

# Enhancing Green Financing Mechanism for Energy Efficiency and Conservation

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**PYC International  
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Towards Visi Indonesia Emas 2045: Aligning Energy  
Security, Economic Growth, and Environmental Sustainability

# Enhancing Green Financing Mechanism for Energy Efficiency and Conservation

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[purnomoyusgiantorocenter.org](http://purnomoyusgiantorocenter.org)



## About the OECD

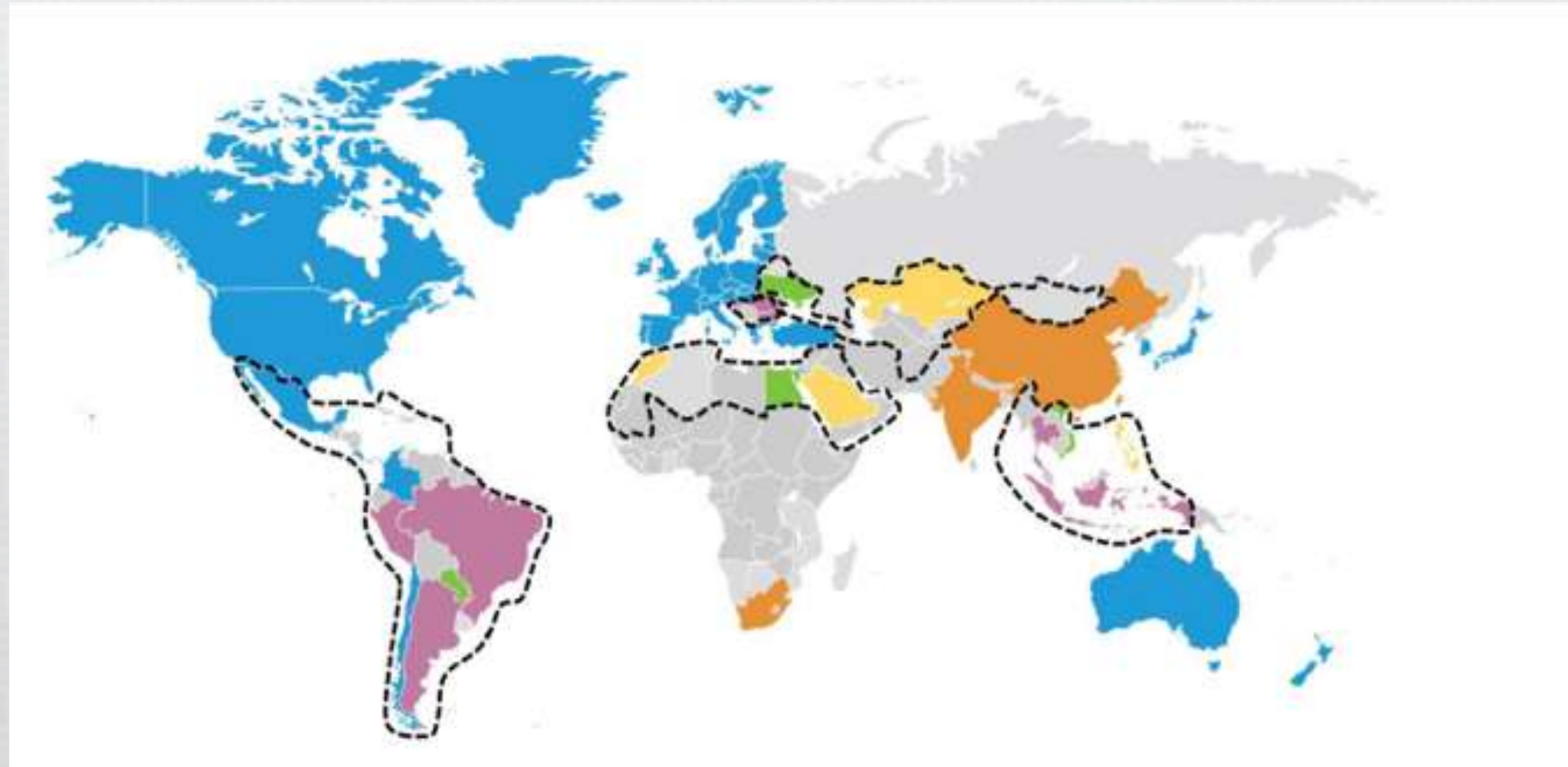


- The Organisation for Economic Co-operation and Development (OECD) is an international organisation that works to build **better policies for better lives**.
- We work closely with **policy makers**, stakeholders and citizens to establish evidence-based international standards and to find solutions to social, economic and environmental challenges.
- The OECD brings together **38 Member Countries**, spanning from North America and South America to Europe and Asia-Pacific





# OECD's Global Reach



- **38 Member countries**
- **5 Key Partners:** Brazil, China, India, **Indonesia** and South Africa.
- **8 Accession countries:** Argentina, Brazil, Bulgaria, Croatia, Peru, Romania, **Indonesia** and Thailand



# Clean Energy Finance and Investment Mobilisation (CEFIM) Programme

OECD programme funded by Australia, Canada, Denmark, Egypt, and Germany

**Aim:** Mobilise private finance and investment for clean energy in selected partner countries as well as a broader set of emerging markets.

**Scope:** renewable energy, energy efficiency, clean hydrogen and industry decarbonisation

## Activities:



**CEFIM country partners:** Colombia, Egypt, India, Indonesia, Philippines, South Africa, Thailand and Viet Nam



# Implementation support activities in Indonesia



## Research and analysis

- Technical support to Indonesia's sustainable finance taxonomy (2021-22)
- Research and policy analysis on climate transition plans with OJK (2024-2025)
- Analytical contributions to the Just Energy Transition Partnership (2024-25)

## Capacity building and human capital development

- Annual Clean Energy Finance and Investment Training Week (2022, 2023 and upcoming 8-11 Oct 2024)
- Staff secondment programme with OJK (2022 – ongoing) and MEMR

## Policy liaison and advice

- Series of five focus group discussions on emissions trading schemes in Indonesia (2021-22)
- High-Level Public-Private Dialogue on energy savings insurance in Indonesia (30 May 2024)

