# Financing urban energy efficiency

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**SE4All Global Energy Efficiency Forum on Cities**
**October 30, 2015 | Tokyo, Japan**

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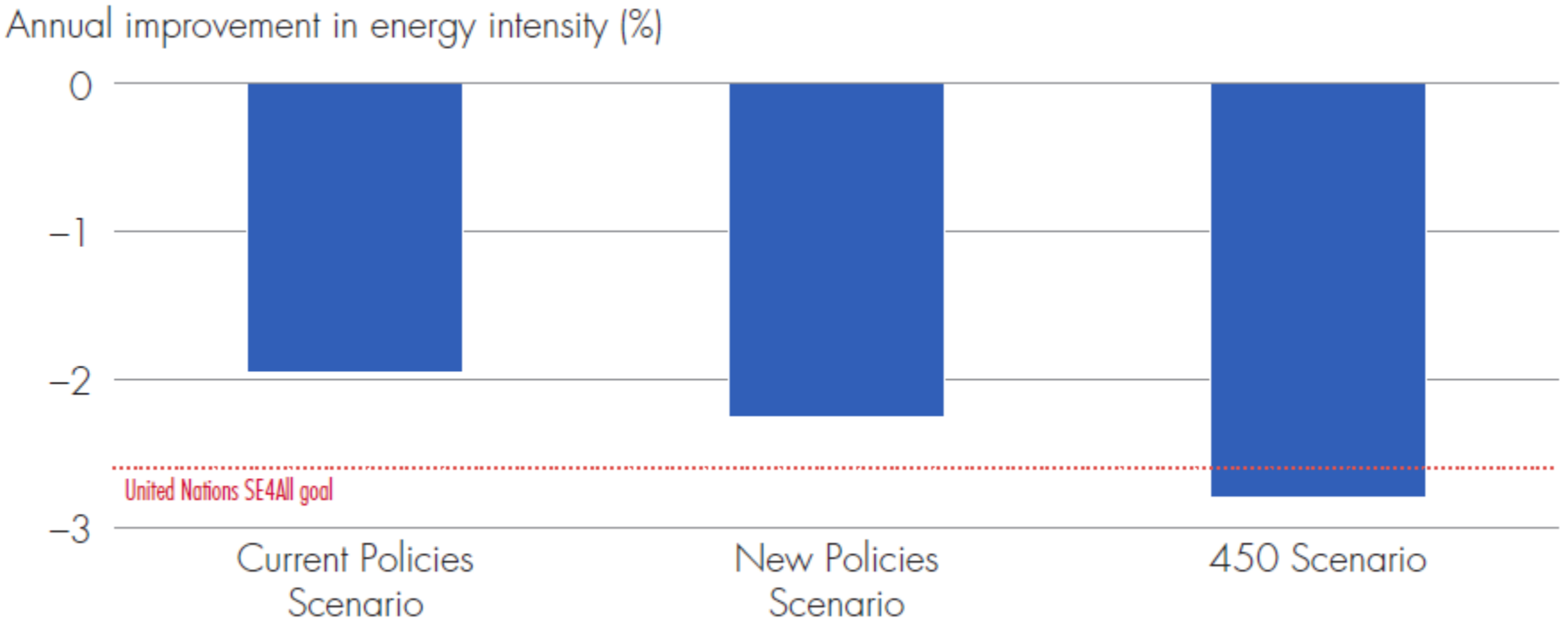
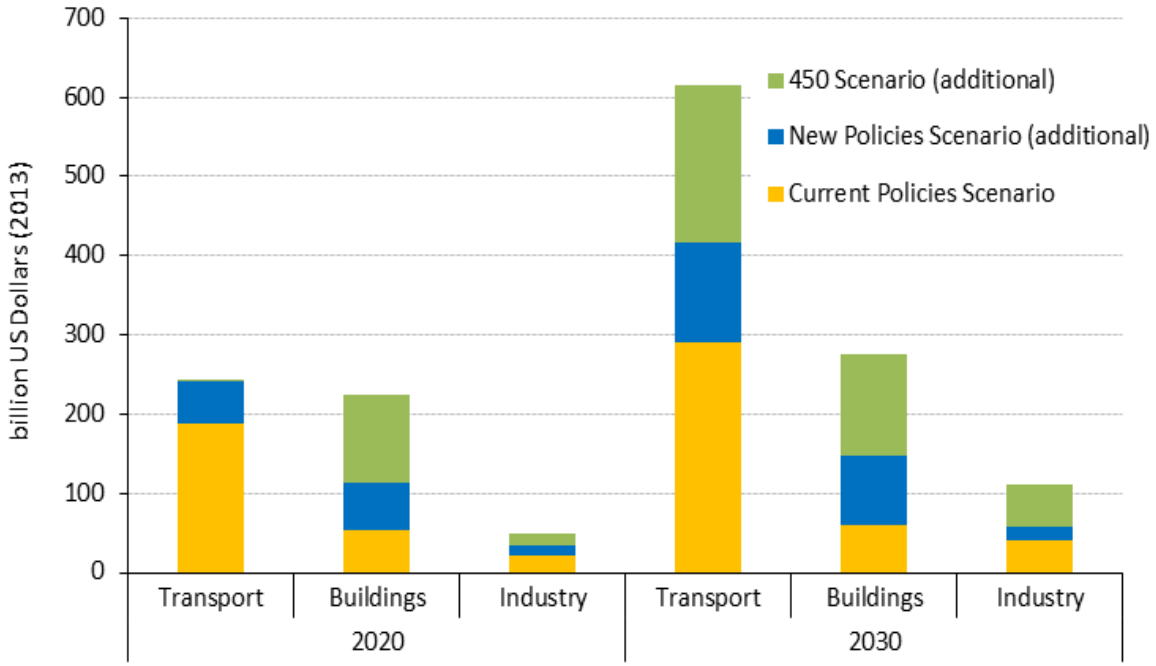
# Annual Energy Intensity Improvements (between 2010-2030)




