

Financial De-risking Instruments for Energy Efficiency in the Philippines



Final Stakeholder Workshop



**The Asian Development Bank (ADB), Department of Energy (DoE),
and The Insurance Commission**



28th May 2024



Purpose and Objective of Market Scoping

Purpose for Scoping:

The market scoping for the **financial de-risking instruments** conducted under ADBs TA on "**Support for the Implementation of the Asia-Pacific Climate Finance Fund (ACliff)**" focused on assessing the potential market opportunity for guarantees, insurance, and other de-risking instruments for energy efficiency investments.



Target Countries: *India and the Philippines.*

Objectives:

- To **present the findings of the scoping study** on the financial de-risking instruments promoting energy efficiency investments.
- To **capture stakeholder views about the proposed financial de-risking instrument** and the structure for implementation in the Philippines.
- To **discuss the proposed or potential role for key stakeholders**, from government to private sector.
- To identify the key areas for **capacity building for key stakeholders**.
- To discuss and **document the potential barriers in implementation** and the means to overcome them.

Our Approach to Assess the Potential Market Opportunities for De-Risking Instruments

Preparation of a 'Concept Brief'

Summarizing different types of de-risking instruments and risk management solutions that can support the development, and expansion of energy efficiency financing and investments in the Asia and Pacific.

Selection of 'Priority Countries'

Where scoping studies can be conducted for assessing the potential market opportunities for de-risking instruments for energy efficiency investments.

Conduct 'Scoping Studies'

Identify and conduct meetings with stakeholders, document key market barriers that inhibit the uptake of energy efficiency de-risking instruments and the key market requirements.

Prepare Detailed Reports

Summarization of potential approach to support the design and implementation of most suitable de-risking instrument for energy efficiency investments. Also map the market opportunities.

Conduct Stakeholder Workshop

Present, discuss and finalize the possible de-risking instrument and explore the possibility of a pilot project design.

Energy Efficiency Finance – Scale of the Opportunity

- The International Energy Agency (IEA) has shown that energy efficiency measures could deliver **more than 40%** of the emissions abatement required to reach the Paris Agreement goals in a sustainable development scenario.
- IEA estimated that global energy efficiency investments reached **\$560 billion** in **2022**.
- **COP 28 pledged to double** the global average annual rate of energy efficiency improvements **from 2% to 4% every year until 2030**.
- ASEAN and other countries in Asia and Pacific are **setting-up policies** and **targets for energy efficiency and conservation**.
- Countries in Southeast Asia have developed advanced financial schemes, frameworks, and instruments to finance energy efficiency. The key examples are:
 - Energy Efficiency Revolving Fund (EERF) in Thailand
 - Energy Performance Contracting Fund (EPCF) in Malaysia
 - Energy Efficiency Fund (E2F) in Singapore
 - Infrastructure Fund and the Viability Gap Fund (VGF) in Indonesia
 - National Technology Innovation Fund (NATIF) and the Viet Nam Environment Protection Fund (VEPF) in Vietnam.
 - Partial Risk Sharing Facility (RSF) created under Sustainable Energy Finance (SEF) Program implemented by IFC in the Philippines from 2009 to 2016.



Energy Efficiency – Key to deliver Philippines NDC Goals

Philippines has committed to ambitious NDC targets:



75% of emissions to be reduced by 2030 (2.71% unconditional and 72.29% conditional)