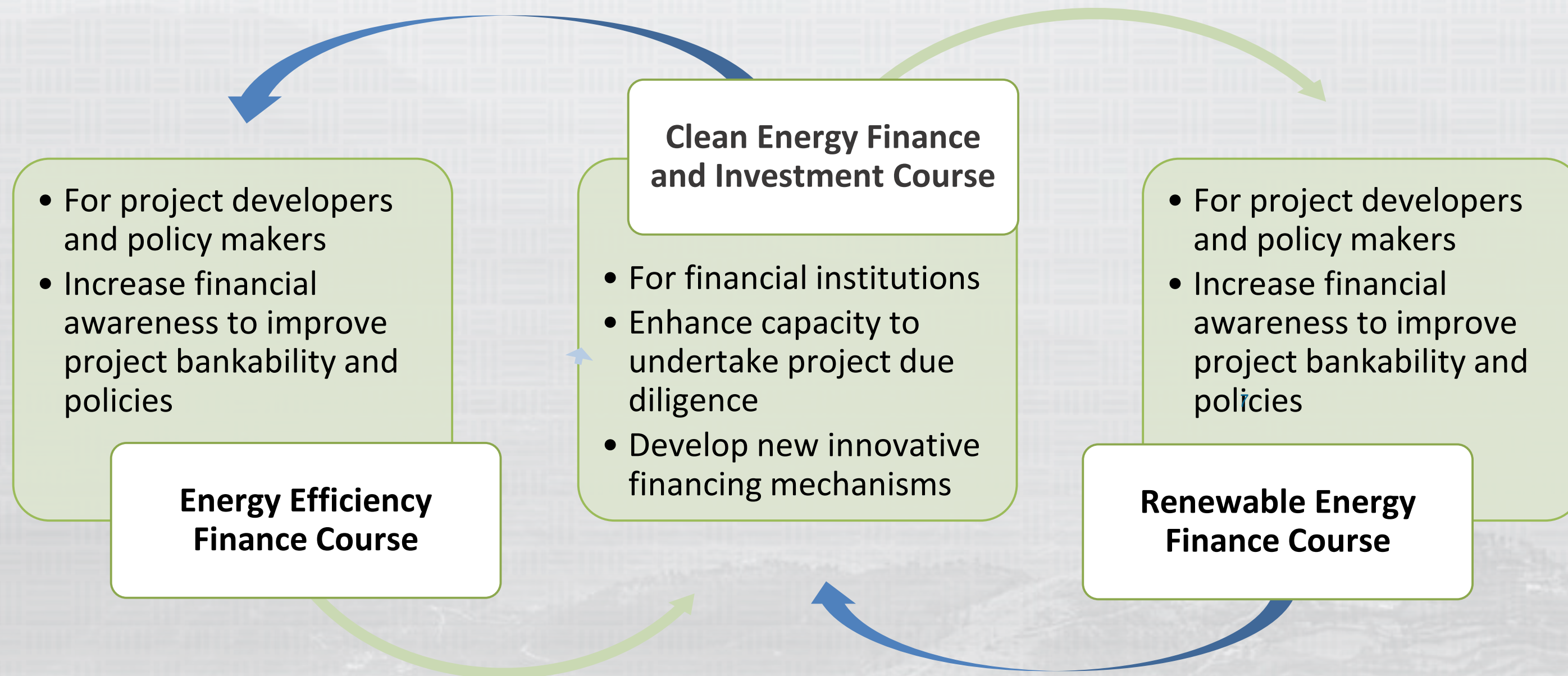




# Human capital development: Clean Energy Finance and Investment Training



**Objective: Breakdown silos** across finance and energy to develop financing solutions that can scale private finance for clean energy





# The role of clean energy in achieving E-NDC target



>Indonesia has raised its emission reduction targets in the **Enhanced NDC** to **31.89%** with its own effort (unconditional) and a with international assistance (conditional) to **43.2%** by 2030.

> The energy sector is the **second largest contributor** to the GHG emission reduction target of Enhanced NDC

>RE and EE (clean energy) are the two most significant contributions to the GHG emission reduction target in the energy sectors, but have the **lowest achievement** as compared to the target, **particularly for EE**

No	Sektor	Emisi GRK 2010 (Juta Ton CO <sub>2</sub> e)	Emisi GRK pada 2030			Penurunan Emisi	
			BaU	CM1	CM2	CM1	CM2
1.	<b>Energi</b>	<b>453,2</b>	<b>1.669</b>	<b>1.311</b>	<b>1.223</b>	<b>358</b>	<b>446</b>
2.	Limbah	88	296	256	253	40	45,3
3.	IPPU	36	70	63	61	7	9
4.	Pertanian	111	120	110	108	10	12
5.	Kehutanan	647	714	217	-15	500	729
