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

Annexes to Final Report (Volume II)



GREEN CLIMATE FUND
INDEPENDENT EVALUATION UNIT

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

ANNEXES

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ABBREVIATIONS

ADB	Asian Development Bank
AE	Accredited entity
APR	Annual performance report
B.37	Thirty-seventh meeting of the Board
CNs	Concept notes
CTF	Clean Technology Fund
DAE	Direct Access Entity
EAs	Enabling activities
ESS	Environmental and social safeguards
FAA	Funded Activity Agreement
FP	Funding proposal
FSP	Full-sized project
GAP	Gender action plan
GCF	Green Climate Fund
GHG	Greenhouse gas
IAE	International accredited entity
IE	Interim evaluation
IEU	Independent Evaluation Unit
IUCN	International Union for Conservation of Nature
LDC	Least developed country
MSP	Medium-sized projects
NDA	National Designated Authority
PMU	Project management unit
RPSP	Readiness and Preparatory Support Programme
SAP	Simplified Approval Process
SIDS	Small island developing States
tCO₂eq	Tons of carbon dioxide equivalent
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States dollar

ANNEXES

Annex 1. SYNTHESIS OF FINDINGS RELATED TO THE ENERGY SECTOR IPCC REPORTS

Overview

This is a synthesis of findings related to the energy sector that were extracted from the latest two IPCC reports¹.

Net zero CO₂ energy systems involve a significant reduction in fossil fuel use, widespread electrification, and alternative energy carriers. Solar and wind energy, energy efficiency improvements, and methane emissions reductions greatly contribute to emissions reductions. Adaptation options support infrastructure resilience, reliable power systems, and efficient water use for existing and new energy generation systems. Energy generation diversification and demand-side management can increase energy reliability and reduce vulnerabilities to climate change. Climate-responsive energy markets, updated design standards, smart-grid technologies, robust transmission systems, and improved capacity to respond to supply deficits have high feasibility in the medium to long term.

In transport, sustainable biofuels, low-emissions hydrogen, and derivatives can support the mitigation of CO₂ emissions but require production process improvements and cost reductions. Advances in battery technologies can facilitate the electrification of heavy-duty trucks and complement conventional electric rail systems.

Urban systems are critical for achieving deep emissions reductions and advancing climate-resilient development. Inclusive long-term planning that takes an integrated approach to physical, natural, and social infrastructure can foster urban transitions that benefit mitigation, adaptation, human health, ecosystem services, and vulnerability reduction for low-income communities.²

Current trends and responses to date

In 2019, 34% of global GHG emissions came from the energy sector. Between 2010 and 2019, the average growth of emissions slowed in energy supply and industry but remained constant in transport. Coal electricity capacity increased by 7.6% between 2015 and 2019, while oil and natural gas consumption increased by 5% and 15%, respectively.³

CO₂ emissions reductions in fossil fuels and industry due to GDP improvements and carbon intensity improvements have been less than emissions increases from rising global activity levels in industry, energy supply, transport, agriculture, and buildings.⁴

At least 18 countries have maintained greenhouse gas (GHG) and consumption-based CO₂ reductions for over 10 years, largely due to energy supply decarbonization, efficiency gains, and economic changes. However, these reductions have only partially offset global emissions growth.

Low-emission technologies are becoming more affordable, with solar, wind, and lithium-ion battery costs decreasing and deployment increasing. The mix of policy instruments that reduced costs and stimulated the adoption of solar energy, wind energy, and lithium-ion batteries includes public R&D, funding for demonstration and pilot projects, and deployment subsidies.⁵

¹ IPCC Climate Change 2023: Synthesis Report and Climate Change 2022: Mitigation of Climate Change

² Intergovernmental Panel on Climate Change, "Summary for Policymakers," 2023.

³ Intergovernmental Panel on Climate Change, "Climate Change 2022: Mitigation of Climate Change."

⁴ Intergovernmental Panel on Climate Change, "Summary for Policymakers," 2023.

⁵ Ibid.

Mitigation pathways

Global modeled mitigation pathways for net zero CO₂ and GHG emissions include transitioning from fossil fuels without carbon capture and storage (CCS)⁶ to low- or zero-carbon energy sources, improving efficiency, reducing non-CO₂ GHG emissions, and carbon dioxide removal (CDR)⁷.

In global modeled pathways that limit warming to 2°C or below, almost all electricity will be supplied from zero or low-carbon sources in 2050, combining increased electrification of energy demand with enhanced energy efficiency and behavioral changes.

Scaling up near-term climate actions will involve a mix of low-cost and high-cost options, including in energy and infrastructure, to avoid future lock-ins and foster innovation.⁸

To limit warming to below 2°C, rapid reductions in energy system carbon dioxide and greenhouse gas emissions are necessary. In scenarios limiting warming to 1.5°C with no or limited overshoot, net energy system CO₂ emissions will fall by 87-97% by 2050 and 35-51% by 2030. To limit warming to 2°C, significant energy system changes are needed over the next 30 years, including reduced fossil fuel consumption, increased low- and zero-carbon energy production, and increased electricity use.

Climate change will not significantly impact the emission reduction capabilities of wind and solar resources. Renewable electricity systems will become more viable, but supplying the entire energy system will be challenging. Renewable energy systems can incorporate variable solar PV and wind power through batteries, hydrogen, and storage, but air travel may require alternative fuels like hydrogen or biofuels.

Various energy supply options, including nuclear, hydropower, solar PV, wind, bioenergy, and carbon capture, are available to reduce emissions over the next decade. However, implementing these options requires addressing geophysical, environmental, economic, technological, socio-cultural, and institutional factors.⁹

In scenarios that limit warming to 1.5°C with no or limited overshoot, the use of coal, oil, and gas in 2050 is estimated to drop with median values of approximately 95%, 60%, and 45%, respectively. In pathways limiting warming to 2°C, the median values are 85%, 30%, and 15%. The use of coal, oil, and gas without carbon capture and storage (CCS) is projected to be reduced to a greater degree. In these global scenarios, in 2050, almost all electricity will be supplied from zero- or low-carbon sources, such as renewables or fossil fuels with CCS, combined with increased electrification of energy demand.

Investments in coal and fossil infrastructure will increase emissions, making it difficult to limit warming to below 2°C. Existing policies and NDCs are insufficient to prevent the increase in fossil infrastructure and carbon lock-in. Current investment decisions are critical to limit warming to below 2°C. Delays in mitigation increase carbon lock-in and could result in large-scale stranded assets. Near-term stringent GHG mitigation policies are most effective. CCS can allow fossil fuels to be used longer, reducing potential stranded assets. Investment flows are expected to shift from

⁶ Carbon capture and storage (CCS) is a technology for reducing emissions from fossil-based energy and industry sources. However, implementation challenges exist due to technological, economic, and environmental factors. Global deployment rates are below models, but policy instruments, public support, and technological innovation could help reduce these barriers. (Intergovernmental Panel on Climate Change, “Summary for Policymakers,” 2022.)

⁷ Carbon dioxide removal (CDR) is crucial for achieving net zero CO₂ or GHG emissions. The deployment depends on the trajectories of emission reductions in different sectors. Effective approaches to upscaling CDR are needed to address feasibility and sustainability constraints, especially at large scales. CDR deployment can enhance biodiversity, ecosystem functions, employment, and local livelihoods, while poorly implemented methods can have adverse socio-economic and environmental impacts. (Ibid.)

⁸ Intergovernmental Panel on Climate Change, “Summary for Policymakers,” 2023.

⁹ Intergovernmental Panel on Climate Change, “Climate Change 2022: Mitigation of Climate Change.”

fossil fuels without CCS to renewables, nuclear power, CCS, electricity networks, storage, and end-use energy efficiency.¹⁰

Innovation, technology and UNFCCC Article 6.4 Supervisory Body guidance on removal activities

IPCC's reports confirm that climate finance gaps in developing countries are significant, and accelerated support from developed countries and multilateral institutions can address inequities in finance, enabling cost-effective mitigation and adaptation actions in vulnerable regions.

Digital technologies can boost energy efficiency and shift economic focus to services but also increase consumption, electronic waste, and labour market inequalities. Effective governance and policies, including efficiency targets, performance standards, and carbon pricing, are needed to mitigate these effects.¹¹

The Article 6.4 Mechanism, also known as the Paris Agreement Crediting Mechanism, has a Supervisory Body responsible for developing and supervising requirements and processes for its operationalization. The Supervisory body is also responsible for preparing guidance on how the mechanism will apply to carbon removals.¹²

In May 2023, the body released an information note stating that while engineering-based removal activities have the potential for permanent net removal of carbon dioxide from the atmosphere, they are “technologically and economically unproven, and pose unknown environmental and social risks”.¹³ Before UNFCCC COP28 in Dubai, the body approved recommendations on carbon dioxide removal activities. However, countries did not manage to reach an agreement on the adoption of the recommendations, and talks were postponed until next year.

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¹⁰ Intergovernmental Panel on Climate Change, “Summary for Policymakers,” 2022.

¹¹ Intergovernmental Panel on Climate Change, “Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.”

¹² UN Framework Convention on Climate Change, “Article 6.4 Supervisory Body.”

¹³ UN Framework Convention on Climate Change, “Article 6.4 Mechanism Information Note. Removal Activities under the Article 6.4 Mechanism.”

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Annex 2. SYNTHESIS OF PREVIOUS IEU¹⁴ EVALUATIONS

In this section, we present a synthesis of previous evaluations by the Independent Evaluation Unit (IEU) using the five evaluation criteria and covering findings, conclusions and recommendations. This synthesis helps to contextualize and inform the findings of this evaluation and avoid redundancy between evaluations. It is important to note that none of the IEU evaluations reviewed has explicit findings related to energy projects. However, given the large share (60 per cent) of energy in the overall Green Climate Fund (GCF) portfolio, broad findings, especially those pertaining to management and operations, should offer valuable insight into the trends and patterns observed in energy projects. A synthesis of 28 interim evaluations (IEs) of energy projects is also presented at the end of the section.

Processes: While internal proposal review processes and quality at entry have improved since the initial resource mobilization, project origination and funding proposal (FP) approval processes are still seen by stakeholders as bureaucratic, lengthy, inflexible, inconsistent and not transparent. The GCF has made efforts to tailor support to different sizes of investment, type of accredited entity (AE), small island developing States (SIDS), least developed countries (LDCs) and the private sector. Funded Activity Agreement (FAA) processes, subsequent to FP approval, continue to be lengthy and have not meaningfully improved since the initial resource mobilization phase. The Simplified Approval Process (SAP) modality, as implemented in 2020, has not translated into simplified requirements for project proponents, and has not resulted in accelerated approval processes.

Results management: The GCF grapples with inconsistent results measurement methodologies applied by AEs, insufficient results management strategies, and difficulties in adapting to changes during project implementation. Results measuring and reporting has been particularly weak for the private sector which is mostly hindered by the inadequacies of the integrated results management framework and a lack of explicit logic models with SMART¹⁵ indicators.

Risk management: The second-level due diligence process lacks clarity on risk ownership across the GCF. Also, the Fund has insufficient risk management strategies. The risk profile and risk management are not fully reconciled with the scale of investment and diversity of AEs.

Enabling activities: Robust upstream programming is critical, including readiness support and helping countries to prioritize activities and develop accountable investment plans. Historically, country programmes, entity work programmes and Readiness and Preparatory Support Programme (RPSP) grants have been insufficiently focused to efficiently utilize limited resources.

Country ownership: The GCF has not yet fully articulated the role it wishes to play at the country level. The needs of countries are evolving from core policy and target formulation towards the more complex process of sector-level investment planning and project delivery. The GCF also struggles to

¹⁴ IEU Evaluations reviewed for the synthesis:

Independent Evaluation Unit (2019): Independent Evaluation of the Green Climate Fund's Country Ownership Approach.
Independent Evaluation Unit (2020): Independent Evaluation of the Relevance and Effectiveness of the Green Climate Fund's Investments in Small Island Developing States.
Independent Evaluation Unit (2020). Independent Evaluation of the Green Climate Fund's Approach to SAP modality.
Independent Evaluation Unit (2021). Independent Evaluation of the Green Climate Fund's Approach to the Private Sector.
Independent Evaluation Unit (2022). Independent Evaluation of the Green Climate Fund's Second Performance Review
Independent Evaluation Unit (2023a). Independent Evaluation of the GCF's Readiness and Preparatory Support Programme.

¹⁵ SMART = specific, measurable, achievable, relevant and time-bound.

meet its responsibilities to countries, mostly due to a lack of predictability, efficiency issues and insufficiently focused country programming support.¹⁶ Relying on national coordination structures does support country ownership; however, there is limited multi-stakeholder engagement.

Partnership: The GCF lacks a vision and strategy for a manageable AE network of capable and diverse entities that are well positioned for emerging GCF and country priorities.¹⁷ It has not yet developed a strategic approach that (i) more broadly considers National Designated Authorities (NDAs), AEs, delivery partners, civil society and the private sector, and (ii) mobilizes its network towards achieving strategic and coordinated programming opportunities. Access and accreditation remain overburdened with multiple goals. A relatively small number of Direct Access Entities (DAEs) have been successful in obtaining project financing, and too few of them are from the private sector with adequate capacity to take on climate financing. That said, a shift towards more focused capacity support for DAE pipeline development is partly under way, although it is too soon to observe results. Alternative models of direct access exist and should be feasible, as they have been used by other funds.

