ENERGY TRANSITION PARTNERSHIP

Powering Prosperity and Enabling Sustainability in South East Asia

The Southeast Asian Energy Transition Partnership (ETP) is a multi-donor Forum that brings together government donors, philanthropies, and Southeast Asian governments to accelerate the energy transition on Southeast Asia.

Issue Paper

Blended Finance for the Energy Transition in Indonesia, the Philippines, and Vietnam

By: Asia Clean Energy Partners
Connections. Insights. Impact.

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Disclaimer

Abbreviations

ADB	Asian Development Bank
AFD	French Development Agency
ASEAN	Association of Southeast Asian Nations
CIF	Climate Investment Funds
CIO	Climate Investor One
CTF	Clean Technology Fund
COP	Conference of the Parties
CO_2	carbon dioxide
CO_2e	CO_2 equivalent
EBRD	European Bank for Reconstruction and Development
ETAP	Energy Transition Accelerator
ETM	Energy Transition Mechanism
ETP	Southeast Asia for Energy Transition Partnership
EU	European Union
ESI	energy eavings insurance
GCF	Green Climate Fund
GDP	gross domestic product
GEF	Global Environment Facility
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GW	gigawatt
IEA	International Energy Agency
IFC	International Finance Corporation
JICA	Japan International Cooperation Agency
JETP	Just Energy Transition Partnership
KfW	KfW Development Bank
kWh	Kilowatt-hour
MW	megaWatt
NDC	Nationally Determined Contribution
PV	Photovoltaics
SDG	Sustainable Development Goals
SME	small and medium-sized enterprises
OECD	Organization for Economic Cooperation and Development
WB	World Bank
USAID	United States Agency for International Development

Figures and Tables

Executive Summary

The Purpose of This Study

The Southeast Asia Energy Transition (ETP) requested Asia Clean Energy Partners to examine the landscape of clean energy finance in Indonesia, the Philippines, and Vietnam. The issue paper is structured to delve into various aspects of clean energy financing and blended finance initiatives in these countries. The main sections of the issue paper are as follows:

1. **Clean Energy Finance in Indonesia, the Philippines, and Vietnam**:

   In this section, we delve into the current state and resources for financing clean energy projects in Indonesia, the Philippines, and Vietnam. We assess capital requirements, the cost of financing, and obstacles to renewable energy funding in these countries. Additionally, we explore how multilateral institutions, national development banks, and commercial banks contribute to financing clean energy initiatives.

2. **Status and Potential for Blended Finance**:

   This section focuses on blended finance. We define what blended finance is and highlight its potential benefits. We also discuss the barriers it faces and investigate the current levels of utilization. Furthermore, we analyze the status of blended finance in Indonesia, the Philippines, and Vietnam and extract valuable lessons from prior experiences in these countries.

3. **Recommendations: How Can Philanthropies Support the Scale-Up of Blended Finance in Southeast Asia**:

   In this section, we discuss the unique role of philanthropic organizations in driving the energy transition through blended finance. We examine strategies for philanthropies to actively engage in blended finance initiatives and how ETP can collaborate with various stakeholders to facilitate these initiatives. We outline specific actions that ETP can take to mobilize resources and support blended finance projects. Our recommendations focus on harnessing philanthropic capital and ETP's expertise to bridge financial gaps for the energy transition.

   Appendices

   The appendices include additional information to support the paper's content. We include global case studies on blended finance from different regions, highlighting the effectiveness, success, benefits, challenges, and lessons learned from such initiatives.

Moreover, we provide a list of donor-funded blended finance projects specific to Indonesia, the Philippines, and Vietnam.

Summary of Key Findings

- The recent levels of investment in clean energy across Indonesia, the Philippines, and Vietnam fall significantly short of the region's requirements. Private capital has accounted for only 60% of these
investments, compared to about 90% in advanced economies.

- Southeast Asia needs to significantly ramp up efforts to achieve the goals of the Paris Agreement, including limiting temperature rise to below 2 degrees Celsius, improving energy access, and addressing air pollution. This requires increasing current investments by more than fivefold, reaching an annual average of over $150 billion by the late 2020s. This is, however, beyond the capacity of the domestic markets, and the region will need to access international capital to meet these future financing needs. More than $200 trillion of private capital is currently invested in global capital markets.

- The cost of capital (CoC) for investments in wind and solar photovoltaic (PV) projects remains relatively high in VIP countries. As a result, the financial attractiveness of private sector investments in renewables is often less evident than in more developed economies.

- The relatively high CoC and low participation of private capital in financing renewable energy projects in Indonesia, the Philippines, and Vietnam point to ongoing challenges. These challenges include uncertainties surrounding policy and investment frameworks, insufficient infrastructure, including grid connectivity and transmission capacity, and a lack of awareness and comprehension of renewable energy technologies and project finance models among lenders and investors, especially local commercial banks.

- Blended finance plays a pivotal role in unlocking the potential of clean energy projects by addressing financial barriers, reducing risks, and mobilizing diverse sources of funding to achieve sustainable energy transitions.

- Although progress has been made in recent years, the scaling of blended finance transactions has intricate obstacles that can influence its execution and results. The complexity of structuring blended finance deals involving various stakeholders leads to elevated transaction costs. Sustaining many blended finance initiatives becomes challenging without continuous reliance on concessional funding. Indonesia, the Philippines, and Vietnam face a limited project pipeline, making it challenging for private investors to find viable projects. Unfavorable regulatory environments and underdeveloped capital markets further impede private investor engagement.

Recommendations: The Role of ETP in Blended Finance

- *ETP can leverage its combined expertise and resources to effectively design, implement, and scale blended finance initiatives that drive the region's transition to clean and sustainable energy sources by forging strong partnerships and collaborations with the following stakeholders*:

    - **Development Finance Institutions (DFIs)**: ETP can partner with DFIs such as ADB, IFC, and the World Bank to enhance the risk-adjusted returns in blended-finance deals. This can involve financing technical assistance, such as transaction advisory services and sidecar facilities. Collaboration with DFIs can also support project preparation through capacity-building initiatives and grants, enhancing pipeline development and investor confidence.

    - **Project developers**: ETP can facilitate direct engagement between project developers and investors to promote blended finance approaches by establishing a project marketplace. This platform can showcase projects seeking funding and offers opportunities for meaningful connections. Additionally, ETP can encourage project bundling, creating larger-scale projects that attract a wider array of investors and financiers. We recommend that ETP explore collaborations with existing financing matchmaking services such as the UNIDO Private Financing Advisory Network (PFAN) and the IRENA Climate Investment Platform, which specialize in connecting projects with potential investors.

    - **Philanthropic organizations**: ETP can assist these organizations in identifying projects aligning with their funding priorities, fostering dialogue between stakeholders, and engaging in knowledge-sharing initiatives.

    - **Local financial institutions**: ETP can develop capacity-building programs that empower local banks with the understanding of clean energy projects and blended finance structures.

    - **Local governments and regulators**: ETP can aid in policy development, capacity building, and knowledge exchange, fostering effective regulations and strategies.

1. Clean Energy Finance in Indonesia, the Philippines, and Vietnam

1.1. Capital Demand for Clean Energy

Between 2016 and 2020[1], the average annual energy investment in Southeast Asia stood at approximately $70 billion. Of this level of investment, approximately 40% went into clean energy technologies, particularly solar photovoltaic (PV), wind energy, and grid infrastructure. Among Southeast Asian countries, Vietnam emerged as a significant player in renewable energy, witnessing the deployment of substantial capital into the sector. In 2019, Vietnam deployed around 6 gigawatts (GW) of renewable projects, primarily in solar PV, followed by an even more remarkable deployment of over 10 GW in 2020.

However, recent investments in clean energy in Southeast Asia are far below what the region needs, as highlighted in the evaluation conducted by the International Energy Agency (IEA). Private capital has accounted for only 60% of these investments, compared to about 90% in advanced economies. To align with the Paris Agreement's objective of keeping temperature increases below 2 degrees Celsius, and to address energy access and air pollution issues, Southeast Asia must significantly step up its efforts. This means raising current investment levels in clean energy by more than five-fold, resulting in an annual average expenditure of over $150 billion by the late 2020s. However, the domestic markets in the region alone cannot cover this substantial financial demand. Therefore, Southeast Asia will need access to international capital to fulfill these future financing requirements.

1.2. Cost of Capital and Challenges to Raise Financing for Clean Energy

Over the past decade, renewable energy technologies have undergone significant cost reductions[2], solidifying their position as the most economical choice for new electricity generation in most countries, including Indonesia, the Philippines, and Vietnam. However, within these countries, the cost of capital (CoC) for investments in wind and solar PV projects remains relatively high. As a result, the financial attractiveness of private sector investments in renewables is often less evident than in more developed economies.

The expectations of different classes of investors in Indonesia, the Philippines, and Vietnam exhibit variability contingent upon the nature of renewable technologies. The anticipated internal return rates (IRR) span a range of 10% to 15% when denominated in local currencies and 9% to 14% when quantified in US dollars, as delineated in Table 1. Meanwhile, the CoC for renewables in these markets is relatively high, ranging from approximately 8% to nearly 13% when gauged in local currencies and 6% to 10% in US

[1] IEA. 2022. Southeast Asia Energy Outlook 2022.
[2] IRENA. 2022. ASEAN Renewable Energy Outlook.

dollars. Consequently, it is difficult for private investors to justify these investments, given the relatively low project IRR figures.

By comparison, in more advanced markets such as China, North America, and Western Europe, the CoC rates are significantly lower, ranging from 3% to 5%[3]. Germany, for example, exhibits the lowest financing costs (1.1% onshore, 1.4% solar PV, 2.4% offshore). These favorable financing conditions can be attributed to well-developed renewable energy markets, supportive policies, and mature investment climates in these countries.

Table 1 Cost of Capital Metrics for Onshore Wind and Solar PV in Southeast Asia

	Onshore wind (unweighted mean)	Onshore wind (weighted mean)	Utility-scale solar PV (unweighted mean)	Utility-scale solar PV (weighted mean)	C&I solar PV (unweighted mean)	C&I solar PV (weighted mean)
WACC (LCY)	8.7% – 11.4%	9.0% – 12.3%	7.9% – 10.3%	8.2% – 10.5%	8.6% – 11.0%	9.8% – 12.8%
Expected Return (LCY)	11.1% – 14.4%	11.5% – 14.7%	10.3% – 13.0%	10.4% – 12.8%	10.7% – 13.3%	12.1% – 15.0%
Cost of Debt (LCY)	7.8% – 10.0%	8.0% – 11.0%	7.0% – 9.0%	7.3% – 9.4%	7.7% – 9.5%	8.7% – 11.3%
WACC (USD)	6.4% – 9.1%	6.7% – 9.6%	6.0% – 8.5%	6.1% – 8.5%	7.0% – 9.6%	7.8% – 10.6%
Expected Return (USD)	10.1% – 13.3%	10.9% – 13.9%	9.3% – 11.8%	9.5% – 11.8%	9.7% – 12.2%	11.2% – 14.1%
Cost of Debt (USD)	5.0% – 7.1%	5.0% – 7.3%	4.7% – 6.8%	4.7% – 6.8%	5.7% – 7.8%	6.0% – 8.3%
Leverage ratio	68.0% – 73.0%	66.2% – 71.2%	67.0% – 73.0%	65.6% – 72.3%	59.2% – 68.3%	59.8% – 67.0%

WACC= weighted average cost of capital; LCY=local currency
Source: IEA (2023)

The juxtaposition of the relatively elevated CoC with low participation of private investors in financing renewable energy projects in Indonesia, the Philippines, and Vietnam is an ongoing challenge. First, uncertainties surrounding policy and investment frameworks can dissuade private sectors from committing to renewable energy deals, as the lack of predictability can increase perceived risks. Second, insufficient infrastructure, including inadequate grid connectivity and transmission capacity, hampers the effective implementation and distribution of renewable energy, impacting the feasibility and attractiveness of investments. Furthermore, there's a limited grasp of renewable energy technologies and how to finance these projects. Local commercial banks, which are crucial for providing the essential debt financing for these projects, often struggle to effectively assess risks, structure appropriate financing, and confidently invest in renewable projects.

In **Indonesia**, the regulatory framework governing renewable energy development has undergone frequent revisions. For instance, MEMR Reg 50/2017 introduced the practice of

[3] Based on IRENA data collected from 45 countries on six continents

benchmarking renewable energy tariffs against the production cost (BPP), which adds a layer of uncertainty for investors due to the annual updates of BPP[4]. Additionally, Presidential Regulation No. 112 of 2022, which addresses the Acceleration of Renewable Energy Development for Electricity Generation (PR 112/2022), stipulates that the electricity purchase price for renewable projects is determined based on either (i) an annually evaluated staging ceiling price by the MEMR, or (ii) an agreed-upon rate for hydro, biofuel, and tidal projects.[5] These uncertainties affect project planning, financing decisions, and overall investor confidence.

Indonesia comprises more than 17,000 islands and has many unconnected isolated power systems, which poses challenges for connecting remote renewable energy projects to the main grid. This results in high transmission costs and project delays. In addition, the infrastructure for distributing power has been deteriorating, particularly in oversupplied areas, such as Java. Instances of overloading, blackouts, and frequent system downtimes have become common occurrences. These have all contributed to elevated project costs. PLN estimates that it needs approximately $3 billion for distribution upgrades over the next three years.[6]

Financial institutions in Indonesia face several challenges when it comes to financing renewable
projects, including a lack of familiarity, inadequate financing instruments, and limited funds available.[7]Commercial banks have so far only provided financing to a few geothermal and bioenergy projects, while none has yet done so for operating utility-scale solar and wind projects in the country. Furthermore, the long-tenor loans (above 10 years) are exceedingly rare, and there is an absence of non-recourse project financing (the norm for most renewable energy projects in OECD and other major economies) and limited-recourse financing is virtually absent as well.[8]

In the **Philippines**, the prevailing high Feed-in-Tariff (FIT) rates in comparison to auction ceiling prices might dissuade investors from directing funds toward new renewable energy capacity, particularly in the solar sector.[9] Investors may be hesitant to participate in competitive auctions because they can secure more favorable financial terms by opting for the FIT program. This issue became apparent in the recent auction conducted by the Philippines' Department of Energy (DOE) on 3 July 2023. In this auction, DOE offered 11,600 MW of green energy capacities that must be available in the next three years. However, the private sector only committed to providing 3,440 MW of new energy to be installed by 2025.[10]

[4] Government of Indonesia, MEMR. Ministerial Regulation No. 10/2017
[5] IRENA. 2023
[6] ADB. 2023
[7] OECD. 2021. Clean Energy Finance and Investment Policy Review of Indonesia.
[8] IEA. 2023. ASEAN Renewables: Opportunities and Challenges.
[9] Ibid.
[10] https://www.doe.gov.ph/sites/default/files/pdf/e_ipo/02_Green%20Energy%20Auction%20Program%202.pdf

In addition, the Philippines remains the only country in Southeast Asia not to have committed to achieving net-zero emissions by 2050.[11]

The Philippines' electricity grid infrastructure is ill-equipped to incorporate intermittent renewable energy sources effectively. Grid instability problems and the curtailment of renewable energy output have persisted since 2016, exacerbated by insufficient interconnection capacity between major load centers[12]. These challenges affect the economic viability of renewable energy projects, which depend on consistent energy generation for profitability.