	<b>TOTAL</b>	<b>1.334</b>	<b>2.869</b>	<b>1.953</b>	<b>1.632</b>	<b>915</b>	<b>1.240</b>

No	Mitigation Action	2023		2030	
		Target	Achievement	Target	% Achievement of Target in 2023
1.	Energy Efficiency	29,4	31,87	132,25	24,1%
2.	Renewable Energy	51,00	51,29	181,45	28,3%
3.	Clean Power Technology	15,92	15,55	21,53	92,4%
4.	Low Carbon Fuels	16,54	13,33	16,83	61,9%
5.	Others	3,95	15,63	5,84	267,6%
	<b>TOTAL</b>		127,67	358	35,6%

Target and Achievement in Million Ton CO<sub>2</sub>

Source: MEMR

Note:

CM1 : Counter Measure 1 (unconditional mitigation scenario)

CM2 : Counter Measure 2 (conditional mitigation scenario)



# Renewable Energy (RE) vs Energy Efficiency (EE) Projects : Why EE is not as attractive as RE



## Renewable Energy (RE)

- > Projects are **visible**
- > Energy production can **easily be documented**
- > RE is **cash generating** – top line of the Financials of the investor
- > Few projects, few investors, **“one” off-taker**
- > Financing: few borrowers, **large amounts**
- > **Instant** impact when production starts
- > One “installation”
- > **Few technologies** such as Solar PV, Wind, Hydro, Geothermal, Biomass, Biogas