Private sector: To support private sector engagement, there is greater need for a stronger enabling environment as well as risk mitigation support (insurance, guarantees, first-loss positions) if progress is to be made. The Private Sector Facility struggles to create an enabling environment for private sector adaptation, channel sufficient finance via DAEs, or exhibit sufficient risk appetite to achieve its mandate to enable private sector involvement in adaptation in LDCs and SIDS. While several private DAEs have been accredited, almost no funding flows through them, and most funds go to commercial banks. NDAs and focal points have limited capacity for effective private sector engagement and private sector project oversight. Despite the GCF's strong private sector focus, significant funding, ability to scale projects due to its large funding volume, risk appetite and flexible suite of financial instruments, the GCF's portfolio underutilizes its potential. Measuring mobilized private finance remains a challenge.

Complementarity and coherence: Individual projects and programmes within the GCF demonstrate a good degree of complementarity with other climate finance initiatives and are generally coherent with national policies and objectives. There is less evidence that GCF policies and processes are driving greater collaboration at the country and portfolio levels among strategic partners. The GCF has made substantial efforts to align and integrate multilateral climate finance with like-minded funds. However, it has not yet developed a comprehensive partnership strategy, despite its position at the centre of a global partnership network.

Paradigm shift and transformation: An understanding of paradigm shift within the GCF has emerged only incrementally over time, and this has prevented a consistent approach to ambition setting and reporting of results. The concept remains poorly understood by stakeholders. Work is ongoing on new evaluation guidelines that will include more detailed guidance on qualitative and quantitative reporting on paradigm shift and contributing activities. Currently, the Fund employs a four-pronged approach to accelerate and scale up transformative climate innovation, focusing on fostering an enabling environment, facilitating climate innovation, reducing risks for innovative projects (de-risking markets and crowd-in private finance), and aligning finance with sustainable development. The GCF's strategies are aiming for transformative climate action. The Secretariat's reporting and the IEU's evaluations have focused more on fostering a paradigm-shifting portfolio

¹⁶ Independent Evaluation Unit, *Independent Evaluation of the Green Climate Fund's Country Ownership Approach*, Evaluation Report No. 4 (Songdo, South Korea, Independent Evaluation Unit, Green Climate Fund, 2019). Available at <https://ieu.greenclimate.fund/document/final-report-independent-evaluation-gcfs-country-ownership-approach-coa2019>.

¹⁷ Green Climate Fund, GCF/B.35/Inf.02: Annual Report 2022 of the Independent Evaluation Unit (Songdo, South Korea, 2023). Available at <https://www.greenclimate.fund/document/gcf-b35-inf02>.

through programming, design and appraisal rather than assessing the extent to which projects and programmes have been transformational.

Readiness: Readiness support has been delivered to 141 countries, however the second performance review of the GCF found that it was not well designed to facilitate long-term institutional relationships between the GCF and national partners and had not yet shown results at scale for DAE programming. Approval of the readiness results management framework is an important step in the right direction. The second performance review recommended clarifying the role of readiness support, particularly in the context of strategic engagement, linking it more clearly to corporate goals – for example, Nationally Determined Contribution (NDC) investment planning, GCF programming, private sector engagement and post-accreditation support. Higher effectiveness is noted for readiness objectives 1 (capacity-building) and 3 (adaptation planning), while effectiveness appears more limited for objectives 2 (strategies), 4 (pipeline development) and 5 (knowledge-sharing). Challenges related to pipeline development have hampered the achievement of objectives 2 and 4, while capturing lessons learned and providing for knowledge-sharing need to be further systematized. The RPSP 2.0's programme offering aligns well to national circumstances, for the most part. On a global scale, the GCF is reaching the more vulnerable countries, as intended, though not necessarily the most vulnerable. At a country level, the RPSP stands out for its size and its scope. The concentration of activities in RPSP 2.0 is associated with country capacity development (Objective 1).

Gender: The GCF has been steadily and systematically positioning itself throughout the GCF-1 period (2020–2023) to better address gender equality and social inclusion, including of Indigenous Peoples. Gaps still exist in terms of the quality of gender action plans and in implementation, which limit meaningful action on the ground.

Annex 3. SYNTHESIS OF AE INTERIM EVALUATIONS

Findings from all 28 IEs of energy projects were synthesized and ranked on a scale from 0 to 5, using the criteria defined in the evaluation matrix. Overall, the synthesis found that GCF projects are highly relevant to the United Nations Framework Convention on Climate Change (UNFCCC) mandate or country needs, with an average rating of 4.5 out of 5, and most align with national goals and policies. However, their effectiveness is rated much lower at 2.8, primarily due to issues related to project management units. Efficiency is low, with an average rating of 0.5, and support is rarely mentioned, with communication challenges often attributed to the GCF. Coherence with other multilateral funds and comparative advantage received limited attention, averaging at 2. Sustainability, replicability and scalability ratings are 2.75 on average, with active ownership by public or private sectors and resilient knowledge management as common concerns. Country ownership and stakeholder inclusion vary across projects, with mid-ranking projects lacking full national stakeholder ownership. The average rating for country ownership and stakeholder inclusion is 2.65. The concept of innovation lacks a consistent framework in GCF projects, and multiple projects claim innovativeness, with innovative financial mechanisms proving impactful. The average rating for innovativeness is 3.23. Paradigm-shift potential varies across projects, with an average rating of 2.63, mostly through different financing approaches, technology transfer, low-carbon energy adoption, private sector engagement, and improved energy access. Gender mainstreaming is a work in progress, with an average rating of 2.91, as many projects lack full integration of gender or social equity into their programme targets. Monitoring and knowledge management for gender and social equity remain problematic in several projects.

Table A - 1. Rating scale and description

RATING	DESCRIPTION
0	Early project closure / not mentioned
1	Highly unsatisfactory
2	Unsatisfactory
3	Moderately satisfactory (typically not unsatisfactory, but needing much more substance to be accepted as satisfactory)
4	Satisfactory (typically convincing presentation, but needing more evidence to support claims)
5	Highly satisfactory

CRITERIA	OVERALL RATING
Relevance	4.5
Effectiveness	2.8
Efficiency	1
Coherence and comparative advantage	2
Country ownership	2.8
Sustainability / replicability / scalability	2.7
Innovation	3.2
Paradigm shifting	2.6

CRITERIA	OVERALL RATING
Gender equality	2.9

Relevance

The projects evaluations most consistently rated highest for the relevance criterion. The average rating of project relevance to the UNFCCC mandate or country needs was 4.3, with 17 of the 28 IEs found to have a “highly satisfactory” rating for relevance. A total of 22 IEs identified NDCs or related national goals and specific national and subnational policies, strategies and targets that the associated projects aligned with. Several projects were able to easily connect their activities to the environmental and social Sustainable Development Goals that their project nations were specifically targeting. In two separate IEs, FP033 reported being frequently cited by national leaders when they were announcing annual goals and budgets. FP026 is aligned with its nation’s constitution. The dual-country project FP103 has aligned with national policies, strategies and market needs in the two countries, both during and after project implementation. A few solar PV projects by different AEs reflected a pattern of mitigating financial risk-aversity, thus attracting private sector investments while creating market demand. The cross-cutting project FP001 describes how the project responds to deforestation and impacted Indigenous communities but lacks articulation of any specific relevance or effectiveness demonstrated thus far, in terms of actual needs in the region.

Effectiveness

The 28 IEs rated much lower on effectiveness than on relevance, at 2.8 on average. Despite specificities that meant projects rated higher for relevance, evidence of effectiveness was often insufficient or ambiguous, and the achievement of outcomes was reportedly unlikely without some active changes in implementation. Most frequently mentioned reasons for barriers towards effectiveness were not external factors or even heavily COVID-centred, but rather were related to project management units (PMUs). Most IEs that rated highly satisfactory on effectiveness demonstrated considerations of impact beyond the project’s parameters by recognizing potential paradigm shifts in market and investment potential, country goals or energy-specific regulations. On the effectiveness of interventions towards country goals, FP103 stands out again, for providing regular training and professionalization packages for beneficiaries to gain access to land, finance or any other type of support needed for scalability. This means artisanal producers could become businesses, businesses could become larger producers, and producers could lead the way for market activation. For FP001, the country’s frequent changes in governments and policies were notable concerns, and unexpected and seemingly sudden changes in the project co-financing structure also fueled some negative impacts, which are still being dealt with. The design of FP059 was found to have some flaws, attributed to inadequate assumptions and resulting in severely underfinanced budgets; however, the project team reportedly demonstrated excellent adaptability, with change agreed on by key stakeholders. Perhaps as a result, progress towards NDCs had yet to surface in this project.

An interesting point most commonly highlighted was that IE standards almost always followed the Development Assistance Committee standards of the Organisation for Economic Co-operation and Development¹⁸ without any mention of GCF standards or frameworks; support and standards from other entities were mentioned by two IEs. FP010 reportedly followed United Nations Development Programme (UNDP) standards for environmental and social safeguards (ESS), as the GCF standards were found to fit within the UNDP standards. FP028, despite having explicitly sought gender-related

¹⁸ Further details on the OECD DAC standards are available at <https://www.oecd.org/dac/evaluation/qualitystandardsfordevelopmentevaluation.htm>.

trainings and capacity-building from the Secretariat, did not mention such support at all in the IE. Only FP081 mentioned applying GCF core indicators on gender, but it used the International Finance Corporation indicators and framework for ESS.

Efficiency

Given that the IE parameters for efficiency refer to cost-efficiency of project funding, without much mention of GCF support, the efficiency of support available from the Secretariat was not able to be adequately assessed for this synthesis. Even when reviewing the efficiency of project activities, outputs and outcomes, the rating remained rather low, considering the regularity of COVID-related limitations, but more so due to a lack of reporting on efficiency. In regard to the efficiency of the support from the Secretariat, the project IEs almost never mention any support received from the Secretariat. Any mentions of GCF activities solely refer to project teams headed by the AEs, whereas barriers are attributed to the GCF rather than the PMUs. For instance, FP084, an international accredited entity (IAE) project in India, stated that the GCF's lack of developed partnerships or collaborations with other adaptation projects in the country hindered ensuring complementarity and coherence, but this was a reference to the project team rather than the Secretariat. There was one case among the 28 IEs in which the evaluation team did mention a need for better efficiency from the Secretariat: FP060, a DAE project in Barbados, reported that a lack of response from the Secretariat within the required time frame added otherwise avoidable administrative costs that were already being increased due to procurement delays. The average rating of the efficiency of support available for funded activities lay at 1, as almost all IEs did not mention any support accessed at all; the average rating for the nine IEs that mentioned any communications or frameworks of support was 2.

Coherence and comparative advantage

Another criterion with a low rating was coherence with other multilateral funds and progress on comparative advantage. The rating for this criterion averaged 2 across IEs. Of the 28 IEs, 11 did not mention coherence with other multilaterals with any informative context or at all. FP036 described a lack of coordination, if not a lack of coherence, between the multilateral funds within the project alone. FP084, which pointed out the lack of partnerships or collaborations with other adaptation projects, made a comparison with the state PMU's coordination with *Deutsche Gesellschaft für Internationale Zusammenarbeit* and World Wide Fund for Nature on complementarity to avoid duplicate projects in the target area. FP010 mentioned coherence with national entities, despite co-financing with EIB. IEs demonstrating strong coherence with other entities highlighted coordination on technical assistance. FP090 evaluation took on an enabling or facilitative role, mentioning it enabled considerable scope for other multilateral funds and private sector investments to engage with climate financing initiatives. FP007's 2019 IE referred to lessons learned from concept notes presented to the GCF by the World Meteorological Organization, and the 2023 IE reported that the project aligned with United Nations Development Assistance Framework, United Nations Capital Development Fund and UNDP plans and goals by promoting resilience through improvements in water security and resources management. The 2019 FP033 IE reportedly received unplanned co-financing from non-multilateral global agencies, claiming an enabling environment had been created by the project for other donors and that the potential for blending climate finance resources remained high. In the 2023 IE, FP033 was working with several donor interventions, and the project country's government had adopted a programmatic approach to the AE's role in supporting national renewable energy development, suggesting an enabling environment for coordination with other donors and a high potential for blending climate finance. Few other examples of comparative

advantage were rarely reported in the IEs, and the sparse mention of other multilateral entities typically addressed concerns about duplicative interventions or communication matters.