Among local banks in the Philippines, clean energy projects make up a relatively modest proportion, accounting for approximately 5% of the overall lending portfolio. Between 2016 and 2020, local banks played a significantly smaller role, contributing only 10% to the funds raised through the issuance of the country's sustainable bonds.[13] A lack of innovative financial products for clean energy projects results in higher borrowing costs, making them less appealing to potential investors. This, in turn, dampens investor confidence, creating a feedback loop that further restricts the growth of clean energy financing.

In **Vietnam**, the abrupt adjustment in solar Feed-in-Tariffs (FiTs) in 2020 created uncertainty among investors and affected project bankability. This shift led to a pause of more than 4,600 MW of renewable energy projects, according to estimates from the Ministry of Trade and Industry (MOIT). Furthermore, the existing power purchase agreement (PPA) terms lack the necessary bankable attributes due to heightened concerns about arbitration and curtailment risks.[14] Additionally, the PPAs in Vietnam aren't as detailed as those in European or other OECD countries, contributing to the uncertainty that private investors find challenging to navigate.

Viet Nam Electricity (EVN), the state-owned utility, has struggled to keep up with investments in grid expansion under the recent solar boom that has left a surplus of power in the central and southern region and insufficient network capacity to transmit power to the northern region where there is a shortage of power supply. MOIT has forecasted that Vietnam will face severe power shortages before 2030 as electricity demand continues to outpace the construction of new power plants and network development.

As of the end of June 2019, data provided by the State Bank of Vietnam shows that clean energy projects accounted for approximately 15% of the green lending portfolio in Vietnam. The situation in Vietnam mirrors that of Indonesia and the Philippines in terms of

[11] Ibid.
[12] National Renewable Energy Board. 2020. National Renewable Energy Program 2020-2040.
[13] Bangko Sentral ng Pilipinas. 2022
[14] https://www.oecd-ilibrary.org/sites/9f339a54-en/index.html?itemId=/content/component/9f339a54-en

banks' lack of familiarity, inadequate financing instruments, and limited funds available[15]. Comparatively, in more mature financial markets, the practice of non-recourse project finance, characterized by extended loan tenures spanning 15 to 20 years, has become customary. This approach has contributed to highly favorable financing conditions, which have, in turn, significantly driven down the costs associated with the development of renewable energy projects in these markets.

1.3. The Role of Multilateral Institutions, National Development Banks, and Commercial Banks in Financing Clean Energy

The financing landscape for renewable energy in Indonesia, the Philippines, and Vietnam involves a collaborative effort between various stakeholders, including multilateral institutions, national development banks, and commercial banks. Each entity plays a distinct role in providing the necessary financial resources to support the renewable energy project pipeline in these countries.

Multilateral institutions, such as the Asian Development Bank (ADB), International Finance Corporation (IFC), and World Bank (WB), are pivotal actors in this landscape. They provide crucial support across funding, technical expertise, and policy guidance to boost the development of renewable energy projects. They use methods such as concessional loans, grants, and guarantees to reduce the risks associated with these projects. Moreover, these institutions actively work on building the capacity of local organizations, improving regulatory frameworks, and enhancing project management skills. This helps cultivate an environment conducive to renewable energy investments. They also offer political risk insurance and credit enhancements, which help mitigate project risks and encourage private sector investments in renewable energy.

National development banks, on the other hand, specialize in tailoring domestic financial solutions to align with the local market. They offer various financial instruments, ranging from loans and equity, to underpin renewable energy projects. Their knowledge of the local market dynamics, regulatory frameworks, and financial structures allows them to design financial products that suit the need of renewable energy projects in the region. Acting as catalysts, these banks can attract private sector investments by co-financing projects, reducing inherent risks, and setting benchmarks that underscore the feasibility of investing in renewable energy.

Commercial banks, another critical player, deliver mainstream financial support for renewable energy projects, offering a spectrum of resources, including loans, lines of credit, and other instruments that facilitate the endeavors of developers and investors. Leveraging their extensive local presence and deep expertise in banking services, commercial banks emerge as the primary source of financing for domestic renewable

[15] Ibid.

energy projects. Their role is to reinforce due diligence practices, comprehensive risk assessments, and adept risk management strategies.

In concert, the collaborative efforts of multilateral institutions, national development banks, and commercial banks form a robust foundation for financing renewable energy projects in Indonesia, the Philippines, and Vietnam. This tripartite partnership is instrumental in driving the energy transition, aligning with sustainable development objectives, and ushering in a cleaner and greener future for these nations.

In the section below, we provide examples highlighting the initiatives of multilateral institutions, national development banks, and commercial banks in scaling up renewable energy in Indonesia, the Philippines, and Vietnam.

Indonesia

- **ADB's Sustainable and Inclusive Energy Program (2015-2022)**[16]: This $1.1 billion program centers on three primary objectives: (i) enhancing electricity access for all Indonesians and elevating per capita consumption from 843 kilowatt-hours to 1,200 kilowatt-hours annually; (ii) fortifying domestic energy security by expanding gas production, enhancing downstream oil and oil product security, and escalating the utilization of renewable energy; and (iii) amplifying energy efficiency measures. The program is strategically aligned with PLN's Electricity Power Supply Business Plan for 2015-2024, intending to provide support to the company. The program marks ADB's inaugural policy-based operation in Indonesia exclusively focused on the energy sector.

- **World Bank's Sustainable Least-cost Electrification-1 (ISLE-1) Program**[17]: Approved in June 2023, the goal of ISLE is to connect 500,000 new customers, around 2 million people to the electrical grid, scale up solar power investments to reduce greenhouse gas emissions and lower the cost of power generation by 20%. It will also include technical assistance to build the capacity of Indonesia's electrical power company, PT. PLN Persero, to navigate the energy transition. Among its key components, the program will support upgrades of PLN's operational systems and business processes while reinforcing the grid for renewable energy integration and electrification in Indonesia's east. The project will reduce reliance on polluting forms of energy, such as diesel generators and kerosene lamps, and by supporting more affordable supply options, it will help low-income communities dealing with affordability challenges.

[16] https://www.adb.org/projects/49043-001/main

[17] https://www.worldbank.org/en/news/press-release/2023/06/26/world-bank-supports-increased-access-to-sustainable-and-lower-cost-electricity-in-eastern-indonesia

In addition to $500 million in financial support from the World Bank for ISLE-1, the Canada Clean Energy and Forest Climate Facility (CCEFCF) has approved $47.5 million of co-financing, and the Clean Technology Fund (CTF) has committed a US$15 million loan along with a $19 million grant. The program's total cost is US$1.14 billion, including PLN's financing of $159 million and an additional $400 million sourced from the private sector.

- **PT Indonesia Infrastructure Finance (IIF)**: IIF provides a comprehensive range of financial solutions, encompassing both fund-based and non-fund-based options, as well as fee-based services. These offerings include syndication and financial advisory services strategically designed to address the diverse financing requirements of infrastructure projects in Indonesia. IIF has been funding many renewable energy projects across Indonesia. In 2021, IIF successfully raised $150 million of private capital by issuing a five-year sustainable bond to fund low-carbon and climate-resilient infrastructure projects[18]. The transaction received the Sustainability Bond of the Year award for 2022 in the category of Financial Institution from the trade publication Environmental Finance.

- **Bank Mandiri[19]**: Bank Mandiri is Indonesia's largest commercial and state-owned bank. As of 2021, the Bank had funded 18 renewable energy projects with a total asset of $114 billion, mainly on utility-scale projects. However, clean energy remains a very small part of Bank Mandiri's current lending portfolio. An integral aspect of Bank Mandiri's impact has been its facilitation of long-term loan facilities sponsored by Agence Française de Développement (AFD) and ADB towards clean energy projects in Indonesia. In 2013, AFD and Bank Mandiri formalized a $100 million financial commitment earmarked for advancing renewable energies across the nation. This marked the second instance of an environmental credit line being allocated to the bank, with the initial collaboration dating back to 2010. The inaugural operation, funded through the credit line, supported power generation capacity exceeding 90MW, encompassing hydro and biomass power generation. The provision of credit lines helps reduce the bank's risk, build the bank's experience and track records, and improves the overall effectiveness of the investments.

Philippines

- **ADB's Climate Change Action Program (2022-2023)[20]**: Valued at $250 million, This program is ADB's first policy-based loan that addresses climate change as its core objective. Policy-based loans represent a distinctive approach wherein funds are

[18] https://thedocs.worldbank.org/en/doc/6f233ad931fbc208b895cb2b990187f3-0340012022/original/Case-Study-Indonesia-Infrastructure-Finance.pdf

[19] https://www.oecd.org/cefim/cross-cutting-analysis/Mandiri.htm

[20] https://www.adb.org/countries/philippines/overview

directed to a government's general budget instead of being allocated to explicit project expenses. Disbursement of loan funds is contingent on the government fulfilling pre-agreed policy reforms or actions, underscoring a commitment to sustainable transformation through tangible actions. The program supports the Philippines in taking actions that transform key sectors toward a climate-resilient and low-carbon economy. It focuses on national priority sectors for climate action, targeting adaptation in highly vulnerable sectors (agriculture, natural resources, and environment) and mitigation in emissions-intensive sectors (energy and transport). The program reform areas are (i) strengthening planning, financing, and institutional linkages for climate action; (ii) enhancing resilience to climate impacts; and (iii) strengthening low-carbon pathways. The program was prepared jointly with AFD, which provided co-financing of $172 million.

- **IFC Philippines' Sustainable Energy Finance Program**[21]: Since its inception in 2008, the program has catalyzed a total of more than 16 billion Philippine pesos (equivalent of $282 million) in clean-energy investments. The program has helped client banks to identify and develop close to 300 energy projects, of which 87 projects were successfully financed. These loans have saved nearly 100,000 megawatt hours of electricity per year, while generating 843,613 megawatt hours of renewable annually. This program jointly supported by the Global Environment Facility and the Clean Technology Fund. It operates in close collaboration with financial institutions, including the Bank of the Philippine Islands, BDO Unibank Inc., China Banking Corp., and BPI Globe BanKO Inc.

- **Development Bank of the Philippines (DBP)**[22]: The DBP provides financing for renewable energy projects through various loan programs, including the Philippine Green Financing Program, Financing Utilities for Sustainable Energy Development (FUSED), Solar Merchant Power Plant (SMPP) Financing Program, and Energy Efficiency Savings (E2SAVE). The bank expects to allocate around $1 billion for energy financing by 2030. This substantial investment aims to promote electricity access across the Philippines, particularly in remote and underserved regions.

- **Bank of the Philippine Islands (BPI)**[23]: As the second largest private bank in the Philippines, BPI has been at the forefront of sustainable finance. Back in 2008, BPI pioneered the nation's first sustainable energy finance fund, initially known as Sustainable Development Finance (SDF). This initiative has provided financing for a total of 398 projects, worth $44.5 billion.

  Among BPI's recent achievements is the world's first Energy Transition Finance Facility (ETFF). Financed by BPI and arranged by the Bank's investment bank arm BPI Capital,

[21] https://pressroom.ifc.org/all/pages/PressDetail.aspx?ID=17850
[22] https://www.dbp.ph/wp-content/uploads/2021/01/Green-Financing.pdf
[23] https://www.bpi.com.ph/

ETFF allows the decommissioning of South Luzon Thermal Energy Corp (SLTEC), a 246-megawatt coal-fired power plant, 15 years ahead of the end of its technical life. This will help reduce up to 50 million metric tons of carbon emissions. The deal complements the Bank's commitment to completely phase out its coal power generation portfolio by 2032--ahead of other non-Organisation for Economic Cooperation and Development (non-OECD) countries' target schedule. In August 2023, IFC agreed to invest $250 million in a green bond to be issued by BPI[24]. This collaboration marks the most significant deal IFC has forged with a financial institution in the Philippines.

Vietnam

- **ADB's Work in Vietnam**: ADB has demonstrated active engagement by extending loans, providing technical assistance, and offering policy guidance to stimulate investments in clean energy in Vietnam. An example of ADB's recent contributions in Vietnam is the GreenYellow Smart Solutions Rooftop Solar Project in September, 2023.[25] This initiative involves the establishment of 45 solar photovoltaic systems situated on the premises of prominent commercial and industrial consumers across Vietnam, with a combined installed capacity of 32.3 MW. ADB's involvement extends to several other significant projects, including a $100 million loan to finance a municipal waste-to-energy project with China Everbright International in 2018,[26] a $116 million green loan (of a total $173 million syndication) to advance the development of 114 MW wind farms in 2021,[27] a 24.5 million loan (of a total $106.5 million syndication) for refinancing 240 MW Dau Tieng solar project with B.Grimm in 2021,[28] Vietnam's first certified green loan of $27.9 million (of a total $186 million syndication) to finance 257MW solar project with Phu Yen JSC in 2020,[29] and a $37 million loan facilitating a groundbreaking 47.5 MW floating solar project with DHD in 2019[30]—the first of its kind at a large scale in Southeast Asia.

- **Vietnam Scaling Up Energy Efficiency Guarantee**[31]: In March 2021, the World Bank (WB), on behalf of the Green Climate Fund (GCF)--a fund established under the United Nations Framework Convention on Climate Change (UNFCCC), signed a grant with the State Bank of Vietnam worth $11.3 million, along with a $75 million guarantee to promote the development of participating financial institutions (PFIs) supporting energy-efficient enterprises. The project comprises an integrated package of credit risk mitigation, technical assistance and capacity building activities targeted at a range of

[24] https://pressroom.ifc.org/all/pages/PressDetail.aspx?ID=27698
[25] https://www.adb.org/news/adb-greenyellow-sign-deal-commercial-and-industrial-rooftop-solar-viet-nam
[26] https://www.adb.org/projects/50371-001.
[27] https://www.adb.org/news/adb-signs-green-loan-develop-144-mw-wind-farms-viet-nam
[28] https://www.adb.org/projects/54013-001/main
[29] https://www.adb.org/news/adb-phu-yen-jsc-sign-viet-nam-s-first-certified-green-loan-257-mw-solar-power-project.
[30] https://www.adb.org/news/adb-dhd-deal-provide-first-large-scale-floating-solar-pv-viet-nam
[31] Cities Climate Finance Leadership Alliance. 2021.

stakeholders including public entities, local financial institutions and industrial enterprises. The project includes a credit line from the International Bank for Reconstruction and Development (IBRD). The project will promote a market-driven approach to industrial energy efficiency, opening up the commercial lending market to local banks and non-bank financial institutions developing a new EE product line. With financial and technical support from the World Bank and the GCF, the Project and the supporting IBRD Loan will mobilize approximately $400 million of EE investments, supporting over 100 industrial companies to reduce energy consumption and resulting in about 120 MtCO2eq of GHG emission reductions over the lifetime of the investments.