## Energy Efficiency (EE)

- > Projects are normally **not visible**
- > Savings are **not easily to be documented**
- > Savings are **cost avoidance**, bottom line impact of the investor
- > **Thousands, millions of projects, millions of investors or beneficiaries**
- > Thousands, millions of borrowers, **often very small amounts**
- > “creeping” success, **no immediate impact visible**
- > Multiple of measures add up to a project success, can be developed in stages, step by step
- > Thousands of manufacturers in **thousands of applications**

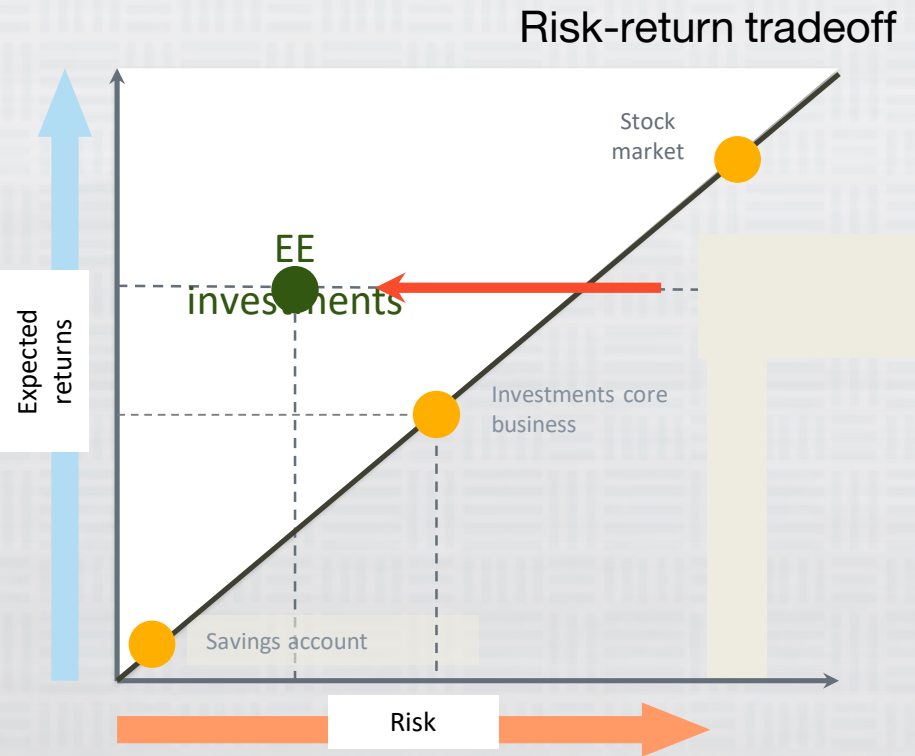


# Risk Mitigation : EE Project

Risk	Mitigation
Performance risk	<ul style="list-style-type: none"> <li>&gt; Used assessed and pre-approved energy technology list</li> <li>&gt; Potential use of <b>Energy Savings Insurance (ESI) schemes</b></li> </ul>
Design risk	<ul style="list-style-type: none"> <li>&gt; Use ESCOs that meet the relevant regulation</li> <li>&gt; Third-party review</li> </ul>
Equipment risk	<ul style="list-style-type: none"> <li>&gt; Equipment warranty</li> <li>&gt; Selection of reputable suppliers and manufacturers</li> </ul>
O&M risk	<ul style="list-style-type: none"> <li>&gt; Implementation of O&amp;M protocols for the project</li> <li>&gt; Implementation of O&amp;M protocols for the project</li> </ul>
Construction risk	<ul style="list-style-type: none"> <li>&gt; <b>Use of insurance</b>, payment and performance bonds, or requirements that the contractor pay for damages incurred in the event of construction failure</li> </ul>
Credit risk	<ul style="list-style-type: none"> <li>&gt; Strigent credit analysis based on performance and energy price risk.</li> <li>&gt; Develop ESG criteria for earning green credits, including energy saving criteria, tools and documentation</li> </ul>
Legal and regulatory risk	<ul style="list-style-type: none"> <li>&gt; Ensure ESPC is in accordance with applicable standards/best practices</li> <li>&gt; Securing necessary permits prior to project implementation</li> </ul>
Measurement & Verification (M&V)	<ul style="list-style-type: none"> <li>&gt; Implementation of M&amp;V Protocol for the project (based on applicable standards)</li> </ul>
Macroeconomic risk	<ul style="list-style-type: none"> <li>&gt; Guarantee savings (in units)</li> <li>&gt; Using the energy future contracts</li> </ul>