Sustainability, replicability and scalability

The long-term sustainability of GCF-funded interventions is viewed differently by entities. According to the IEs, there is a tendency to keep only a national perspective on replicability and scalability, but this ultimately depends on the AE's own scope and scale of network and experience. On one hand, views on replicability and scalability differ prior to and during implementation. For instance, prior to implementing FP001, a micro-scale project, expectations for scalability were low. However, once implementation and the related challenges and modifications were under way expectations changed, and the project was viewed as serving as a demonstration case for replication in other Indigenous communities and potentially also other countries hosting Amazon communities and resources. Even still, the long-term sustainability of the project remains low due to a lack of financial and human resources and capacity, in addition to risks and vulnerabilities related to the public sector. FP001 could serve as a primary demonstration of how IAEs' partnering with DAEs is crucial to GCF funding realizing sustainable achievements. On the other hand, confident IAEs with established networks in other countries have no cause for hesitation when considering replicability or scalability in other countries. In the case of FP036, one component of the project was designed exclusively for only one of the seven project countries, but during implementation it was replicated in several other countries. The most common concerns surrounding sustainability, replicability and scalability related to securing active ownership by either the public or private sector as well as ensuring adequate, consistent and resilient knowledge management, to be able to confidently hand off the project after the implementation deadline.

Unlike efficiency, IEs always reported on the expected sustainability of projects. However, considering the level of reporting, sustainability, replicability and scalability was surprisingly one of the lower-rated criteria, at 2.7, on average. Also, while stakeholder engagement was mentioned often, the actual inclusion of stakeholders or beneficiaries received significantly less attention. Even if promising potential was reported in some IEs, no elaborations on prospective direction were presented to offer more convincing cases. FP007, FP026 and FP036 had the highest ratings and provided evidence of strong engagement and participation between the public and private sectors, replication that had already begun in other countries, or commitments to support activities for a set number of years after projects were closed. Once country ownership was assessed as strongly supporting project sustainability, FP026's exit strategy placed particular focus on financial sustainability without excluding social ownership.

Three projects weighed down the average rating: FP009 rated high on relevance and effectiveness but reported that project targets would be difficult to reach because qualifying beneficiaries required much higher financing than estimated; FP046 had closed years in advance; and FP047 attributed limited scalability of the paradigm-shifting project to GCF decision-making, despite having already stated the planned paradigm shift had originally been a government initiative prior to project proposal. In the case of FP008, high hopes have been repeatedly expressed for replication and scalability in other Pacific SIDS countries, but no basis or direction for potential pathways have been presented. In terms of sustainability, replicability and scalability, knowledge management during implementation seemed to be of common concern. Additionally, in some cases, replicability and scalability are mentioned in a very generic context, and such growth is assumed to be completely the responsibility of the public or private sectors, rather than requiring the IAE to take any initiative to make the necessary connections. Even if public–private coordination is occurring, collaboration and adequate coordination between AEs and local entities could be strengthened.

Country ownership and stakeholder inclusion

Although project relevance to country needs was clearly aligned, country ownership over GCF interventions, and especially stakeholder inclusion during either the project design or implementation stages, was somewhat lacking. The average rating for country ownership and stakeholder inclusion was 2.8. Top-rating projects fully aligned with national priorities, the national commitment to energy reform remained strong despite changes in leadership, interviews confirmed favourable stakeholder inclusion with acceptable integrations of stakeholders' comments, and strong trust was found to be established with the surrounding and local network. The IEs ultimately demonstrate that national stakeholders may somewhat take ownership for the project duration or afterwards, but beneficiary-level ownership was hardly mentioned to have even been monitored. In projects with lower ratings for this criterion, engagement with beneficiaries was recognized as constructive to project sustainability; however, overall ownership and activities following decision-making were reportedly lacking from the state and sometimes also from the AE. NDC alignment or government objectives related to the water or energy sectors tended to be highlighted. In mid-rating projects, components were designed explicitly to support such sector-related objectives, and in turn received a strong sense of support and oversight from the government or NDA, in close cooperation with development partners. However, full ownership by national stakeholders was either lacking or unaccounted for in terms of active initiation, or even ensuring that alignment with national priorities or stakeholder responses was met. For instance, in FP039, the NDA claimed the project's national committee was ultimately responsible for reviewing climate change projects and checking for alignment with national priorities. In FP047, the Ministry of Energy took ownership of defining technical assistance priorities for a project component, other public stakeholders were actively involved throughout the project, and the programme was well aligned with national priorities; however, the IE presented no specific contributions towards or interactions with the NDC.

Innovation

While definitions and the scope of each criterion tend to vary between entities and projects, there seems to be some agreement when it comes to the innovation criterion. However, when reviewing the innovation sections of the IEs, what becomes clearer is how easy it is for any variable to be deemed innovative when there is no objective framework on how to define innovation for GCF interventions. For instance, while Battery Energy Storage Systems are a newer technology that has been rapidly adopted around the world, can it be effectively considered innovative to be the first to introduce this globally adopted system into a country? On one hand, a new market and related dynamics have been created. On the other hand, it was bound to occur at some point anyway. FP059 claims innovativeness for being a cross-cutting project, although it is categorized as an adaptation project. FP051 considers that its target of enabling a paradigm shift to a low-carbon economy demonstrates innovativeness. FP010 claims innovativeness for using debt-financing for large-scale energy retrofits of apartments and for mobilizing external and domestic sources of financing. FP039 uses innovative solar technology but lacks the market development to make the technology accessible and scalable. FP033, FP036 and FP084 also claim their roles in introducing globally adopted energy storage systems into the project countries, but also do not anchor on that market entry point alone. Instead, the technical and social benefits resulting from such activities were presented, and further developments through effective knowledge management were completed to facilitate smoother replication in surrounding countries. FP089 took measures to integrate digital tools for agroecological practices through youth participation, including indigenous youth, as their community's producers. In FP103, ownership was found to be more bottom-up than top-down, leading to great anticipation that the public's direct experiential knowledge would enable them to

understand the importance of replacing open fires with improved cookstoves. This knowledge would in turn underpin plans and policies design. FP036 particularly noted that high levels of innovation brought mixed results in effectiveness and efficiency. It stated that the more innovative a project is the higher the risk of failing to meet at least some project objectives but that the unexpected challenges can, at the very least, inform future operations.

More than technical innovations, innovative efforts with financial mechanisms – as portrayed by FP060, FP084 and FP090 – ranked highest for the ripple effect of strengthened economic or social well-being as a result of the innovative measures. The average rating on innovation for all IEs was 3.2.

Paradigm shift

Similar to the rating on innovation, the average rating on paradigm shift was 2.6. Evaluation of FP026 and FP028 mention shifts activated through different approaches to financing or stakeholder relationships to accelerate just transitions. FP026, recognizes the success of new and especially innovative programmes and is focused on empowering local farmers to become leaders in practice and in community knowledge management. When FP028 introduced green financing in the country, other initiatives by other banks found confidence in the example set and followed suit. FP036 targets a shift from diesel power to renewable energy in seven Pacific SIDS and qualifies three long-term impacts as paradigm shifts: transition to low-carbon energy, increased private sector engagement and improved energy access. However, it also recognizes that the shift cannot be activated alone but is ultimately reliant on policy and government actions. FP001 and FP036 attributed their paradigm-shift potential to shifting traditional perspectives and roles on gender. Lower-rating projects did not demonstrate much of a paradigm-shifting intention or plan past general development agendas or did not offer any substantial grounds to support their claims. SAP004 offers a multilayered objective to shift low-emissions pathways through a loan programme to stimulate supply and demand by boosting the platform for further energy efficiency-related financing across the commercial financial sector, thus enabling healthier environments for families and vulnerable populations while also strengthening local knowledge and capacities on energy efficiency-related investments and best household practices.

Gender and social equity

Most, but not all, projects referred to their gender action plans (GAPs) on progress around gender and social equity; however, according to the IEs, gender mainstreaming has yet much ground to cover in GCF projects. Of the 28 IEs, 10 had ratings below moderately satisfactory, resulting in an overall average rating of 2.98 for gender and social equity. The lower ratings were mostly due to (i) acknowledging the project GAP or ESS but not including those targets in the overall programme targets or otherwise (ii) demonstrating inclusion of gender or social equity in the project preparation phase but not including remotely comparable considerations after project approval. For FP089, sufficient measures were reportedly taken to ensure vulnerable stakeholders' participation, but the IE found that Indigenous and Afro-descendants' leaders were largely dissatisfied with their level of inclusion as project beneficiaries. For FP001, integrations of gender equity were so new in the Indigenous communities that while the sociocultural context presented expected challenges, needing to find the rhetoric to communicate gender and climate change related plan development was what actually led to promoting women's participation and leadership. FP010 also aims to integrate gender mainstreaming, with GAP-specific targets, and collaboration with the Ministry of Labor and Social Affairs is supporting efforts in the right direction. FP039 claims the project's work on gender is new and innovative for the country, thus offering potential to be scaled up and replicated. However, no progress has been made in the four years since the first disbursement. Stakeholder engagement

showed that gender equity was not a matter of priority for the government, while the government stated gender equity was not an issue for project operations. The GCF Secretariat had also highlighted the lack of clarity on how the GAP implementation would occur, but the AE never responded. Targets are either identified as unlikely to be achieved or monitoring of progress is seemingly lacking. Knowledge management for gender and social equity was also recommended in a couple of IEs.

Annex 4. SYNTHESIS OF ANNUAL PERFORMANCE REPORTS (APRS)

A qualitative review of 26 APRs for GCF projects specifically targeting energy generation and access was conducted. Although multiple APRs were available for several projects, only the latest versions of the reports were considered for this synthesis, provided they had sufficient content. The APRs were ranked on the same scale as the IEs, from 0 to 5, with 0 indicating early project closure or that the criterion was not mentioned and 5 indicating a highly satisfactory result. While all APRs are presented using the GCF's investment criteria, the criteria definitions as described in the energy evaluation matrix were applied for the purposes of this synthesis. Assessments were based mostly on content provided through the investment criteria, and relevant updates provided in other sections of the APRs were occasionally also applicable. For fewer than five projects, non-APR materials related to the project's progress were used. Furthermore, the assessment targeted progress rather than potential, but potential was also considered if sufficient evidence was presented. Finally, average ratings did not include the nine APRs that provided empty or insufficient reports.

Relevance

Relevance ranked as the most satisfactory criteria, at 4.15, as project alignment with NDCs, UNFCCC commitments, and other national policies, goals and strategies is directly comparable whether AEs recognize existing correlations or not. In a number of cases, NDCs and other national plans were not distinctly mentioned under the relevant investment criterion section as expected, but were instead mentioned in other, seemingly random, sections of the APR. For instance, the country ownership or needs of the recipient sections would, in many cases, mention neither NDCs nor national plans but instead mention the AE's commitment towards country ownership or generic demographic information, without any correlation to the nation's public commitments, targets or goals.

Effectiveness

The effectiveness criterion just passed the satisfactory mark, rating 3.12. Among the reviewed APRs targeting energy generation and access as a results area, 17 projects noted alignment with national goals to increase clean energy and reduce dependence on fossil fuels, six aligned with national goals for greenhouse gas (GHG) emissions reductions, and two aligned with the need for health improvements as a co-benefit of integrating more clean energy in national grids. FP046 reported its contribution towards stimulating a healthier and less polluted nation, considering coal pollution is Mongolia's largest health risk. FP070 reported that indoor air pollution from biomass fuel-dependent traditional cookstoves affects 135.5 million people in Bangladesh, each new improved cookstove would save 1.54 tons of fuelwood annually, and national authorities on energy have established a nationwide plan particularly relating to clean cookstoves. FP033 reported on the project's enabling nature to equip the host nation with a strong foundation to mass integrate renewable energy to meet its updated 60 per cent renewable energy target by 2030. FP151 developed an alignment tool to ensure strategy coherence in line with host countries' NDC and Sustainable Development Goal targets. FP081 is expecting to double the expected energy-generating capacity in India, whose NDC was updated to target 50 per cent clean energy sources and a 45 per cent reduction in the emissions intensity of its GDP by 2030. In Argentina, the macroeconomic crisis left companies facing a lack of accessible financial mechanisms and the related knowledge and skills for making Energy Efficiency and Renewable Energy investments. Such investments were considered too high risk, and a project activity helped build institutional capacity, improve the

enabling environment, and strengthen the regulatory framework for short-term financing and capital in the local currency, as United States dollars (USD) were unavailable. The project's target loan recipients, small to medium enterprises, provided 52 per cent of Argentina's jobs and made up 98 per cent of all companies nationwide. However, due to the economic crisis, along with the pandemic, the AE and executing entity recognized that an opportunity for a green recovery was available, and they negotiated for the Government of Argentina to shoulder the hedging risk, along with national policy dialogues to develop a policy guide for all banks to use as a reference on sustainability, towards a green macroeconomic recovery.

Efficiency

The criteria of efficiency of the GCF's support for project teams and coherence with other multilateral entities again ranked lowest in the APRs. It was expected that GCF support would be mentioned more in APRs, as only eight IEs had mentioned it, but instead only four of the 26 substantial APRs mentioned such support. However, the efficiency of the support rated at 1.75 among the eight IEs but at 3.86 among the four APRs. The IEs mentioned hindrances caused by a lack of timely support from the GCF, but APRs mentioned GCF processes towards project operationalization and activity implementation. The support mentioned included the approval of requests for extension of deadlines (FP070) and positioning in a country's activities towards strengthening the national market (FP064) and achieving carbon neutrality (FP060); constructive support from the IEU's Learning-Oriented Real-Time Impact Assessment Programme was also mentioned regarding monitoring and evaluation activities (FP062). Regarding GCF's ESS approach, AEs demonstrate a preference to applying a different set of standards that includes but seemingly goes beyond the GCF's approach.