Source: IEA, WB, *Global Tracking Framework 2015*

# Annual Energy Efficiency Investments




Current Policies Scenario - cumulative additional investment of $4.8 trillion are needed from 2014-2030 (or $280 billion per year, on average).

Investment in EE is anticipated to increase more than fourfold from today to 2030 in the central scenario, but needs to increase a further 60% in 2030 to stay within a two degrees trajectory.

Source: IEA, WB, *Global Tracking Framework 2015*

# Investment Gap

Table 1. **Annual global investment—actual and required ($ billion)**

| Annual investment | Universal access to modern energy services | Universal access to modern energy services | Doubling the global rate of improvement in energy efficiency | Doubling the share of renewable energy in the global mix[a] | |
|---|---|---|---|---|---|
| Source | Electrification | Cooking | Energy efficiency | Renewable energy | Total |
| Actual for 2012[b] | 9 | 0.1 | 130 | 258 | 397 |
| Required to 2030[c] | 45 | 4.4 | 560 | 442–650 | 1,051–1259 |
| Gap | 36 | 4.3 | 430 | 184–392 | 654–862 |

Source: IEA, WB, *Global Tracking Framework 2015*

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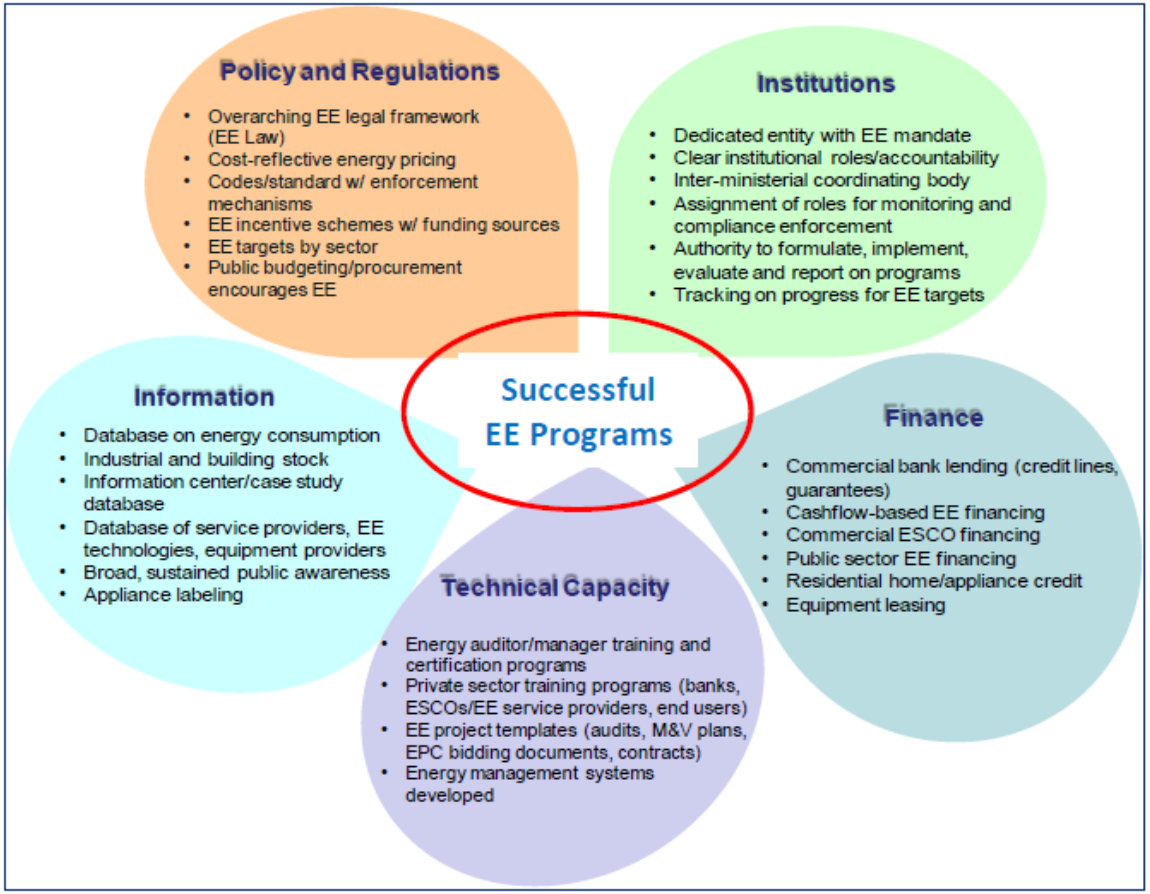
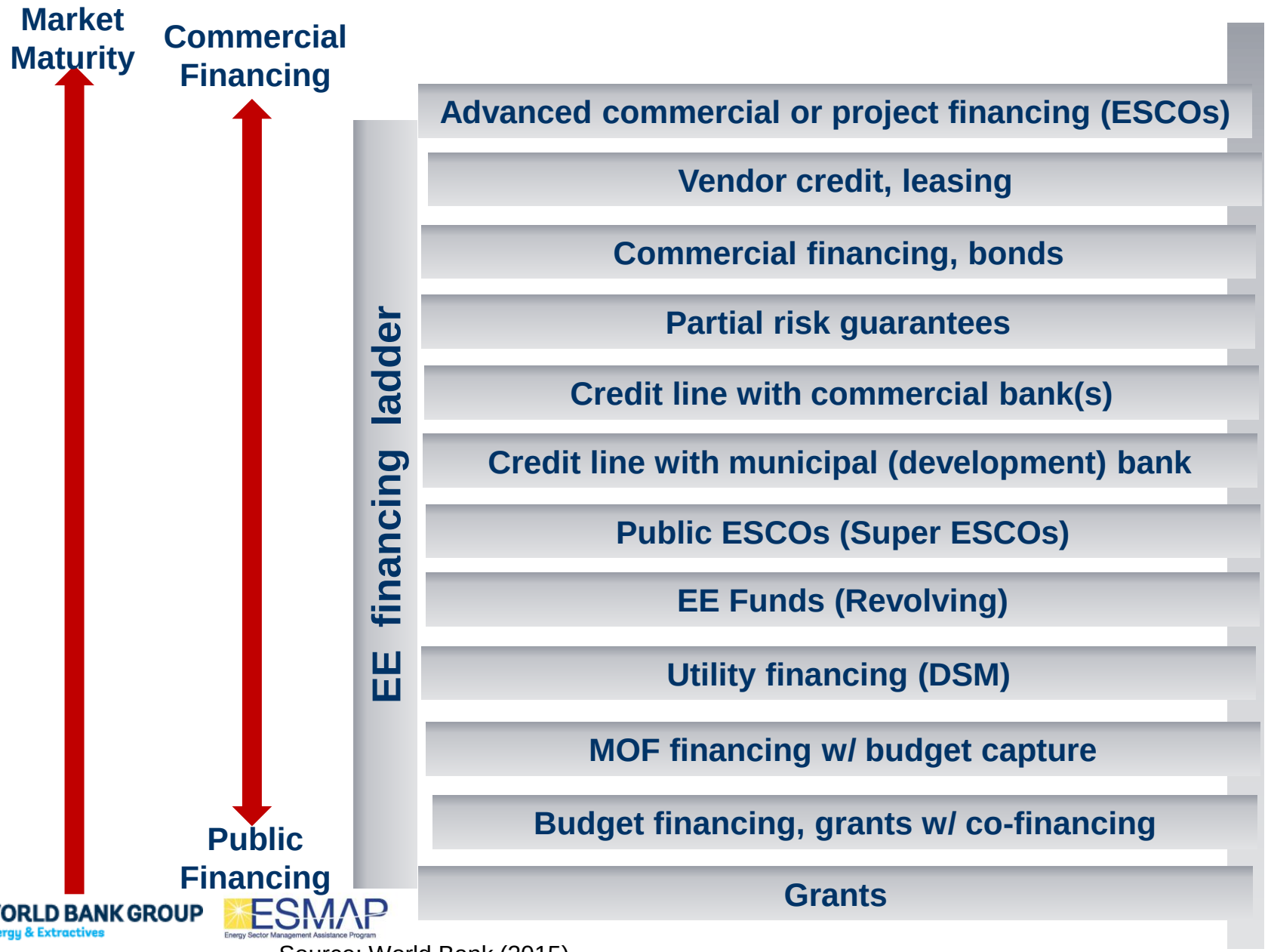
# Who will fill this gap?