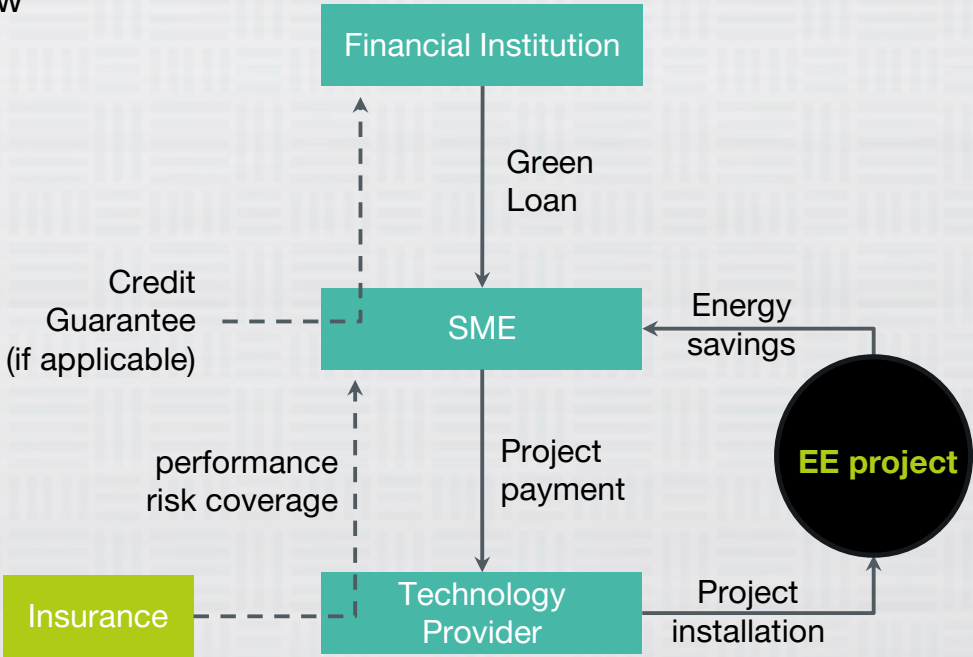
# Energy Saving Insurance (ESI): Rationale and Financing scheme



Source: Basel Agency for Sustainable Energy (BASE)