Coherence and complementarity

Coherence with other multilateral entities was only mentioned in one APR, but coherence with academia and national or private sector entities was occasionally mentioned under the topic of comparative advantage. FP073, led by Rwanda's Ministry of Environment, prioritizes the cost-effectiveness of the implementation processes and results. It reports that interest in the project in support of its Community Adaptation Facility as a reliable community-based financing mechanism has been growing, and the World Bank provided USD 1.6 million to the executing entity to support the Community Adaptation Facility's pilot activities. FP115 reported on being in ongoing negotiations and discussions with potential strategic partners, including a subsidiary of *Electricité de France* as a strategic equity investor to fund development costs towards obtaining a power purchase agreement in Chile. FP060, in Barbados, signed memorandums of understanding with the national water authority, the University of South Florida and the University of the West Indies for knowledge management and consultancy services for gender services. FP151 regularly mentions coherence with intergovernmental bodies that are boosting concrete interest for the project's expansion beyond the GCF-funded project duration period. Continuing with comparative advantage, FP017's cost-effectiveness for energy generation, emissions reductions, and cost per ton of carbon dioxide equivalent (tCO₂eq) was reported to have improved from the prospective values presented in the funding proposal.

Innovation

Financial, technical and managerial innovativeness also ranked surprisingly low, rating 2.54, and was frequently not mentioned directly in the APRs. Much like the IEs, if a report enthusiastically mentioned innovativeness, it tended not to refer to actually innovative measures but served more as a relatable catchword to describe prospects without implying profound changes. An important note to make is also that awareness-raising is often categorized as a catalytic measure. As important as

awareness is to enable any change, awareness alone in no way guarantees active steps towards results areas within the time frame planned for. There was no innovative technical or financial development in the global market, but introducing the technologies triggered a surge in results. As a result, perhaps integration of long-existing technologies, financial products or business models should perhaps not be too eagerly underestimated for simply not being an innovative development but should rather be welcomed for triggering larger impacts. FP033 describes that in a recent national budget speech noted that working with several newer technologies, including battery energy storage system, has surged national confidence to the extent that the renewable energy target for the nation's grid has been boosted to 60 per cent, with particular emphasis on phasing out coal by 2030. Furthermore, FP033 is considered as one of the key contributors to the government's 60 per cent target. In a more fundamentally innovative case, FP028 describes a practically innovative measure in that in order to access financing, micro-, small- and medium-sized enterprises are required to achieve a minimally required amount of energy savings. This builds the habit by practice throughout the MSMEs' stakeholders, while also changing loan officers' behaviours as they become more familiarized with green financing and technologies compared to business as usual. FP028's true innovativeness works to create a new norm in business practices, and potentially households.

While raising awareness does not guarantee any behavioural or practical shifts from a norm, it serves as a tool for next steps, such as financial incentives. SAP004 launched the first green mortgage in Mongolia to finance energy-efficient houses in the market, with help from social media marketing. This targeted the familiarization of green loans in suburban districts, along with insulation retrofitting and clean energy-based heating appliances, which were starting to be recognized as important household changes. SAP004 is designed under the assumption that such forms of raised awareness will lead the way for gradual changes to occur at the household level. This project's potential for replication and scalability was prospectively high, and the Prime Minister and Minister of Energy and Water Resources took action to propel Barbados' energy and water usage towards national targets in parallel with the project's own targets; the goal of being fossil free by 2030 has also been moved to Visionary Goal Number 1 for the country. SAP004 has been a catalyst in stimulating a paradigm shift for Barbados by providing a platform for key stakeholders to propel the nation closer towards sustainable development and a cleaner future.

Paradigm shifting

FP033 demonstrated true paradigm-shift potential as a solar scheme deployment leader in Mauritius, thanks to strong project ownership of the Central Electricity Board and through a project component providing national grid codes to govern the operations of the nation's entire electricity sector's facilities. The Electricity Act was re-established, marking the beginning of a new set up for renewable energy generation, transmission, distribution, licensing and permitting. Country ownership and even enthusiasm is evidenced at an increasing rate each year during the annual budget speeches announcing more initiatives to increase renewable energy in the grid, as well as additional project co-financing from the government that was secured in an unexpectedly short time frame, when it is highly unlikely for projects to move such additional funding to begin with. The sustainability of the results is supported by the fact that the project's rooftop solar photovoltaic kits saved an estimated USD 3.4 million compared to heavy fuel oil production. The paradigm-shift criterion among APRs is rated at 3.33.

Country ownership

FP064 reports very high country ownership, which is evident through the government's willingness to shoulder the responsibility for the increasing hedging risk that the project executing entity could no longer bear. Despite a lack of focus on long-term replication and scalability due to the

macroeconomic context facing Argentina, the level of country ownership offers substantial support for project sustainability. For FP081, India updated its national target for increasing clean energy capacity to 50 per cent and its target for reducing the emissions-to-GDP ratio to 45 per cent by 2030. Before the project was launched, merely a handful of loan providers were available for the rooftop solar market, but now with the project's implementation, in addition to the updated targets, interest in the market has climbed. For FP062, in Paraguay, a community-based administration of land and natural resources is expected to enable the entire community to benefit from the project, rather than solely the project participants. The project had been incorporated into the national legal framework, receiving legal capacities for its operationalization, along with the involvement of multiple public institutions and governance structures, including commissions for Indigenous Peoples and gender equity. The project is waiting to be incorporated into the national budget for the project's mid- and long-term sustainability, but due to regulations prioritizing pandemic-related budgetary needs, the project's budgetary needs are likely to be addressed in the next reporting year. Even still, despite the delays, both country ownership and project sustainability remain high. Furthermore, the project's paradigm-shift potential also ranks as highly satisfactory, due to its vision for a just transition – to merge socioeconomic inclusion and the implementation of financial instruments, without a negative impact on the nation's environmental objectives. Country ownership and stakeholder inclusion is rated at 3.42.

Sustainability

Mention of the sustainability of project results or projects' contributions towards national sustainable development tended to be kept rather vague, potentially due to the exclusive reporting periods of the APRs and the amount of time each of the projects had been in operation. In a few cases, APRs provided insufficient information even when project disbursements had been received one to two years beforehand, under the claim that implementation or operationalization had yet to commence. Considering most APRs were from 2020 and 2021, the impact of the pandemic is expected to have contributed to such operational delays. Although the pandemic and correlated challenges were typically mentioned if such was the case, there were occasional APRs that mentioned pandemic-based challenges without explicitly reporting them as reasons for delay. The sustainability criterion is rated 3.15.

Gender and co-benefits

Among the 26 APRs, only one report made distinct mention of just transitions, but several others implied just transitions through mention of the project's co-benefits between clean energy, jobs creation, and influence on livelihoods, health and well-being, as briefly described above with FP062. FP046 created a consistent energy supply alongside high-paying job security in Mongolia. The project site was also built for scalability to expand on the project site's same infrastructure, and despite the high upfront costs, the project serves as a proof of concept of bankable renewable energy projects. FP046 recognizes the co-benefits between jobs creation, clean electricity and mitigating the largest national health risk from coal plants. FP098 recognizes the value of stakeholder engagement specifically for the purpose of ensuring just transitions. This is not implied through co-benefits, but the AE very briefly yet distinctly points this out.

On gender and social equity, gender-based integrations tend to stick to basic statistics on employment or other types of participants, as well as plans to provide gender-disaggregated data and engage with Indigenous Peoples' groups, rather than presenting on the quality or the impact of project activities in progress. A handful of exceptions are listed here. FP151 made the correlation between improved energy services prompting benefits for girls and women, by replacing the traditional responsibilities of collecting fuel and water with the time and energy to instead engage in

educational and income-generating activities. The project reported that 100 per cent of its subprojects had stakeholder engagement plans in response to the participation of women, Indigenous Peoples and other marginalized groups. FP119's AE recognized women as the "invisible partners in development" and developed a gender-sensitive communication strategy that acknowledges the contribution of women in the agricultural value chain, in order to strengthen communications, and thus participation, among farmers. As a milestone achievement in the reporting year, women were included in the governance board of the Water Users Association for more participation in decision-making, and the AE launched two women's farmer field schools. FP062 prepared a manual and guide for consultation and free, prior and informed consent for activities involving Indigenous communities, in accordance with both government and international standards. The guide included aspects for gender mainstreaming, intercultural approaches and project strategy, and ultimately reached more than 200 people, including civil servants involved with the project. For FP060, a baseline gender analysis revealed Barbados did not have gender-training addressing infrastructure, particularly for the water and energy sectors. The project's GAP outcomes were not typically expected outcomes as seen in most GAPs, as the focus was on a more profound level of gender mainstreaming for truly sustainable development. The outcomes included increased resilience to storm events; a revolving fund for both men and women to incorporate adaptation and mitigation elements to their homes; gender mainstreaming into new water sector policies; increased capacity of the population to understand, monitor and operate renewable energy systems; and improved understanding of gender barriers related to the nation's renewable energy industry. FP028 distributed 98.6 per cent of the GCF funding and 80 per cent of the total disbursed amount to women-led enterprises. Capacity-building targets for the reporting year were surpassed, including that just over 60 per cent of clients were women. While increased statistics alone certainly do not suffice in ensuring the quality of impact put into effect, FP028 is at least at a strong starting point for a paradigm shift in gender roles and norms. In total, 12 projects reported on applying the GAP in implementation.

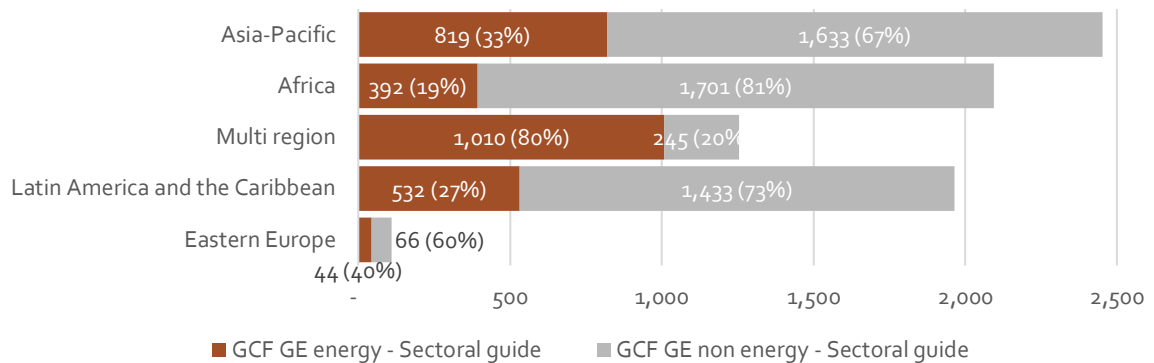
Overall findings from the APRs synthesis reflected somewhat comparable results to those of the IEs. Three criteria rated differently between the IEs and APRs, however. Innovativeness received relatively high ratings in IEs but much lower ratings in the latest APRs, whereas sustainability and country ownership had relatively low ratings in IEs but rather high ratings in the APRs. The remaining criteria all had relatively similar ratings between the AE-reported APRs and the IEs, which were typically conducted by external consultants.

Annex 5. SUPPORTING DATA ANALYSIS

Portfolio data

Figure A - 1. Grant-equivalent GCF investment in the energy sector compared to the non-energy sector by region

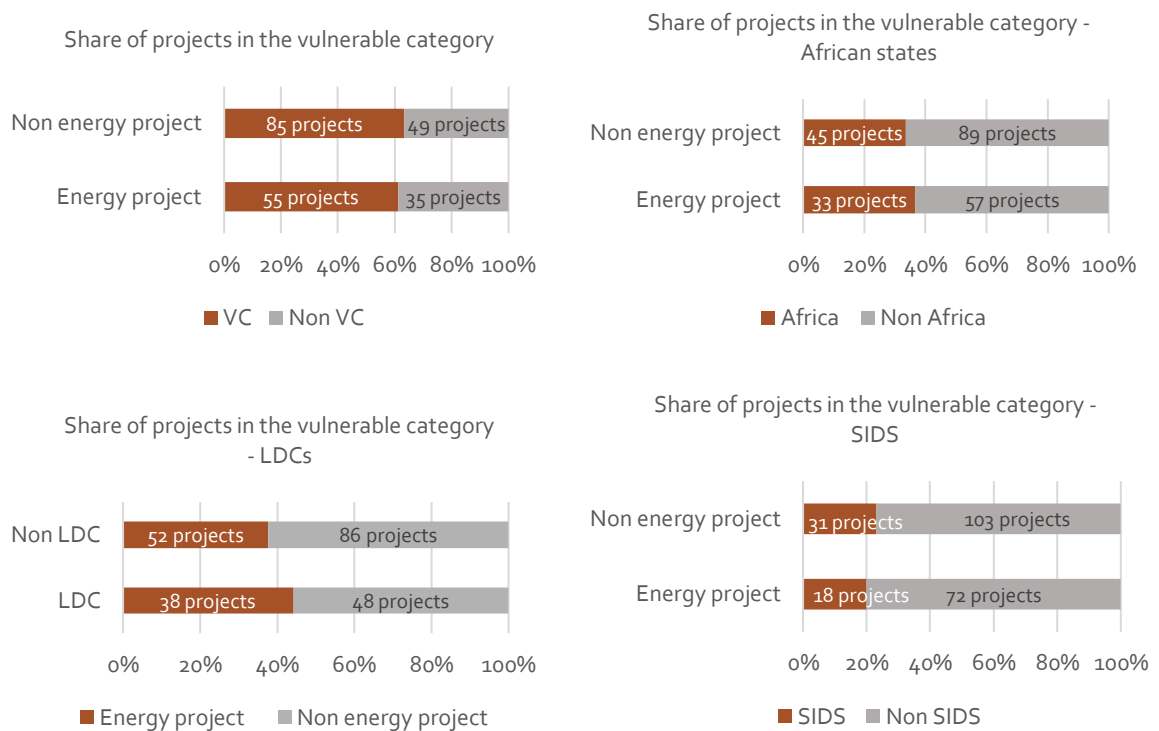
(USD million)



Source: Tableau server iPMS data, as of B.37 (23 October 2023), analysed by the IEU DataLab.

