
Renewable Energy Scale-Up Facility

ANNEXES

August 2017

1. ANNEX 1 – MODELING RESULTS DETAILS

1.1 METHODOLOGY & ASSUMPTIONS

Our modeling exercise for the first fund relies on three linked financial modules¹:

- a project level module that generates cash flows from individual projects in the portfolio;
- an options model simulating the mechanism of purchase and exercise of the proposed option mechanism;
- and a fund model simulating the distribution of fund proceeds to investors.

At the fund-level, we consider a USD 100 million equity fund. Modelled assumptions:

- USD 99 million invested by limited partners (LPs)
- USD 1 million is invested by the sponsor, or general partner (GP)
- The fund has an 8% hurdle rate, with 80-20 split on secondary payments between LPs and GP.
- Management fees are 1.5% of total commitments for the first 5 years of the fund and 1.25% of investments for the remaining years.
- The simulated fund's expected duration is 12 years, with an investment period of 8 years (based on project portfolio), and exit of investment on the last year at an equity investment price set to ensure 9% IRR to market investors.²

At the options-level, RESF uses part of the equity to purchase options from the project developers (acting as loans, and expected to be reimbursed to the fund). Modelled assumptions:

- RESF covers 20% of costs during the development stage (phase 1).
- We assume that – if exercised – the options give the possibility to access 40% equity share of individual projects during the development and operation stage of the fund (phase 2)
- These options over equity shares, if exercised, obtain equity at a discounted acquisition price, set to ensure a 16% gross IRR for each individual project investment -- higher than the 13% offered at prevailing market rates.³

¹ CPI developed the project and fund-level models. Get2C developed the options model, adapted by CPI to simulate risk, and different scenarios of public sector participation. As Get2C model is tailored for a 10 projects portfolio, results are then adapted to reflect a larger portfolio fitting a 100 USD million investment fund.

² 9% is based on the proponent's assumption of required equity returns after more than 2-3 years of operations.

Underlying Project Data: ^{4,5}

At the project-level, the simulated RESF fund has a number of assumptions:

- RESF targets an early-stage portfolio of 12 solar projects and 12 wind projects, with the following characteristics based on observed global trends, as well as regional trends from Latin American countries (e.g Brazil for the tariff).

Inputs:	Project 1 - solar	Project 2 - wind
Project Capacity	30 MW	50 MW
Capacity Factor	22%	43%
Project Lifetime	25 years	25 years
Project CAPEX per unit capacity	\$1.0 million / MW	\$1.66 million / MW
Total Project Investment	\$30 million	\$83 million
Milestone 1 (M1) Investment	\$0.3 million (1% total investment)	\$0.8 million (1% total)
Time to M1	0 years (happens at RESF engagement)	0 years (happens at RESF engagement)
Milestone 2 (M2) Investment	\$0.3 million (1% total)	\$1.7 million (2% total)
Time to M2	1 year after M1	1 year after M1
Time to Financial Close	1 year after M2	2 years after M2
Debt Ratio (Debt % of Total Project Investment)	70%	70%
Equity at Financial Close	\$8.4 million	\$22 million
Debt at Financial Close	\$21 million	\$58.1 million
Corporate Tax Rate	30%	30%
Debt Interest Rate	10%	10%
Debt Tenor	15 years	15 years
Electricity Tariff for generation	\$70 / MWh	\$60 / MWh
Time from Initial Investment (M1) to Operation	2 years	3 years
Annual Operations & Maintenance cost	0.05% of CAPEX	\$0.000025 / MWh
Equity IRR (output, after taxes)	18.9%	16.5%

There are a number of other uncertainties to take into account:

- We assume that two milestones must be reached before each project concludes its pre-development stage and reaches financial closure, with 33% and 25% failure rates for the two stages respectively.

³ 13% is based on the proponent's assumption of required equity returns after project finance close (before operations start).

⁴ Project-level assumptions are based on 1) publicly available press releases and literature (see end of section for reference list), 2) discussions with and a survey sent to project developers located in Central and South America, and 3) feedback from RESF's Working Group members.

⁵ Totals include both RESF contributions and contributions from other equity and debt financing, where applicable.