- **BIDV**[32]: BIDV is Viet Nam's largest state-owned bank and one of the largest domestic lenders to renewable energy and energy efficiency projects, overseeing more than 1000 projects totaling $70 billion in assets. BIDV's clean energy portfolio has benefited from close collaboration with a number of multilateral and bilateral development finance institutions, including ADB, WB, EIB and AFD. This includes a USD 100 million on-lending scheme for climate mitigation projects by the EIB, a $100 million SUNREF green credit line from AFD, a $202 million WB Fund for Renewable Energy Development Project (REDP) to provide preferential loan programme for small and medium-sized (up to 30 MW) renewable energy projects as well as a $50 million WB Fund for Vietnam Energy Efficiency for Industrial Enterprises Project (VEEIE) de-risking support for energy efficiency from the WB.

  These partnerships included the provision of funding for clean energy projects, along with capacity-building support to build the bank's capabilities for evaluating clean energy projects. BIDV's clean energy financing covers both direct lending for renewable energy and energy efficiency projects and the provision of guarantees for offshore lending. The bank is also working with ADB to explore the possibility of consolidating its substantial clean energy portfolio for green bond issuance, thereby recycling raised capital into new projects.

- **Vietcombank**[33]: In April 2023, Vietcombank entered into a loan agreement with the Japan Bank for International Cooperation (JBIC) to establish a credit line of up to $300 million dedicated to financing renewable energy projects in Vietnam. JBIC contributes $165 million to this credit line, while the remaining portion is co-financed by Mizuho Bank, Ltd., Joyo Bank, Ltd., and Shiga Bank, Ltd. This marks the second loan agreement between Vietcombank and JBIC, following the successful implementation of their initial $200 million loan agreement signed in 2019. Recent green finance transactions by Vietcombank include supporting EVN Finance, a subsidiary of Vietnam Electricity Group (EVN) issue the first internationally verified green bonds worth $75 million in the local currency. The proceeds from the bond will enable EVN Finance to provide longer-term

[32] OECD. 2021.
[33] Vietcombank. 2023.

loans for green infrastructure projects, including the growing solar power industry in Vietnam.

2. Status and Potential for Blended Finance

Despite challenges hindering the expansion of clean energy in Indonesia, the Philippines, and Vietnam, on-the-ground experiences show that innovative finance products can draw in additional private capital to address project funding shortfalls. Currently, there is more than $200 trillion in private capital invested in global financial markets.[34] Innovative finance mechanisms can include new and evolving models that extend beyond traditional commercial debt financing, appealing to private and institutional investors and public funds.[35] In a recent publication[36], the ADB featured twelve such innovative financing models specifically designed to address market gaps and institutional barriers, making them attractive to private investors.

- **Blended finance**: a financing approach that combines public and private sector resources.
- **Asset recycling**: a financial strategy in which governments sell or lease existing public assets to private sector investors and use the proceeds to fund new infrastructure projects or other public initiatives.
- **Asset securitization**: a financial process where illiquid assets, such as loans or receivables, are bundled together and sold to investors as securities, thereby converting these assets into tradable financial instruments.
- **Convertible debt structures**: financial instruments that allow debt to be converted into equity shares or other securities at a predetermined conversion price or ratio.
- **Municipal bonds**: debt securities issued by local governments or municipalities to raise funds for various public projects, with interest payments and principal repayment backed by the local government's revenue or taxing authority.
- **Sustainable and green bonds**: fixed-income investments that raise capital for environmentally and socially responsible projects, with proceeds allocated to initiatives that have a positive impact on sustainability and climate change mitigation.
- **Government green funds and/or transition funds**: public funding mechanisms established by governments to support environmentally sustainable and climate-friendly projects and to facilitate the transition to a green economy.
- **Public-private partnerships**: collaborative arrangements between government entities and private sector companies to jointly plan, finance, construct, and operate public infrastructure projects or provide public services.
- **Climate risk and catastrophe insurance**: financial products designed to protect individuals, businesses, and governments from financial losses resulting from climate-related events and natural disasters.

[34] ADB. 2023. Reinvigorating Financing Approaches for Sustainable and Resilient Infrastructure in ASEAN+3
[35] Ibid.
[36] Ibid.

- **Crowd funding**: a method of raising capital by collecting small contributions from a large number of individuals, typically through online platforms, to fund projects, ventures, or charitable causes.
- **Debt-for-nature/climate swap**: an arrangement where a country's debt is partially or fully forgiven or restructured in exchange for commitments to invest in environmental conservation or climate change mitigation efforts.
- **Carbon credit market**: a system for trading carbon credits, which represent a reduction in greenhouse gas emissions, allowing companies and entities to offset their emissions by purchasing credits generated by projects that reduce emissions.

In the next section, we explore how blended finance contributes to the clean energy transition in Indonesia, the Philippines, and Vietnam.

2.1. Definition of Blended Finance and What It Can Do in Principle

According to the Organization for Economic Co-operation and Development (OECD)[37], blended finance involves the strategic use of development finance to mobilize additional funds for sustainable development in developing countries. It aims to attract private investment to projects that promote sustainable development and offer financial returns to investors. This innovative approach helps expand the available resources for developing nations, complementing their own investments and official development assistance (ODA) to bridge the financing gap for achieving the Sustainable Development Goals (SDGs) and supporting the goals of the Paris Agreement.

Similarly, the World Bank Group's International Finance Corporation (IFC) defines blended finance as "combining concessional finance from donors or third parties alongside DFIs' normal own-account finance and/or commercial finance from other investors, to develop private sector markets, address the SDGs, and mobilize private resources." This definition emphasizes using limited amounts of concessional finance to mitigate specific investment risks for projects that may not succeed solely on commercial terms.[38]

The Development Financial Institutions Working Group on Blended Concessional Finance also embraces the IFC's definition of blended finance, albeit with a more confined scope. Their version includes only public funds at a concessional rate, leading them to refer to it as blended concessional finance rather than blended finance.[39]

Whether referred to as blended finance or blended concessional finance, these strategies are designed to incentivize private sector engagement in activities and projects that can achieve both financial returns and positive social and environmental outcomes.

[37] OECD. 2022. Blended Finance.
[38] Shirai. 2022
[39] ADB. 2021

There are various mechanics and structures that enable blended finance to support the scale-up of development impact. Convergence[40] outlines **four prevalent blended finance structures**, each tailored to tackle distinct risks and obstacles over a project life cycle (see Figure 1). For instance, in the early stages, the financing might mostly come from donor-provided catalytic capital, and the technical assistance might revolve around foundational groundwork, such as conducting feasibility studies. As projects advance, funding may predominantly involve commercial investment supported by concessional guarantees from international development agencies. These are also commonly blended finance structures in Indonesia, the Philippines, and Vietnam:

- **Catalytic Funds**: These constitute the most prevalent scheme, accounting for approximately 85% of all blended finance initiatives in recent years. Catalytic funds leverage public or philanthropic funds within the capital structure to either decrease the cost of capital or mitigate investment risks, including off-take risks, construction risks, and revenue attractiveness. In this setup, the public or philanthropic funder assumes a higher risk stance for an equivalent or lower return, reducing the risk for private sector investment. These funds can include senior debt or equity and first-loss capital.

- **Guarantees and Insurances**: This structure ranks as the second most utilized approach. Here, the grantor commits to paying a portion or the entirety of an investment's value in cases where there is a lack of payment or a loss of value, enhancing the security of the investment. Loan guarantees, for example, address access to capital and counterparty/off-taker/credit risks, while performance guarantees mitigate technical risk. These structures also involve the issuance of bonds or notes at concessional prices.

- **Grants**: Grants are a straightforward structure often provided during the initial phases of a project. They are not direct investments in the capital structure; instead, they enhance the likelihood of successful transactions and facilitate financial closure.

- **Technical Assistance**: Similarly, technical assistance operates outside the capital structure, aiming to amplify project commercial appeal and bankability. This support is typically deployed in the early stages of a project and includes assistance in project design, formulation, and legal aspects. It also plays a pivotal role in curbing risks such as skill shortages and limited capacity.

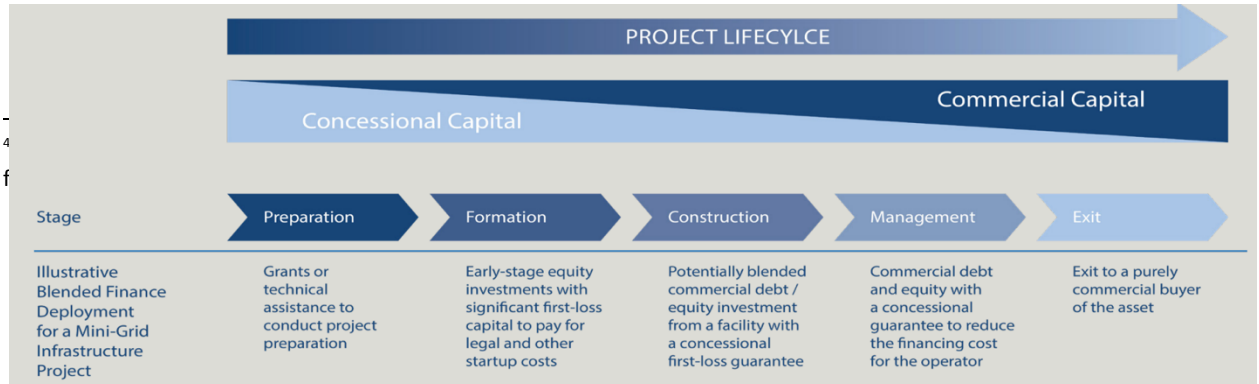

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Figure 1 Example of Blended Finance Deployment over a Project's Lifecycle
Source: Convergence (2018); USAID (2020)

Effective blended finance transactions not only mitigate investment risks and align private capital with a country's needs for clean and affordable energy but also yield positive, enduring effects on local financial ecosystems. Convergence highlights the benefits of using blended finance to accelerate investments in renewable energy[41]:

- **De-risking investments**: Blended finance can use public or philanthropic funds to provide guarantees, insurance, or other forms of risk-sharing mechanisms that reduce the risk profile of renewable energy and energy efficiency investments. This makes the projects more attractive to private investors who may be hesitant to invest in new and unproven technologies or operate in frontier markets where risks such as macroeconomic, political, regulatory, currency, and information asymmetries are volatile and more difficult to mitigate than those in developed markets.

- **Mobilizing private capital**: Blended finance can leverage private capital by using public or philanthropic funds to provide concessional loans or equity investments that lower capital costs for private investors. This makes the investment more financially viable and generates attractive returns for investors.

- **Creating innovative financing instruments**: Blended finance can encourage the development of innovative financial structures and business models that align profit motives with social and environmental goals.

- **Fostering partnerships**: Blended finance fosters collaboration between public and private sector entities, including development finance institutions, philanthropic organizations, and governments. This collaborative approach mobilizes capital and establishes an environment conducive to private investments in renewable energy and energy efficiency projects.

- **Supporting policy and regulatory frameworks**: Blended finance can include technical assistance funding that assists countries in formulating and executing policies that encourage the adoption of renewable energy and energy efficiency. Additionally, it supports the creation of innovative financing mechanisms that align with these policies, thereby stimulating investments in these sectors.

[41] Convergence. 2018.

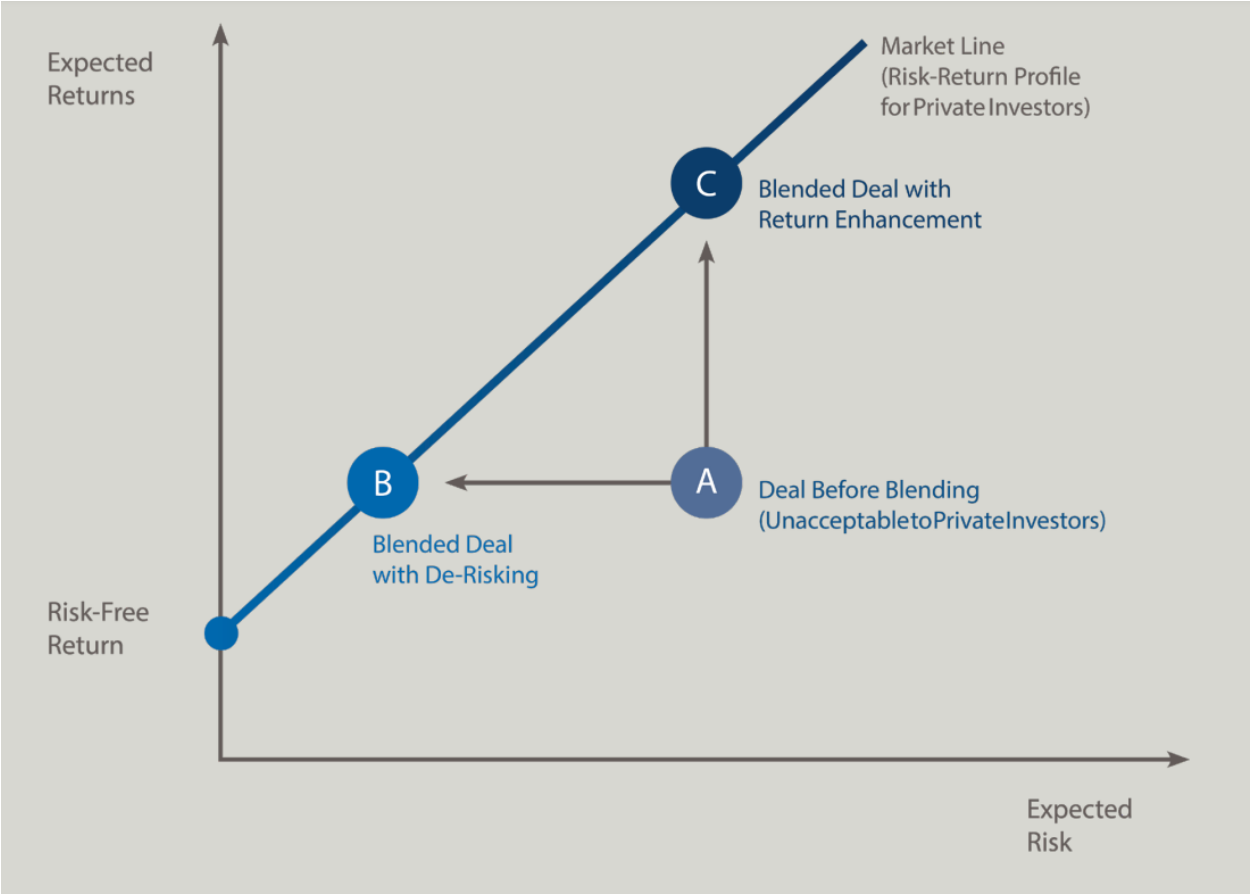

Figure 2 Deploying Blended Finance to Achieve Commercially Acceptable Risk-Return Profile
Source: Convergence (2018); USAID (2020)

According to the Convergence database[42], blended finance has been used in a consistent number of transactions per year, averaging around 55 deals annually since 2015, resulting in a global cumulative annual financing of approximately $10.7 billion. Climate change has remained a prominent focus in the blended finance market, with climate-related deals representing 50% of total deals launched annually since 2011.

Globally, renewable energy transactions have accounted for the vast majority of climate blended finance, comprising 88% of deals between 2019 and 2021. These renewable energy deals have had a median deal size of $59 million. Solar photovoltaic power generation has emerged as the predominant sector funded by blended finance, representing 74% of the deals in renewable energy (see Figure 3). Meanwhile, the number of wind power projects has significantly increased from 2019 to 2021, representing 24% of renewable energy transactions, which contrasts the 10% share observed between 2016 and 2018.

