

## Executive Summary of Evaluation

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## Background and context

The IFC established the Sustainable Energy Finance (SEF) program with the aim of developing and catalyzing local financing markets for sustainable energy projects. The program provided for an advisory service (AS) and a risk sharing facility (RSF) to local private banks, where the AS included working with various stakeholders to increase awareness and knowledge. The focus of the current evaluation is the AS. SEF has so far been implemented in two phases. Phase II, which is the subject of this evaluation, was executed over seven years from 2009 to 2015. It built upon the gains of SEF I, which focused on providing support to two major banks, successfully demonstrating the business case for sustainable energy (SE) and creating a pipeline of sustainable energy projects in the Philippines.

The overarching goal of the Philippines SEF II (Phils SEF II) is to increase access to local sources of financing for SE projects in order to stimulate private sector investment and reduce greenhouse gas (GHG) emissions. Its main objective is to strengthen the capacity of partner Financial Institutions (FI) in developing and managing a sustainable energy portfolio and assist end-users as well as service and technology providers (ESTPs) in implementing sustainable energy projects. Specifically, Phils SEF II aimed to: (i) strengthen its partnership with existing partner FIs, develop new partnerships and provide these FIs with the necessary support to develop their own sustainable energy portfolio; (ii) establish relationships with end-users, as well as service and technology providers in order to increase the number of projects and proponents requiring access to local financing; and (iii) take on a convening role for regulatory improvement and participate or lead market awareness raising activities to create conditions for greater private sector participation.

## Evaluation Methodology

The FTR aimed to determine the quantitative and qualitative outcomes, and impacts of the program, through the following activities: 1) review of available project documents, project monitoring data, and internal operational and financial data (i.e., donor documents, implementation plans, supervision reports, mid-term evaluation report, among others), 2) desk-review of background information relating to sustainable energy efforts in the Philippines, 3) face-to-face interviews with key stakeholders (i.e., selected former and current IFC staff, donors, partner FIs, ESTPs, government entities, and other bodies), and 4) field visits to project client sites.

## Evaluation Findings

Phils SEF II aimed to develop and catalyze local financing markets for SE projects, has more than met its targets in terms of quantity of loans disbursed and projects supported. Although fewer FIs than expected actively participated, far more projects have been assessed, with assistance from the IFC Phils SEF Team. Phils SEF II has catalyzed a high level of investment in both RE and EE, and exceeded its targets by significant margins. RE projects led PhilSEF II's main impact in financial and energy terms; and largely contributed to the increase in electricity generation from RE sources nationwide, with almost four million MWh being exclusively produced from Phils SEF II's RE projects. In terms of EE projects, the number of loans provided increased throughout the project period, and were higher in quantity when compared to RE projects.

The value in million US dollars of energy savings and production has been exceeded more than ten-fold, and the ex-ante calculated GHG emission reductions from the projects financed amounts to a reduction of two million tons CO<sub>2</sub>/year over the next 15 years.

## Relevance

*Relevance* concerns the extent to which the aid activity is suited to the priorities and policies of the target group, recipient and donor.

The Phils SEF II program is consistent and well-aligned with government policy of inclusive growth, energy independence, and environmental protection. The Philippines' energy sector has been highly dependent on imported fossil fuel for its power generation needs, despite the vast RE resources potentially available.

Prior to the launching of its SEF Program, the IFC had recognized the vast opportunity in the SE market in the Philippines. The SE market was inundated with several issues: 1) combination of capacity gaps, 2) a lack of affordable financing mechanisms, and 3) the weak financial and commercial standing of project developers to meet the financial, technical, and management requirements of the FIs. Phils SEF II addressed the specific needs of FIs in terms of understanding the opportunities in financing SE projects, supporting the development of new products, and having the capacity to assess the inherent risks of each loan application. Phil SEF II conducted various capacity development activities, as well as supported the FIs in improving internal procedures to better suit the new products and markets within the participating banks. By providing updated industry and market information, Phils SEF II enabled FIs to effectively market SE financing to would-be borrowers, as well as improve their investment decisions. The resulting projects that were funded and implemented by the client banks unlocked substantial private sector investments in EE and RE, which contributed significantly to the government's drive towards sustained economic growth, energy independence, and climate change mitigation. By focusing on top-tier FIs, Phils SEF II was able to get early client buy-in, as these were the banks that already had the capacity to launch new products. Some of these banks already considered environment and/or climate change considerations in its decision-making. A partnership with IFC was a logical next step to putting that commitment into practice to promote SE market development.