## Roles and capacity of public and private finance

- No shortage of investment capital
- Limited public/climate funds
- Private capital is key



# EE Financing Mechanisms



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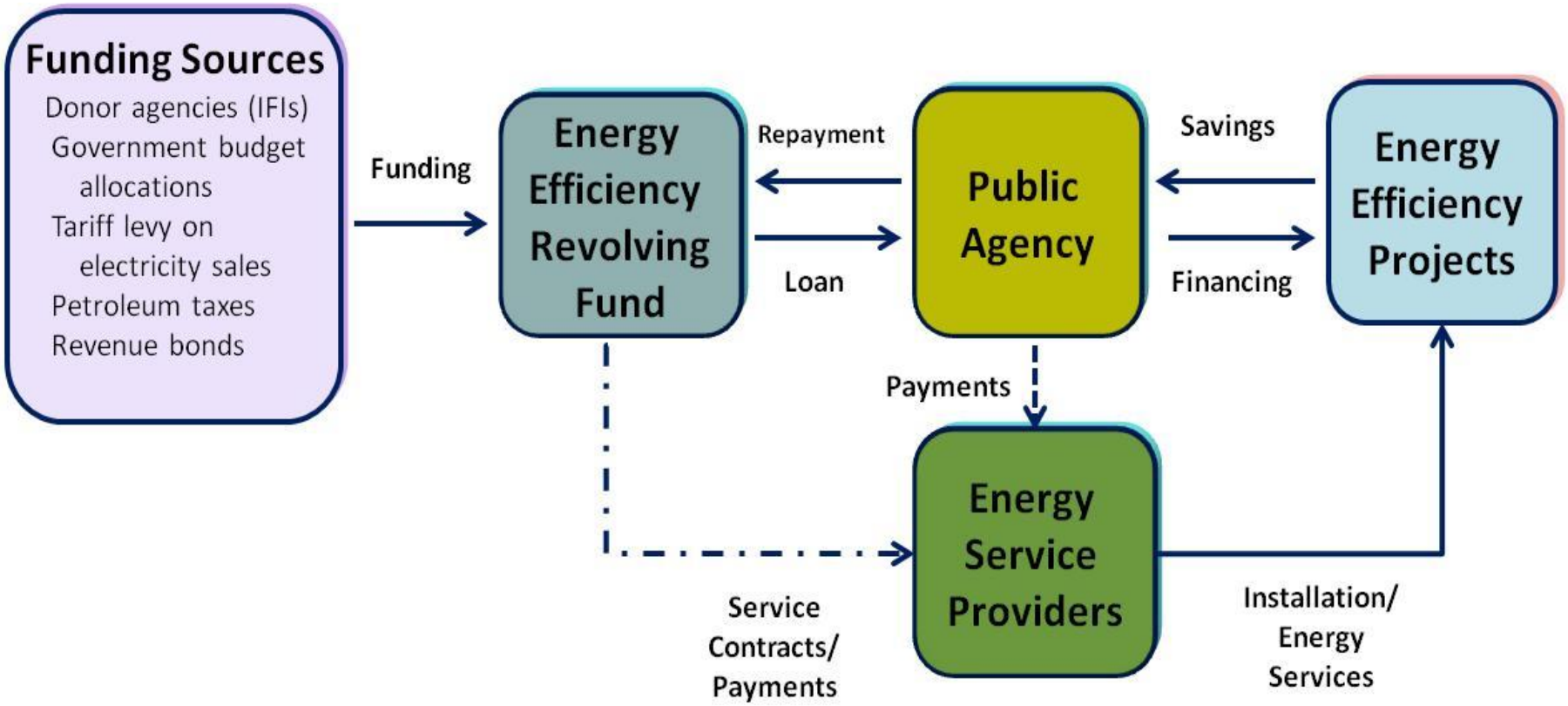
Source: World Bank (2015)

# Factors Determining Choice of Mechanism

- Country/city context
- End-use sector
- Maturity of financial markets
- Legislative/regulatory framework