Note: GE = grant-equivalent.

Figure A - 2. Energy sector GCF investment represents a large share of the overall GCF portfolio that is aimed at reaching vulnerable countries



Source: Tableau server iPMS data, as of B.37 (23 October 2023), analysed by the IEU DataLab.

Classification of energy projects methodology

The classification of energy sector projects in the GCF portfolio used the results areas, the sectoral guides and the tagging in the GCF Open Data Library.

The GCF seeks to have an impact within eight mitigation and adaptation results areas. The eight results areas provide the reference points that will guide the GCF and its stakeholders to ensure a strategic approach when developing programmes and projects while respecting the needs and priorities of individual countries. The following results areas are relevant to the energy sector at the GCF:

- Energy access and generation
- Buildings, cities, industries, and appliances
- Transport

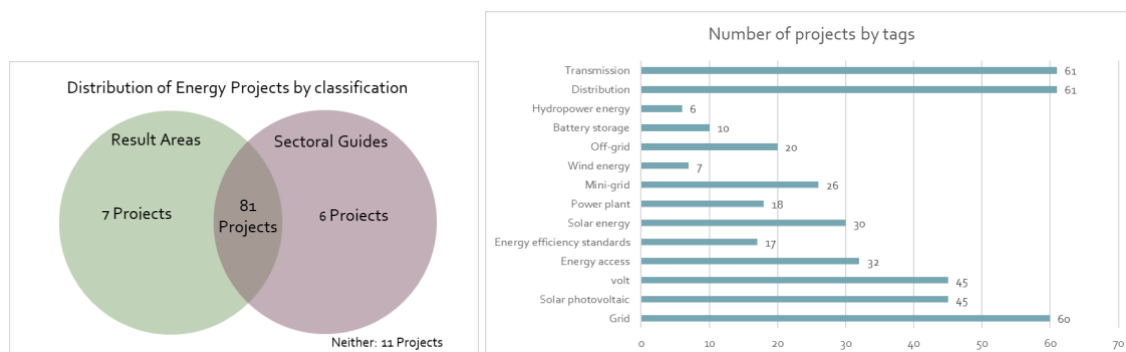
The GCF sectoral guides provide an overview and understanding of country needs and the potential to deliver maximum impact in support of country priorities. They also explain how targeted GCF investments aligned with country priorities could achieve maximum impact for each sector, driving paradigm-shifting pathways and demonstrating strong climate impact. The following sectoral guides are relevant to the energy sector at the GCF:

- Energy access and generation
- Energy efficiency
- Cities, buildings and urban systems:
 - Decarbonization of urban energy systems
 - Energy efficiency in building stock
- Low emission transport

The knowledge management team, in collaboration with other divisions, developed a taxonomy of the GCF language. Following the development of the taxonomy, the knowledge management team carried out a classification of project documents, tagging each project with a series of tags relating to GCF terminology. This tag search function for each project was also used to find energy-related activities for projects that had not been classified as such in the results areas and the sector guides. Because this tagging exercise is based on an AI-related tool, a review of energy-related activities was also carried out to confirm whether or not the projects belong to the energy sector.

All projects that fall under any of the above criteria are considered “energy” projects. It should be noted that the GCF does not have official classifications for different sectors. This classification exists to help GCF staff ensure projects with activities in the energy sector are captured under the portfolio.

Figure A – Classification of energy projects



Source: Tableau server iPMS data, as of B.37 (23 October 2023), analysed by the IEU DataLab.

Methodology for establishing the share of investment in the GCF energy projects

In order to calculate the energy sector investment made by the GCF, the following methodology has been applied.

Stratification of energy projects portfolio:

- Strata A - Select 100 per cent or 99 per cent GCF energy result areas – (per cent finance – combine) – consider it as 100 per cent investment and did not have a manual activities review.
- Strata B – per cent finance under 99 per cent - Stratify the remaining projects by GCF investment and undergo a manual review of the activities.

The assessment includes a review of key words (as listed below) and the determination of share of energy in the project. This determination is based on the assessment of the energy sector activities from the available activities information on the FP project descriptions and the related information on the activities in the budget from the FAA.

Due to the variety of energy projects, it is not possible to define a concrete methodology to define a % of investment related to energy activities. The evaluators read the description of activities included in FP and assess the percentage of energy activities in each activity.

Key words indicating possible energy components within projects:

- Modernization – look for:
 - modernization of buildings/campuses (e.g. FP75), which possibly contain energy efficiency
 - modernization of infrastructure (electrical / mechanical infrastructure) – possibly energy efficiency
 - modernization of agricultural equipment. This is usually more fuel efficient, and respectively reduces CO₂ (e.g. fishing – upgrading from two-stroke engines to four-stroke; agriculture – modernization of specialized agro-equipment results in better fuel efficiency per acre of arable land and respectively reduced carbon footprint)
- Irrigation – look for
 - Solar irrigation (in particular, switch from diesel-based pumping to solar-based). Potentially FP042 component 2. – Access to energy, clean energy, and energy efficiency
 - Micro-irrigation – possibly includes solar irrigation

- Solar pumps
- Water efficient (frequently water efficiency, means less water pumping and sometimes heating, leading to substantial energy savings)
- Rail transport (both energy reduction and carbon reduction impact)
- Power suppliers (e.g. FP026) look for:
 - Low emission power suppliers (possibly contains renewable energy or access to energy or fuel switching)
- Resilient communities
 - cooking and heating (energy efficiency)
 - biogas cooking (usually replaces wood cooking = energy efficiency)
 - improved cooking stoves (resulting in reduced deforestation) – energy efficiency
 - efficient stoves
 - anything “solar” (e.g. solar water heaters)
 - public lighting
- Fuel
 - Alternative fuels
 - Fuel switching
- Energy-efficient
 - energy efficiency (e.g. FP132)
 - efficient technologies

Comparison with other climate funds

Table A - 2. Comparison of other relevant characteristics

GCF		OTHER MULTILATERAL FUNDS	
		CIF	GEF
Funding modalities	<p>The GCF currently provides funding through four modalities: (i) the FPs for regular projects and programmes; (ii) the SAP for projects under USD 25 million and with minimal environmental risks; (iii) the issuance of RFP pilots; (iv) the RPSP.</p> <p>AEs can only submit FPs up to the size* for which they have been accredited.</p>	<p>The CIF offers two funds: the Clean Technology Fund (CTF)** and the Strategic Climate Fund. The latter serves as an overarching framework that provides funding through the following energy sector programmes that each have different modalities that are not publicly accessible:</p> <ul style="list-style-type: none"> • Renewable Energy Integration Program • SREP in Low Income Countries 	<p>The GEF provides funding through four modalities: full-sized projects (FSP) (>USD 2 million), medium-sized projects (MSP) (<USD 2 million), enabling activities, and programmatic approaches.</p>
Readiness programme / programmes for enabling environment	<p>The RPSP provides grants and technical assistance to NDAs and/or focal points for institutional capacity-building, coordination, policy and planning, and programming for investment. The RPSP may provide to each beneficiary country up to USD 1 million per year. This includes the possibility for NDAs and focal points to request up to USD 300,000 per year in direct support to help establish or strengthen the capacity of the country. A maximum of USD 100,000 can be used for NDA-led stakeholder meetings.</p>	<p>The CIF Technical Assistance Facility is established under the CTF. Its aim is to provide funding to support upstream activities that lead to the strengthening of policy and regulatory environments, the building of human and institutional capacities, and the design of market-facing solutions, such as innovative instruments and business models.</p>	<p>Enabling activities (EAs) include preparation of a plan, strategy, or report to fulfil commitments under a convention.</p> <p>The modalities for processing EAs can be conducted in two ways: (i) the country can submit an EA through a GEF agency, or (ii) the country can use the direct access modality. EAs below USD 1 million or expedited EAs, which are single-country activities under USD 2 million can be approved directly by the Chief Executive Officer. The EAs that are above USD 1 million follow the procedures for the FSP and MSP.</p>
Project preparation assistance	<p>The GCF Project Preparation Facility is designed to support AEs for project preparations in the micro to small size category, with the underlying objective of enhancing the balance and diversity of the GCF project portfolio. The Project Preparation Facility offers up to USD 1.5 million per application, in either grant, repayable grant or equity.</p>	<p>The maximum total CTF preparation grant allocation for an investment plan or a project is USD 1 million.</p>	<p>GEF agencies may request Project Preparation Grants ranging between USD 50,000 and USD 300,000 for the preparation of a project document. The Project Preparation Grant size is determined by the size of the GEF investment.</p>

GCF		OTHER MULTILATERAL FUNDS	
		CIF	GEF
AEs / executing agencies	<p>AEs can be private or public, non-governmental, subnational, national, regional or international entities and carry out a range of activities that include the development of FPs and the management and monitoring of projects and programmes. Countries may access GCF resources through multiple AEs simultaneously.</p> <p>There are 121 approved AEs for accreditation, of which 95 have completed their accreditation process as of 4 January 2024.</p>	<p>The CIF only channel funds through the following seven implementing partners, which are all multilateral development banks: AfDB, ADB, EBRD, IDB and WBG including IFC.</p>	<p>The GEF works with 18 implementing agencies (three national, six regional and nine global agencies). The GEF implementing agencies are the operational arm of the GEF and include ADB, AfDB, BOAD, Conservation International, DBSA, EBRD, FAO, FECO, Funbio, IDB, IFAD, IUCN, UNDP, UNEP, UNIDO, WB and WWF.</p>
Country coverage and allocation	<p>The GCF can support mitigation projects in those 148 countries that have designated an NDA or focal point. There are no country allocation limitations for FPs. For adaptation funds, at least 50 per cent are to be allocated to LDCs, SIDS and African States.</p>	<p>The CIF supports 72 low- and middle-income countries worldwide.</p>	<p>The GEF can support 164 countries. Individual country support is limited by its System for Transparent Allocation of Resources (STAR) country allocations.</p>

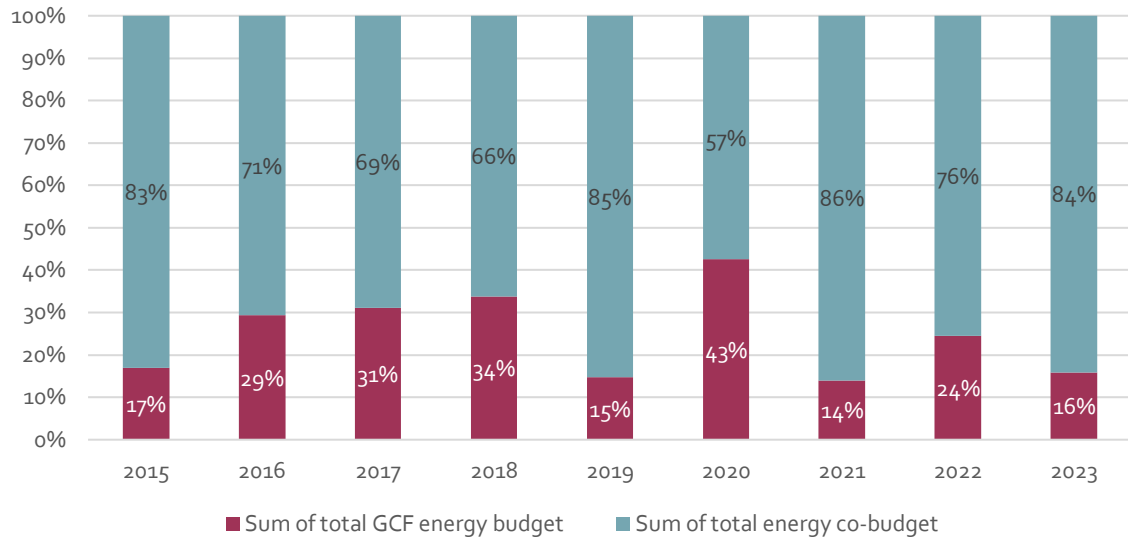
Source: Baastel (2023); Climate Investment Funds (2024); Global Environment Facility (2022).