[42] Convergence. 2022. State of Blended Finance

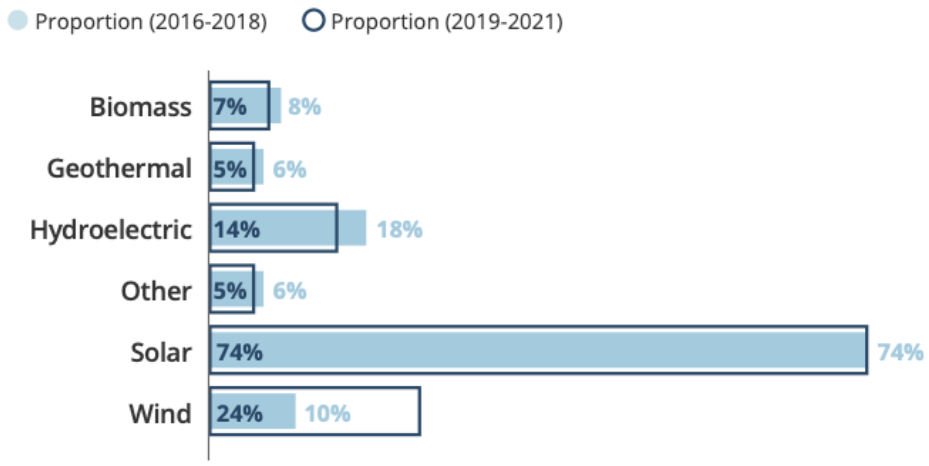

Figure 3: Proportion of Annual Blended Finance Deals by Renewable Energy Technology (2016-2021)
Source: Convergence (2022)

Convergence suggests that this trend might partially stem from the decreased necessity for risk mitigation in larger renewable energy deals. Large, utility-scale renewable energy assets have experienced significant capital cost reductions and have evolved into familiar asset classes, allowing them to raise capital from institutional investors and other mainstream lenders. Successive successful transactions improve institutional investor comfort levels, lessening the demand for risk-bearing capital.

Additionally, Convergence highlights the trend that larger-scale renewable energy projects in the blended finance market also often occur in countries with sovereign credit ratings that approach or meet investment-grade standards[43]—a prerequisite for many mainstream private sector investors. On the other hand, smaller renewable energy projects present additional risks, including lower expected returns, higher counterparty credit risk, and remote locations where the assets are being constructed. Accordingly, these projects actually have greater need for blended finance support to align these projects with market risk expectations.

2.2. Barriers to blended finance and mobilization rates

Despite its recent momentum, scaling blended finance for renewable energy projects presents several challenges that can impact the successful implementation and impact of such initiatives. Drawing upon insights gained from stakeholder interviews and recent publications from ADB, Convergence, OECD, and World Bank, and USAID we describe

[43] According to Standard and Poor's, investment grade credit rating rate in 2023 for Indonesia is BBB, Vietnam BB+, and the Philippines BBB+ with stable outlook.

below the challenges that have been seen both in Indonesia, the Philippines, and Vietnam and other developing markets:

- **Risk Perception and Mitigation**: Renewable energy projects can carry inherent risks, such as technological uncertainties, regulatory changes, and market volatility. Blended finance seeks to mitigate these risks; however, achieving a shared understanding of risk among various stakeholders involved in blended finance transactions can be complex. Public investors and philanthropies, motivated by broader developmental goals, might prioritize social and environmental impacts over immediate financial returns. Private investors, on the other hand, typically emphasize financial gains and need to evaluate risk-return trade-offs. The establishment of clear risk-mitigation frameworks within blended finance structures is vital. These frameworks should outline how risks will be managed, allocated, and monitored throughout the lifecycle of the project. Balancing risk consideration with incentives that align with the interests of all stakeholders can foster a more cohesive risk perception.

- **Complexity in Structuring Deals**: Crafting successful blended finance structures involves a delicate balance between public and private capital, often combining concessional funds with commercial investments. The goal is to maximize impact while also safeguarding financial returns. This intricate dance of capital types necessitates a deep understanding of the specific development goals, financial mechanisms, risk-sharing strategy, and potential exit pathways. *The complexity inherent in these blended finance structures can act as a deterrent, particularly for investors who are unfamiliar with the nuances of blending different types of capital*. Investors who are accustomed to more traditional investment models might find the additional layers of complexity challenging to grasp. This lack of familiarity can result in apprehension and hesitation, potentially deterring them from engaging in blended finance deals.

- **Challenges of Measuring Additionality**: One of the primary challenges is attributing the impact of blended finance transactions to the use of public funds. It can be difficult to isolate the specific contribution of public funding when multiple actors and financial sources are involved in a project. Measuring additionality requires comparing the actual outcomes of a project with a counterfactual scenario, which is the hypothetical situation where public funds were not used. Defining a credible counterfactual can be difficult, especially when it's uncertain what would have happened in the absence of blended finance. Moreover, access to data, especially from the private sector, can be limited. Reluctance to disclose financial details from the private sector complicates the evaluation of their authentic input and underlying motivations. Furthermore, the impact of blended finance transactions often takes time to materialize, and it can be challenging to measure long-term effects accurately. Development goals may not be achieved immediately, making it hard to assess whether the private sector's involvement truly added value.

- **Lack of Awareness and Understanding**: Institutional investors, often guided by established investment strategies, might not readily recognize the potential synergy between financial returns and sustainable impact that blended finance aims to achieve. Private investors sometimes associate blended finance with corporate social responsibility, perceiving blended finance projects as activities undertaken solely for altruistic reasons rather than as viable investments. This misperception can deter potential investors who prioritize financial gains.

- **High Transaction Costs**: Blended finance involves a diverse range of actors, including public and private entities, development organizations, philanthropic institutions, and commercial investors. Each of these stakeholders bring their unique perspectives, objectives, and requirements to the deal negotiation. Coordinating their involvement, aligning interests, and establishing collaboration mechanisms can be time-consuming and resource-intensive, contributing to the overall transaction costs. Moreover, blended finance deals frequently require specialized knowledge and skills that may not be readily available within traditional financial setups. The intricate interplay between concessional and commercial capital, risk-sharing mechanisms, and impact measurement necessitates expertise in both financial structuring and development outcomes. Acquiring, deploying, and retaining such specialized expertise can further elevate the transaction costs associated with blended finance arrangements.

- **Project Pipeline**: Identifying a sufficient number of viable renewable energy projects with clear financial structures and positive impact potential is an ongoing challenge in Indonesia, the Philippines, and Vietnam. The scale of renewable energy projects in these countries is frequently smaller compared to more developed regions. The relatively small size of projects can scare off potential investors due to concerns related to economies of scale and overall financial viability. Furthermore, the lack of well-defined financial structures can impede project attractiveness. Investors seek clarity in terms of risk-sharing mechanisms, revenue streams, and return on investment. Inadequate financial structuring can deter potential investors who are hesitant to commit capital without a clear understanding of the project's financial dynamics.

- **Regulatory and Policy Environment**: The regulatory and policy landscape plays a pivotal role in shaping the parameters within which blended finance operates. Frequent policy changes, which are often seen in Indonesia, the Philippines, and Vietnam, can disrupt the stability and predictability that investors seek. When policies shift rapidly or unpredictably, investors may hesitate to commit their resources to long-term, large-scale renewable energy projects. This uncertainty introduces additional risks that can deter both private and public investors from participating in blended finance projects. In addition, inconsistencies across jurisdictions can complicate the process of structuring and executing blended finance transactions. A lack of harmonization between regulations in different regions can create complexities when aligning the

interests of various stakeholders, especially when projects involve cross-border elements. These inconsistencies may increase transaction costs and create ambiguities, thereby diminishing the attractiveness of blended finance projects.

- **Data Availability and Transparency**: Investors rely on a comprehensive understanding of project fundamentals, financial performance, and impact metrics to make informed investment decisions. Insufficient data availability, lack of standardized data, and transparency in reporting, which are often found in Indonesia, the Philippines, and Vietnam, hinder the accurate assessment of these elements, thus impeding investors' ability to adequately evaluate the viability and attractiveness of blended finance deals.

- **Balancing Returns**: Blended finance often involves concessionary capital, which typically seeks lower financial returns compared to commercial investors. This dynamic of varying return expectations can present a delicate challenge. If the expectations of concessional investors are too high, it might limit the number of projects that can be funded, potentially undermining the overall impact achieved. Conversely, if commercial investors perceive the expected returns as insufficient to justify the risk, they may choose not to participate, limiting the pool of available expertise. Achieving equilibrium between the objectives of concessional and commercial investors has significant implications for the feasibility and success of projects under blended finance structures.

- **Exit Strategies**: Establishing clear exit strategies for blended finance investors is vital. Achieving alignment on how and when different investors can exit the project while safeguarding the intended developmental impact can be complex. Ensuring that exit strategies align with the goals of diverse investors requires astute negotiation and a shared understanding of the project's objectives and timeline.

- **Geopolitical and Economic Factors**: Economic and geopolitical uncertainties can affect investor confidence and risk appetite. Blended finance projects can be vulnerable to these external factors. The enduring effects of supply chain disruptions triggered by the pandemic continue to linger. Moreover, emerging challenges like the energy sector implications of the conflict in Ukraine and the rise of trade barriers have led to shifts in shipping costs, global trade dynamics, and fluctuations in commodity prices. Blended finance projects, often reliant on a stable and predictable operating environment, can face challenges as these disruptions ripple through various sectors.

- **Limited Local Capability**: Successful implementation of blended finance projects requires local stakeholders, including governments, financial institutions, and project developers, to have in-depth knowledge of different clean energy technologies and project finance structures. The challenge lies in cultivating and nurturing this local capacity. Training local stakeholders, building their knowledge base, and fostering skills required for successful blended finance project execution require a consistent and

long-term commitment to keeping stakeholders up to date with the latest advancements and best practices.

- **Coordination and Collaboration**: Effective collaboration among different stakeholders, including governments, development finance institutions, private investors, and philanthropic organizations, is essential for the seamless functioning of blended finance transactions. The challenge, however, lies in addressing the complexities arise from the diverse perspectives and objectives of these stakeholders. Effective communication, transparent negotiation, and a shared vision are foundational elements for building collaboration. Engaging in regular discussion, clarifying roles and responsibilities, and understanding each stakeholder's value proposition can pay the way for smoother coordination. Additionally, the role of intermediaries and facilitators such as ETP in blended finance transactions cannot be overlooked. These entities can act as bridges, helping to bridge gaps in knowledge, expectations, and preferences among stakeholders.

- **Market Maturity**: In Indonesia, the Philippines, and Vietnam, the financial ecosystem exhibits a lower level of development compared to more advanced economies. This is characterized by the presence of inadequately developed domestic capital and debt markets, which play a critical role in enabling the issuance and trading of government and corporate bonds. These limitations diminish the avenues through which investors can diversify their portfolios and manage risks. This, consequently, reduces the overall attractiveness of blended finance deals in these countries.

- **Sustainability and Replicability**: Many blended finance initiatives in Indonesia, the Philippines, and Vietnam struggle to continue their operation without ongoing reliance on concessional funds. This dependence can potentially hinder the long-term viability of the projects, as the availability of concessional funds might not be guaranteed over time. Furthermore, the aspect of replicability pertains to the ability of these initiatives to be successfully replicated or expanded beyond their initial scope. Many of these lack the necessary structures, frameworks, and strategies that would enable them to be effectively scaled up or applied in different contexts. This limitation prevents the positive outcomes and lessons learned from being extended to a larger audience or to address similar challenges in other locations.

2.3. Status of Blended Finance in Indonesia, the Philippines, and Vietnam

According to the Convergence database, there has been an uptick in blended finance activities in Southeast Asia, especially Indonesia and Vietnam. The region had nearly 99 blended finance transactions during the period between 2018-2020, with a cumulative value of approximately $19.75 billion. Among these transactions, around a third (34%) had supported renewable energy projects, accounting for a total financing of $10.3 billion.

Solar projects made up 29% of the total renewable energy projects financed, while hydropower initiatives constituted 15%. Indonesia stands out with 11 transactions, solidifying its position as one of the vibrant blended finance markets within Southeast Asia's renewable energy sector. Vietnam had 10 transactions, and the Philippines had 7. Approximately a third of renewable energy blended finance transactions fall within the range of $100 million to $250 million, including projects, funds, and companies.

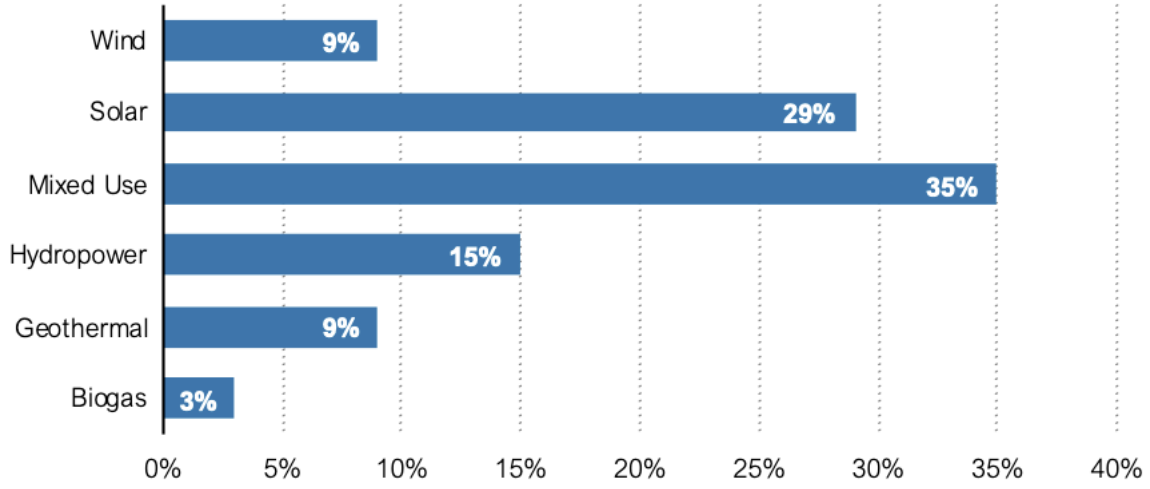

Figure 4: Breakdown of Blended Finance Transactions by Renewable Energy Technology in Southeast Asia
Source: Convergence (2023)

In comparison to other regions, completed blended finance transactions in Southeast Asia lag both in terms of quantity and total value. This discrepancy is evident when contrasted with regions like Sub-Saharan Africa (see Figure 5).

