highly concessional rates, which have helped with the financial flows in developing countries, strengthening financial systems and scaling green loans. To a limited extent, the Private Sector Facility portfolio comprises a mix of financial instruments and grants, particularly equity and grants. Such an approach is often particularly useful for not yet commercially viable investments that focus on establishing markets, supporting ecosystems and identifying a specific development impact. So far, the GCF Private Sector Facility seems to limit such approaches to projects in the energy access subsector.
- **Country ownership has been found to be a key prerequisite for successful GCF programming, in particular in the energy sector.** Based on the engagement with country stakeholders, the evaluation identified three main drivers for country ownership: (i) leadership of the country in the strategic processes for identifying projects, aligned with national strategies across government ministries, (ii) institutional capacity to plan and manage climate activities and investments, and (iii) countries, entities and the GCF share a common vision about best practices in planning and delivering climate action. The GCF has developed an extensive regional and country coverage through its network of 54 accredited entities (AEs) and 148 NDAs working with GCF-funded projects with relevance to the energy sector. It can support energy sector projects in countries with less access to international climate finance, including in SIDS, where the small size of markets makes them unattractive for investors looking to deploy funding at scale.
- **While the GCF project origination for energy projects is country driven, GCF programming is hindered by the inefficiencies of the NDA-driven model related to coordinating, engaging and mobilizing energy sector stakeholders.** In most cases, NDAs and focal points work under the auspices of a government ministry, such as the Ministry of Finance or the Ministry of Environment. Such institutional arrangements often pose coordination challenges with the energy ministries. Common structural and institutional challenges include a lack of institutional authority, inadequate technical expertise, political affiliations and alignment between ministries regarding the planning processes in the energy sector. In practice, country ownership is operationalized via the NDA and/or focal point. The NDA or focal point's position has been identified as a key driver in ensuring alignment

between GCF-funded projects/programmes and country energy transition strategies. The evaluation found broader alignment with the countries' nationally determined contributions and, where available, their national energy sector strategies and plans. In contrast, alignment with country priorities has been more challenging in multi-country projects at the regional and global levels.

- In the energy sector, the evaluation team found challenges with coherence and complementarity at the country level. Country partners, entities and the GCF often lack a common vision. In the GCF, country ownership is driven by the NDA and focal points. Consequently, the evaluation finds limitations in effectively engaging various stakeholders – particularly the private sector – in national, regional and global energy sectors. So far, most projects in the energy sector are implemented by international accredited entities or local financial institutions. NDAs find it challenging to meaningfully convene commercial-type private sector direct access entities and engage with prominent actors in the wider energy sector. The evaluation observed that although the GCF has potentially extensive regional and country coverage, the energy sector faces limitations in accessing finance due to the limited use of national and regional direct access entities on the one hand and limited use of the Readiness and Preparatory Support Programme (RPSP) on the other. This is particularly important for vulnerable countries, such as SIDS, where international accredited entities looking for funding at scale may deem a small project proposal unattractive and unprofitable. The evaluation found that ensuring future project diversity and private sector involvement in the GCF's energy portfolio will become difficult if such a trend continues. Thus, the energy portfolio may not be able to contribute meaningfully to the institutional targets of the GCF.
- **GCF energy projects have paid increasing attention to mainstreaming gender and Indigenous Peoples since the GCF established the respective policies in 2019.** However, action plans for energy projects only partly address women's inclusion in the energy value chain. Gender action plans are not always scoped to or integrated with the main results frameworks of projects. They tend to focus on women's participation in project activities but not necessarily on their full potential role as stakeholders and entrepreneurs. Therefore, the portfolio is not yet gender transformative. It is estimated that 37 per cent of all GCF projects have a potential impact on Indigenous Peoples, and 50 per cent of energy projects target Indigenous Peoples. Few energy projects addressing Indigenous Peoples showed results at the community level, such as the participation of Indigenous Peoples in project implementation.

3. ENABLING ENVIRONMENT FOR THE ENERGY SECTOR

Conclusion 3. An enabling environment is critical for the success of climate investments, projects/programmes and, ultimately, wider transformation in the energy sector. While GCF frameworks, policies and strategies have identified the importance of an enabling environment for programming, it remains underemphasized in the implementation of the GCF's readiness and preparatory support and GCF-funded projects and programmes.