Note: * Micro up to USD 10 million, small up to USD 10–50 million, medium USD 50–250 million and large USD 250 million and above. ** CTF projects can receive up to USD 50 million.
 ADB = Asian Development Bank; AfDB = African Development Bank; BOAD = West African Development Bank; CIF = Climate Investment Funds; DBSA = Development Bank of Southern Africa; EBRD = European Bank for Reconstruction and Development; FAO = Food and Agriculture Organisation of the United Nations; FECO = Foreign Economic Cooperation Office (China); FUNBIO = Brazilian Biodiversity Fund; GEF = Global Environment Facility; IDB = Inter-American Development Bank; IFAD = International Fund for Agricultural Development; IUCN = International Union for Conservation of Nature; UNEP = United Nations Environment Programme; UNIDO = United Nations Industrial Development Organization; WBG = World Bank Group; WWF = World Wide Fund for Nature

Co-financing additional analysis

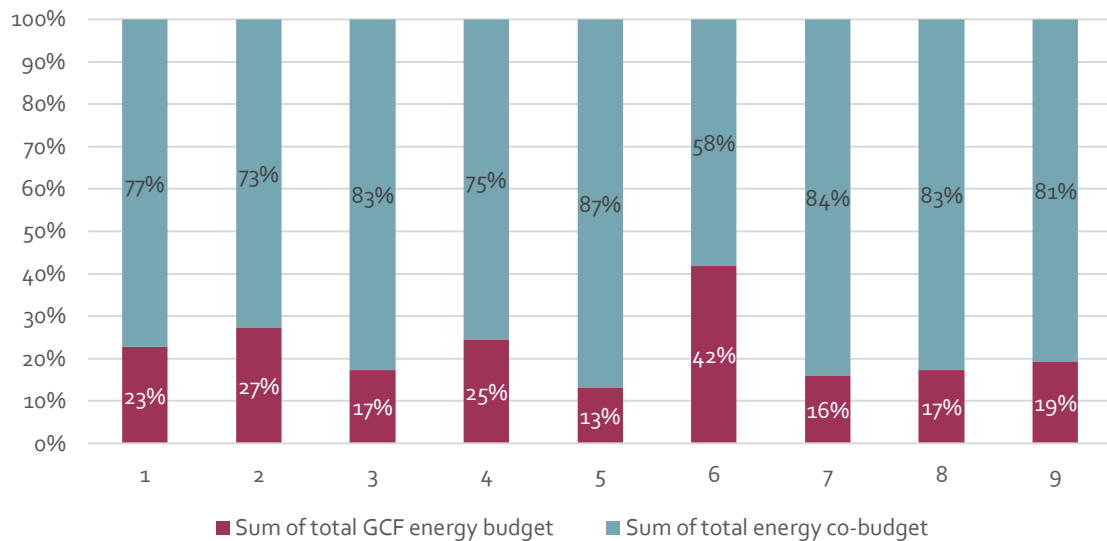
In the energy sector, the GCF has consistently leveraged three to four times its contribution in co-financing funds, and the proportion is very similar between public sector and private sector projects for a given year (Figure A - 3 and Figure A - 4). There are no clear trends for the GCF's leverage of co-financing funding over time, which is in part due to the good diversification of types of projects, financial instruments and countries in the portfolio.

Figure A - 3. Proportion of GCF energy budget versus co-finance energy budget – public sector



Source: Tableau server iPMS data, as of B.37 (23 October 2023), analysed by the IEU DataLab.

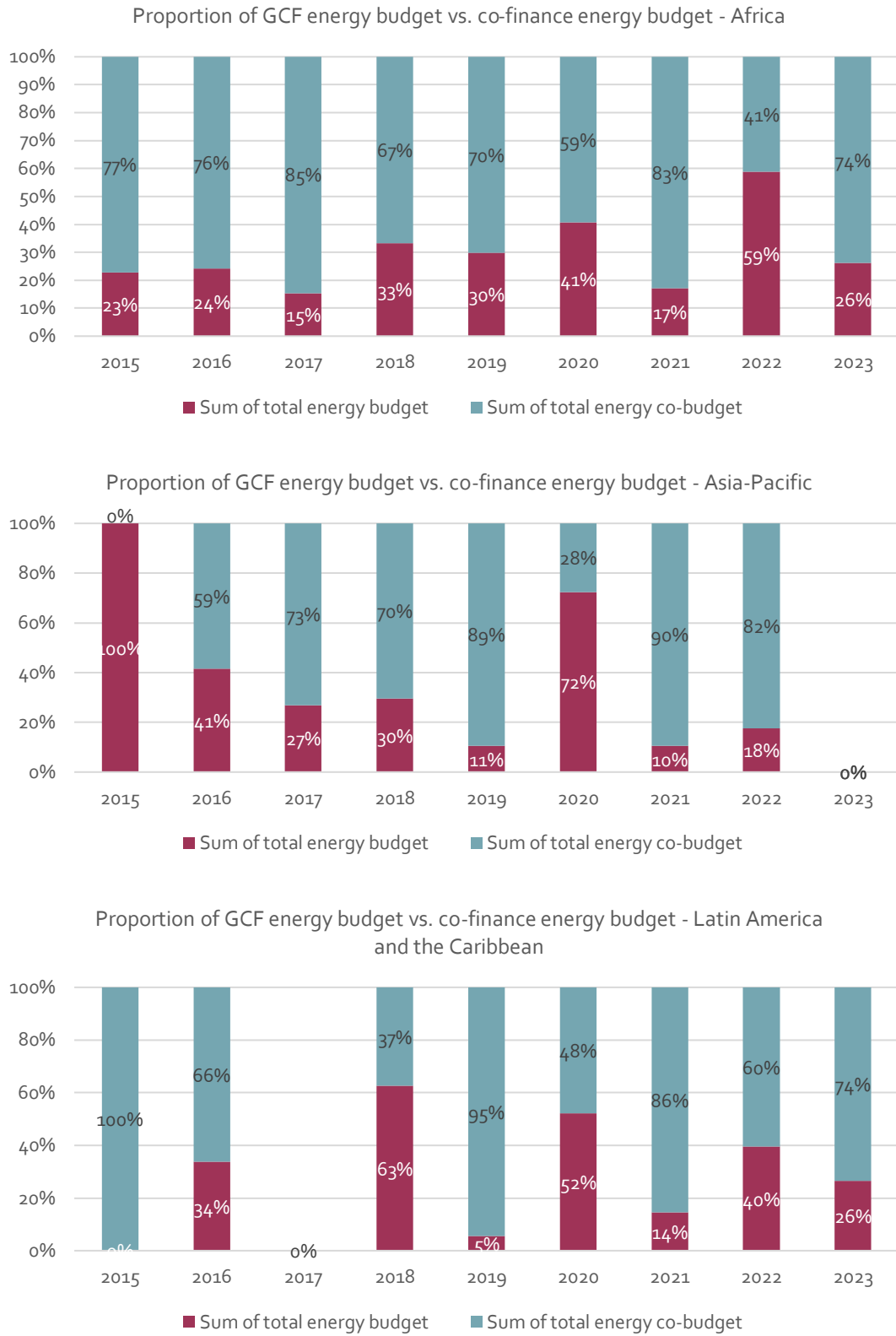
Figure A - 4. Proportion of GCF energy budget versus co-finance energy budget – private sector

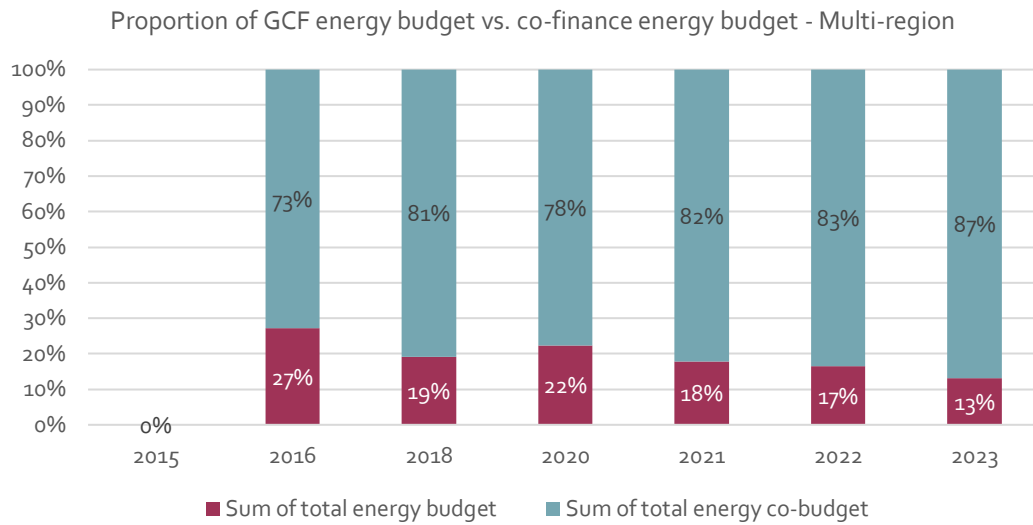


Source: Tableau server iPMS data, as of B.37 (23 October 2023), analysed by the IEU DataLab.

When analysed region by region (Figure A - 5), Latin America and the Caribbean, multi-region projects and Asia-Pacific (with the exception of 2022) display a trend towards increasing leverage of co-financing over time. However, as most projects are multi-component and cover different sectors, utilize different financial instruments and are deployed in different contexts, it is not possible to clearly identify the reasons behind this. One potential reason is the fact that regional projects have more diversified risk and as a result are more attractive for co-financing partners. Eastern Europe was not analysed since energy projects have only been financed in three separate years since 2015, so no trends could be established.

Figure A - 5. Proportion of GCF energy budget versus co-finance energy budget by region



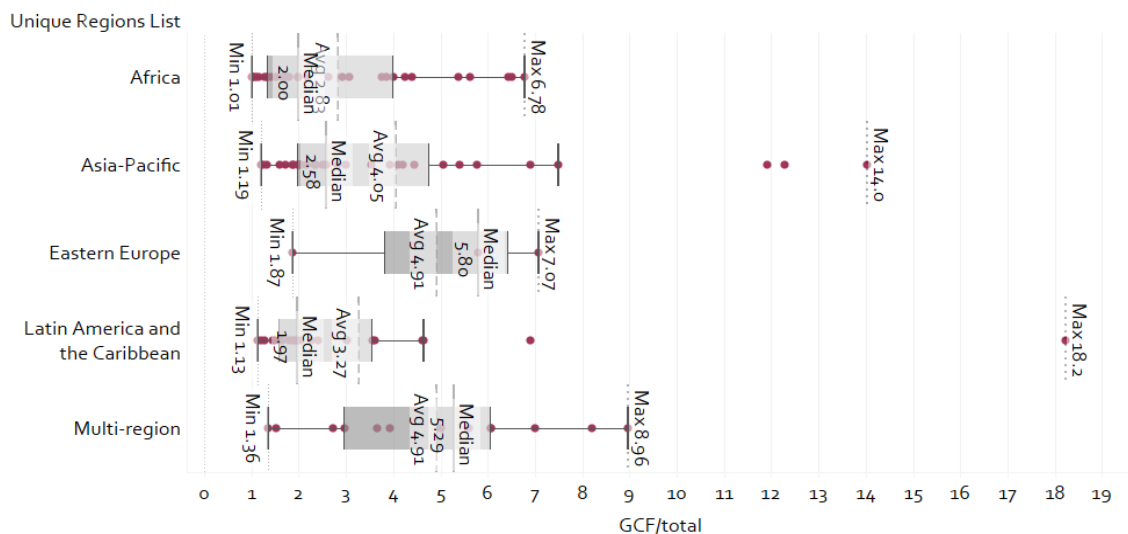


Source: Tableau server iPMS data, as of B.37 (23 October 2023), analysed by the IEU DataLab.

Looking at median and average values of co-financing per region (Figure A - 6), the results seem to indicate positive correlation with the overall level of development of the market. For example, in Africa and Latin America and the Caribbean, where the majority of markets are generally less developed in terms of climate action (respectively riskier, with more market and regulatory barriers, higher level of country risk), the GCF achieves the lowest co-financing leverage of 2.0 times (median value). This indicates that private sector and co-financing partners are less inclined to take the risk.

In Asia-Pacific, where the markets are generally more developed and larger in size, the GCF manages to achieve a higher leverage of co-financing, at 2.6 times (median value). The leverage ratios for Eastern European countries also reflect the overall level of market development. The more developed the markets, the easier to attract co-financing capital, the more climate finance instruments converge to commercial terms and conditions.