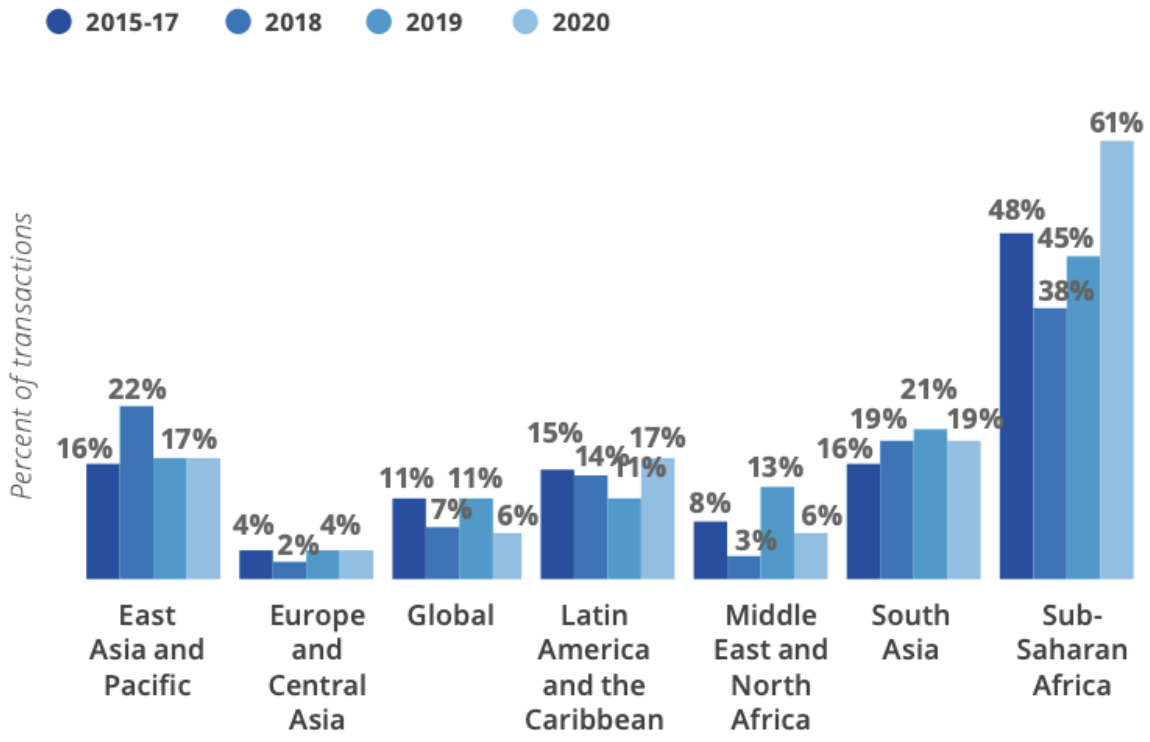

Figure 5: Proportion of Closed Transactions by Region
Source: Convergence (2021)

The most common investors in clean energy blended finance deals in Southeast Asia were commercial private investors, accounting for 40%. Development finance institutions (DFIs) made up 27%, including multilateral development banks (MDBs) and development agencies (19%).

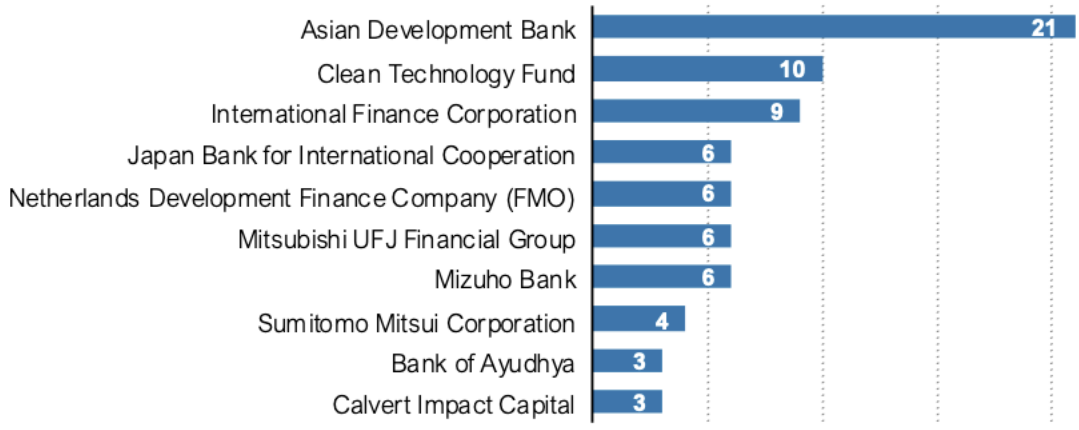

Figure 6: Number of Renewable Energy Blended Finance Transactions by Stakeholders
Source: Convergence (2022)

Two of the major blended finance initiatives by DFIs in Southeast Asia include the Catalytic Green Finance Facility (ACGF) and the Energy Transition Mechanism (ETM):

- **ASEAN Catalytic Green Finance Facility (ACGF)**[44]: The Association of Southeast Asian Nations (ASEAN) Catalytic Green Finance Facility (ACGF) is a permanent facility under the ASEAN Infrastructure Fund (AIF), dedicated to accelerating green infrastructure investments in Southeast Asia. It supports ASEAN governments to prepare and finance infrastructure projects that promote environmental sustainability and contribute to climate change goals. The ACGF is owned by ASEAN governments and the Asian Development Bank (ADB) and managed by ADB. By the end of 2022, the ACGF had provided technical assistance to 21 projects in advanced stages of preparation and 18 projects in their initial developmental phases. The financing collaborators of the ACGF have furnished a total of $62 million in concessional loans and $10.6 million in funds for technical assistance. Furthermore, ACGF has facilitated issuances of six green, social, sustainable, and other labeled bonds (GSS+) bonds, successfully raising a total of $6.2 billion.

- **Energy Transition Mechanism (ETM)**: The governments of Indonesia, the Philippines, and Vietnam and the Asian Development Bank (ADB) launched the Energy Transition Mechanism (ETM) at COP26. The ETM was established to raise and allocate finance to purchase thermal coal power plants and bring forward their retirement and replacement with renewables. The ETM aims to reduce coal generation capacity in its three pilot countries by 50%. The ETM is comprised of two funds:

    - Carbon Reduction Fund to provide a blended finance mechanism to accelerate the retirement of coal assets by lowering the cost of capital and reducing the operating life of coal assets.
    - Clean Energy Fund to invest in renewable power to replace retired fossil generation assets. The ETM will leverage the ADB's convening power and technical expertise to support delivery of its objectives, including through engagement with the private sector.[45]

    To date, ETM has mobilized a total of $551 million in highly concessional funding and grants to support the retirement or repurposing of coal and other fossil fuel power plants to replace them with clean, renewable energy in the region. This financial support includes $500 million from the Climate Investment Funds Accelerating Coal Transition (CIF ACT) program for Indonesia, a $25 million grant from the Government of Japan, and $26 million from the Government of Germany allocated to the ETM Partnership Trust Fund. This fund is intended to provide grants, technical assistance, and non-grant instruments such as debt and equity.[46] Ongoing discussions are in

[44] ADB 2023. ASEAN Catalytic Green Finance Facility
[45] ADB, 2021.
[46] https://www.adb.org/news/adb-energy-transition-mechanism-marks-significant-milestones

progress with other governments for potential additional contributions to further advance these efforts. As of April 2023, ETM has achieved the following milestones:[47]

- In **Indonesia**, ADB signed a Memorandum of Understanding with Cirebon Electric Power, an independent power producer (IPP), and other partners to explore the early retirement of the first coal-fired power plant under the ETM program in 2022. This proposed transaction is targeted at retiring a 660-megawatt coal power plant located in Western Java. The intention is to create a model that can be replicated for other IPPs in Indonesia. ADB is also supporting the design and operation of Indonesia's ETM Country Platform, which oversees the broad structure of energy transition activities in Indonesia and future programs to accelerate the retirement or repurposing of coal-fired power plants. ADB is supporting the development of Indonesia's investment plan under the CIF-ACT program, which received in-principle approval to access $500 million of concessional capital in October 2022.
- In the **Philippines**, ADB completed a pre-feasibility study in 2021 and remains actively involved in conducting a comprehensive feasibility study. ADB is also collaborating with the government to formulate an investment plan under the CIF-ACT initiative.
- In **Viet Nam**, ADB completed a pre-feasibility study in 2021 and is in discussions with key ministries to commence a full ETM feasibility study.

In the following section, we highlight significant blended finance initiatives and transactions in Indonesia, the Philippines, and Vietnam:

Indonesia

- **Just Energy Transition Partnership (JETP)**[48]: The Just Energy Transition Partnership (JETP) for Indonesia was launched on November 15, 2022 at the G20 Leaders' Summit in Bali. The President of Indonesia and the International Partners Group (IPG), led by the United States and Japan and including Canada, Denmark, the European Union, France, Germany, Italy, Norway, and the United Kingdom, issued a Joint Statement to formalize the landmark partnership. Under the Partnership, an International Partners Group (IPG), comprised of the G-7, Norway, and Denmark and led by the United States and Japan, promised to mobilize $10 billion in financing, while a private sector alliance committed an equal amount. Indonesia agreed to accelerate the retirement of coal-fired power plants and promote renewable energy, setting targets of capping emissions from its power sector, making that sector carbon neutral by 2050, and tripling the share of renewable energy in the power mix by 2030[49].

[47] https://www.adb.org/news/features/update-energy-transition-mechanism-april-2023
[48] PLN 2023
[49] https://www.whitehouse.gov/briefing-room/statements-releases/2022/11/15/indonesia-and-international-partners-secure-groundbreaking-climate-targets-and-associated-financing/

- **Sarulla Geothermal Power Plant**[50]: the project, situated in North Sumatra province, Indonesia, has effectively leveraged various blended finance instruments to attract investment and mitigate risks. With a significant capacity of 330MW, the Sarulla geothermal power plant stands as one of the largest geothermal projects worldwide, with a capital expenditure (CAPEX) of approximately $1.6 billion, equivalent to $5 million per installed MW.

  To secure financing, loan agreements worth $1.17 billion were executed in March 2014 between the project developer, Sarulla Operations Ltd (SOL), and the Asian Development Bank (ADB) ($250 million), the Japan Bank for International Cooperation (JBIC) ($492 million), and six other commercial banks ($328 million). The involvement of concessional loans provided by the Clean Technology Fund (CTF) ($80 million) and the Canadian Climate Fund (CCF) ($20 million), facilitated through the ADB, played a pivotal role in achieving financial closure.

  Public sector stakeholders, including the Ministry of Finance and the Ministry of Energy and Mineral Resources (MEMR), contributed to the project's development and financing. The Ministry of Finance issued a 20-year Business Viability Guarantee Letter (BVGL) to ensure the financial performance of the state-owned electricity company, PLN, covering off-take obligations and the construction of the substation connecting the plant to SOL's transmission lines. The MEMR, in addition to providing regulatory framework and permits, facilitated the implementation of a feed-in tariff mechanism.

  Furthermore, the project incorporates the state-owned company PGE as the concession owner through a Joint Operating Contract (JOC) with SOL. The Energy Sales Contract (ESC), a tripartite agreement involving SOL, PGE, and PLN, enables the sale of electricity to PLN and royalty payments to PGE.

  Public support has been instrumental in securing access to private finance and long-term funding at competitive rates, resulting in improved expected returns for the developer by 4%. This distinctive project development model and financing structure exemplify successful collaboration between private and public entities in the implementation of the Sarulla Geothermal Power Plant project.

Vietnam

- **Vietnam Just Energy Transition Partnership (JETP):** On 14 December 2022, the International Partners Group (IPG), including the European Union and the governments of the United Kingdom, France, Germany, the United States, Italy, Canada, Japan, Norway and Denmark, and Vietnam announced a Just Energy Transition Partnership

[50] CPI. (2015). Using Private Finance to Accelerate Geothermal Deployment – Sarulla Geothermal Power Plant in Indonesia

(JETP), which aims to unlock financing to support Vietnam with a just and sustainable energy transition. The Partnership will mobilize $15.5 billion of public and private finance to support Vietnam to achieve its ambitious Net Zero 2050 goal ($7.75 billion of public finance and $7.75 billion of private finance).

- **VinFast Electric Mobility Green Loan Project**[51]: ADB mobilized a $135 million financing package for VinFast Trading and Production Joint Stock Company (VinFast) for manufacturing Viet Nam's first fully-electric public transport bus fleet and first national electric vehicle (EV) charging network. The assistance will support Vietnam's efforts to achieve net-zero greenhouse gas emissions and expand high-tech manufacturing industries.

  The climate financing has a seven-year tenor and comprises a $20 million loan funded by ADB, parallel loans of $87 million facilitated by ADB as mandated lead arranger, and concessional financing of up to $28 million. The climate financing is certified by the Climate Bonds Initiative, a scientifically-based standard for labeling bonds, loans, and other debt instruments which contribute to addressing climate change.

  ADB has partially offset the project's risks by utilizing concessional financing from its managed trust funds comprising a loan of up to $20 million from the Australian Climate Finance Partnership funded by the Australian Government (ACFP); a loan of up to $5 million from the Clean Technology Fund (CTF); and a grant of up to $3 million from the Climate Innovation and Development Fund, which is funded by Goldman Sachs and Bloomberg Philanthropies.

  Parallel loans were also mobilized by ADB from Export Finance Australia, the Finnish Fund for Industrial Cooperation, Oesterreichische Entwicklungsbank AG, and ResponsAbility.
  Additionally, the project includes a technical assistance (TA) package of $950,000 from the ACFP and the CTF, focused on raising consumer awareness about e-mobility's economic, environmental, and social impacts to help advance its market penetration. The TA will also help promote the role of women studying for or working in fields related to science, technology, and mathematics.

Philippines

- **Clean Technology Fund (CTF)**[52]: In the Philippines, CTF is investing $60 million aimed at demonstrating the market viability of low-carbon public transport solutions and encouraging private-sector participation in industrial energy efficiency and renewable energy, such as solar, wind, and biomass. The co-financing structure entails a total of $1.3 billion, comprising contributions from different sources: government (20%, $231.31

[51] https://www.adb.org/news/adb-leads-135-million-climate-financing-package-support-electric-mobility-viet-nam
[52] https://www.cif.org/country/philippines

million), MDBs (50%, $561.7 million), the private sector (23%, $265 million), and bilateral and other entities (7%, $75 million). Among its investments, CTF is supporting the deployment of 100,000 energy-efficient electric tricycles in Cebu City and Manila and providing initial financing to establish rooftop solar-charging stations for the vehicles.

- **Burgos Wind Farm**[53]: The 150MW Burgos wind farm in Ilocos Norte is the biggest wind farm in the Philippines and the first wind project nominated for the Philippine Government's feed-in-tariff (FIT) incentive scheme.

  The onshore wind farm was commissioned in November 2014 and is owned and operated by the EDC Burgos Wind Power Corporation (EBWPC), an affiliate of Energy Development Corporation (EDC).

  Development included the 87MW first phase and the 63MW second phase. The groundbreaking ceremony was held in April 2013 and the construction works began in June of the same year.
  The wind farm generates approximately 370GWh of electricity a year, which is used to power more than two million households. It offsets approximately 200,000t of CO_2 emissions annually.
  The Burgos wind farm project was awarded the 2015 Asia Power Engineering International Best Renewable Energy Project for achieving five million safe man-hours without incident.

  The cost of the Burgos wind farm was estimated to be $450 million. EDC secured $315 million in debt financing from a group of foreign and local banks in October 2014. The debt financing facility consists of US dollars and Philippine peso tranches, which will expire in 15 years. ADB approved a senior secured term loan of $20 million to EDC in November 2015 as part of the debt financing facility.