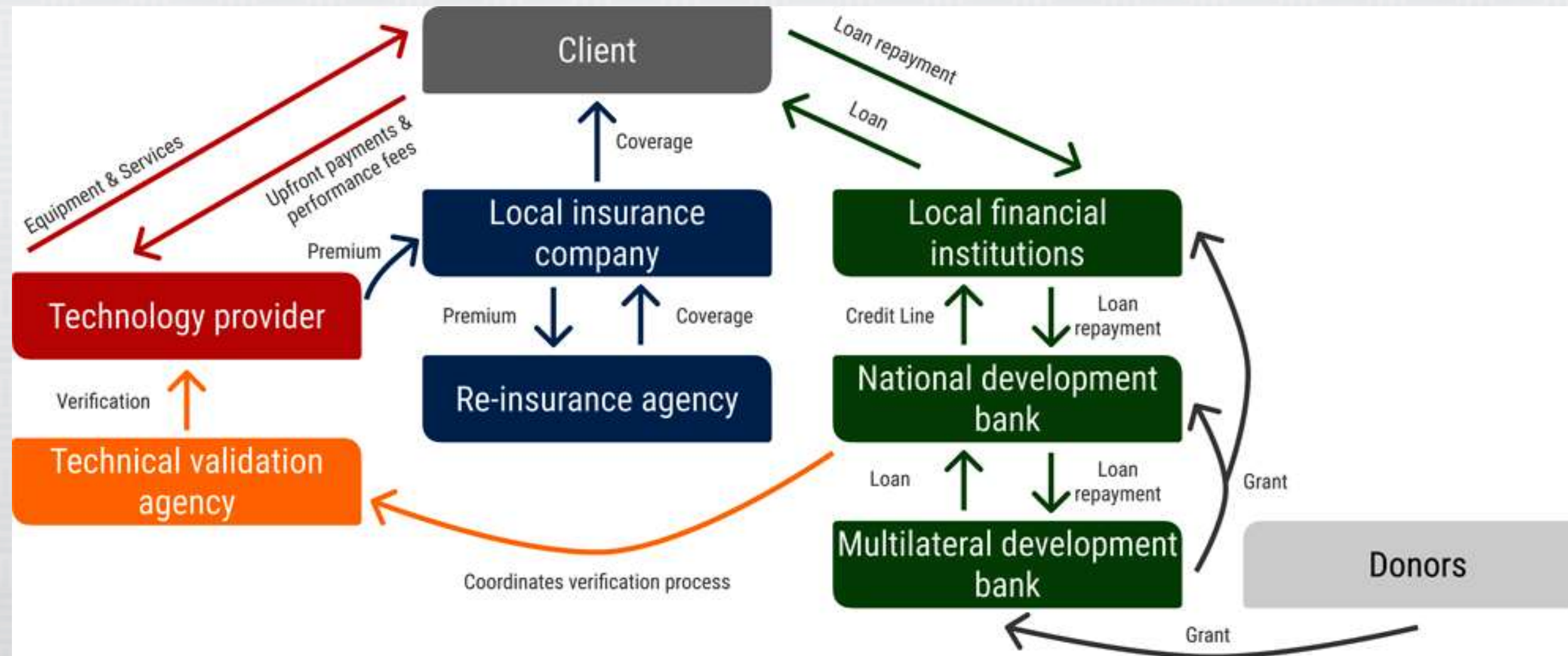
## Green Financing

Financial flow





# Energy Savings Insurance (ESI) Scheme



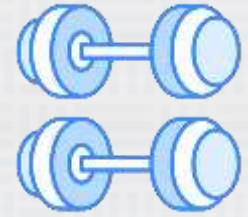

## ESI building blocks

1. Standard Contract
2. Energy Savings Insurance
3. Technical Validation
4. Green/concessional Financing

Source: [Micale, Stadelmann and Boni \(2015\)](#)



# ESI SWOT Analysis for Indonesia

<div><b>Strengths</b></div> <div></div> <div><ul style="list-style-type: none"><li>• Government support for energy efficiency</li><li>• Several existing initiatives and programmes</li><li>• Existing partnerships between the Government and IOs on capacity building</li></ul></div>	<div><div><ul style="list-style-type: none"><li>• Limited awareness and understanding of energy efficiency</li><li>• Currently no critical mass of energy service providers and independent monitoring and verification entities.</li><li>• Limited availability of financial instruments for EE</li></ul></div><div><b>Weaknesses</b></div><div></div></div>
<div><div></div><div><b>Opportunities</b></div><div><ul style="list-style-type: none"><li>• Large untapped market potential</li><li>• Increasing demand for sustainable and green investments</li><li>• Existing insurance instruments can be adapted</li><li>• Potential collaboration between Gol with IOs and</li></ul></div></div>	<div><div><ul style="list-style-type: none"><li>• Competing investment priorities</li><li>• Subsidised electricity tariff</li><li>• ESI uptake could be limited without additional initiatives to strengthen capacities and raise awareness</li></ul></div><div><b>Threats</b></div><div></div></div>