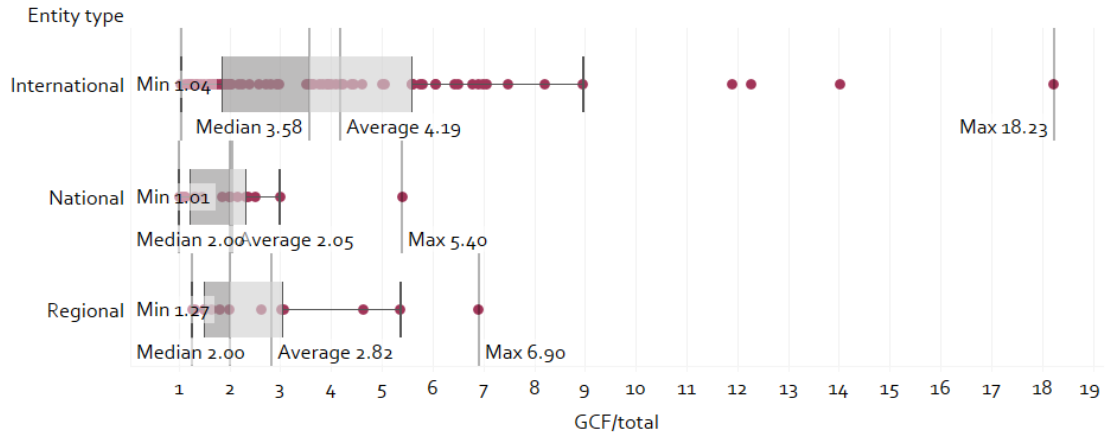
Figure A - 6. Ratio of co-financing by region



Source: Tableau server iPMS data, as of B.36 (15 July 2023), analysed by the IEU DataLab.

The GCF has traditionally been good at leveraging co-financing from partner organizations and states. It has achieved much better leverage when working with IAEs (4.2 times co-financing) than with regional and national DAEs (2.8 times and 2.1 times, respectively) (Figure A - 7). The proportion of co-finance does not seem to depend on the region/country financed, but rather on the ability of the particular AE to rally co-financing partners. It is important to note that the GCF does not have set targets for co-financing.

Figure A - 7. Ratio of co-financing by AE type



Source: Tableau server iPMS data, as of B.36 (15 July 2023), analysed by the IEU DataLab.

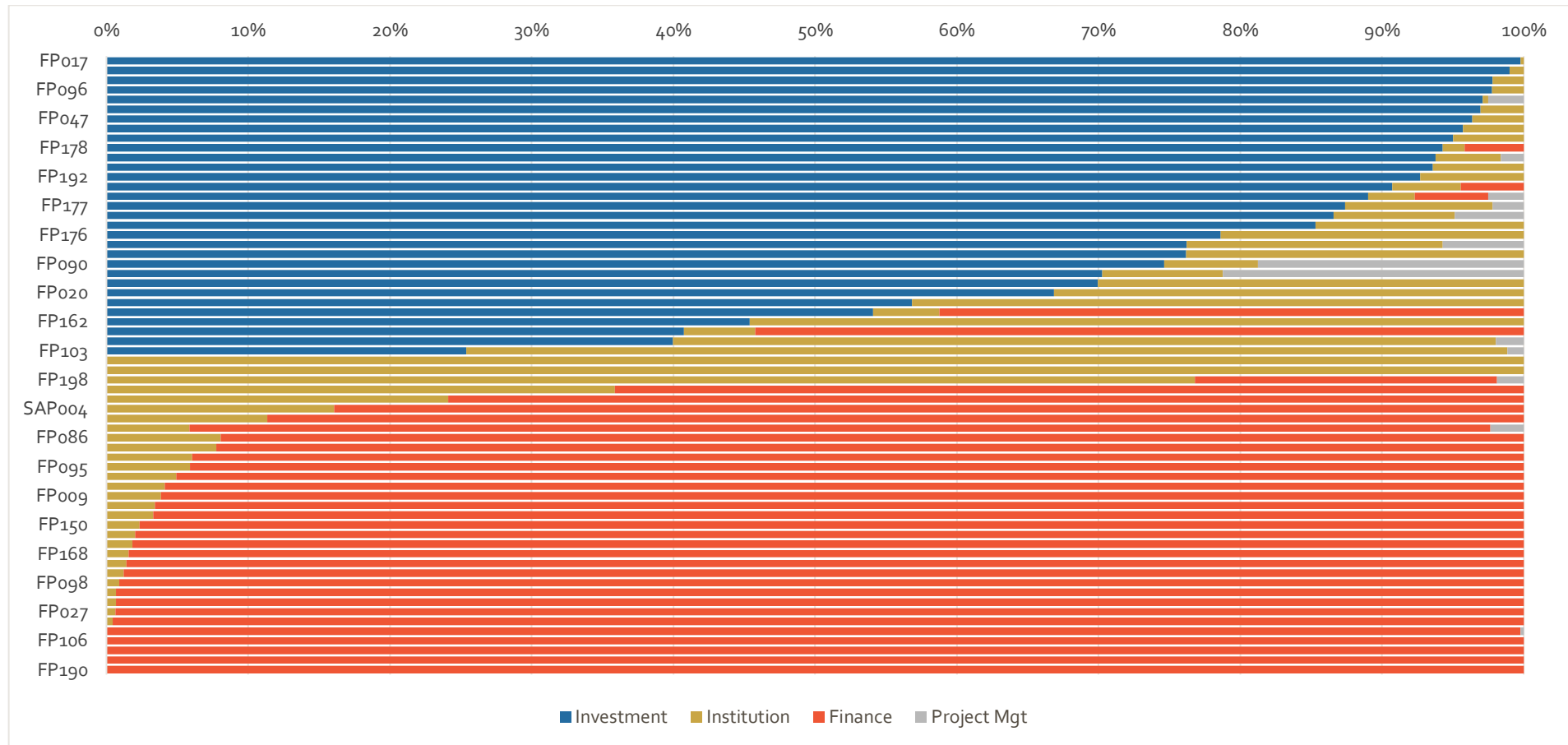
Annex 6. COST-EFFECTIVENESS ANALYSIS

The team conducted further analysis on the GCF's investment in the energy sector by looking into FPs at the component level. For this analysis, we only included 64 projects and programmes: those (i) that are tagged as energy projects, and (ii) whose components are numbered accordingly in their FAA. We categorized each component in one of the following four categories: investment, financing, institution, and project management. Investment includes development, construction, and instalment of physical assets. Financing includes facilities, including credit, guarantee and equity, and so forth. The institution category is slightly broad, but we included activities related to enabling environment, regulatory framework, institutional strengthening, capacity-building and any other technical assistance. And lastly, the project management¹⁹ category was applied if the project has a separate component for project management related costs.

According to this analysis, the cost-effectiveness of GCF financing projects (shown in orange in Figure A - 8) is **USD 30.77/tCO₂e**, making these types of projects more cost-effective than investment projects (shown in blue in Figure A - 8) at **USD 57.66/tCO₂e**.

¹⁹ For some projects, project management cost does not appear as a component, and we excluded such costs for this analysis.

Figure A - 8. Energy projects by type of component



Source: iPMS data and FAA data set, as of B.37 (23 October 2023), analysed by the IEU DataLab.

Figure A - 9. Cost-effectiveness across region and energy categories

	$\left(\frac{\text{min.} - \text{max.}}{\text{mean (count)}} \right)$								
	OVERALL	AFRICA	ASIA-PACIFIC	EASTERN EUROPE	LATIN AMERICA AND THE CARIBBEAN	MULTI REGION	AFRICAN STATES	SIDS	LDCs
Grid	3.37 - 245.75	5.74 - 187.13	3.37 - 123.63	60.68	102.7 - 245.75	5.74 - 187.13	5.74 - 187.13	3.37 - 187.13	9.73 - 243.87
	55.58 (54)	62.18 (20)	60.68 (15)	60.68 (1)	85.71 (10)	53.21 (28)	53.21 (28)	55.34 (28)	55.94 (12)
Off-grid	10.27 - 73.33	26.79 - 73.33	n/a	n/a	70.01	10.27 - 23.03	10.27 - 73.33	10.27 - 73.33	10.27 - 26.79
	34.54 (8)	44.46 (3)	n/a	n/a	70.01 (1)	18.23 (4)	29.47 (7)	30.54 (6)	19.17 (4)
Distribution / Transmission	3.37 - 284.43	3.86 - 187.13	3.37 - 284.43	60.68	10.74 - 245.75	10.27 - 59.05	3.86 - 187.13	3.37 - 197.13	9.73 - 243.87
	57.47 (63)	59.27 (23)	58.49 (18)	60.68 (1)	72.17 (12)	32.04 (9)	51.49 (32)	53.46 (31)	61.09 (14)
Battery storage / Energy storage	7.21 - 121.13	8.00 - 121.13	7.21 - 109.19	n/a	17.99 - 70.01	50.44 - 54.18	8.00 - 121.13	38.58 - 121.13	54.18 - 109.19
	49.68 (14)	55.22 (5)	53.24 (3)	n/a	40.15 (4)	52.31 (2)	54.25 (7)	71.29 (4)	81.68 (2)
Energy access	3.86 - 158.93	3.86 - 158.93	6.54 - 123.63	n/a	10.74 - 70.01	10.27 - 50.44	3.86 - 158.93	3.86 - 158.93	10.27 - 109.19
	41.07 (28)	43.43 (11)	63.58 (6)	n/a	27.91 (6)	24.67 (5)	37.57 (16)	49.44 (13)	43.59 (8)
Solar photovoltaic / Solar energy	3.65 - 245.75	19.65 - 158.93	3.65 - 109.19	n/a	17.99 - 245.75	59.05	19.65 - 158.93	19.65 - 158.93	97.53 - 109.19
	66.54 (14)	72.00 (3)	49.11 (8)	n/a	131.87 (2)	59.05 (1)	68.76 (4)	66.10 (5)	103.36 (2)
Wind energy	30.28 - 79.53	53.19	97.83	n/a	30.28 - 70.01	50.44	50.44 - 53.19	97.53	97.53
	60.29 (5)	53.19 (1)	97.53 (1)	n/a	50.15 (2)	50.44 (1)	51.82 (2)	97.53 (1)	97.53 (1)
Hydropower energy	3.86 - 17.97	3.86 - 8.00	n/a	n/a	17.97	n/a	3.86 - 8.00	3.86	n/a
	9.94 (3)	5.96 (2)	n/a	n/a	17.97 (1)	n/a	8.93 (2)	3.86 (1)	n/a
Energy efficiency standards	4.87 - 201.30	9.40 - 45.10	7.21 - 109.19	n/a	14.03 - 201.30	4.87 - 17.57	4.87 - 45.10	4.87 - 97.53	4.87 - 109.19
	47.18 (16)	34.07 (6)	71.31 (4)	n/a	63.45 (4)	11.22 (2)	27.54 (8)	35.07 (8)	50.62 (6)
Overall	3.37 - 284.43	3.86 - 187.13	3.37 - 284.43	60.68	10.74 - 245.75	4.87 - 187.13	3.86 - 187.13	3.37 - 197.13	4.87 - 243.87
	45.89	44.76	64.42	60.68	51.07	33.26	40.26	52.29	65.07

Source: GCF taxonomy and iPMS data, analysed by the IEU DataLab as of B.37 (23 October 2023),

Annex 7. NDC ANALYSIS

Table A - 3. List of countries for which GCF energy project funding and co-financing count for a significant share of NDC total mitigation and adaptation funding targets

COUNTRY NAME	TOTAL GCF + CO-FINANCING (USD BILLION)	TOTAL GCF ENERGY + CO-FINANCING (USD BILLION)	TOTAL NDC	TOTAL GCF FUND + CO-FINANCING AS % OF TOTAL NDC
Solomon Islands	0.24188	0.24188	0.126656	190.97%
Kiribati	0.05808102	0.0062	0.078898	73.62%
São Tomé and Príncipe	0.09776	0.0752752	0.15	65.17%
Seychelles	0.124333333	0.124333333	0.6705	18.54%
Lao People's Democratic Republic	0.782375	0.4501475	4.762	16.43%
Mongolia	1.793060985	0.527756579	11.5	15.59%
Central African Republic (the)	0.223357143	0.223357143	1.76387	12.66%
Cambodia	0.89656381	0.454932857	7.840522	11.44%
Saint Lucia	0.038488573	0.038488573	0.368	10.46%
Lesotho	0.0582625	0.0373875	0.59	9.88%
Burkina Faso	0.384778172	0.320442998	4.088063	9.41%
Grenada	0.092330021	0.038525373	1	9.23%
Bangladesh	0.524575789	0.4777752	5.7	9.20%
Senegal	0.374913278	0.318390605	4.315064	8.69%
Namibia	0.406522233	0.340570489	5.33	7.63%
Mali	0.528759437	0.492875859	9.0246	5.86%
Gambia	0.020475271	0.000916383	0.398	5.14%
Saint Kitts and Nevis	0.038488573	0.038488573	0.764	5.04%
Kenya	0.780145146	0.6933934	17.76893	4.39%
Mauritius	0.278154975	0.258734771	6.5	4.28%
Jordan	0.33305755	0.297011905	7.871	4.23%
Tunisia	0.791199206	0.755153561	18.7	4.23%
Burundi	0.061263889	0.053451389	1.479963	4.14%
Moldova	0.16926374	0.138833333	4.22	4.01%
Djibouti	0.234757949	0.198748424	6.382147	3.68%
Rwanda	0.188719908	0.114137326	5.363	3.52%
Niger (the)	0.329323367	0.243022514	9.9081	3.32%
Madagascar	0.152380765	0.113344771	6.398713	2.38%
Trinidad and Tobago	0.045375	0.0226875	2	2.27%
Ghana	0.200200503	0.173856767	9.3	2.15%

Source: DataLab analysis using UNFCCC NDC registry Nationally Determined Contributions Registry | UNFCCC and Climate Watch (which contains country-level NDC goals too): World | Total including LUCF | Greenhouse Gas (GHG) Emissions | Climate Watch (climatewatchdata.org)

Annex 8. RPSP GRANTS ANALYSIS

The energy sector readiness grants show variable degrees of effectiveness across these four objectives. The highest effectiveness was noted for Objective 2, and the lowest was for Objective 5.²⁰

Objective 1 related activities associated with institutional capacity development are present in four out of five RPSP energy grants (for which completion reports were available) and are considered as having made good progress in achieving this objective. NDA strengthening has been delivered extensively across most of this sample of RPSP energy sector grants. For example, the RPSP grant number 1706-14716 (for Tonga) led to capacity-building of 16 participants from government agencies (of which five were female), thus strengthening in-country skills for implementation of the actions set out in the Tonga Energy Efficiency Master Plan. The RPSP energy sector grants have provided support to national entities nominated by their NDA for GCF accreditation. For example, the RPSP energy grant number 1902-15686 (for Mexico) has led to the GCF Board's approval of Nacional Financiera's accreditation application, while the *Banco Nacional de Obras y Servicios Públicos* (or BANOBRAS) is on track to obtain its accreditation.