- We assume that, if the project reaches financial closure, there's a 90% chance that the fund will exercise its option.
- We also assume a 100% chance that the option is reimbursed if the project reaches financial closure, and a 15% chance if it doesn't reach financial closure.
- We perform a Montecarlo simulation to reflect the combined effect of these uncertainties, and discuss as outcomes: central values (mode in a distribution) and ranges based on 75% confidence intervals.

RESF Environmental Impact (CO₂ Emissions):

- RESF employs 'Combined Margin emissions factors to calculate emissions impacts (instead of exclusively Build Margin or Operating Margin estimates)
- RESF employs average emissions factor estimates (as opposed to relying on maximum or minimum measures of grid- or site- emissions)
- Together these are known as the 'Combined Margin (average)' emissions factors, that RESF employs in models
- 'Combined Margin (average)' inputs vary by country and by region. In general, 'Combined Margin (average)' emissions factors are higher in countries in MENA and SE Asia than in countries in LAC
- In order to be intentionally conservative in estimating RESF's emissions impact at the current state, modelling relies on an average of the following 'Combined Margin (Average)' emissions factors in LAC countries that RESF is exploring in a First Fund:

Country	Emissions Factor	Measure
Brazil	0.2938 tCO ₂ /MWh	Combined Margin EF (Average)
Peru	0.5998 tCO ₂ /MWh	Combined Margin EF (Average)
Colombia	0.3281 tCO ₂ /MWh	Combined Margin EF (Average)

Source: IGES (2017).

- This results in an average 'Combined Margin (Average)' emissions factor of 0.4072 tCO₂ / MWh which is used to calculate RESF's emissions impact.

RESF Social Impact (Electricity Generation):

- RESF provides a comparison for the scale for electricity generated.
- The first input to this estimate is from modelled annual generation from RESF projects (in MWh) -- derived from Underlying Project Data above.
- The second input to this estimate is the amount of annual electricity consumption per capita in Vietnam. The figure used is 1.439 MWh per person each year – from the latest year for which data is available (IEA & OECD, 2014).
- Authors divide annual electricity generation from RESF projects by annual electricity consumption in order to provide a comparison of the number of people's consumption that RESF projects could represent.

1.2 RESULTS: IMPACT ON INVESTORS' BARRIERS

To assess how the instrument addresses barriers, we compared results from the proposed option structure instrument with results from more typical investors' practices, which usually look at more mature investment portfolios including projects which have already reached financial closure.

In the central case, the option structure allows somewhat higher returns to investors to those they would obtain by investing directly at financial closure, making their engagement earlier in the development process more financially attractive. Expected net equity IRR in the option instrument are 17.5% at fund level and 15% at investor's level after fees, vs 14% at fund level and 12.75% at investor level after fees for investors initiating

investment at financial closure. Longer repayment periods in the option instrument are in this case more than offset by the offer of a discounted acquisition price to investors in the option instrument.⁶

If the discounted acquisition price is not able to make up for the longer repayment periods, additional elements are needed to stabilize investment returns (see Section 7.4 on the role of public finance).

1.3 RESULTS: IMPACT ON FUND SIZING

The uncertainty of the option model also impacts on the ability of a fund manager to correctly plan the amount of equity needed in the fund vis-à-vis a given project portfolio.

While projects in the pipeline, if all successful, could potentially target up to USD 160 million in equity investment, when uncertainty of project viability is considered, real equity needs may range from USD 40-100 million. Uncertainty over the correct sizing of commitments has some implications:

- Oversizing equity availability in the fund may impact on an optimal functioning of its waterfall structure and application of the hurdle rate and preferred return structures, as a larger share of revenues would be used to cover reimbursed capital.
- Downsizing the fund may result – in case of extraordinary performance of the pipeline - in the fund manager to look for short term equity, define rules for the reinvestment of revenues, or for exiting its options rights in relation to potentially profitable projects which managed to reach financial closure.

1.4 RESULTS: THE ROLE OF PUBLIC FINANCE

Two main potential roles are envisaged for the public sector.

The first role is as a **provider of equity capital in the fund**, with a lower level of “seniority” on capital repayments and payments up to the defined 8% hurdle rate to the advantage of private limited partners in the fund and the general partner, who would enjoy priority repayments up to that threshold. We assume that the public sector would participate with 20% of capital contributions, or USD 20 million. The main result of this instrument is an increase in the certainty of the expected returns, with private investors’ IRR spread reducing from 11.5-16% to 13-16.5%, and the fund increasing the probability to reach at least 8% expected returns from 94% to 97.5%.