# Ongoing Work & Next steps



Feasibility  
Assessment

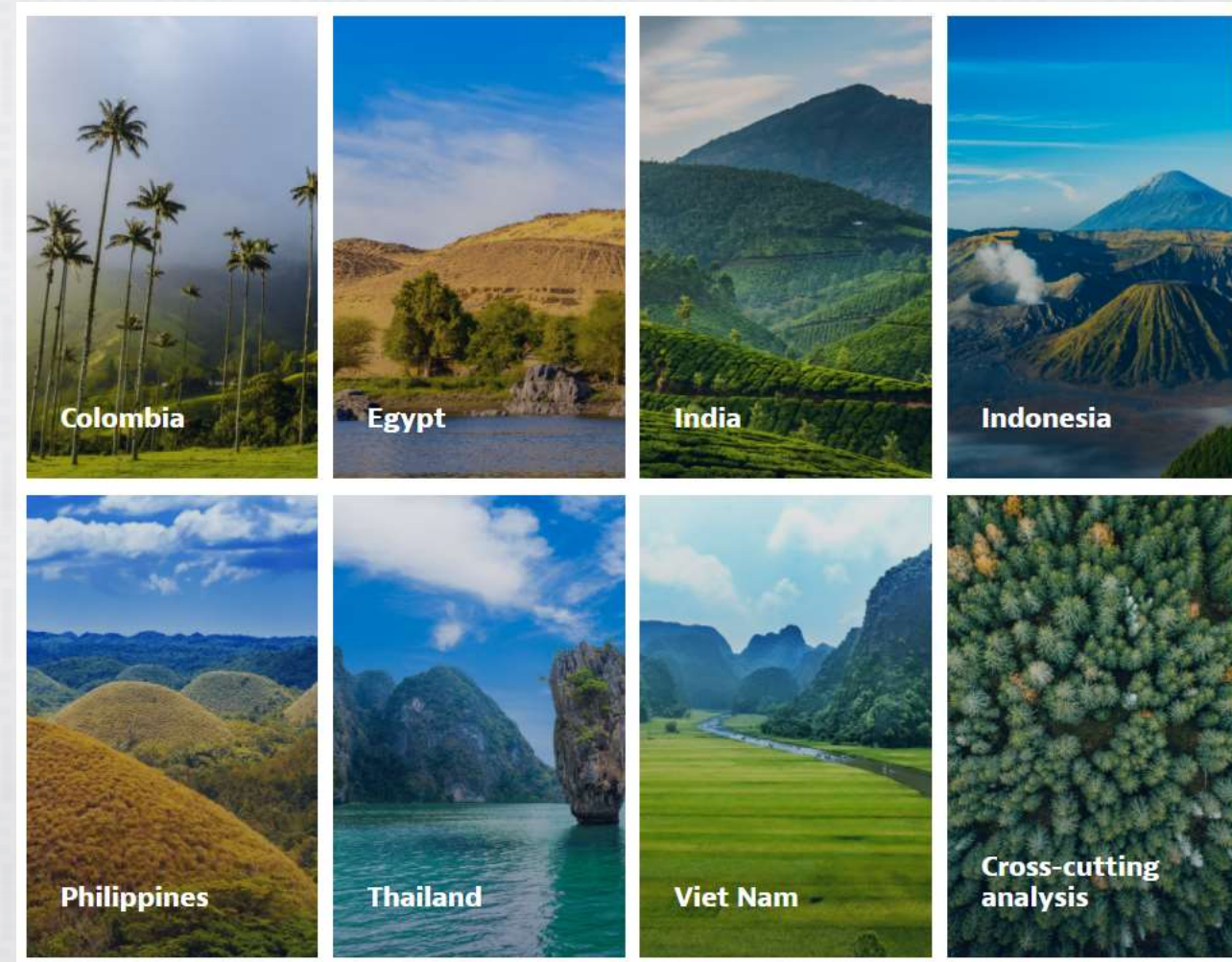
ESI Task Force

ESI  
Implementation  
Roadmap



# Visit CEFIM Website

All CEFIM reports, activities and trainings are published in this webpage: [Clean Energy Finance and Investment Mobilisation | OECD](#)







# THANK YOU

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# THANK YOU

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