Phils SEF II program supports the World Bank Group (WBG)'s goals of ending extreme poverty and boosting shared prosperity, on the basis that climate change impacts are a significant risk to the poor. The introduction of new RE and EE schemes contribute to job creation, and provide cleaner electricity to the country. The Phils SEF II objective of increasing investments in SE supports the Joint Philippines-IFC Country Assistance Strategy (CAS), which is directed at achieving inclusive growth by pursuing macroeconomic stability, increasing investment in climate change mitigation, delivering better public services for the poor, reducing vulnerabilities to income shocks and natural disasters, and better governance.

Phil SEF II is timely program as it complements current national efforts in climate change. The Philippines ratified the Paris Agreement last March 2017, which will come into force in April 2017. Last October 2015, the Intended Nationally Determined Contribution (INDC) specifies the Philippines' intention "to undertake a GHG (CO<sub>2</sub>e) emissions reduction of about 70% by 2030 relative to its BAU scenario of 2000-2030, contingent on international support. The reduction of CO<sub>2</sub>e emissions will come from the energy, transport, waste, forestry and industry sectors"<sup>1</sup>. This underlines the increasing relevance of Phils SEF II in the coming years as the nation strives for low-emissions development through varied activities, most notably the development of SE-enabling policies and SE-related projects. The Philippines has already put in place a number of measures to support its energy sector reform initiative<sup>2</sup>. Most of these policies cover

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<sup>1</sup> Republic of the Philippines. (2015). *Intended Nationally Determined Contribution*. Available at: <http://www4.unfccc.int/submissions/INDC/Published%20Documents/Philippines/1/Philippines%20-%20Final%20INDC%20submission.pdf> [Accessed 23 January 2017].

<sup>2</sup> Chang, Y., Fang, Z., Li, Y. (2016). "Renewable energy policies in promoting financing and investment among the East Asia Summit countries: Quantitative assessment and policy implications." *Energy Policy*, 95, pp. 427–436.

privatization of government assets, and the opening up of the energy market to private sector participation. The influence of Phils SEF II, specifically its objective to take on “a convening role for regulatory improvement and participate or lead market awareness”, could help expedite the formulation of other regulations, such as the introduction of tighter EE regulations and RE certificates.

### Efficiency

*Efficiency* measures the outputs - qualitative and quantitative - in relation to the inputs. It is an economic term that implies that the aid should be used towards the least costly resources possible in order to achieve the desired results. This generally requires comparing alternative approaches to achieving the same outputs, to see whether the most efficient process has been adopted.

Phil SEF II outputs were of good quality in terms of the identification of appropriate projects, financial processing, and performance of supported projects. The AS facilitated the identification of appropriate SE projects that could be allocated loans, while technical STCs provided support throughout the SEF program’s implementation, seeking to ensure implementation of project as designed. The structure of the RSF allowed for the straightforward financial processing using a portfolio approach, which did not necessitate individual loan approval from IFC if the loans met a set of eligibility criteria.

Program resources were managed efficiently. The emphasis placed on Component 1 made certain that FIs were provided with the necessary AS, leading to an increasing number and magnitude of loans provided. On the other hand, the results for some outputs on Components 2 and 3 were not met; the results related to the provision of in-depth AS to ESTPs, the partnerships brokered between ESTPs and FIs, and the internal FI policies recommended for improvement or elimination, were lower than expected.

Considering the costs relative to the results achieved, the Phils SEF II has provided value for money. The ratios of the total Phils SEF II cost relative to the outcomes achieved are much lower than anticipated. The actual project investment, as a function of the energy use and GHG emissions avoided, is about a third of the projected cost/outcome ratio.

The lessons learned from previous SEF projects in other countries enabled the SEF Team design an appropriate AS. Given the program’s dependence on partner FI’s buy-in, commitment, efficiency, and IFC’s cost structure, there were no obvious and significant cost savings that could have been identified.

### Effectiveness

*Effectiveness* is a measure of the extent to which an aid activity attains its objectives

Phil SEF II’s intended outcome, to increase the portfolio of SE projects supported by participating FIs, has been largely achieved both in number and value. The potential of EE investments could be further explored. Although a significant number of EE projects have been financed, on average, the value of the loans issued is lower. 66% of the total loan amount has been committed to RE projects.

Through the design of Phils SEF II, some partner FIs have been able to contribute significantly to the increase in market lending to SE projects; while the other partner FIs, though reported improved capacity, were not able to deliver services to project developers, though they are indeed providing lending to clients doing SE related projects but on a very selective basis. Currently, other banks other than the Phils SEF II client FIs are now beginning to provide SE-related financing as well.