The second role for the public sector is as **purchaser of the option** on behalf of the fund, under a convertible grant formula in which the grant can be reimbursed to the public sector as a loan if the project reaches financial closure. The financial impact of the convertible grant is an increase of the expected returns for the LP from 15% to 15.25%. Commitment requirements would vary depending on the probability of the projects in reaching the different milestones as well as actual development costs. We estimate the requirements ranging between 4.7 and 7 USD million, or 0.3-2.7 USD million, considering the grant net of reimbursements by projects reaching financial closure that are able to honor the loan.

The individual and combined impact of the instruments above can be appreciated in the figure below.

1.5 RESULTS: MW AND EMISSIONS ABATED

We expect around USD 24.5-26.5 million of public finance invested in the pilot phase (between convertible grants and public equity), able to mobilize USD 80 million private sector

⁶ Discount is meant to target a fund-level IRR on individual investments made 3% higher than what we assume being offered in the market. The spread can be adjusted to better reflect returns offered by competing investment vehicles.

commitments at fund level, with a 1:2.7 public-private leverage. Looking at the project level, the pilot is expected to mobilize USD 50-138 million in additional equity investments and USD 250-640 million in loans, for a final leverage of 1:15 to 1:30.

- RESF will contribute to the development of **370 MW (230-620)** of new onshore wind and solar PV renewable energy projects in the six potential pilot countries.
- Using wind and PV capacity factors in Brazil, Colombia, and Peru, we estimate that these new projects could generate approximately **30 million MWh (16.5 – 44.5)** of energy during asset lifetimes of 25 years.

Given relevant grid emissions factors⁷ in Brazil, Colombia, and Peru for a potential first fund, we estimate that RESF projects could **avoid or abate every year 500,000 tCO₂ (265-725 ktCO₂), or 12.5 million tCO₂e (6.5-18) emissions** over asset lifetimes. And relying on above assumptions of public finance for RESF's first fund, thus public sector investment would contribute to the abatement of emissions through RESF at a cost of **USD 2 per ton of CO₂e emissions (1.5-3.7)**.

1.6 QUANTITATIVE MODELING REFERENCES

Institute for Global Environmental Studies (IGES). 2017. "List of Grid Emissions Factors." Available at: <https://pub.iges.or.jp/pub/list-grid-emission-factor>

International Energy Agency and OECD (IEA & OECD). 2014. "Electric power consumption (kWh per capita)." Obtained via *World Bank Open Data*. Available at: <http://data.worldbank.org/indicator/EG.USE.ELEC.KH.PC?end=2014&locations=BR&start=1971&view=chart>

IRENA (2015), Renewable Power Generation Costs in 2014, https://www.irena.org/DocumentDownloads/Publications/IRENA_RE_Power_Costs_2014_report.pdf

IRENA (2016), Renewable Energy Market Analysis: Latin America. IRENA, Abu Dhabi. http://www.irena.org/DocumentDownloads/Publications/IRENA_Market_Analysis_Latin_America_2016.pdf

KPMG Corporate Tax Rates Table, <https://home.kpmg.com/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online/corporate-tax-rates-table.html>