Power sector accounts for the largest share of GHG emissions

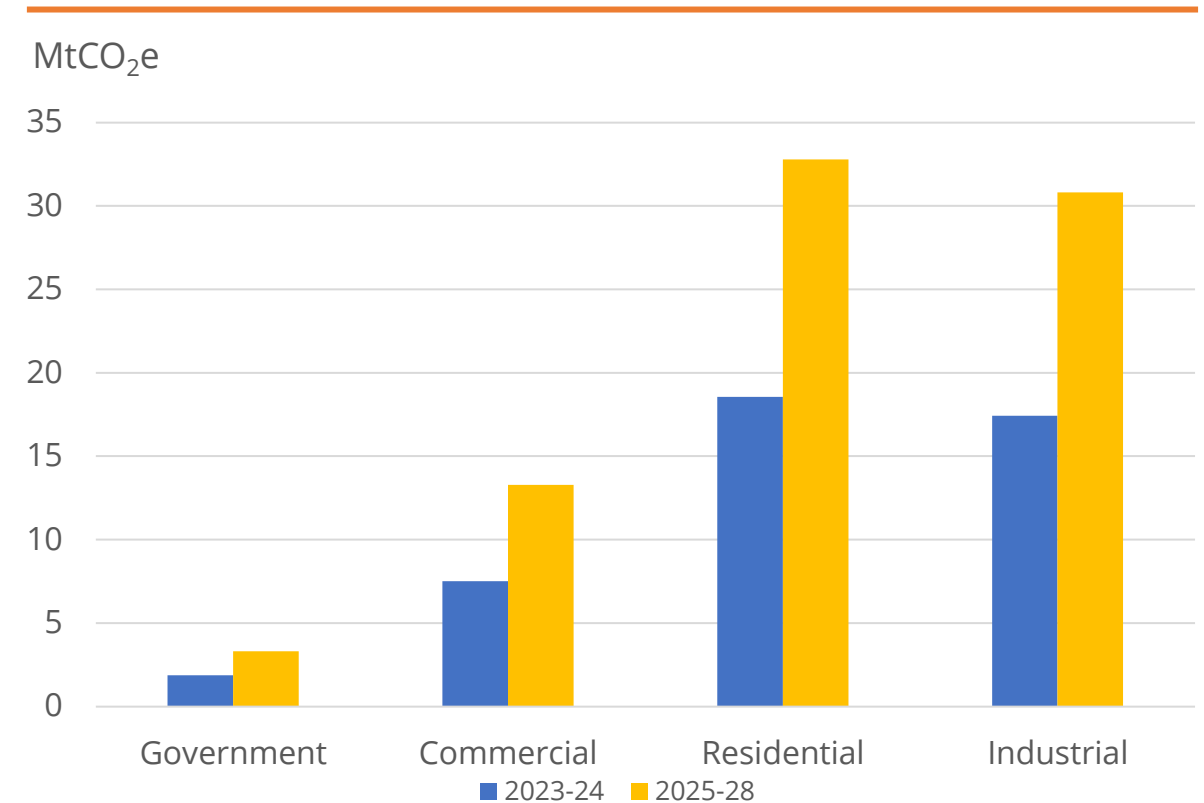


56% of total GHG emissions with 70 MtCO₂e (2020)

Energy efficiency, including buildings, is an important part of GHG abatement

Energy Efficiency and Conservation Act approved in 2019 to deliver energy efficiency across all sectors

Potential GHG reductions from energy efficiency programs in the Philippines, by sub-sector



Source: Philippines National Energy Efficiency and Conservation Plan and Roadmap 2023-2050

Constraints in Energy Efficiency Investments in the Philippines

1. Significant **gap between investment opportunities and the level of investments** in energy efficiency in all the sectors in the Philippines.
2. Under the EEC Act 2019, **procedures for financing multi-year energy savings government projects to ESCOs are still required to be in place**. It is difficult for Government agencies to legally commit multi-year saving payments and they cannot retain multi-year savings in their budgets.
3. **ESCO markets are still at nascent stage in the Philippines**. Financial de-risking instruments normally prefer energy efficiency investment projects with standardized documentation and standardized equipment, which are mature, scalable, replicable, and tested in the market.
4. **High cost of capital**, lack of government incentives and lack of availability of financial de-risking instruments.
5. The banks and insurance service providers are **reluctant to engage in the new markets** due to their existing capacity and limited understanding of the benefits.
6. **Banks and financing institutions in the Philippines need capacity building** and training support for evaluating the energy saving project loan applications.
7. **High dependence on donor agencies** for funding the pilot programs.

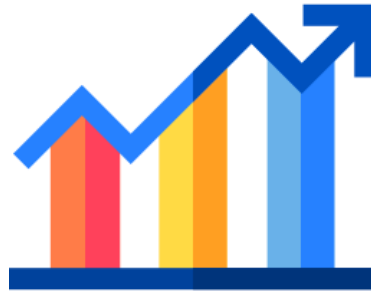
Financial De-Risking Instruments – Guarantees & Insurance

Out of various available instruments, the widely used instruments are the **guarantees** and **insurance**.