# Typical Structure of EE Fund

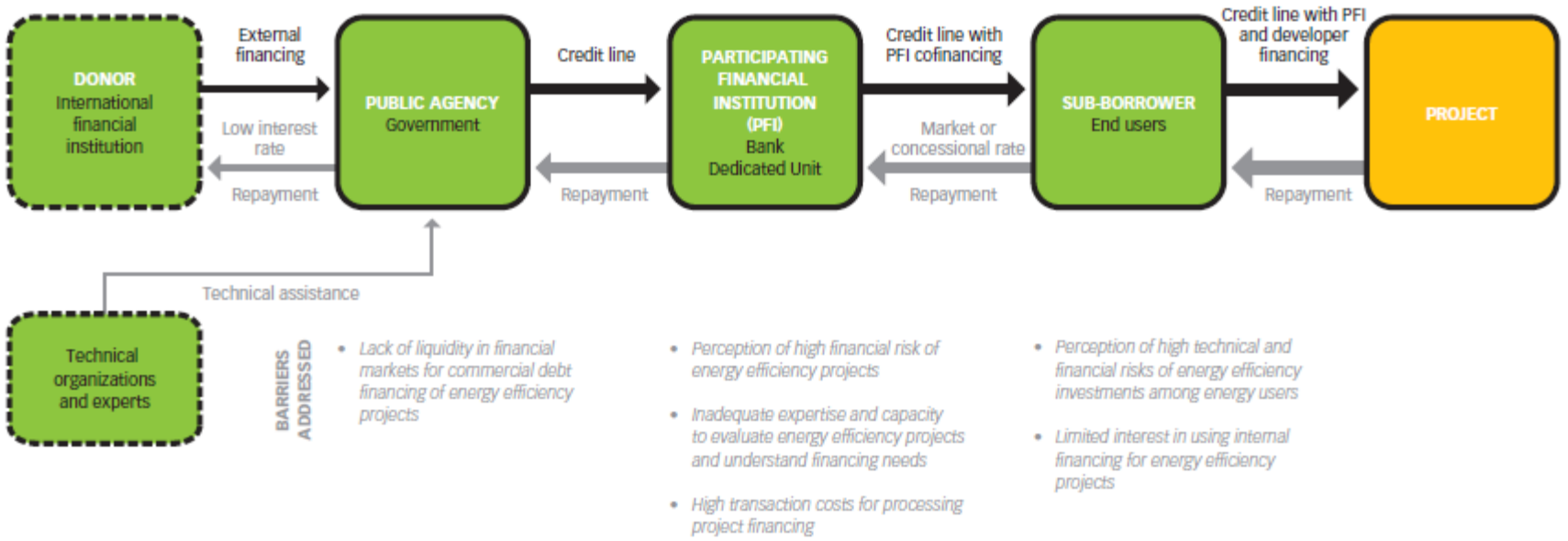



Source: World Bank (2015)

# EE Funds - Examples

- Bulgaria Energy Efficiency Fund
- Romania Energy Efficiency Fund
- Armenia Renewable Energy and Energy Efficiency Fund
- Thailand - Energy Conservation Fund (ENCON)
- Korea – Korea Energy Management Fund
- India – State Energy Conservation Funds
- Sri Lanka – Sustainable Energy Fund
- China - National incentive fund based on coal savings
- South Africa – Central Energy Fund

# Typical Structure of Dedicated EE Credit Line




N.B. Thickness of arrow represents relative size of financial flows to depict leveraging. Public agencies may offer credit lines without the aid of external donors (dashed border).

- Create interest on the part of commercial banks in financing EE projects
- Enhance technical capacity of banks to scale up EE lending
- Leverage parallel financing from the participating banks for EE financing
- Strengthen the participating bank's capacity in identifying and managing project risks
- Assist banks in exploring business opportunities in other low carbon lending businesses.

Source: Sarkar et al (2014), Designing Credit Lines for Energy Efficiency, World Bank.

# EE Credit Line - World Bank Examples

| Country | Launch year | Close year | Number of PFIs | Is the line specific to energy efficiency? | Target sector | World Bank financing (US$ millions) | Cofinancing[a] (US$ millions) | Cofinancing (percentage World Bank financing) | Total financing (US$ millions) | Disbursement rate (percent) |
|---|---|---|---|---|---|---|---|---|---|---|
| China | 2008 | 2013 | 2 | Y | Large and medium industry | 200 | 200 | 100 | 400 | 89 |
| China | 2010 | 2014 | 1 | Y | Large and medium industry | 100 | 500 | 500 | 600 | 20 |
| China | 2012 | 2016 | 1 | Y | Industry, buildings, SMEs and ESCOs | 100 | 200 | 200 | 300 | 0 |
| China | 2011 | 2016 | 3 | Y | Industrial | 133 | 134 | 101 | 267 | 11 |
| China | 2012 | 2018 | 2 | Y | Buildings | 100 | 100 | 100 | 200 | 0 |
| Tunisia | 2009 | 2014 | 2 | Y | Industrial | 40 | 80 | 200 | 120 | 18 |
| Turkey | 2009 | 2014 | 2 | N | Industrial | 600 | 550 | 92 | 1150 | 100 |
| Turkey | 2012 | 2016 | 2 | N | Industrial | 500 | 150 | 30 | 650 | 44 |
| Ukraine | 2011 | 2016 | 1 | Y | Industrial, commercial and municipal | 200 | n/a | n/a | n/a | 32 |
| Uzbekistan | 2010 | 2016 | 2 | Y | Industrial | 24 | 4.8 | 20 | 28.8 | 49 |
| Turkey | 2013 | 2018 | 3 | N | Energy-intensive SME subsectors | 201 | 50.25 | 25 | 251.25 | 7 |
| Uzbekistan | 2013 | 2016 | 3 | Y | Industrial | 99 | 43 | 43 | 142 | 14 |

*Source:* Limaye 2013.