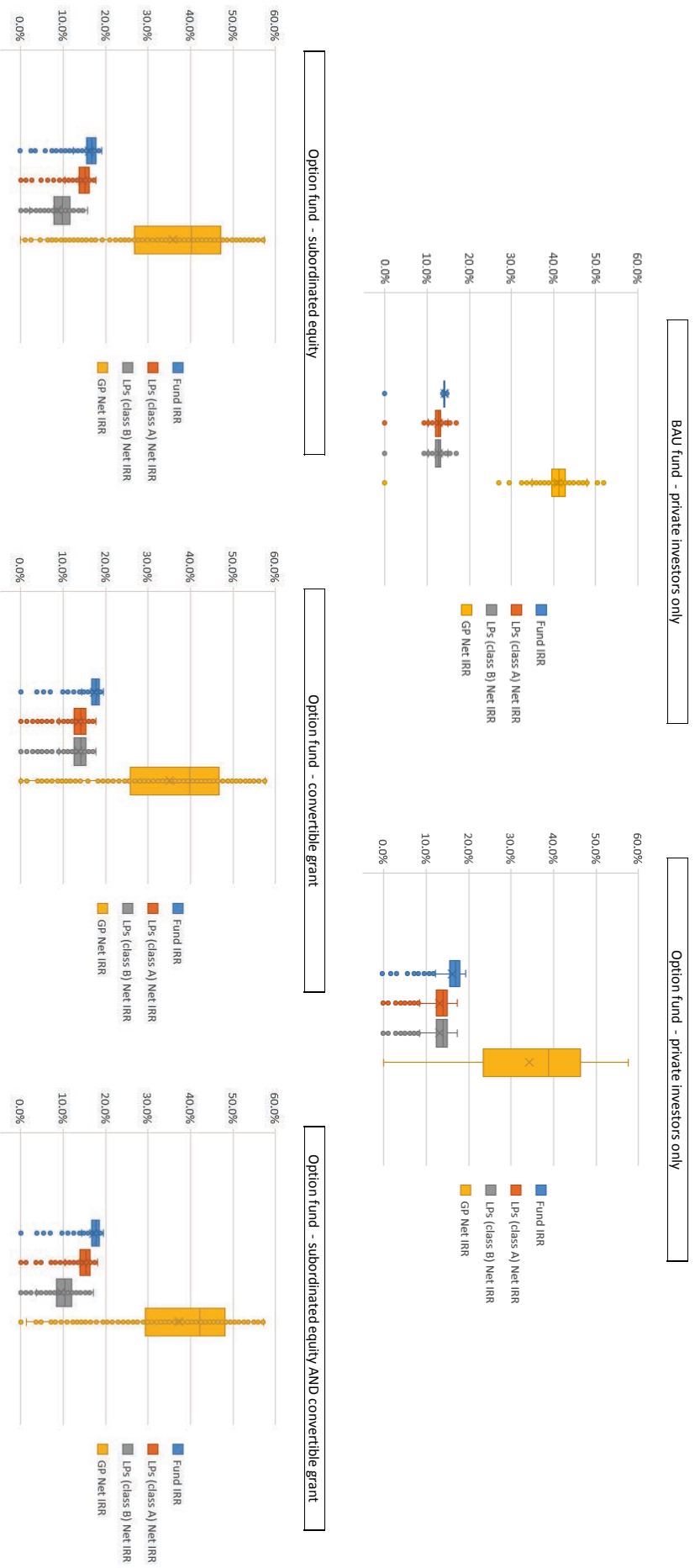
NREL (2016), Best Practices in Photovoltaic System Operations and Maintenance. <http://www.nrel.gov/docs/fy17osti/67553.pdf>

REN21 (2016), Renewables 2016: Global Status Report. http://www.ren21.net/wp-content/uploads/2016/10/REN21_GSR2016_FullReport_en_11.pdf

Stakeholder information from developers Enerfin, Gruman Resources, Ingenostrum, and Renobrax, and also the International Finance Corporation.

⁷ IGES (2017). List Of Grid Emission Factors. Retrieved from <https://pub.iges.or.jp/pub/list-grid-emission-factor>

Figure 1: Expected IRR for fund, LP and GP in 4 scenarios



NOTE: Own elaborations. GP IRR figures do not include management fees, but only consider returns on investment from the fund.

2. ANNEX 2 – COMPARABLE AND COMPLEMENTARY INITIATIVES

The table below is a non-exhaustive sample of funds and technical assistance initiatives that contribute to early stage renewable energy development in several developing country regions.