Credit Guarantees

that are used as pure financial guarantees



Performance Guarantees

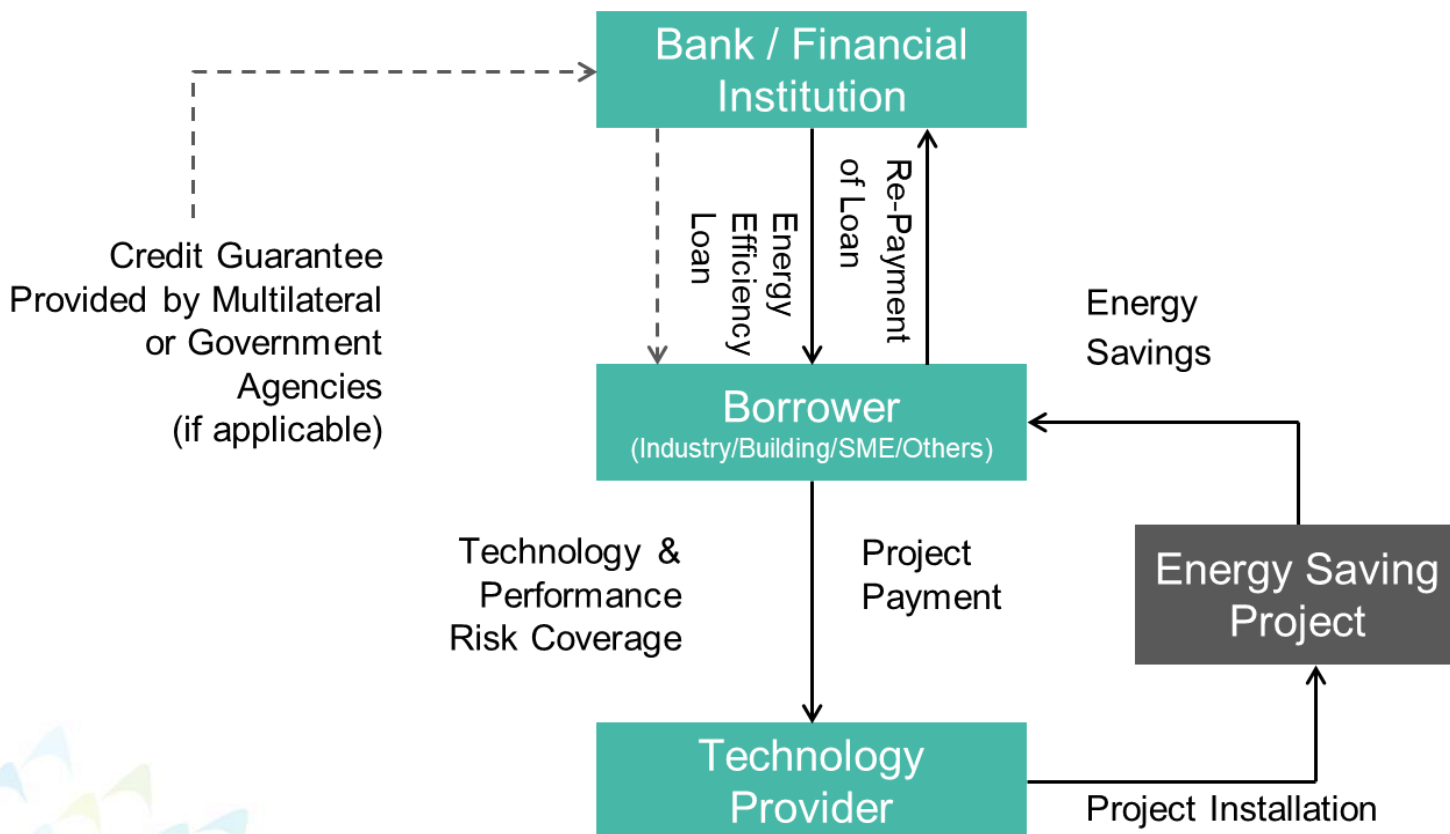
that are used to support insurance financing models