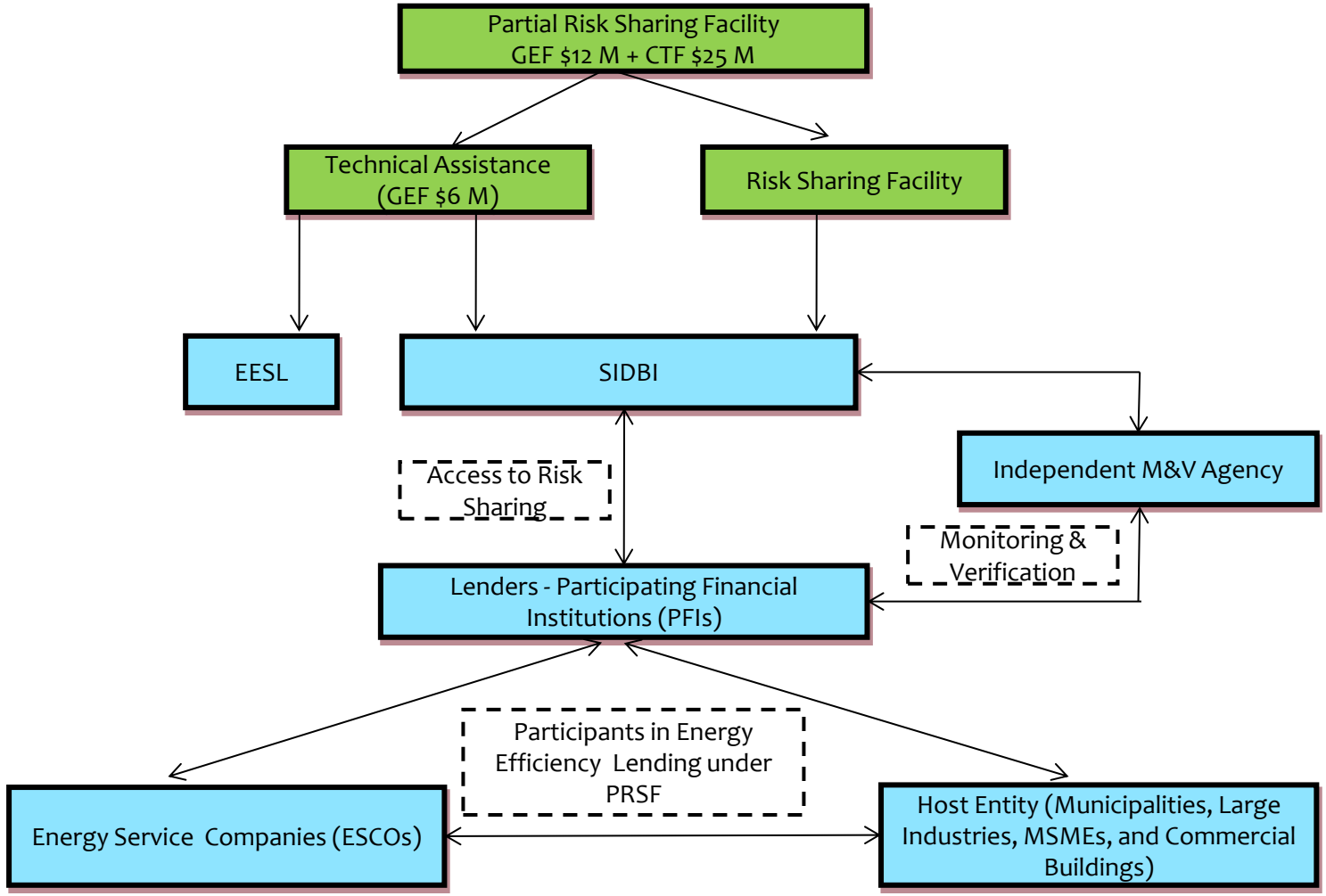
*Note:* PFI = participating financial institution; SME = small and medium-size enterprise; ESCO = energy service company

a. Excludes financing from end users.

Source: Sarkar et al (2014), Designing Credit Lines for Energy Efficiency, World Bank.

# India PRSF for Energy Efficiency

(*World Bank, approved 2015*)

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Source: Ashok Sarkar, World Bank

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