Name of instrument	Description	Coverage	Complementarity / Comparability
<p>Africa50 Infrastructure Fund (Africa 50)</p>	<p>Africa50 is an infrastructure fund with multiple financing components. Africa50 Project Development (A50PD) is its equity-investment vehicle devoted to developing and investing early risk-capital. It is a for-profit enterprise, developing a portfolio of projects and seeking strong risk-adjusted returns from its investments. It has USD 100 million from AfDB, USD 400 million planned from governments and strategic investors, will contribute to projects worth USD 100 billion. Africa50 Project Finance (A50) is a separate debt-investment vehicle (with additional capacity to make equity investments) and that focuses entirely on bankable projects near financial close.</p>	<p>Region(s): Africa</p> <p>Sector(s): Energy (including RE and conventional generation, power transmission and distribution, and mid- and downstream gas infrastructure); Transport (including roads, airports, ports, and logistics); Projects in information and communications, water and sanitation, as well as other infrastructure sub-sectors, are eligible on a case by case basis.</p>	<ul style="list-style-type: none"> • Africa50 is conceptually similar to RESF in that it focuses on the development of bankable projects with a mix of different capital streams for different development stages • A50PD has its own investor pool and is ring-fenced from the A50 balance sheet; similar to RESF's approach to early stage financing through separate donor capital in a first fund. • A50PD also provides technical assistance in addition to early risk capital. TA is focused on engineering, social, environmental, economic, financial, and legal matters.
<p>Armstrong South East Asia Clean Energy Fund</p>	<p>Armstrong is a private equity fund with USD 164 million in commitments, that invests in utility scale renewable energy and resource efficiency projects in Southeast Asia. GEEREF has committed EUR 10 million to the fund.</p>	<p>Region(s): Southeast Asia (particular focus on Thailand, Philippines, Indonesia, Malaysia, and Vietnam)</p> <p>Sector(s): RE (wind, solar, hydro, biomass, waste-to-energy); Resource Efficiency (clean water supply, waste recycling, EE)</p>	<ul style="list-style-type: none"> • Armstrong fund is focused on similar technologies and potentially in a region where RESF's first fund might be piloted. Armstrong also includes a mix of public and private investment in its funds (from GEEREF, IFC, KfW, and others). • Armstrong and RESF also hold RE assets at multiple stages in the project development lifecycle. For Armstrong these include Development (Pre-Permitting); Green Field (Post-Permitting); and operating assets. • However, Armstrong does not employ an innovative financing mechanism that is comparable to RESF's options approach -- and is instead a standard private equity approach.

Name of instrument	Description	Coverage	Complementarity / Comparability
<p>Catalyst MENA Clean Energy Fund (CMCF)</p>	<p>CMCF is a private equity fund that invests in renewable energy infrastructure for electricity generation and small scale renewable energy and energy efficiency projects across the Middle East and Northern Africa region. In its First Close CMCF secured USD 47.7 million of commitments from blue chip international investors and is targeting USD 100 million for a Final Close in H2 2017. GEEREF has committed USD 16.6 million to the fund.</p>	<p>Region(s): MENA (Jordan, with the possibility of Egypt, Morocco, and Tunisia as well)</p> <p>Sector(s): Small-scale RE infrastructure (PV, solar thermal); and EE</p>	<ul style="list-style-type: none"> • CMCF is focused on potential RESF pilot region and is targeting similarly strong fundamentals in the region for solar growth. • Similarly to RESF, CMCF includes a mix of public and private investors (GEEREF, and others) and is focused on growing the market (e.g., one of its projects is among the first solar IPPs in Jordan). • However unlike RESF, CMCF invests in projects through standard private equity approaches and does not appear to be focused on the development stages of projects.
<p>Clean Energy Finance Facility for the Caribbean and Central America (CEFF-CCA)</p>	<p>CEFF-CCA is an innovative, collaborative financing mechanism that brings together U.S. government expertise and resources in order to catalyze greater public and private sector investment in clean energy infrastructure in the Caribbean and Central America. Under the Facility, USTDA will leverage its project planning expertise and early-stage funding to support activities to encourage investment in clean energy projects. The Facility will help promising but undercapitalized projects address key planning and feasibility issues that are critical to successful financing and implementation.</p>	<p>Region: Latin America and the Caribbean (Antigua and Barbuda, Barbados, Belize, Costa Rica, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Nicaragua, Panama, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines and Trinidad and Tobago)</p> <p>Sectors: RE (wind, solar, geothermal, hydropower, biomass) and other sustainable sources of energy that will reduce carbon emissions, improve access to electricity for remote populations, and support economic growth</p>	<ul style="list-style-type: none"> • CEFF-CCA provides grant support to early stage renewable energy project development, and is a two year program. • RESF would build on this by offering a longer term more sustainable solution, but addressing similar barriers to investment.