Insurance

that are to cover the losses if the anticipated energy savings are not delivered

Credit Guarantees

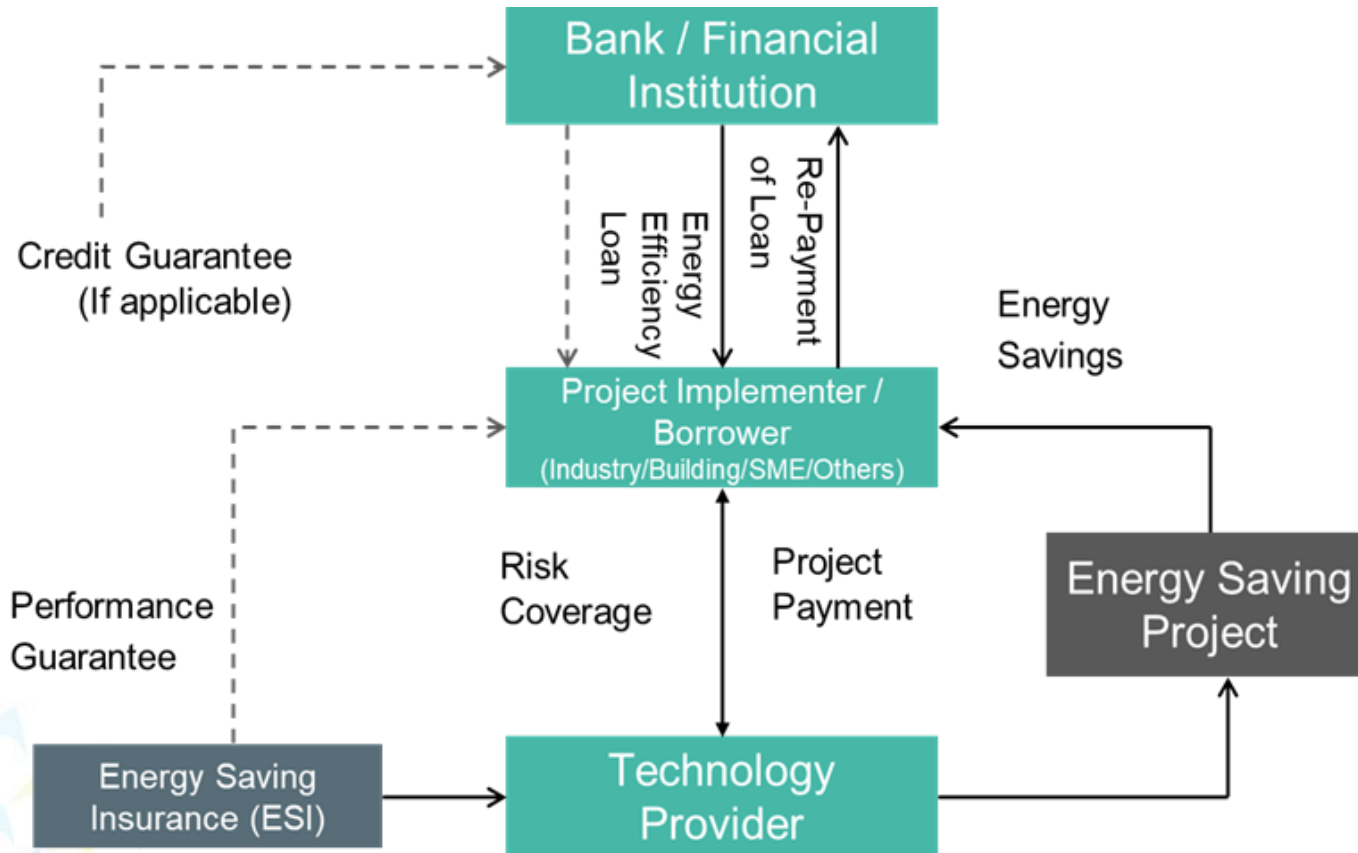


Implementation Framework of Credit Guarantees

Credit Guarantees

- **Most successful, easily replicable, and market-friendly** interventions to ease and broaden access to finance.
- **Provided by international financial institutions (IFIs)** or the Governments to local financial institutions through public energy efficiency investment programs.
- **Give incentives to lend** because they partially compensate financial institutions for losses caused by the default of the borrowers.
- The use of credit guarantee programs, backed with public funds, **helps cover perceived high initial business risks.**