- **Readiness and preparatory support grants can provide greater support for an enabling environment at the country and regional levels in the energy sector.** This support is, however, underutilized. Enabling environment principles include strong, transparent legal and regulatory frameworks, especially to align policy frameworks between the country, regional and subregional levels; strong regulatory institutions; creditworthy off-takers in the energy sector; cost-reflective retail tariff structures; technical and commercial efficiency in the local energy sector; procurement processes; and strategic and integrated energy sector planning.

Readiness is not yet fully utilized to assist capacity-building for the energy sector; remedying this will help ensure more coherent and systematic institutional support at the country level.

- **Project appraisal processes do not strongly emphasize or reinforce project components related to the enabling environment within funding proposals.** The GCF does not have a systematic approach to promoting activities for creating enabling environments, which limits the incentive to support projects focused on establishing an enabling environment for energy sector projects. This could constrain stakeholders' capacity to undertake sector reforms that would support a paradigm shift. Unlike the Global Environment Facility and multilateral development banks (MDBs), the GCF considers that the following project activity types do not deliver additionality: “project activity enables resource mobilization”, “project activity enables regulatory change” and “project activity promotes adoption of higher environmental and social standards”.² This limits the incentive to support projects that establish an enabling environment for energy sector projects. The Global Environment Facility and MDBs place greater emphasis (both in financial volume and type of activities) than the GCF on supporting energy sector governance, which is critical for properly integrating new energy technologies or sources in a market.

4. RISK AND INNOVATION

Conclusion 4. Given the high potential and level of development in the global energy sector, an adequate approach to risk management by the Fund is key for GCF programming. Risk is, however, limited in the GCF energy portfolio. Limited operationalization of a risk framework and an observed mismatch between actual and stated risk appetite presents a challenge for GCF programming in the energy sector. Lack of clarity around concepts for innovation and paradigm shift hinders the effectiveness of GCF-funded activities.

- **The GCF's comparative advantage lies in programming at scale, leveraging broad partnerships and willingness to programme with a higher risk appetite, particularly for the advanced global energy market.** While the mandate provides for such programming, the GCF has yet to fully utilize its potential to support riskier energy sector projects. The *Initial Strategic Plan for the GCF*³ identified the need for the GCF to “build on its comparative advantages and operate in coherence with the existing climate finance institutions”. At that time, the GCF's competitive advantages included programming and financing at scale, including leveraging additional finance from innovative and alternative sources and partnerships with public and private actors at different levels. The advantages also included higher risk-appetite levels than other funds, a willingness to pilot and pursue technological innovation, and a broad range of financing instruments. These advantages continue to be of particular relevance to the global energy transition. With the paper *GCF: Catalysing finance for climate solutions*,⁴ the GCF also identifies four key systemic transitions for GCF support – low-carbon energy for all, climate-resilient infrastructure, sustainable and secure food systems, and protection of ecosystems and biodiversity – alongside the following transformative objectives: enabling environment, de-risking investment, accelerating innovation and aligning with sustainable development. The current GCF energy portfolio does not fully align with this

² Green Climate Fund, *Annex IV: Innovation and Additionality Tool* (Songdo, South Korea, 2022a). Available at <https://www.greenclimate.fund/document/innovation-and-additionality-tool>.

³ Green Climate Fund, *Initial Strategic Plan for the GCF* (Songdo, South Korea, 2016). Available at <https://www.greenclimate.fund/document/initial-strategic-plan-gcf>.

⁴ Green Climate Fund, *GCF: Catalysing finance for climate solutions* (Songdo, South Korea, 2023). Available at <https://www.greenclimate.fund/document/catalysing-finance-for-climate-solutions>.

position. Although the GCF does not have specific cost-effectiveness targets, the GCF energy sector portfolio shows comparable values to those achieved by MDBs and other climate funds. In some energy subsectors, the Fund has room to focus less on cost-effectiveness, allowing it to consider engaging in riskier energy projects.