Name of instrument	Description	Coverage	Complementarity / Comparability
Climate Investor One	<p>Climate Investor One supports projects through several stages of their lives to ensure they get off the ground and attract new investors. It provides technical, environmental and social due diligence support at an early-stage. It then cuts out complex negotiations with multiple providers by financing a large part of construction costs with equity, removing the need for more costly debt finance. Finally, Climate Investor One will unlock new capital through a pooled refinancing fund that may be appealing to institutional investors.</p>	<p>Region(s): In pilot phase: Rwanda, Uganda, Kenya, Nigeria, Ghana, Indonesia, Philippines, India, Nepal, Nicaragua, Guatemala, Costa Rica, Panama. In the future: Low-income and lower middle-income countries</p> <p>Sector(s): For the pilot, RE (wind, solar, hydro) will be targeted.</p>	<ul style="list-style-type: none"> • Focus on lifecycle renewable energy financing helps to grow project pipelines, providing needed support and attracting new private sector investment (including institutional investors). • Climate Investor One's development fund is grant-based and not focused on developing a mechanism for long term sustainable development financing.
Climate Technology Initiative Private Financing Advisory Network (CTI-PFAN)	<p>CTI-PFAN is an alliance of private-sector companies, working under the umbrella of the International Energy Agency's Climate Technology Initiative (CTI), that are experienced in providing investment and financial advisory services to climate-friendly projects. Network members include specialist investment funds, institutional investors, and financial advisors. Provides a variety of services to clean energy businesses to help them secure financial closure.</p>	<p>Region(s): developing countries in Latin America (including Costa Rica and Brazil; Central Asia</p> <p>Sector(s): RE, EE, energy access, and adaptation.</p>	<ul style="list-style-type: none"> • Shared goal of helping RE projects achieve financial closure • But CTI-PFAN does not provide investment itself and instead uses a strong network to provide technical and other assistance to projects
Denham and GreenWish African renewables platform	<p>A partnership to develop, build and finance a portfolio of 600 megawatts (MW) of renewable energy assets across sub-Saharan Africa by 2020. The capital commitment will allow the African renewables platform to carry out a USD 1 billion project pipeline.</p>	<p>Region(s): Africa</p> <p>Sector(s): RE (on and off-grid wind and solar projects)</p>	<ul style="list-style-type: none"> • Denham and GreenWish's partnership is comparable to RESF in tackling perceived challenges in a lack of pipeline and deal flow. • Platform also does not employ an innovative financing mechanism that is comparable to RESF; instead focusing on a selection process for projects that emphasizes countries/industries where renewables offer the most competitive solution to needed power gaps, without subsidies. • The platforms are also managed by developers, whereas RESF will offer financing for multiple developers

Name of instrument	Description	Coverage	Complementarity / Comparability
Global Energy Efficiency and Renewable Energy Fund (GEEREF)	<p>GEEREF is an innovative Fund-of-Funds catalyzing private sector capital into clean energy projects in developing countries and economies in transition.</p> <p>GEEREF invests in private equity funds which, in turn, invest in private sector projects, thereby further enhancing the leveraging effect of GEEREF's investments.</p>	<p>Region(s): Africa, Asia, LAC (GEEREF was invested in 12 funds across these regions as of December 2016)</p> <p>Sector(s): RE and EE</p>	<ul style="list-style-type: none"> • GEEREF is similar to RESF in that focuses on employing public capital to leverage significant additional private capital to grow renewable energy markets in emerging economies • GEEREF employs a returns waterfall structure for investors that is related-but-different from RESF's approach in a first fund. However, both have the goal of using concessional capital strategically to de-risk certain types of investments, provide a certification effect that gives confidence to private investors, and ultimately crowd-in significant private capital.
IntraCo Africa	<p>IntraCo Africa was develops infrastructure projects in Africa, providing both the funding and project development expertise needed to take an infrastructure project from concept to bankable investment opportunity.</p> <p>It uses donor capital to address market failures relating to private-sector infrastructure development, and mobilizes investment by demonstrating that commercially viable deals are possible. It finances project developers, brings expertise to investments, and invests at financial close.</p>	<p>Region(s): Sub-Saharan Africa</p> <p>Sector(s): Energy, transportation, and water.</p>	<ul style="list-style-type: none"> • IntraCo emphasizes a mix of public and private capital, and uses donor financing to de-risk certain pieces of investment and following additionality principles • IntraCo and RESF both help to bridge gaps in early-stage financing for developers and also invest in projects at financial close • IntraCo does not employ an options mechanism • IntraCo does not focus exclusively on renewables, and prioritizes low income countries