Energy Saving Insurance (ESI)



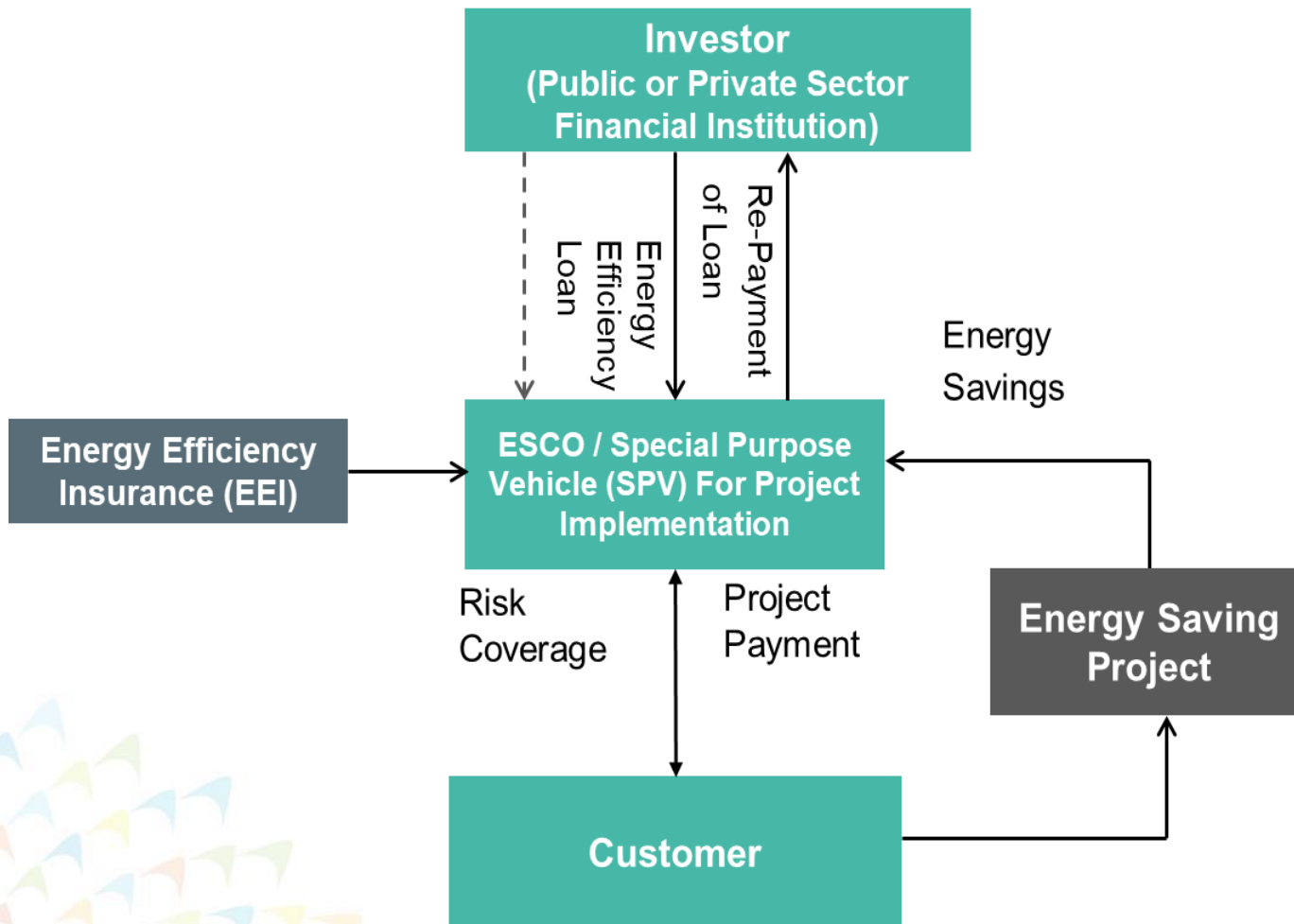
Source: BASE PPT, 18 May 2023 at ADBs Joint SDSC-FIN-ENE Webinar