### Impact

*Impact* is defined as the positive and negative changes produced by a development intervention, directly or indirectly, intended or unintended. This involves the main impacts and effects resulting from the activity

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The policies put in place are within the following fields: renewable portfolio standards, net metering, feed-in tariff, tax incentives, renewable energy target, renewable energy act, capital subsidy/rebate, public investment and loans.

on the local social, economic, and environmental indicators. The examination should be concerned with both intended and unintended results and must also include the positive and negative impact of external factors, such as changes in terms of trade and financial conditions.

Phils SEF II has had considerable impact as measured by the increase in investments in SE in the Philippines. Reported energy generation and savings exceeded the targets, as did the resulting reduction in GHG emissions. Furthermore, there is an increase in interest in SEF due to the demonstration effect of successful projects, showing that RE and EE initiatives can be based on a sound business case.

Much of the RE generation can be verified from government Feed-in-Tariff (FiT) figures (except small-scale solar and own consumption). The increase in RE generation capacity since 2009 is fully accounted for by the RE generation of the Phils SEF II projects, which at the end of 2015 accounted for 18% of electricity production in the Philippines.

There is no direct means of verification of the actual EE savings after the completion of projects, which account for just over 4% of the projected energy savings, but represent the majority of the projects supported in terms of number. Several of the projects involved multiple users, for example residential developments, and the energy using behavior of those users had not been tracked, so overall benefits are uncertain.

In general, the M&E of the outcome targets seems to have been more difficult to manage, revealed by some inconsistencies in the data. Although partner FIs are required to report pre-agreed parameters to IFC, on a semi-annual basis, the figures on the outcome targets that are used are ex-ante figures, and are not updated or verified after project implementation. However, the lending behavior of the participating financial institutions has been influenced. They have built up internal expertise and so reduced the need for support from Phils SEF II. Financial targets for saving and lending have been exceeded by a reported 1,000%. Anecdotal evidence supports that other financial institutions are entering the market, although this could not be quantified. The goal of Phils SEF II in influencing the behavior of financial institutions has been achieved. Nevertheless, the numbers of financial institutions involved remains small and the full impact on the sector is yet to be realized.

### **Sustainability**

*Sustainability* is concerned with measuring whether the benefits of an activity are likely to continue after donor funding has been withdrawn. Projects need to be environmentally as well as financially sustainable.

The SEF products offered during the program period are likely to be continued, as there is an established market and returns on investment compared with other standard product portfolios. After the Phil SEF II, a substantial body of FI staff has competencies in market and risk assessment, and projected returns. There are also indications that other banks are entering the market.

However, in order to drive momentum, there remain weaknesses on the demand side that need to be addressed. The level of expertise in RE and EE within the private sector has not been sufficiently developed due to the culture of high turnover for bank staff, among other reasons. Aside from this, the business environment for SE needs to be further improved. To illustrate, lack of incentives for EE, the unpredictability of changes to the relevant policy framework, the lack of energy management expertise, the absence of regulations on energy service companies, and the recognition of environmental risks, especially climate change are likely to affect the continuation of SEF program outcomes and impacts.

Specifically, in RE, a common concern among stakeholders is that current regulations are more of a barrier to the development of RE projects than enabling the environment for accessible financing.

Although there are financial incentives to RE in off-grid areas and FITs issued to four types of RE (solar, wind, hydro, and biomass), the policy environment is unstable, and there are substantial delays in obtaining permits and payments. This environment discourages investment as it heightens risk, thus RE is growing at a lower rate than overall demand, leading to the increased reliance on fossil fuel sources and imports.

Focusing on EE, an IEA analysis has shown that over a third of all emissions reductions needed to reach climate goals by 2040 must come from EE policies<sup>3</sup>. The growth in lending to EE projects is a promising trend. The new National Green Building Code for larger buildings is a spur to activities in the area of EE, and should provide a stable basis for future developments. Minimum Energy Performance Standards have also promoted EE measures, although the pace of their introduction can be improved. EE projects will require a broader base of expertise among financial institutions and developers, which is not currently in place.

### **Additionality**

*Additionality* involves considering what outcome has been delivered because of a specific intervention that would otherwise not have happened. Measuring additionality usually involves reference to a base case, often referred to as the “counterfactual”. The base case identifies what would have happened without the intervention.

There is clear evidence of additionality in the implementation of Phils SEF II. Prior to the program period (2009-2015), the local financing sector was neither confident in nor engaged with RE and EE projects. Without Phils SEF II providing AS and RSF, the FIs would not have been able to establish a sizeable portfolio of RE and EE loans as quickly, and they would not have the capacity and know-how to build an RE and EE portfolio, and monitor the performance of these projects.