Objective 2, development of energy strategies to guide GCF investment activities, dominates in all five of the RPSP energy sector grants sampled (for which completion reports were available). For example, the RPSP energy sector grant in Vanuatu (RPSP number 1706-14713) supported the Government of Vanuatu in the establishment of the National Green Energy Fund and supported the raising of additional external funds (from several potential financial partners such as Korea International Cooperation Agency, the New Zealand Ministry of Foreign Affairs and Trade and *Deutsche Gesellschaft für Internationale Zusammenarbeit*, as well as technical partners for technical assistance, such as the IUCN and ADB of USD 15 million.

The importance of **Objective 4**, pipeline development was also moderately reflected (in three out of the five RPSP energy sector grants for which completion reports were available). For example, the RPSP energy grant number 1908-15830 (for Indonesia) generated a strong pipeline of projects (172 concept notes (CNs) were received and 36 CNs were shortlisted for technical assistance from the NDA). Twenty CNs were matched with potential AEs, seven CNs were improved with a total value of more than USD 200 million, and two CNs were submitted to the GCF).

Lastly, **Objective 5** activities (related to knowledge-sharing and learning) concerned only a small proportion of RPSP energy sector grants (in two out of the five RPSPs for which the completion reports were available). For example, the RPSP energy grant number 1902-15686 (for Mexico) has a strong learning and knowledge-sharing dimension (an online platform launched; a website developed on climate finance and GCF activities in Mexico; and communication materials developed, such as gender guidelines).

²⁰ The RPSP evaluation found that for the whole RPSP portfolio, effectiveness was higher for objectives 1 and 3 and limited for objectives 2 and 4 (Independent Evaluation Unit, 2023a).

Annex 9. CASE STUDIES MATRIX

COUNTRY	KEY FINDINGS		
	PROGRAMMING	IMPLEMENTATION	IMPACT/RESULTS
Chile	<p>Absence of centralized climate finance coordination reduces the influence of National Designated Authority over the development and implementation of energy-related projects. Ministry of Finance is the focal point only for the GCF and different ministries, for example, Ministry of Environment, act as the country focal points for other climate related funds, such as GEF, CIF and others. Although Technical Secretariat, which is comprised of the representatives from the Ministry of Finance, Ministry of Environment, and Ministry of Foreign Affairs exists as the national institutional framework to discuss climate change related issues including energy sector, lack of centralized climate finance entity hinders effective and coordinated planning and development of projects.</p> <p>Lack of alignment with private sector. There is currently no direct and regular engagement between the NDA and the private sector. Such a relationship is crucial for increasing the number of GCF projects for the energy sector in Chile, especially considering that the energy sector is strongly influenced by the private sector since 1980. GCF needs to align its operation with private sector standards, especially speed of operation, to crowd in more private investment and leverage it effectively. The FP115 was cancelled due at least partially to procedural challenges.</p>	<p>GCF must clearly define its risk aversion for project implementation and must be consistent throughout the project life cycle. It was observed that the GCF's risk aversion decreases from the application stage to the implementation stage. This decrease in risk tolerance over time poses challenges for the development of successful and innovative energy sector projects.</p>	<p>FP017 expected GHG emission reductions for 20 years is 3,697,439 tCO₂eq. The photovoltaic plant, long-term sustainability and GHG emission reductions is influenced by the market conditions in Chile's electricity sector.</p>
Tonga	<p>Some of the interviewed stakeholders raised concerns that the lengthy GCF project approval</p>	<p>The original TREP design did not cover the outer islands, but the projects realized savings in the</p>	<p>The GCF has transformed the market due to the large size of its investments. It has</p>

COUNTRY	KEY FINDINGS		
	PROGRAMMING	IMPLEMENTATION	IMPACT/RESULTS
	<p>cycle drains the limited resources of the NDA, and the government does not have the capacity to pursue more than one project at a time.</p>	<p>implementation process, which have been utilized to expand energy access on the outer islands.</p>	<p>achieved a market transformation and a paradigm shift in Tonga and has developed renewable energy capacity at different levels in the market, which is now being used to develop further projects for different development agencies.</p> <p>The RPSP has had substantial success in developing local capacity in the energy sector in general and at the NDA level.</p> <p>Some of the components of GCF support in Tonga are focused on access to energy, which do not necessarily reduce the carbon footprint of the country. While such projects may reduce the uses of certain types of energy (i.e. shift from cooking with wood to cooking with electricity), they add to the grid communities that are likely to see increasing energy demand until demand merges with national averages.</p> <p>A potential sustainability concern that Tonga might face challenges in the period after equipment warranties have expired due to limited local capacity for operation and maintenance.</p> <p>The energy sector investments of the GCF in Tonga are very relevant for SIDS as they are scalable, replicable, and applicable in the market with varying regulatory frameworks.</p>
Zambia	<p>GCF is not doing very well compared to other partners in terms of access: The process of accessing GCF financing is quite stringent. Other development partners are able to enter Zambia and identify their strategic priorities. Then, national partners are able to develop projects that align with</p>	<p>RPSP is helpful but not ground-breaking. The whole RPSP grant to develop the road map and the implementation is to be done by the government. Although the GCF grant helped in the road map, the road map has not been implemented. So, the GCF funding is developing policies and pathways, but</p>	<p>Energy is categorized as mitigation projects by the GCF when energy is also perceived to be an adaptation priority: Energy projects are viewed as purely mitigation in Zambia. In fact, the private sector especially wants to classify energy projects as mitigation because they want to</p>

COUNTRY	KEY FINDINGS		
	PROGRAMMING	IMPLEMENTATION	IMPACT/RESULTS
	<p>the priorities of these development partners. But for GCF, access is an enormous challenge. Zambia and African Countries are yet to overcome the challenges of programming with GCF.</p> <p>GCF heavily focuses on financial sustainability, which loses concessionality: There is a perception that the GCF focuses purely on economic sustainability. Therefore, country partners prefer financial sustainability over concessionality. GCF is not seen as a particularly concessional partner.</p> <p>GCF Secretariat lacks local and African context. Africa needs African solutions, not solutions as per the book: GCF support is relevant but insufficient. There is a lack of local context or clarity.</p> <p>GCF project design is costly, and there is low bankability for players in Zambia to design projects. Pursuing GCF projects is seen as a high-risk effort with no guarantee to access. GCF processes are very stringent and unpredictable, resource and energy-intensive, with no guarantee of a positive outcome. Hence, GCF projects are not seen as highly bankable, and it is generally perceived that the lack of guaranteed success prevents the private sector partners from pursuing access to GCF resources.</p> <p>Energy projects in Zambia are a mix of development and climate impacts. But GCF only wants to invest in climate projects. They do not want to get involved with development-related projects. It is hard to draw the line between what is development and what is climate: The GCF has a somewhat artificial and heavily emphasised boundary between development and climate</p>	<p>implementing those grants, or implementing the capacity building activities by the readiness grant is not happening efficiently with limited oversight from the GCF secretariat.</p> <p>The major financing component of FP080 is on pause due to national issues, such as: the country default in 2021, the lockdown during the pandemic, the depreciation of the local currency (Kwacha) against the US dollar, and a dramatic decrease in the country's exports of goods and services; electricity utility (offtaker) lack of creditworthiness.</p>	<p>access the credits that come with reducing emissions. Private players have financial incentives to pursue energy projects from the mitigation lens. The adaptation dimension of energy is not prioritized in Zambia (not attributable to the GCF).</p>

COUNTRY	KEY FINDINGS		
	PROGRAMMING	IMPLEMENTATION	IMPACT/RESULTS
	<p>projects. The GCF strongly prefers to support only climate components of projects with proven additionality. This is why the GCF is not faring so well because agriculture, energy, and mitigation-related projects heavily rely on development-related components. It is tough to draw a line in the artificial binary of development and climate.</p>		
Indonesia	<p>The GCF processes related to project initiation, approval, and management are perceived as slow and inefficient by Indonesian stakeholders, which negatively impacts the effectiveness and efficiency of energy sector projects.</p>	<p>Complex processes related to project modifications are a big challenge. This is especially relevant for energy sector projects in Indonesia (sometimes probably driven by a certain level of complexity) since it considerably reduces the impact potential of projects, their timeliness, as well as technology relevance.</p> <p>The planning process of country-level activities of large multi-country projects is not well designed and organized. Although there are certain interactions between the NDA and the multi-country AEs, the country-level commitments, timelines, indicators, and reporting are not in place since the NDA has no mechanism requiring country level allocations.</p>	<p>GCF plays an important role in the Indonesian market when it comes to investments in energy sector innovative solutions and technologies (FP083) as well as innovative financing solutions (FP156, FP196).</p>
Mongolia	<p>More flexibility in terms of revising the modalities and requirements of current energy sector projects and broadening/revising the overall scope and eligibility criteria for energy sector projects (e.g. in energy sectorial guides) can be beneficial for speeding up the uptake of current projects and guaranteeing the success of new projects.</p> <p>The GCF processes related to project initiation, approval, and management are considered to be slow and inefficient, which negatively impacts the</p>	<p>More flexibility in terms of revising the modalities and requirements of current energy sector projects and broadening/revising the overall scope and eligibility criteria for energy sector projects (e.g. in energy sectorial guides) can be beneficial for speeding up the uptake of current projects and guaranteeing the success of new projects.</p>	<p>The likelihood of achieving the expected results of GCF energy sector projects (outputs) is currently low, since five out of 10 GCF projects have not been launched as of this report date, partially due to the fact that the majority of energy sector multi-country projects (FP086, FP099, and FP204) has had no activities in Mongolia conditioned by the challenges specific to the Mongolian energy sector.</p>

COUNTRY	KEY FINDINGS		
	PROGRAMMING	IMPLEMENTATION	IMPACT/RESULTS
	<p>effectiveness and efficiency of energy sector projects.</p> <p>Relevant financial instruments, modalities, and mechanisms are another important contributor to the success of GCF energy sector projects in Mongolia. Long GCF funding maturity, for example, is critical for greening the energy sector. Another important aspect is the currency in which funding is provided since foreign exchange risks (especially in countries prone to foreign exchange risks) are among the most sensitive and costly funding aspects that cause challenges.</p>		
North Macedonia	<p>While multi-country projects may be a necessary way to engage new, smaller scale country partners, care must be taken that regional activities in FPs correspond to particular country needs and priorities, or that activities addressing these are added to the extent feasible. The multi-country projects should be aligned with the aims of the FP as well as the needs of the countries and in the case of FP177, the evidence proves that the alignment is not complete.</p>	<p>Effort is also needed to ensure that the government, specifically the NDA, has sufficient access to information on the progress of multi-country projects. This includes crucial details about project funding, progress, and subprojects allowing the NDA to assess project performance accurately. It should be observed that AEs may not share information with local stakeholders, resulting in frustration among local institutions. This situation is accentuated by the fact that in multi-country projects, the budget dedicated to each country is not clearly identified in the FP and neither communicated to the NDA, leading to lack of transparency.</p>	<p>GCF's approach to readiness has been aimed at strengthening the institutional framework and coordination mechanisms, which may contribute to the sustainability of future projects. Moreover, the support that will be provided through the EE Fund with GCF funding (FP177) is expected to enhance the country's capacity to implement Energy Efficiency projects and drive long-term sustainability in the sector.</p>