  Danish export credit agency Eksport Kredit Fonden (EKF) provided a guarantee for a portion of the US dollar loan component and the Australia and New Zealand Banking Group (ANZ), DZ Bank, the ING Bank, Malayan Banking Berhad (Maybank) and Norddeutsche Landesbank Gironzentrale acted as mandated multiple lead arrangers for the foreign tranche.

  The local tranche for the loan facility was arranged by PNB Capital and Investment Corporation and SB Capital Investment Corporation, along with a group of local lenders, including BDO Unibank, Land Bank of the Philippines, Philippine National Bank and Security Bank Corporation.

[53] https://www.power-technology.com/projects/burgos-wind-project-ilocos-norte/

2.4. Lessons Learned to Date in Indonesia, the Philippines, and Vietnam

We have gathered valuable lessons from stakeholder interviews and recent successful blended finance transactions in Indonesia, the Philippines, and Vietnam. These lessons can serve as guiding principles for these countries as they shape their upcoming blended finance initiatives.

- **Strong government support for renewable energy**: Strong commitments from the government through clear national energy goals and various incentives such as feed-in tariffs, tax breaks, and favorable tax arrangements help propel blended finance transactions (see Figure 7). The recent surge of solar and wind energy installed capacity in Vietnam, from 4.7 TWh in 2019 to 9.5 TWh in 2020, provides an excellent example highlighting the role of government in blended finance. The rate of increase in the solar plus wind share of the electricity mix in Vietnam in 2020 was much faster than that achieved in the broader Asia-Pacific region or globally. The government's commitment to energy accessibility and international climate change treaties, coupled with generous FIT, tax, and land lease incentives, have substantially elevated investor confidence and brought more private capital into the clean energy sector to complement public funds.

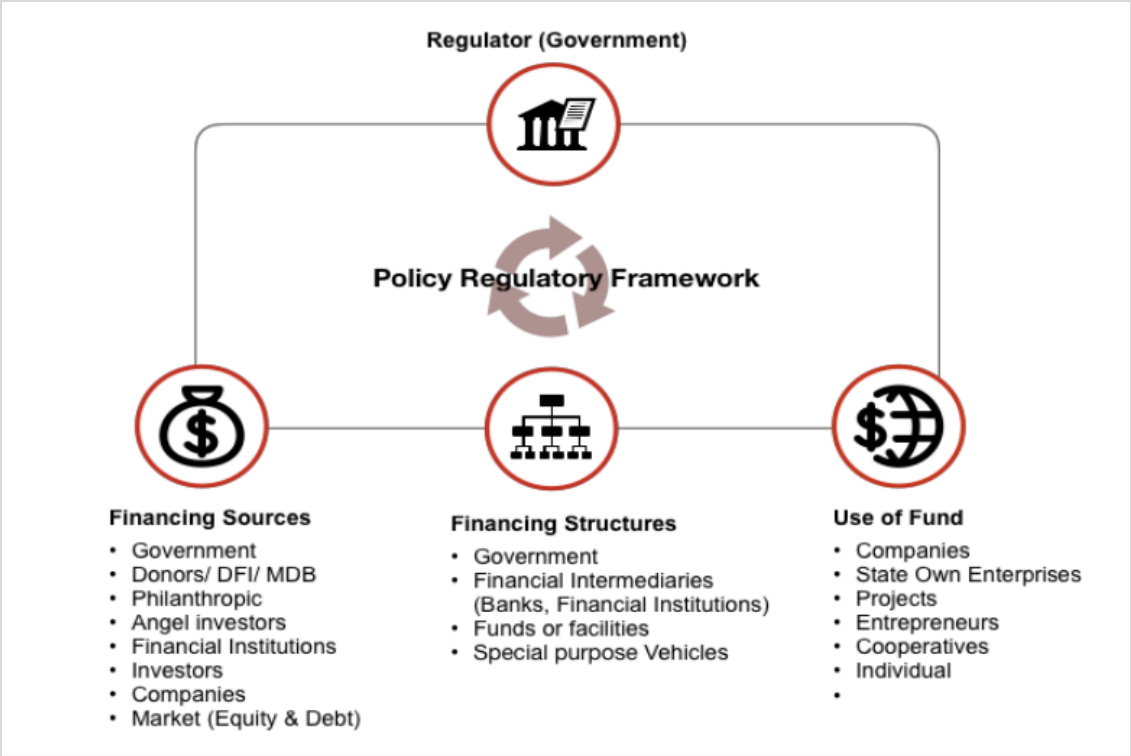

Figure 7: Blended Finance Value Chain
Source: Simatupang (2019)

- **Effective use of complementarity between private sector investors and DFIs to mitigate risks and leverage synergies**: DFIs and private sector investors have distinct strengths that, when synergistically harnessed, can significantly drive the clean energy transition in the region. DFIs can help mitigate risks associated with technology, regulatory environments, and market dynamics by offering guarantees, insurance, and technical assistance. In addition, DFIs can engage with government authorities to advocate for favorable policy frameworks that encourage clean energy investments. By partnering with private investors, DFIs can ensure that projects align with national energy and sustainability goals. For instance, ADB collaborated with private investors to develop the Sarulla Geothermal Power Project in Indonesia, as we highlighted in the previous section. ADB's political risk guarantee helped alleviate investor concerns about potential changes in government policies, which, in turn, enabled the project to raise an additional $328 million of private capital. Building on its extensive track record, ADB maintains a significant role in promoting blended finance transactions in the Asia Pacific region.

- **Establishing robust monitoring and evaluation frameworks**: As we discussed the previous section, measuring additionality in blended finance transactions can be challenging due to the complex nature of these deals. To address this challenge, it's essential for blended finance initiatives to establish robust monitoring and evaluation frameworks from the outset. This includes creating a well-defined set of additionality criteria to align stakeholders' efforts and expectations, enabling a focused assessment of whether private sector involvement genuinely contributes to the intended developmental value. It also requires setting up data collection mechanisms to capture various financial data inputs, project outcomes, and developmental impacts. Collaborative data-sharing protocols are crucial to ensure transparency and accuracy in the evaluation process and engage stakeholders in a transparent manner. Encouraging private investors to share relevant financial and operational data while addressing concerns about sensitive information can lead to a more holistic understanding of their contribution and effectiveness. Furthermore, recognizing the dynamic and evolving nature of the renewable energy landscape, continuous learning and adaptation are critical components. As challenges emerge and contexts evolve, the monitoring and evaluation frameworks should be flexible enough to accommodate adjustments. Regular evaluations of the frameworks can lead to improvements in measurement methodologies, ensuring they remain relevant, effective, and aligned with changing goals and realities.

- **Strengthening local capacity**: The limited participation of local banks and investors in blended finance transactions and the scarcity of the project pipeline highlight the necessity of investing in education and skill-building within local stakeholders. Capacity-building initiatives, tailored to the unique aspects of blended finance, will

assist local stakeholders in understanding the nuances of structuring and managing blended finance projects, thus facilitating decision-making processes, fostering innovative project ideation, and ensuring the alignment of projects with local needs and aspirations.

- **Collaboration and adaptability**: Blended finance initiatives require partnerships between governments, development institutions, private investors, and other stakeholders. Successful projects leverage the strengths of each participant, mitigating risks and aligning objectives. Moreover, adaptability is key as circumstances evolve. The ability to adjust strategies, address challenges, and capitalize on emerging opportunities is central to scale up blended finance.

3. Recommendations: How Can Philanthropies Support the Scale-Up of Blended Finance in Southeast Asia

3.1. The Unique Role of Philanthropic Organizations in Supporting the Energy Transition through Blended Finance

Philanthropies can act as pivotal catalysts in advancing blended finance in Southeast Asia by leveraging their resources, expertise, and networks. Some philanthropic organizations, such as the Bill and Melinda Gates Foundation, the Shell Foundation, and the Rockefeller Foundation, have already integrated blended finance strategies into their programming. In this section below, we explore several ways in which philanthropies can contribute to advancing blended finance in Southeast Asia:

- **Catalyzing early-stage projects**: Philanthropic organizations can provide initial grants or concessional funding to kickstart clean energy projects that might be considered too risky by traditional investors. These funds act as a catalyst, attracting private sector investors and other financiers. An illustration of this approach is the Southeast Asia Clean Energy Facility (SEACEF)[54], which addresses the "early-stage financing gap" by providing high-risk capital to projects and businesses. The SEACEF initiative aims to generate substantial climate impact by catalyzing private capital at a targeted ratio of 50:1, effectively unlocking more than$2.5 billion of clean energy infrastructure investment and curating a diverse, low-carbon portfolio exceeding 2 GW.

  SEACEF supports the scale up of proven technologies and business models in wind, solar, energy storage, energy efficiency, and electric vehicles. Geographically, SEACEF targets Indonesia, the Philippines, and Vietnam. It channels development capital to nurture early-stage clean energy projects and companies. SEACEF secures funding from substantial international climate-focused foundations, impactful investors, and corporate entities such as Microsoft and Bloomberg Philanthropies.

- **De-risking investments**: Philanthropies can absorb or mitigate certain risks associated with blended finance initiatives. They can offer guarantees, insurance, or first-loss capital to reassure private investors and incentivize their participation in projects that might have higher risks. The goal is to ensure that for every philanthropic dollar invested in a clean energy project, additional private capital is attracted to invest alongside it. In 2022, ADB signed a $107 million financing project with BIM Wind Power Joint Stock Company to develop an 88 MW wind farm in Viet Nam.[55] In this deal, ADB also administered an additional $5 million grant from the Goldman Sachs and Bloomberg Philanthropies-backed Climate Innovation and Development Fund to help

[54] https://www.cefia-dp.go.jp/hubfs/event/04Mar2021/SEACEF_Pres_Conf.pdf
[55] https://www.adb.org/news/adb-bim-wind-sign-107-million-financing-package-support-wind-energy-viet-nam

de-risk the investment. Specifically, the grant was used to mitigate environmental and social safeguards risks such as reducing impact on residents and wildlife in the project location. The grant helped to raise an additional amount of $57 million from commercial private lenders.

- **Innovative financing models**: Philanthropic organizations can design and pioneer innovative financial structures that blend philanthropic grants and concessional funds with private sector capital. These structures can make investment opportunities more appealing and open up additional sources of funding. For instance, the Shell Foundation worked with Grameen Shakti to promote solar energy adoption in rural Bangladesh. The foundation provided funding to Grameen Shakti to establish solar systems in remote villages. This initial support helped Grameen Shakti to secure additional financing from commercial banks, enabling them to install more than 2 million solar home systems, benefitting millions of people.

- **Capacity building and technical assistance**: Philanthropies can provide technical expertise, capacity-building programs, and knowledge sharing to local stakeholders, including governments, financial institutions, and project developers. This strengthens the overall ecosystem and enhances the implementation of blended finance projects. In April 2023, ADB and the Global Energy Alliance for People and Planet (GEAPP) announced a new capital fund to accelerate clean energy access and transitions in South and Southeast Asian countries, including India, Indonesia, Vietnam, Pakistan, and Bangladesh.[56] GEAPP will provide an initial $35 million in catalytic capital to establish and manage the fund in collaboration with ADB. The fund includes technical assistance, grants, and blended finance instruments to attract additional capital. Priority programs will include supporting Battery Energy Storage System (BESS) in Vietnam, and the early retirement of coal-fired power plants in Indonesia.

- **Data and research**: Philanthropies can fund research to identify market gaps, assess the impact of blended finance initiatives, and highlight successful blended finance case studies. Findings from research can guide investment decisions and influence policy recommendations. For example, the Global Innovation Fund (GIF), a $200 million nonprofit innovation fund headquartered in London, offered a $600k loan to fund research and business development to establish and deploy certified smart metering technologies for microgrids and central grid utilities in Nigeria, the Democratic Republic of the Congo, the Philippines, and Somalia.

[56] https://www.energyalliance.org/news-insights/adb-and-geapp-pledge-us35m-to-accelerate-energy-access-and-transition-in-south-and-southeast-asia/

3.2. Strategies for ETP Collaboration with Key Stakeholders to Facilitate Blended Finance Initiatives

ETP can leverage its combined expertise and resources to effectively design, implement, and scale blended finance initiatives that drive the region's transition to clean and sustainable energy sources by forging strong partnerships and collaborations with the following stakeholders:

- **Development Finance Institutions (DFIs)**: ETP can partner with DFIs such as ADB, IFC and World Bank to enhance the risk-adjusted returns of blended-finance deals. This can be achieved by providing financing technical assistance, such as transaction advisory services and sidecar facilities. The lack of transaction advisors in Indonesia, the Philippines, and Vietnam often creates barriers that prevent private capital from entering these markets.[57] ETP can address this issue by covering the fees of transaction advisors. This incentive encourages investors to engage in deals they might otherwise avoid due to perceived risks and lower profitability compared to more developed markets. ETP can also provide a technical assistance sidecar--a facility that allows fund managers to provide portfolio companies with business advisory services. This, in turn, reduces the risk associated with investing in these companies.[58]

  ETP can also engage with DFIs to support project preparation through capacity building and targeted grants. Initiatives such as training programs, project preparation facilities, and tools to assist project developers in preparing feasibility studies or project proposals for securing loans can significantly contribute to enhancing pipeline development and bolstering investor confidence.

- **Project developers**: As we highlighted in the previous section, many investors struggle to find investment-ready projects. ETP can alleviate this constraint by facilitating direct engagement between project developers and investors. This can be effectively achieved through the establishment of a project marketplace, where projects seeking funding are prominently featured and accessible to prospective investors. Such a marketplace can take diverse forms, from online platforms to dedicated investment forums. Examples of financing matchmaking services designed to link projects with potential investors include the UNIDO Private Financing Advisory Network (PFAN)[59] and the IRENA Climate Investment Platform.[60]

  In addition, ETP can collaborate with project developers in bundling projects. This strategic approach can help create larger-scale projects, making them more attractive to investors and potentially leading to more favorable financing terms. Asset

[57] USAID 2020
[58] Ibid.
[59] https://pfan.net/
[60] https://www.irena.org/Energy-Transition/Partnerships/CIP

aggregation can attract a wider spectrum of investors and financiers, thereby enhancing the overall viability and appeal of investment opportunities. For example, the UNDP Climate Aggregation Platform (CAP)[61] promotes innovative financial aggregation structures and models to support small-scale clean energy assets.

- **Philanthropic organizations**: Philanthropies can provide guarantees, insurance, or first-loss capital to reassure private investors and lenders in blended finance deals. ETP can assist philanthropies in identifying and developing a portfolio of projects that align with their funding priorities. ETP can serve as a convener, fostering dialogue and collaboration between philanthropies, private sector investors, governments, and local communities. This holistic approach can ensure well-rounded project development and successful implementation. ETP and philanthropic organizations can also engage in knowledge-sharing initiatives promoting the exchange of best practices, lessons learned, and success stories in blended finance. This continuous learning process equips all stakeholders involved in designing blended finance structures with enhanced strategies and methodologies to bolster pipeline development.