Implementation Framework of Energy Saving Insurance

Energy Saving Insurance (ESI)

- **Provides performance guarantee for energy savings** based on contractual relationship between the technology provider and his client.
- **Implementation structure includes:**
 - **A standardized contract** with a provision for passing some of the risks to technology provider.
 - **A third-party insurance** to provide risk coverage if the promised energy savings do not materialize.
 - **Validation** conducted by an independent validator.
 - **A competitive financing structure** which may include credit lines from development banks for concessional loans, grants, and other incentives.
- **Till date - being implemented in** Argentina, El Salvador, Columbia, Chile, Brazil, Mexico, Nicaragua, Paraguay, & Peru in Latin America. Italy, Portugal, Spain, Croatia, Greece & Slovakia in Europe and being developed in India, Mongolia, Morocco, & Vietnam.

Energy Efficiency Insurance (EEI)



Implementation Framework of Energy Efficiency Insurance

Energy Efficiency Insurance (EEI)

- **HSB**, a member of Munich Re's family has introduced energy efficiency insurance focusing on **providing up to 5-years of protection for EE** projects, including material damage (equipment breakdown), business interruption (against loss of revenue in the event of equipment failure), & natural disasters.
- EEI mainly **support the credit enhancement of ESCOs. ESCOs to create a Special Purpose Vehicle (SPV)** for the implementation of energy efficiency project.
- The uniqueness of EEI is the asset performance insurance **covering a shortfall in energy savings**.
- To date, **EEI being implemented in UK, Ireland, Spain, US, Canada**.

Potential Sector in Philippines for Implementation of De-Risking Instruments

- The **Water Districts have emerged** as the potential sector for the implementation of pilot to introduce the financial de-risking instrument. Water Districts are the utilities that are legally and financially separate from the Municipality.
- The **Philippines has over 873 Water Districts** of different sizes, ownership structure and governance.
- The **Local Water Utilities Administration (LWUA) oversees the administration of all the Water Districts (WDs)**. The WDs are also local public companies that serve metropolitan areas.
- **Analysis conducted by DBP Bank in 2022-23**, estimated the cost of energy consumed by Water Districts in the Philippines as \$120 million/year with a **potential for 10-30% energy savings** with implementation of EE measures like energy management system, use of VFDs, and the use of efficient motors.
- **Manila Water**, an ISO 5001 Corporation, has undertaken LED lighting & air conditioning upgrades, use of gravity lines in distribution system, Demand-Based Network Management, pump efficiency testing and refurbishment, and installation of VFDs.
- **Maynilad Water Services, Inc. implemented an Energy Management System (EnMS)**, which allowed it to achieve an average yearly decrease in energy intensity of 3.51% during the last 4-5 years.