IFC’s main partner FIs are successful providers of green financing; these FIs are seen as industry leaders. Setting the trend for smaller or second-tier banks, new products and innovation may be developed based on international experience and best practice. A new phase of innovation is needed to further expand the activities across the financing sector and Phils SEF coverage. With Phils SEF II providing AS for banks and players in this space, SE projects that otherwise could not be advanced due to lack of financing may be pursued. Further catalyzing private sector investments to also cover off-grid areas would be consistent with the WBG’s goal of supporting the Philippines in attaining poverty reduction and inclusive growth.

### **Lessons Learned**

The PhilSEF II program has demonstrated that there is a sufficient market in the Philippines for financial services. However, there are more potential opportunities in SE development. One important limiting factor for market development is the policy environment, as exemplified by the protracted process of obtaining permits for RE and the uncertainties in the FIT income stream. These add risk to financing and may result in less favorable terms than would otherwise be available in a stable policy environment. It is recognized that policies take time to be implemented, but they have a very important role in determining investment behavior, which includes the propensity to develop RE and EE ventures.

The AS was primarily provided to FIs. However, in the course of project evaluation, the SEF Team inevitably also provided advice to developers, as they needed to ensure the projects presented by developers would adhere to bank’s requirements. The AS has therefore proved its additional value in advising project developers, who have then made decisions to self-fund some projects and borrow for

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<sup>3</sup> International Energy Agency. (2016). *Energy Efficiency Market Report 2016*, p. 33. Available at: <http://www.iea.org/publications/freepublications/publication/mediumtermenergyefficiency2016.pdf> [Accessed 23 January 2017].

others, meanwhile the RSF was used by one partner FI who found it useful for risk mitigation. However, it does appear that Phils SEF II has not substantially altered the lending practices of the partner FIs. With an exception towards FiTs, revenue from FiTs are recorded to have been taken into account in lending decisions. Particularly for smaller project developers, this is important. It is, however, constrained by the government rules (i.e., FiT's "first come, first served" policy) and substantial payment delays.

Variations in the SEF program such as a shorter engagement with IFC with a limited interaction with bank staff (called SEF Light<sup>1</sup>), was less effective. Although this engagement entailed less financial and HR commitment from partner FIs since IFC only worked with the bank's SEF team, it actually limited the extent of use of the SEF as an effective program, as it did not fully gain top management buy-in, and participation of a broader number of account officers/relationship managers. This emphasizes the importance of having an "advocate" or "champion" within the partner FI to push the needed agenda within the FI in spite of changes in senior management direction. Aside from this, it is also important to take into account the employment culture of partner FIs. In the Philippines, staff movement within and between banks is common. This has resulted in the transfer/resignation of trained staff, which ended in the non-implementation of SE lending. This is made more difficult the task of putting financial products into practical and widespread use. Another major challenge is the high cost of outreach/infrastructure for after-sales support. Aside from this, engagement with project developers has not been as strong as it could have been, which is a reflection of the redefinition of priorities during Phils SEF II. Project developers need to have the expertise to make presentations for finance and also often need their own expertise in EE and RE to be enhanced.

Meanwhile, IFC's M&E procedures, do not provide for 'ex-post' monitoring of energy generation, energy savings, or GHG reductions. Phils SEF II measurement and verification (M&V) is based on IFC's Climate Assessment for Financial Institution Investment (CAFI) tool, which has been disseminated and rolled out to the FIs, but due to FIs' internal security policy, there are restrictions to their use, not allowing for ex-post M&V. To illustrate, there are impressive figures quoted for GHG reductions, which follow logically from the high level of lending. Facilitating lending is a crucial factor in making these impacts. However, there must remain some caution over the use of these figures because of the lack of verification procedures.

Monitoring is a process, which takes place during and after project completion, not prior to it. The Phils SEF II M&V of actually achieved project results regarding energy saved or generated and for GHG emission reductions is weak and need to be followed up through contact with the project developers. The IFC has a guideline for monitoring GHG emissions of a project upon implementation; this needs to be put into practice.

## Recommendations

1. Emphasis on EE projects. EE is a critical "fuel" in the transition to a low-carbon economy. A larger SEF priority on EE could entail creation of new financial products:
  - a. Differentiated RSF pricing. FIs presently consider large EE projects, such as deep building renovation with a long pay-back period to be too risky. There are many potential developments in this area, but the project developers do not fit into the main categories for lending or venture capital. If the RSF policy allows it, a preferential RSF pricing for large EE loans, would help FI perception of the project.
  - b. Equity funding instrument. Consider the development of an instrument to provide funding for small/ medium project developers that need to raise equity. These could include ESCOs who need a fund for the development that fall between venture capital requirements and normal bank loans. These could be in the form of quasi equity (convertible into loan) or guarantee.