- **Local financial institutions**: As we discussed in Section 1, many local financial institutions in Indonesia, the Philippines, and Vietnam lack the necessary experience and information to finance renewable energy projects effectively, limiting their participation in blended finance deals. To address this knowledge gap, ETP can organize capacity-building programs to enhance local banks' comprehension of clean energy projects and blended finance structures. The training curriculum can cover topics such as technical aspects of project identification and evaluation, financial modeling, due diligence, and risk evaluation. Additionally, ETP can assist local banks in establishing green finance policies and procedural frameworks. These frameworks should aim to streamline clean energy lending portfolios and prepare local banks to attract private capital through the issuance of green bonds.

- **Local governments and regulators**: As we covered in Section 2, the absence of long-term policies and incentives, along with unclear, inconsistent, and poorly visible policy measures to support the renewable energy industry and market, can pose major obstacles to blended finance transactions. To address this issue, we recommend that ETP collaborate with local governments. This partnership would involve providing policy and regulatory assistance, organizing capacity-building programs, facilitating knowledge exchange, and facilitating dialogues with various stakeholders:

    - *Policy and regulatory support*: ETP can assist the governments of Indonesia, the Philippines, and Vietnam in developing a set of enabling policies and regulatory tools to lower investment risks and increase deal flow liquidity while also enhancing the funding supply.

[61] https://www.undp.org/climate-aggregation-platform

- *Capacity building and knowledge exchange*: ETP can work with local governments and regulators to develop capacity-building programs that enhance their understanding of blended finance mechanisms and the financial aspects of different renewable technologies. These programs can help establish a regulatory environment supportive of blended finance. In addition, ETP can organize knowledge-sharing sessions to allow local governments and regulators to draw lessons from successful blended finance experiences in other regions. This can encourage the governments of Indonesia, the Philippines, and Vietnam to embrace and customize blended finance in their countries.

- *Stakeholder engagement*: ETP can facilitate dialogues and workshops that bring together local governments, regulators, private investors, and project developers. These platforms can foster mutual understanding and collaboration in implementing blended finance initiatives. ETP's involvement in stakeholder engagement, which is initiated through ADB's ETM and JETP, holds significant importance in harnessing the necessary resources essential for the scale-up of blended finance.

Appendices

A: Global Case Studies on Blended Finance

1. Green Climate Fund (GCF)

1.1. Overview

The Green Climate Fund (GCF) is a multilateral fund that utilizes blended finance to support climate change mitigation and adaptation projects in developing countries. The GCF combines public finance from donor countries with private sector investment to address climate challenges. It has funded projects across various sectors, including renewable energy, sustainable agriculture, and climate-resilient infrastructure worldwide.

1.2. Success Stories

GCF has achieved remarkable success in mobilizing substantial financial resources for climate finance. From 2020 to 2023, the Fund experienced significant expansion, resulting in a portfolio of 216 projects valued at $12 billion. When considering the total assets under management, including co-financing, the GCF's value surpasses $45 billion, making it the largest dedicated climate fund globally.

Since its establishment in 2015, GCF has built extensive experience with financial innovation. GCF's unique value in promoting transformative climate solutions towards net zero and climate resilient economies can be attributed to the following sectors:

- **High-risk appetite**: GCF reduces the risk associated with investments to mobilize finance at scale. This includes supporting initiatives that are often too risky for multilateral or national development banks. The GCF achieves this by designing innovative financial mechanisms, testing various economic and financial instruments, supporting new initiatives, and acting as an anchor or first-loss investor.

- **Capital agnostic**: GCF catalyzes climate innovation by investing in new business models to establish a proof of concept. It accomplishes this by using various financing tools, including grants, loans, equity, and guarantees. GCF acts as a green market accelerator while improving access to climate finance.

- **Partner agnostic**: The GCF collaborates with more than 200 accredited agencies and partners, including multilateral and national banks, international financial institutions, development finance institutions, UN agencies, conservation organizations, equity funds, government agencies, and regional institutions. These diverse partnerships allow the GCF to leverage a wide range of knowledge and experiences, facilitating systemic change to realize climate goals.

- **Country Ownership and Alignment**: The GCF emphasizes country ownership and alignment with national priorities. It works closely with recipient countries to ensure projects align with their climate goals, development plans, and strategies. This approach helps foster local ownership, enhances project relevance, and increases sustainability and impact.

- **Promoting Transformational Change**: The GCF supports projects that bring about transformational change and have a significant impact on climate mitigation and adaptation. It prioritizes projects with high potential for innovation, scalability, and sustainability, encouraging a shift towards low-carbon and climate-resilient development pathways.

1.3. Lessons Learned

- **Simplifying Access and Streamlining Processes**: One of the key lessons learned is the need to simplify access and streamline processes for developing countries to access GCF funding. The Fund has recognized the importance of reducing complexity and enhancing efficiency to ensure faster and more effective delivery of climate finance.

- **Enhancing Collaboration and Partnerships**: The GCF has recognized the importance of collaborating with a wide range of stakeholders, including national governments, international organizations, civil society, and the private sector. Building effective partnerships helps leverage expertise, mobilize additional resources, and promote knowledge sharing and capacity building.

- **Strengthening Readiness and Capacity Building**: To ensure GCF funds are used effectively, the Fund has highlighted the need for strengthening readiness and building capacity in recipient countries. This includes supporting recipient countries in developing robust project proposals, improving institutional capacities, and enhancing monitoring and evaluation systems.

- **Balancing Risk and Impact**: The GCF has learned the importance of balancing risk and impact when choosing and executing projects. It has recognized the need to carefully assess and manage risks associated with climate projects, particularly those in vulnerable and high-risk areas, while ensuring projects deliver tangible and sustainable climate benefits.

2. Solar Risk Mitigation Initiative

2.1. Overview

The World Bank's Energy Sector Management Assistance Program (ESMAP), in partnership with AFD and the International Solar Alliance (ISA), launched the Sustainable Renewables Risk Mitigation Initiative (SRMI)[62] during COP 24. This initiative addresses key challenges hindering renewable energy deployment at a greater scale, including grid integration technical constraints, off-taker risks, and weak procurement and planning capacity.

SRMI helps governments develop, finance, and implement sustainable solar and wind programs with the goals of:

- attracting affordable private investments in optimized conditions for grid-connected and off-grid projects.
- reducing reliance on public finances - limited to critical public investments.
- maximizing socio-economic benefits such as job creation and gender equality.

In pursuit of these objectives, the SRMI targets to mobilize $1 billion in concessional finance. This funding will finance the development of 14 gigawatts (GW) of renewable energy across more than 20 developing countries by the year 2025.

2.2. Success Stories

- Five projects with the Clean Technology Fund (CTF): SRMI leveraged $ 255 million from the CTF (along with direct) to support $1 billion of public investments in solar with storage projects and solar home systems (SHS) in Burkina Faso, Maldives, Uganda and Tanzania as well as a regional West Africa program for privately-financed SHS deployment. This combined effort is projected to unlock 900 MW of privately financed solar generation and 600 MW of storage, mobilizing $1.3 billion of private investment and providing affordable and clean electricity to around 5 million people.

- Seven countries under the SRMI facility with the Green Climate Fund: In 2021, the GCF Board approved the SRMI Facility (Phase 1) for $280 million of grants/highly concessional loans/risk mitigation instruments blended with $1.3 billion in IDA/IDRD financing and leveraging $3.3 billion in private investments. Phase 1 focuses on Botswana, CAR, DRC, Mali, Kenya, Namibia and Uzbekistan. SRMI Facility (Phase 1) expected main results are: 2.5 GW of new VRE projects built, 1 GW of battery storage, and 4.2 million people provided with access to reliable electricity.

2.3. Lessons Learned

- **Blended Finance's Catalytic Role**: SRMI has demonstrated the catalytic effect of blended finance mechanisms in attracting private sector investments to renewable energy projects. By leveraging concessional finance, grants, and risk mitigation

[62] ESMAP 2023

instruments, SRMI has been able to unlock significant private investments, underscoring the importance of blending different types of capital to bridge the financing gap in the renewable energy sector.

- **Holistic Approach to Risk Mitigation**: The initiative's focus on addressing a range of risks, including grid integration constraints, off-taker risk, and weak procurement and planning capacity, highlights the need for a holistic risk mitigation strategy. By systematically addressing these challenges, SRMI has created an enabling environment that enhances investor confidence and reduces barriers to project development.

- **Support for Policy and Regulatory Frameworks**: SRMI's collaboration with governments underscores the significance of supportive policy and regulatory frameworks for renewable energy projects. Through capacity building and knowledge exchange, the initiative has assisted governments in developing favorable policies that encourage private investments and provide clarity to investors on the regulatory landscape.

- **Maximizing Socio-Economic Benefits**: SRMI's emphasis on socio-economic benefits, such as job creation and gender equality, emphasizes the importance of aligning renewable energy projects with broader development goals. By designing projects that contribute to social and economic advancement, SRMI has not only increased energy access but also fostered local development.

- **Tailored Solutions for Different Countries**: The diverse range of countries and projects supported by SRMI highlights the need for tailored solutions that consider the unique context of each country. By understanding local conditions, challenges, and opportunities, SRMI has been able to design interventions that are more likely to succeed and have a lasting impact.

- **Collaboration and Partnerships**: SRMI's partnerships with institutions like the GCF and CTF demonstrate the importance of collaboration in scaling up renewable energy financing. Such partnerships bring together diverse expertise, resources, and financial instruments to create a comprehensive approach to project development.

- **Measurement of Impact**: SRMI's focus on measurable outcomes, such as installed capacity, battery storage, and the number of people provided with reliable electricity, highlights the importance of tracking and evaluating the impact of initiatives. Measuring success in terms of concrete results enhances accountability and transparency in achieving project goals.

3. Climate Investor One[63]

[63] Convergence 2021

3.1. Overview

Climate Investor One (CIO) is an innovative $850 million financial mechanism designed to expedite renewable energy infrastructure projects in emerging markets. It strategically addresses three critical hurdles in the market: (i) prolonged project development and construction periods due to inadequate financing, (ii) elevated capital costs linked to perceived market risks, and (iii) limited options for private investor exits or refinancing.

CIO comprises three interconnected investment funds, offering tailored financing solutions throughout the project finance lifecycle. The fund aims to support approximately 30 projects of various renewable energy technologies over 15 years.

CIO is structured into three distinct sub-funds, each catering to different stages of project maturity:

- The Capital Structure Development Fund (DF), backed by donor equity, propels projects from the development phase to the construction phase through reimbursable loans ($45 million).

- The Construction Equity Fund (CEF) guides projects from construction to completion and involves three tiers of investment:

    - Tier 1 First-loss Equity ($160 million) absorbs initial losses, granting protection to senior investors. This mitigates the perceived high risks of construction-phase investments. Tier 1 investors are entitled to reimbursement of their principal commitments once Tier 3 and 2 returns targets are met.

    - Tier 2 Subordinated Equity ($320 million), designed to attract DFIs and MDBs, offers exposure to high-risk scenarios, enhancing the financial additionality of their investments. Tier 2 investors earn an 8% hurdle rate after Tier 3 investors are compensated, along with interest. This tranche can also receive additional returns in an "outperformance" scenario.

    - Tier 3 Senior Equity ($320 million), designed for institutional investors with limited experience in emerging markets or renewable energy infrastructure.

- The Refinancing Fund (Prospective), still in development, will fund projects during their operational phases when assets are generating revenue through senior debt totaling $500 million.

3.2. Success Stories

To date, the CIO has invested in 14 renewable energy infrastructure projects, deploying more than $360 million in development and construction phase financing. Six projects are in Africa and eight in South Asia and East Asia, representing a combined installed energy capacity of more than 1,250MW. These projects include:

- Seven onshore or near-shore wind technology projects;
- Six solar photovoltaic (PV) projects;
- One hydroelectric power plant

3.3. Lessons Learned

- **Blended Finance for Market Barriers**: CIO's establishment as an $850 million blended finance vehicle underscores the importance of addressing key market barriers. The approach of combining various funding sources and risk-sharing mechanisms has proven effective in tackling challenges related to project development, construction financing, and perceived market risks.

- **Holistic Project Finance Lifecycle**: The CIO's three interlinked investment funds, tailored for distinct phases of project maturity, exemplify the significance of adopting a holistic approach to project finance. This ensures that projects receive appropriate funding at every stage, from development to construction and eventual operation.

- **Innovative Risk Management**: The tiered equity structure of the CIO, comprising first-loss equity, subordinated equity, and senior equity, demonstrates creative risk management solutions. This structure attracts different classes of investors, including institutional investors and development finance institutions.

- **Targeted Engagement with Different Investors**: The tiered equity structure of the CIO underscores the importance of appealing to different investor profiles by providing various risk and return structures, allowing the fund to pool capital from a broader investor base.

- **Geographic Diversity**: The CIO's portfolio across Africa, South Asia, and East Asia emphasizes the significance of geographic diversity in renewable energy investment. This diversification helps mitigate risks associated with regional challenges, such as regulatory changes and market volatility.

- **Technology Portfolio**: The mix of wind, solar, and hydro projects in the CIO's portfolio highlights the value of diversifying technologies to take advantage of and manage challenges unique to each source.

- **Addressing Energy Access and Sustainability**: The CIO's focus on affordable clean energy access, job creation, and gender equality aligns renewable energy projects with broader social and economic goals.

- **Balancing Risk and Return**: The CIO's blending of concessional finance and private investment emphasizes balancing financial returns and developmental impact. This approach attracts investors by reducing risk and enhancing project feasibility.

- **Flexibility and Adaptability**: CIO's diverse portfolio and engagement with various investors underscore the need for flexibility and adaptability in project structuring to accommodate a range of investor preferences and market conditions.