- **To date, the GCF's energy sector portfolio demonstrates a limited risk appetite for more transformational and innovative energy technologies such as offshore wind, green hydrogen and energy storage. The dominance of senior loans as a financial instrument for energy sector programming attests to a more risk-averse positioning.** Although the GCF clearly identifies “testing and deploying innovative large-scale market-based financial instruments for breakthrough technology innovations” as an action in the pathway for a paradigm shift,⁵ most entity and country stakeholders perceive the GCF as one of the climate funds with a limited risk appetite for more transformational technologies. Different divisions within the Fund demonstrate varying degrees of risk appetite. There is a discrepancy between the evident risk appetite and the stated risk appetite in the energy portfolio. The risk appetite for energy projects does not reflect the GCF's intentions in the energy sector.
- **GCF support for certain energy projects can potentially generate a paradigm shift in the energy sector. However, paradigm shift is poorly tracked in energy sector projects.** GCF projects show promising signs of market transformation for solar energy by creating enabling conditions for market-driven delivery at scale. Other projects include setting up institutional arrangements for renewable energy generation, transmission and distribution; scalability in green financing; and shifting to renewable energy at a large scale. However, paradigm-shift potential (stated in funding proposals) lacks the level of detail necessary for its assessment in annual performance reports (APRs), due to the lack of defined criteria/metrics for measuring paradigm shift in project proposals.
- **The GCF has not clearly defined its expectations for innovation in the energy sector, although it has the access modalities to support innovative approaches and business models. The GCF has been somewhat innovative in using the right financing instruments and delivery mechanisms, but results to date are limited.** The conceptual definition of innovation has been very loose and subjective across funded proposals and project implementation. Often, it is used as a catchphrase without supporting information. Although still not formally defined, innovation may include, among others, untested technology, a well-established technology that is new to a particular market, or financial products and business models integrated innovatively. The GCF has contributed to project de-risking by providing a blend of financing instruments well suited to project requirements. The simplified approval process has not been fully utilized, despite its potential to support innovation by piloting and demonstrating approaches developed in other markets and adapting them to different contexts. The Request for Proposals (RFP) modality to support climate technology incubators and accelerators has the potential to drive innovation by supporting collaborative research, development and demonstration in climate technology innovation systems in the energy sector, but the pilot RFP has not been launched yet.

5. MEASURING AND ACHIEVING RESULTS

Conclusion 5. Generally, the results management has been underdeveloped to serve the Fund's needs to identify and demonstrate results. The results management of the GCF's investment

⁵ Green Climate Fund, *Sectoral Guide: Energy Access and Power Generation*. Sectoral Guide Series (Songdo, South Korea, 2022b). Available at <https://www.greenclimate.fund/document/sectoral-guide-energy-access-and-power-generation>.

portfolio continues to face legacy challenges. These challenges include poor quality at entry, limited GCF project/programme progress reporting and conceptual gaps in measuring the effectiveness of investments at the portfolio and project levels. Tracking of the GCF's strategic targets is yet to be integrated.

- **Most GCF projects are still at an early stage of implementation. Consequently, climate impacts are modest across the entire energy portfolio, but there are early indications that results are forthcoming.** Assessment in this evaluation report is based mainly on annual reporting (in APRs) on the expected impacts of GCF-funded projects, based on the logframes of the individual funding proposal packages. The GCF still struggles with inconsistencies in aggregating outcomes and impacts across GCF-funded projects. Nevertheless, the set of reviewed interim evaluations revealed that impact potential was low and varied across projects. Most impact potentials were reported in different financing approaches, technology transfer, low-carbon energy adoption, market transformation and improved energy access. The sample of five GCF-funded projects with completed interim evaluations did not reflect the overall trends in the global energy sector and the GCF energy portfolio. Thus, the sample is not fit to propose an early overall portfolio-level impact. Another recurring challenge was the incompleteness of the portfolio data. The data regarding impact and project indicators are not consistently reported. Only a few projects have the complete set of baseline data, targets and progress-to-date information reported promptly.
- **The limited alignment between the Investment Framework and the IRMF systematically limits assessment of the effectiveness, outcome and sustainability of the energy sector portfolio of the GCF. Inconsistency and a lack of unity of metrics and methodologies for measuring paradigm shift at the project level present an additional challenge for results management.** Projects reviewed by the evaluation team showed inconsistent metrics and methodologies for measuring the paradigm shift of energy projects. Data on impact and project-level indicators are incomplete and not credible due to known limitations of self-reported information. So far, the results management system does not aggregate or report results at the energy sector portfolio level. Data are only partially reported in APRs. Also, an IEU assessment of the evaluability of GCF-funded projects found gaps and limited quality at entry in Board-approved funding proposals. The assessment shows that the monitoring and evaluation preparation of GCF energy projects remains weak – for example, in causal pathways, measurement, data collection and implementation fidelity.
- **Co-benefits are systematically underemphasized. The definition of co-benefits is not sufficiently comprehensive, nor are the results attributed and disaggregated for different beneficiary groups. While some projects of the GCF energy portfolio identify a limited set of co-benefits and track their results, several relevant co-benefits for energy sector projects are neither identified nor tracked.** The co-benefits currently observed in the GCF's energy sector portfolio include water access and sanitation, infrastructure resilience, and crop and food security. However, typical and relevant social, economic and environmental co-benefits, such as green jobs/employment, improved health, livelihoods or education considerations, are not identified or tracked at the project and portfolio levels. This limited understanding and tracking of potential co-benefits presents a missed opportunity for measurement of impact as well as a challenge for adaptive management. First, the extent to which these co-benefits accrue to women, youth, Indigenous Peoples and other potentially vulnerable groups is not tracked or reported. This is a missed opportunity to observe the wider impacts of GCF-funded projects and the economic and social performance of the Fund.