Name of instrument	Description	Coverage	Complementarity / Comparability
Lekela Power	<p>Lekela Power is a pan-African renewable energy generation platform that allows investors to choose optimal projects and financing structures, and reduce development risk. This model also allows shareholders to capture value as the platform achieves scale, resulting in higher exit valuations.</p>	<p>Region(s): Africa</p> <p>Sector(s): Lekela Power will provide between 700 and 900MW of wind and solar power</p>	<ul style="list-style-type: none"> • Lekela focuses on the same sectors as RESF and its work to reduce development risk implicitly shares the goal of improving deal flow • Similarly to RESF, Lekela's platform allows private investors to choose optimal projects and financing structures, reduce development risk, and targets higher exit valuations. • However, Lekela's platform is predominantly focused on identifying particular wind and solar projects to help scale up. And also does not appear to work with multiple developers, whereas this is key to RESF's diversification. • There is possible complementarity between Lekela's selection process for projects and RESF's approach.
<p>MGM Sustainable Energy Fund (MSEF)</p>	<p>MSEF is a private equity fund providing equity and mezzanine financing to projects in the demand-side energy efficiency and renewable energy sectors in Colombia, Mexico, Central America and the Caribbean region. GEEREF has committed € 10 million to the fund;</p>	<p>Region(s): Colombia, Mexico, Central America, and the Caribbean region.</p> <p>Sector(s): 75% EE; 25% RE (Proven technologies including hydro expansion/rehab, solar, and wind)</p>	<ul style="list-style-type: none"> • MSEF is focused on potential RESF pilot region and targets similar solar and wind projects. • Similarly to RESF, MSEF includes a mix of public and private investors (GEEREF, KfW, GEF, JICA, IDB, BancoldeX, and others)

Name of instrument	Description	Coverage	Complementarity / Comparability
<p>Renewable Energy and Efficiency Partnership (REEEP)</p>	<p>REEEP is an international multilateral partnership that works to accelerate market-based deployment of renewable energy and energy efficient systems in developing countries. REEEP invests in clean energy markets in developing countries to reduce CO2 emissions and build prosperity.</p>	<p>Region(s): Emphasis on developing countries</p> <p>Sector(s): RE and EE (focal areas are smart cities; cross sector systems; and energy access)</p>	<ul style="list-style-type: none"> • REEEP addresses the lack of available and scalable financing for project preparation and employs knowledge management/ TA to grow clean energy markets. • However REEEP is publicly financed and focused particularly on SMEs. REEEP also includes emphasis on M&E and development of theories of change to understand impact in hindsight; whereas RESF is more-focused on demonstration of a new financing mechanism.
<p>Renewable Energy Performance Platform (REPP)</p>	<p>"The "Renewable Energy Performance Platform" (REPP) seeks to mobilize private sector development activity and investment in small and medium scale renewable energy projects (up to 25MW) in sub-Saharan Africa.</p> <p>REPP works with service and finance providers (REPP Partners) to bridge the gap between the Levelised Cost of Electricity (LCOE) and the prevailing tariff in each country, by tailoring a range of services to each project. (e.g., technical assistance to projects; access to existing risk mitigation instruments and long term lending from REPP partners; providing results-based finance, for example, in the form of top-ups to existing tariffs.</p>	<p>Region(s): Sub-Saharan Africa</p> <p>Sectors: RE (Onshore wind; solar PV; concentrating solar power (CSP)); geothermal; waste-to-energy (landfill gas and thermal waste-to-energy); tidal power; run-of-river hydropower, biomass and biogas)</p>	<ul style="list-style-type: none"> • REPP is similar to RESF in that it supports early-stage projects (though smaller than RESF's target) and continues to support those projects to financial close. • It also emphasizes having project developers demonstrate investment in their project and achievements towards success. • However, REPP emphasizes projects that can demonstrate "additionality" relative to what private markets alone can deliver and projects that could not otherwise achieve financial close; whereas RESF focuses on improving financing and risk management conditions in order to drive significant new private sector investment into project pipelines • RESF holds long-term renewable energy assets after they are operational -- with emphasis on the strong demand for these types of assets from institutional investors; whereas REPP does not.