B: List of Donor Funded Blended Finance Projects in Indonesia, the Philippines, and Vietnam

Country/ Region	Project Name	Donors (or Funding Organizations)	Type of Support	Areas of Work	Energy Transition Outcome Area/Sectors of Work	Project Description	Government Partners	Implementing Agencies	Project Duration
Regional	Energy Transition Mechanism (ETM)	ADB	Financial Assistance, Technical Assistance	Energy Transition, Blended Finance, Energy Finance	De-risking investments, Supporting policy and regulatory frameworks	The ETM th is an innovative blended-finance approach that seeks to retire existing coal-fired power plants on an accelerated schedule and replace them with clean energy. The mechanism will comprise two-multibillion-dollar funds: one devoted to early retirement or repurposing of coal-fired power plants, and the other focused on new investments in clean energy generation, storage, and grid upgrades. Funding for the ETM is expected to come from multilateral banks, private institutional investors, philanthropies, and long-term investors.	Ministry/Department of Energy	National Governments, Energy Regulatory Commissions, Financial Institutions	2021-till date
Regional	Blended Finance for the Energy Transition (BFET)	USAID	Financial Assistance, Technical Assistance	Energy Transition, Blended Finance, Energy Finance	De-risking investments, Mobilizing private capital	The goal of BFET is to mobilize $1 billion to accelerate the energy transition efforts in emerging markets and help limit global average temperature rise to 1.5°C..	Ministry/Department of Energy	USAID, Department of State, in collaboration with the Office of the U.S. Special presidential Envoy for Climate (SPEC)	2023-till date
Regional	Climate Finance for Development Accelerator (CFDA)	USAID	Financial Assistance, Technical Assistance	Energy Transition, Blended Finance, Energy Finance	De-risking investments, Mobilizing private capital	A flagship USAID initiative designed to mobilize billions in public and private climate investments to fund a range of climate change mitigation and adaptation activities focused on scaling up the transition to an equitable and resilient net-zero economy.	Ministry/Department of Finance	USAID, Department of State, in collaboration with the Office of the U.S. Special presidential Envoy for Climate (SPEC)	2022-till date
Regional	Private Financing Advisory Network-Asia	UNIDO, REEEP	Financial Assistance, Technical Assistance, Capacity Building	Energy Transition, Blended Finance, Energy Finance	De-risking investments, Mobilizing private capital	The Private Financing Advisory Network is a global network of climate and clean energy financing experts, which offers free business coaching and investment facilitation to entrepreneurs developing climate and clean energy projects in emerging markets.	n/a	UNIDO	2006-till date

Country/ Region	Project Name	Donors (or Funding Organizations)	Type of Support	Areas of Work	Energy Transition Outcome Area/Sectors of Work	Project Description	Government Partners	Implementing Agencies	Project Duration
Regional	Southeast Asia Department Innovation Hub	ADB	Financial Assistance, Technical Assistance, Capacity Building	Energy Transition, Blended Finance, Energy Finance, Knowledge Management	De-risking investments, Supporting policy and regulatory frameworks	The Innovation Hub identifies innovative solutions to address the development challenges faced by ADB's member countries. This includes addressing gaps in green finance and private-sector investments. It then works towards transforming these solutions into potential ADB projects by employing innovative financing approaches.	Ministry/Department of Finance	ADB	2018-till date
Regional	SUSI Asia Energy Transition Fund (SAETF or The Fund)	AIIB, Dutch FMO, Nordic DFIs Norfund and Swedfund, Austrian OeEB, British International Investment (BII), and BIO, the Belgian Investment Company for Developing Countries.	Financial Assistance	Energy Finance, Energy Transition, Public-Private Sector Investment Finance	De-risking investments, Supporting policy and regulatory frameworks	This is a private equity fund specifically designed for investing in sustainable energy transition infrastructure projects in Southeast Asia, including Indonesia, Thailand, the Philippines, and Vietnam. With contributions from development finance institutions and private investors, the fund aims to reach a size of $250 million. SAETF primarily focuses on investments related to renewable energy, energy efficiency, energy storage, and microgrids.	Development Financial Institutions (DFI)	SUSI Partners	N/A
Regional	SEforALL Global Energy Efficiency Accelerator Platform	UNEP, Sustainable Energy for ALL	Technical Assistance, Financial Assistance	Energy Efficiency Market Readiness, Energy Finance	De-risking investments, Public-Private Sector Investment	The platform drives action and commitments by national and sub-national leaders at the country, city, state, region or sector level. The platform defines common elements between each of its accelerators, such as governance, performance metrics, reporting requirements, commitment management, policies, resources and tools as well as public and private sector financial support.	Ministry/Department of Energy	Mission Efficiency	2014-till date
Regional	ASEAN Catalytic Green	ADB	Financial Assistance	Energy Transition, Blended	De-risking investments, Supporting	ASEAN launched the ACGF as a green finance vehicle, aimed at de-risk green infrastructure projects, including	ASEAN Governments	ADB	2020- till date

Country/ Region	Project Name	Donors (or Funding Organizations)	Type of Support	Areas of Work	Energy Transition Outcome Area/Sectors of Work	Project Description	Government Partners	Implementing Agencies	Project Duration
	Finance Facility (ACGF): Green Recover Program		technical Assistance	Finance, Energy Finance	policy and regulatory frameworks	renewable energy projects, to make them more bankable and hence attractive for private investors. Through a revolving use of funds, the program aims to target at least 20 projects over its lifecycle, with an emphasis on working with National Development Banks and GCF Direct Access Entities.			
Regional	JETP experience in South Africa and Indonesia, and lessons learnt for Vietnam	UNOPS	Technical Assistance	Energy Transition, Blended Finance, Energy Finance	De-risking investments, Supporting policy and regulatory frameworks	This report analyses and draws lessons from the preparation, development, and implementation of JETP in South Africa and Indonesia for the establishment and development of the JETP Secretariat and JETP Resource Mobilization Plan (JETP RMP) in Vietnam.	Ministry of Energy and Mineral Resources (MEMR), MONRE	ETP with support VN EEC	2022-2023
Regional	Global Energy Alliance for People and Planet (GEAPP)	The Rockefeller Foundation	Financial Assistance	Energy Finance, Private Sector Investment Finance	De-risking investments, Supporting policy and regulatory frameworks	GEAPP's mission is to help catalyze a just energy transition by mobilizing public and private capital to reach one billion people with reliable, abundant, clean power across multiple continents. This work aims to avert four billion tons of carbon emissions – or about a tenth of what human activity now emits annually – and support more than 150 million sustainable livelihoods over the next decade.	Department of Energy, Department of Finance	The Rockefeller Foundation	2021-till date
Indonesia	Sustainable Renewable Risk Mitigation Initiative (SRMI) Facility (Phase 2 Resilience focus) [SRMI - Resilience]	World Bank	Financial Assistance, Technical Assistance, Capacity Building	Energy Finance, Energy Transition, Renewable	De-risking investments, Supporting policy and regulatory frameworks	SRMI-Resilience, the second phase of the SRMI Facility, aims to support the energy transition in nine developing countries by increasing access to affordable, reliable, modern, and sustainable electricity. The project will assist these countries in developing their energy transition programs and establishing robust procurement processes to attract private investments for future renewable energy infrastructure. This	Ministry of Finance (MOF), Ministry of Energy (MOE), Ministry of State-Owned-Enterprises	PT Perusahaan Listrik Negara (Persero) PLN	2023-2035

Country/ Region	Project Name	Donors (or Funding Organizations)	Type of Support	Areas of Work	Energy Transition Outcome Area/Sectors of Work	Project Description	Government Partners	Implementing Agencies	Project Duration
						initiative will demonstrate how developing nations can address market challenges and attract private sector funding for cleaner and more sustainable energy sources. Additionally, as each country faces unique barriers, this project will generate valuable insights into how the public and private sectors can collaborate effectively in challenging renewable energy markets.			
Indonesia (Regional)	Climate Investor One (CIO)	FMO: Dutch Entrepreneurial Development Bank	Financial Assistance, Technical Assistance	Energy Finance, Energy Transition	De-risking investments, Supporting policy and regulatory frameworks	Climate Investor One (CIO) is a blended finance facility. The first component of this programme is a development fund, which provides loans in the early stage of a project life cycle. The second component, a construction equity fund, will meet up to 75% of total construction costs in tandem with the project sponsor.	Fiscal Policy Agency, Ministry of Finance (MOF), MEMR, Ministry of Environment and Forestry	State-owned Enterprise PLN	2019-2037
Indonesia	Supporting Innovative Mechanisms for Industrial Energy Efficiency Financing in Indonesia with Lessons for Replication in other ASEAN Member States	The Korea Development Bank	Technical Assistance	Energy Transition, Blended Finance, Energy Finance	De-risking investments, Supporting policy and regulatory frameworks	The Programme consists of three components designed as an integrated package that aims to address financial, regulatory, and demand-side barriers, accelerating the facilitation of genuine paradigm shifting outcomes.	Government of Indonesia (GOI)	PT Sarana Multi Infrastruktur (SMI) PT Indonesia Infrastructure Finance (IIF) PT KEB Hana Indonesia (Hana Indonesia) PT Bank IBK Indonesia (IBK Indonesia) KB Bukopin (KB Indonesia) PT Bank Shinhan Indonesia (Shinhan Indonesia). PT Bank Woori Saudara Indonesia (Woori Indonesia)	2022-2032

Country/ Region	Project Name	Donors (or Funding Organizations)	Type of Support	Areas of Work	Energy Transition Outcome Area/Sectors of Work	Project Description	Government Partners	Implementing Agencies	Project Duration
								ASEAN Centre for Energy (ACE)	
Indonesia	Indonesia Geothermal Resource Risk Mitigation Project	World Bank	Financial Assistance, Technical Assistance	Energy Finance, Energy Transition, Geothermal	De-risking investments, Supporting policy and regulatory frameworks	This project aims to help the Government of Indonesia scale up geothermal energy development by introducing a well-designed upstream risk mitigation mechanism and by promoting a conducive regulatory environment. Under this project, both public and private sector geothermal developers will have access to funds to help mitigate early-stage development risks. The geothermal resource risk mitigation facility will provide contingent financing and soft loans for resource confirmation drilling.	Fiscal Policy Agency, Ministry of Finance	PT Sarana Multi Infrastruktur (Persero)	2018-2030
Indonesia	Green Growth Program	GEF	Financial Assistance	Energy Finance, Public-Private Sector Investment	De-risking investments, Supporting policy and regulatory frameworks	The program aims to develop bankable projects based on Nationally Determined Contributions (NDC) and Sustainable Development Goals (SDGs) assessments and connect them with suitable sources of finance. It also incorporates green growth enablers into sectoral, district, provincial, and national plans and designs innovative economic and policy instruments to reduce risk and enable capital flows into the sector.	BAPPENAS	GGGI, BAPPENAS	2012-till date
Indonesia	Indonesia Clean Energy Development Program (ICED)	USAID	Technical Assistance	Climate Policy, Emissions, Mitigation	De-risking investments, Supporting policy and regulatory frameworks	ICED assists various stakeholders involved in the commercial development of renewable energy and energy efficiency projects. This includes offering support to selected national and local governments in energy planning and policy reform to address obstacles to clean energy development. ICED provides guidance to renewable energy project developers and energy efficiency hosts in assessing the feasibility of clean energy technologies. It	Government of Indonesia	BAPPENAS, MEMR, PLN	2011-2015

Country/ Region	Project Name	Donors (or Funding Organizations)	Type of Support	Areas of Work	Energy Transition Outcome Area/Sectors of Work	Project Description	Government Partners	Implementing Agencies	Project Duration
						also offers assistance to local banks and financial institutions in evaluating project financing proposals. Additionally, ICED supports PLN in enhancing the framework for renewable energy-generated electricity.			
Indonesia	Indonesia Clean Energy Development (ICED) II Program	USAID	Technical Assistance	Energy Policy, Energy Investment	De-risking investments, Supporting policy and regulatory frameworks	ICED II is designed to assist the Government of Indonesia (GOI) in establishing an effective policy, regulatory and incentive environment for low-emission growth in the energy sector, while simultaneously attracting public and private sector investment in clean energy development. In recognition of USAID/Indonesia's increased emphasis on science, technology, and innovation, ICED II is also expected to support technological and human capacity advancements in the clean energy space.	Government of Indonesia	BAPPENAS, MEMR, PLN	2015-2020
Vietnam	Scaling up Energy Efficiency for Industrial Enterprises in Vietnam	World Bank	Financial Assistance, Technical Assistance, Capacity Building	Energy Finance, Energy Transition	De-risking investments, Supporting policy and regulatory frameworks	The scaling up of energy efficiency investments in the country's industrial sector will provide substantial mitigation impacts. This will be done through a GCF guarantee instrument and technical assistance and capacity building activities, combined with a dedicated credit line.	Government of Vietnam (GOV)	Ministry of Industry and Trade (MOIT), State Bank of Vietnam (SBV), Ministry of Finance (MOF)	2018-2023
Vietnam	Hoa Binh 1 hydropower plant and the Solar Power Project in Ninh Thuan	ADB	Financial Assistance, technical Assistance	Energy Finance, Energy Transition	De-risking investments, Supporting policy and regulatory frameworks	The project is funded with a 30% contribution from the project owner as a counterpart fund, and it is co-financed by the ADB and the AFD, with a total financing of up to $84 million.	The Government and the Commission for the Management of State Capital at Enterprises	EVN	2019-2023
Vietnam	VinFast Trading and Production Joint Stock Company	ADB, Export Finance Australia, the Finnish Fund for Industrial Cooperation,	Financial Assistance	Electric Vehicle (EV)	De-risking investments, Supporting policy and regulatory frameworks	The project aims to manufacture Vietnam's first fully electric public transport bus fleet and first national electric vehicle (EV) charging network. The financing includes $70 million in loans from ADB, a $5 million grant from the Global Environment	Ministry of Industry and Trade (MOIT)	OeEB	2017-till date

Country/ Region	Project Name	Donors (or Funding Organizations)	Type of Support	Areas of Work	Energy Transition Outcome Area/Sectors of Work	Project Description	Government Partners	Implementing Agencies	Project Duration
		ResponsAbility				Facility's (GEF) Least Developed Countries Fund, and $60 million in co-financing from the Leading Asia's Private Infrastructure Fund (LEAP). The project is expected to support Vietnam expand its high-tech manufacturing industries and to move toward its net-zero greenhouse gas emissions target. Technical assistance of $950,000 will also be provided to raise consumer awareness about e-mobility and promote the role of women in science, technology, engineering, and mathematics			
Vietnam	Ninh Thuan province onshore wind power project in Vietnam	JICA	Financial Assistance	Energy Finance, Private Sector Investment Finance	De-risking investments, Supporting policy and regulatory frameworks	On December 20, 2022, the Japan International Cooperation Agency (JICA) signed a project finance loan agreement with BIM Wind Power Joint Stock Company to provide up to US$25 million for an onshore wind power project in Ninh Thuan Province, southern Vietnam, with a total capacity of 88 MW.	Ministry of Industry and Trade (MOIT)	BIM Wind Power Joint Stock Company	2022-till date
Vietnam	Vietnam Clean Production and Energy Efficiency	GEF	Financial Assistance	Energy Finance, Private Sector Investment Finance	De-risking investments, Supporting policy and regulatory frameworks	The project development objective is to strengthen the capacity of the Government of Vietnam and other key stakeholders to effectively implement the national energy efficiency program in key industrial sectors. This framework aims to mobilize private sector investment in energy efficiency projects through technical assistance and risk mitigation instruments.	Ministry of Industry and Trade (MOIT)	The World Bank	2009-2017
Philippines	Agus-Pulangi Power Plant (Under ETM Project)	ADB	Financial Assistance	Coal-fired power plants	De-risking investments	The Government of the Philippines is in the process of rehabilitating the Agus-Pulangi hydropower plant to improve it generating capacity, to reduce Mindanao's reliance on coal.	Power Sector Assets and Liabilities management Corporation (PSALM)	National Power Corporation	2021-till date
Philippines	Revolving Fund for EE	Official Development	Technical Assistance	Energy Investment	De-risking investments,	Revolving Fund for EE Project Preparation and Implementation with terms and	N/A	N/A	Proposed

Country/ Region	Project Name	Donors (or Funding Organizations)	Type of Support	Areas of Work	Energy Transition Outcome Area/Sectors of Work	Project Description	Government Partners	Implementing Agencies	Project Duration
	project Implementation and Preparation	Assistance (ODA), Internally-generated fund of GFIs (DBP, LBP)			Public-Private Sector Investment	conditions attractive to public and private project developers or facility owners will provide a needed push to accelerate the deployment of EE projects in the country.			

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