2. Regain emphasis on market awareness and regulatory improvement. The Phils SEF II communications and promotional activities have developed awareness of EE and RE and their benefits. However, there is a need for more intensified communications and promotional campaign. A crucial element to developing greater awareness is regulation.
  - a. Regain emphasis on the Phils SEF II activity on *assistance in regulatory improvement to facilitate implementation of sustainable energy projects*. A future SEF program should reinforce the initial emphasis on taking “a convening role for regulatory improvement and participate or lead market awareness” since this would help expedite completion of the necessary policy measures to address persisting barriers.
  - a. Networking and collaboration with other donors and stakeholders can facilitate the work of SEF towards achieving not only market awareness but also regulatory improvement. Relationships can be reinforced through events which can introduce donor panels on SE financing, and help promoting discussions on the needs and challenges in the SE sector.
  - b. The Phils SEF II expected outputs and outcomes were generally well achieved, despite the decrease in available SEF team resources that were well used to administer the program and ensure the collaboration with the FIs. A new SEF program would need internal or external human resources for networking, awareness building, and communication with ESTPs, as well as for efforts in regulatory improvements.
3. Further develop local financing markets by including second-tier banks. The inclusion of smaller FIs to the target market of Phils SEF II may indeed help in developing and catalyzing local financing markets for SE projects, which was the objective of Phils SEF II. However, their overall contribution in terms of SE loan volume may not be that significant.
  - a. Help increase expertise through provision of AS. A future SEF may examine ways of reducing the smaller banks’ transaction costs by increasing their level of expertise through the advisory services. The SEF Team should promote the benefits of signing a robust full-program AS agreement through the substantial additional business that existing FI clients have reached. The ‘SEF Light’ offering can be envisaged to allow smaller banks ensure the costs of the AS, but this offering should reflect the lessons learnt during Phils SEF II: the FI core team needs to devote a substantial amount of time to the SEF work, and the SEF Team or sustainable energy consultants should have a role in developing the FIs pipeline.
  - b. The portfolio approach has already proved successful and may make the processing of the RSF when needed, easier to face for the smaller FIs, as it has for the large existing SEF clients. Taking a portfolio approach to risk would enable a few high-risk projects to be supported by smaller banks.
4. Expand coverage to smaller project developers. The smaller developers are often those serving the poorer communities and those presenting innovative ideas. Because of the collateral requirements and the inevitably higher transaction costs, these developers have not received attention under Phils SEF II.
  - a. Partnership agreements with project developers. Smaller RE projects may most directly benefit poorer communities, which would be in line with the WBG’s goal of supporting the Philippines in attaining poverty reduction and inclusive growth. Whereas SEF is not in a position to provide grants to small community based projects, SEF can establish partnership agreements with private sector project developers extending assistance to develop a portfolio of RE projects.
  - b. Extend field of RE projects. Develop new FI products in collaboration with the FIs to



serve new types of RE projects, such as RE hybrids and mini-grids projects, which could be developed to service the more rural population.

5. Monitoring and verification of ex post project achievements should be reinforced. There is a lack of ex-post verification of energy savings and reduced GHG emission reduction. Ex -post verification is important especially so if impact results are among the key target indicators of Phils SEF II. Monitoring as well as M&V should be an integral part of future project design. A process must be introduced, allowing quantifying on a verifiable basis the climate benefits of programs such as SEF.

M&V should happen at four levels:

- a. Clear business plans with milestones for energy and GHG savings, and means of monitoring them;
  - b. Synergies with DOE data returns on project approvals and FiTs;
  - c. Monitoring or on-site inspection of a sample of EE schemes; and
  - d. Emphasis on obligatory metering for EE installations, helping to monitor user behavior.
6. The GEF Tracking Tool Requirements specifies 'Results at Terminal Evaluation', an 'ex-post' requirement. The Tool requires information on energy capacity and production, lifetime direct post-project GHG emissions avoided and lifetime indirect GHG emissions avoided. To fulfill these requirements, it is recommended to:
    - a. Carry out a telephone or email survey of all projects asking for the basic information of generating capacity, energy generated and saved.
    - b. Carry out a structured 10% on site survey of projects, i.e., 20 projects, structured to be representative by technology and size. In future, such sample monitoring should be standard practice and require access by the monitors to the clients to get this information.