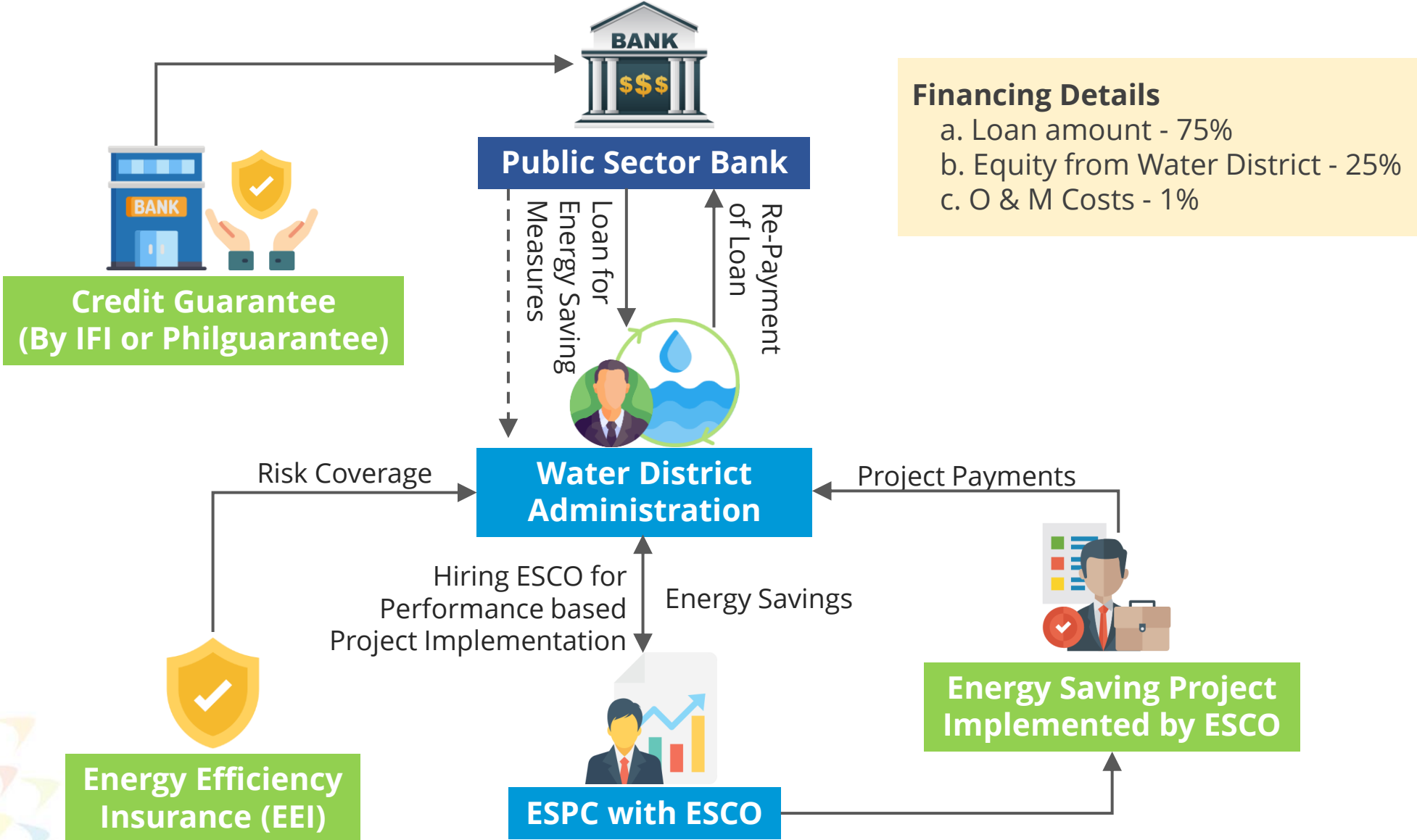
Estimated National Level Energy Savings & Investment Potential in Water Districts

National Level Energy Savings and Investment Potential in Water Districts in the Philippines

Energy Saving Measures	Estimated Investment in USD	Estimated Cost Savings USD/Year	Simple Payback Period in Years	CO ₂ Emission Factor for the Grid tCO ₂ /MWh	Co ₂ Emission Reduction in tCO ₂ /Year
Energy Efficiency Measures	120,000,000	28,000,000	4.3	0.699	122,325
Non-Revenue Water (NRW) Conservation Measures	30,000,000	5,300,000	5.7	0.699	23,154
Installation of Solar PV to Supply 15-20% Renewable Power	100,000,000	18,000,000	5.6	0.669	76,964
TOTAL	250,000,000	51,300,000	4.9	0.669	222,443

Source: DBP estimations 2022-23.

Proposed Implementation Structure for De-Risking Instrument



Estimated Investment and Energy Savings in One Water District

Proposed Energy Saving Measures and Expected Savings

Details of Energy Conservation Measures (ECMs)	Estimated Electricity Savings (kWh)	Expected Investment (USD)	Expected Savings (USD)	Estimated GHG Reductions (tCO ₂ e/Annum)
EE Measures	28,742,575	13,796,436	4,598,812.07	20,091.06
Non-Revenue Water (NRW) Conservation Measures	5,094	4,575	815.01	3.56
Installation of Solar PV (1 MW) (50,000 PHP /kW)	1,314,000	877,193	210,240.00	918.49
Total	30,061,669	14,678,204	4,809,867.0	21,013.0

Payback Period and IRR of the Project

Key Financial Indicators	With Energy Saving Insurance	Without Energy Saving Insurance
NPV	53,775,326	53,252,399
IRR	21.23%	20.71%
Payback (Years)	3.05	3.05

Energy Saving Measures:

- **Energy Efficiency Measures:**
 - Implementation of Energy Management System.
 - Use of Variable Frequency Drives (VFDs).
 - Capacity building and training on behavioral aspects.
 - Power factor correction.
- **Non-Revenue Water Saving Measures:**
 - Continuity of service supply.
 - Stabilization of pressures and reduction of stress in the infrastructure.
 - Combat leaks for the reduction of real losses.
- **Installation of Solar PV System** (Approx. 1.0 MW).