Secondly, observing co-benefits supports the Fund's efforts to create sustainable investments and actions in a particular context. Observing indicators that could help identify early unintended consequences of GCF-funded activities is crucial, as it provides an opportunity for adaptive management of GCF projects/programmes. Lastly, evidence on the integration of the principles of just transition is lacking. The operationalization and monitoring of just transition have yet to be defined.

- **The GCF lacks specific emissions reduction targets for the energy sector, which will hamper the ability to monitor impact in the future.** The *Strategic Plan for the Green Climate Fund 2024–2027* establishes specific targets for the number of countries to receive support within the energy sector. Yet, in the current IRMF, there are no concrete targets for monitoring emissions reductions by energy projects or plans to integrate these targets. Similarly, while there is a heightened focus in the strategic plan on assisting “hard-to-reach” developing countries and addressing “hard-to-abate” sectors, the progress tracking towards these objectives remains uncertain. These shortcomings can limit the GCF's ability to assess the impact and efficiency of its energy investments in mitigating climate change.

D. RECOMMENDATIONS

Recommendation 1. The evaluation recommends that the GCF clarify the pathways for a paradigm shift in the energy sector and its intended role. Providing such clarity would include (i) considering the increased complexity of climate projects, (ii) increasing emphasis on energy efficiency, (iii) linking demand and supply in energy generation, and (iv) considering new and innovative technologies and approaches for piloting and scaling projects.

1.1. As a key global actor and the major multilateral climate fund, the GCF should clarify its position and intention in the energy sector. It should describe its expected paradigm-shifting pathways for the energy sector more explicitly, setting out relative priorities for programming across subsectors and providing clearer guidance to stakeholders. The results framework should, in turn, lead to a more coherent approach to project classification. The GCF should consider identifying its intended role in the global energy market, based on which it could define intended portfolio results, which can inform the design of individual projects and readiness support.

1.2. This evaluation recommends that the GCF consider a paradigm shift in the energy sector through comprehensive approaches, ensuring that renewable energy generation projects are consistently complemented with grid integration and storage and that demand-side measures, including energy efficiency, receive increased investment. Renewable energy generation projects should be more consistently complemented with grid integration and storage. Renewable energy generation is generally intermittent (wind, solar photovoltaic, solar thermal, tidal, etc.). So, to ensure a 100 per cent renewable energy supply, large-scale storage systems, adapted and integrated transmission, and distribution networks using smart-grid technologies are required to match power generation and demand. Solar thermal should be promoted for low- to medium-temperature use as domestic hot water.

1.3. Demand-side measures should be more strongly supported by increasing the integration of energy efficiency activities in GCF energy projects. The GCF should clarify how the variety of energy considerations and energy subsectors could be reflected in the results areas of the IRMF. For instance, the GCF should consider establishing a results area on energy efficiency, whose benefits would include energy savings and GHG emissions reduction and improved indoor and outdoor air quality, water security, health and well-being, and poverty alleviation. This will also help the GCF

balance its allocation between adaptation and mitigation, as energy efficiency projects and programmes in buildings and cities can have a high resilience impact for communities.