Name of instrument	Description	Coverage	Complementarity / Comparability
<p>Seed Capital Assistance Facility (SCAF)</p>	<p>SCAF's vision is to increase the availability of investment for early-stage development of low-carbon projects in developing countries, contributing to low-carbon sustainable development, economic growth, poverty reduction and climate change mitigation.</p> <p>SCAF invests in fund, pipeline, and project development with a mix of grants, concessional investment, and conventional PE/VC financing. SCAF also invests in first time fund managers.</p>	<p>Region(s): Frontier markets: low and lower-middle income countries of Africa and Asia.</p> <p>Sector(s): Low-carbon projects (including solar, wind, hydro, geothermal, energy efficiency, and others)</p>	<ul style="list-style-type: none"> • SCAF also seeks to provide projects with needed capital during the development phase • However, SCAF only engages with projects prior to financial close, and addresses development-stage financing gaps by providing financial support on a cost-sharing and co-financing basis to low-carbon projects through private equity (PE) funds, venture capital (VC) funds and project development companies (DevCos) • SCAF could potentially complement RESF as a provider of conditional and non-conditional grants for new Fund, pipeline, and project development.
<p>Sustainable Energy Fund for Africa (SEFA)</p>	<p>SEFA is a multi-donor trust fund administered by the African Development Bank to support small- and medium-scale Renewable Energy (RE) and Energy Efficiency (EE) projects in Africa. Supports project preparation, equity investments, underwriting and enabling environment support.</p>	<p>Region(s): Africa</p> <p>Sector(s): Renewable energy, energy efficiency.</p>	<ul style="list-style-type: none"> • SEFA employs finance to help support sustainable private-sector led economic growth in African countries through the efficient utilization of presently untapped clean energy resources. • However, it is exclusively a grant/TA-providing donor trust fund for project preparation, while equity capital serves as separate financing window. SEFA support could potentially complement RESF projects in the MENA region.
<p>TIMU Energy Holdings</p>	<p>TIMU provides equity investment during project development, and thus funds the development of projects from the feasibility stage onwards, and, in addition to recovering preparation costs, recovers a margin upon financial close.</p> <p>TIMU sought to raise USD 20-25 million for investing exclusively in clean energy.</p> <p>As of July 2015, TIMU had 7 potential projects in 5 African countries in its pipeline. It develops 3 projects per year.</p>	<p>Region(s): Africa</p> <p>Sector(s): solar, hydro, wind, geothermal, LNG power, biomass projects, and others.</p>	<ul style="list-style-type: none"> • Shared focus on early-stage equity investment in renewable energy projects to achieve financial close • Both provide emphasis on project preparation and structuring, and focus on portfolio diversification to manage risks • Both also employ a repayable form of early-stage financing (convertible debt for TIMU and repayable options for RESF) • However, TIMU does not employ an options mechanism to promote diversification, and funds at a later stage of the development process.

Name of instrument	Description	Coverage	Complementarity / Comparability
<p>U.S. Africa Clean Energy Finance (US-ACEF) Initiative</p>	<p>US-ACEF is an innovative, collaborative financing mechanism aligning U.S. government resources in new ways to catalyze significant private sector investment primarily focused on African renewable energy infrastructure. US-ACEF prepares clean energy (CE) projects in Africa to attract investment by providing grants that offset the costs of early-stage project development.</p> <p>Under the USD 30 million program, USTDA will leverage its project planning expertise to support activities both eligible for and currently in OPIC's pipeline for private-sector transactions as well as that of other financiers. The program will help ensure that otherwise technically and financially sound projects are implemented, rather than falling short because of lack of funding for critical "last mile" activities.</p> <p>The program has been replicated in India ("USICEF") and the Caribbean and Central America ("CEFF-CCA", see above)</p>	<p>Region(s): Africa (including 32 projects thus far in Ethiopia, Kenya, Morocco, Namibia, Nigeria, Rwanda, Senegal, South Africa, Tanzania, and Uganda)</p> <p>Sector(s) Clean energy (including wind, solar, geothermal, hydropower, biomass, and other sustainable sources of energy that reduce carbon emissions, improve access to electricity for remote populations, and support economic growth)</p>	<ul style="list-style-type: none"> • US-ACEF and RESF both support RE projects to attract investment and achieve financial close. • US-ACEF and RESF both aim to mitigate risks of RE projects in innovative ways (RESF through an options-mechanism; US-ACEF through technical expertise and OPIC-supported risk mitigation mechanisms) • However, US-ACEF is a public-sector initiative that focuses on developing pipeline specifically for OPIC, not a fund. The funding is set to be fully utilized by August 2017.