Recreation of Risk Sharing Facility in the Philippines

1. International Finance Corporation (IFC) created a **“Risk Sharing Facility (RSF)”** at BPI and the BDO Bank under the credit guarantee program called **“Sustainable Energy Finance (SEF) Program”** in the Philippines between 2009 and 2016.
2. Under RSF, the **BPI provided EE loans to existing mid-size commercial and industrial corporate clients.** Whereas **BDO provided the loans to large grid connected RE Projects** with Power Purchase Agreements to Special Project Companies owned by existing customers. Both banks required collateral while financing the energy efficiency renewable energy projects.
3. The **similar facility for providing credit guarantee is required in the Philippines** to support the introduction of EEI Products. For lending large amounts to Government clients, local banks would require credit guarantee support in the beginning.
4. The structure for the implementation of financial de-risking instrument in the Philippines also suggest about the use of credit guarantee while providing the loan to Water District.
5. **ESCOs in the Philippines don't have the capacity to get large quantity loans,** especially for Government projects. While providing the loans to water districts or other government agencies, banks will require either collaterals or credit guarantee support.

Roles and Responsibilities of Key Stakeholders – As Identified

- **Leading insurance companies** and the **banks like DBP and BPI who have their insurance verticals** should file an EEI product with the Insurance Commission for approval.
- **Philippines Insurance and Reinsurance Association (PIRA) can play an important role** in helping the member insurance and reinsurance service providers in preparation and filing of an EEI product for approval.
- **PIRA should organize awareness raising and capacity building workshops** to facilitate the introduction of financial de-risking instruments. ADB and DOE can help PIRA in reaching out to EEI experts from Europe and other parts of the world for providing the trainings.
- **Insurance Commission is well informed about the ADB initiative under ACLiFF** for the identification, design, and implementation of financial de-risking instruments for the Philippines. Once an EEI product is filed properly with all requirements fulfilled, the **Insurance Commission can provide the approval for implementation.**

Roles and Responsibilities of Key Stakeholders – As Identified

- **National Reinsurance Corporation of the Philippines (Nat Re) also has a role to play as they help insurers in the Philippines** grow, manage risks, and thrive in the long term. **Nat Re provides reinsurance capacity and offer advisory services** to independent insurers and multinationals operating in the Philippines. They also help international (re)insurers who aim to invest in the Philippines.
- International reinsurance service provider **Munich Re has shown the interest in providing reinsurance services** to the insurance providers in the Philippines.
- **Philippines Guarantee Corporation (Philguarantee)** has the mandate to assist renewable energy and energy efficiency projects in accessing the finance from banks and lending institutions and non-banking financing institutions on 50% to 80% guarantee provided by the Philguarantee.
- **Agencies like Climargy and PE2 are working in the Philippines for building the capacity of ESCOs** and assisting them in developing standard contracts, documents for simplifying the contracting processes. They should continue with their contribution in developing the markets for ESCOS.

Next Steps



1. Based on the inputs received from the stakeholders, **fine tune the proposed implementation structure** for the energy saving project and the Energy Efficiency Insurance.
2. **Fine tune the approach and design of a pilot with water districts** and get the energy audit and other data collection tasks completed for preparation of final cost estimates. This will help in preparing the loan application.
3. **Work with PIRA, Nat Re, Insurance Commission and leading banks** for finalizing the design of EEI Product and filing it for approval from Insurance Commission.
4. Work towards **recreation of Risk Sharing Facility** for providing the credit guarantees for large scale loans to Government agencies.
5. **Finalize the pilot project design** and the **funding sources** for various components of the pilot.

Thank you