1.4. The GCF should consider new technologies in offshore wind, green hydrogen, energy storage and new approaches in the energy market, particularly those for energy efficiency, by using more of its piloting tools.

Recommendation 2. The GCF should cultivate an energy portfolio that has a clear internal logic guided by the GCF's intended role to promote an energy (system) transition. The available tools for programming should be optimized accordingly, including (i) an explicit approach to a paradigm shift, (ii) clarifying the intended use of sectoral guidance, (iii) clarifying and developing guidelines for classifying energy projects, and (iv) fully operationalizing just transition principles in energy sector programming.

2.1. Guidance from the Strategic Plan for the 2024–2027 period should be clearly interpreted in the energy sector strategic approach, including “hardest to reach” countries and “hard to abate” sectors (usually heavy industry and heavy-duty transport). The evaluation team recommends that the “hardest to reach” countries should be defined for application in the energy sector by taking into account (i) GHG emissions per inhabitant, (ii) perceived risk for private financing, and (iii) level of support from other financing institutions.

2.2. Operationally, this can be achieved by clarifying the purpose and intended use of GCF sectoral guides. The intended purpose of the guides needs to be further clarified by specifying the target audience and the scope of projects' compliance with the guides. The guides should be standardized to facilitate users' understanding and navigation. They should serve as guidance on potential project content only, without overlapping with other appraisal guidance documents and tools such as the Investment Criteria Scorecard. There should be separate guidance for energy access and power generation (as their purpose, scope and key performance indicators differ). Sectoral guides should be updated so cross-referencing is complete and coherent. All guides should have the same structure and clear cross-referencing. Finally, all sectors and subsectors should be covered, with the addition of some not sufficiently addressed areas, including solar water pumping, energy efficiency in public lighting and water/wastewater treatment, and regulatory support to the phase out of coal, oil and gas.

2.3. The GCF should clarify and develop guidelines within the sectoral guides for categorizing energy projects as adaptation or mitigation. This could be based on their expected impacts, leading to a better balance between mitigation and adaptation. For example, energy access projects produce adaptation results, which should be adequately reflected.

2.4. The GCF should clarify how it wishes to operationalize and mainstream the notion of just transition through the lens of energy transition. Clarity on just transition needs to be included in guidance and tools and assessed in projects at the proposal and monitoring stages to provide evidence on compliance of the GCF with just transition principles for the energy sector. If the GCF is willing to integrate just transition principles fully into its operation, as stated in the *Strategic Plan for the Green Climate Fund 2024–2027*, then the GCF should consider setting standards, building capacities and supporting the operationalization of just transition principles in energy sector investments, based on UNFCCC guidance.

Recommendation 3. The GCF should take an active approach to supporting enabling environments and institutional capacities opportunistically, using the RPSP and funding proposals in the energy sector. The GCF should consider reviewing its in-country institutional set-up and engagement to increase its effectiveness.

3.1. Where the opportunity arises, RPSP grants could be more widely deployed in the energy sector to prepare institutions and enabling environments for sustainable project investments. Part of this could be to support the NDAs in engaging with key public energy sector stakeholders to better assess needs, identify institutional capacity constraints and regulatory barriers and facilitate project origination. The GCF could rely even more on the ongoing support of AEs, since they are already well acquainted with energy sector stakeholders through their ongoing development of energy projects.

3.2. The Secretariat should review the country engagement model, which shows limitations regarding stakeholders' engagement, and explore new ways for NDAs to engage more effectively with the line ministries and public institutions involved in the energy sector.

3.3. The GCF should strengthen its focus on the enabling environment, including strengthening institutional and regulatory frameworks; technology deployment; transfer and innovation; market development and transformation at the sectoral, local and national levels; and effective knowledge generation and learning, as set out in the IRMF. Particularly in public sector energy funding proposals, funds should be systematically dedicated to strengthening institutional capacities and enabling environments to mitigate potential barriers to successful implementation. For example, the GCF should consider project activity that enables regulatory change as being additional. This would allow it to support the strengthening of enabling environments and institutional capacities more effectively while complying with its additionality criteria.

Recommendation 4. The GCF should match its actual and stated risk appetites and take the risks required to optimize its role in the sector. The GCF should learn from and reinforce successful operations, such as de-risking projects with blended finance. The GCF should clarify and promote its expectations for innovation in the energy portfolio. This may require revisiting the approach to, assessment of and tolerance for risk in projects, programmes and modalities that emphasize innovation.

The GCF should develop clear guidelines on innovation in the energy sector and correlate them to the level of development of the target countries/markets, because what is considered an innovative investment in one country may be regarded as mainstream in another. There is typically a high correlation between innovation and project risk. If the GCF wants to finance more innovative projects, it must take on more risks. To achieve this, the GCF can take the following actions:

4.1. Adapt its risk appraisal methodologies for public and private sector initiatives to reflect (i) the level of innovation of the project, including a matching tiered risk tolerance, and (ii) the level of experience of the AE, with AEs complying with higher risk categories benefiting from greater risk tolerance from the GCF.

4.2. Consider increasing its appetite for credit risk in projects where the implementation risk is low and the expectation of achieving expected outcomes and a related paradigm shift is high, while continuing to de-risk projects using blended finance. The GCF can support riskier and less cost-effective energy sector projects.

4.3. Develop consistent guidelines to define and rank innovative projects for innovation in (i) technology development and deployment, (ii) business models, (iii) structuring of financial instruments, and (iv) changing market behaviour and catalysing systemic market development changes. These criteria must be adjusted for the specific market where the project is implemented.

4.4. Consider using RFPs to foster innovation and reactivating the discussion about the planned pilot programme to support climate technology incubators and accelerators.

Recommendation 5. The Secretariat should consider revisiting results management. The GCF could pursue a differentiated approach for results reporting based on the initial results management framework (RMF) and the IRMF. The GCF should place more emphasis on improving quality at entry and preparation for monitoring and evaluation. To improve the aggregability and reporting of results in the energy sector, the GCF could clarify and, where possible, harmonize measurement methodologies. Within energy projects, the Secretariat might consider requesting data on just transition principles, innovation and co-benefits to align the reporting with the future stated strategic view on the GCF's approach to the energy sector.

5.1. The GCF should especially improve the monitoring and results management of paradigm shift and innovation components, for the Fund. Expected results regarding innovation should be clearly stated at the funding proposal stage and uploaded to the project database of the GCF.

5.2. Given that a full alignment between the indicators of the RMF and IRMF has not been possible for the GCF energy project portfolio, the GCF should consider differentiated reporting on results. Such differentiated reporting is particularly important for the following energy subsectors: “Energy generation and access”, “Energy efficiency” and “Transport”.

5.3. Evaluability and quality at entry of funding proposals should be improved by strengthening the monitoring and evaluation frameworks in project proposals. High-quality monitoring tools and approaches can help attribute causal changes to GCF investments in a credible manner, and ultimately improve reporting of results.

5.4. The GCF should explore ways and make efforts to ultimately direct a portfolio that is gender transformative, rather than only gender sensitive or gender neutral. As a first step, the GCF should improve the tracking of the results of the gender action plans and outcomes for Indigenous Peoples at the country and sector levels.

5.5. Energy savings, the principal direct result of energy efficiency projects, can be evaluated in multiple ways. The GCF does not set a specific methodology for determining energy savings, which is adapted to the context. Reviewing these methodologies could be part of an assessment for a sample of GCF-funded energy projects and pipeline energy projects. These methodologies should be further harmonized between AEs, where possible.

5.6. The GCF should revisit and further define types of co-benefits in GCF frameworks and policies. Revised co-benefits should relate to socioeconomic outcomes such as creating green jobs and improving health and education, observed in the global principles of just transition in the global energy sector. These considerations are important decision-making factors for national and development funding institutions and are key elements contributing to just energy transition. To the extent feasible, co-benefits should be reported according to beneficiary group socioeconomic status, including by gender and for Indigenous Peoples.

5.7. The GCF should consider further operationalizing the GCF's knowledge management function throughout the entire project and programme cycle, to support learning at the institutional level to inform project origination, country programming and future reviews of sectoral guidance.



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