



*How a New Energy Efficiency (EE) Law
and Fiscal Incentives can Enable a Lion's
Share of \$243 Billion in Third-Party
Capital Flows toward EE Technology
Deployment in the Philippines*

Alexander Ablaza

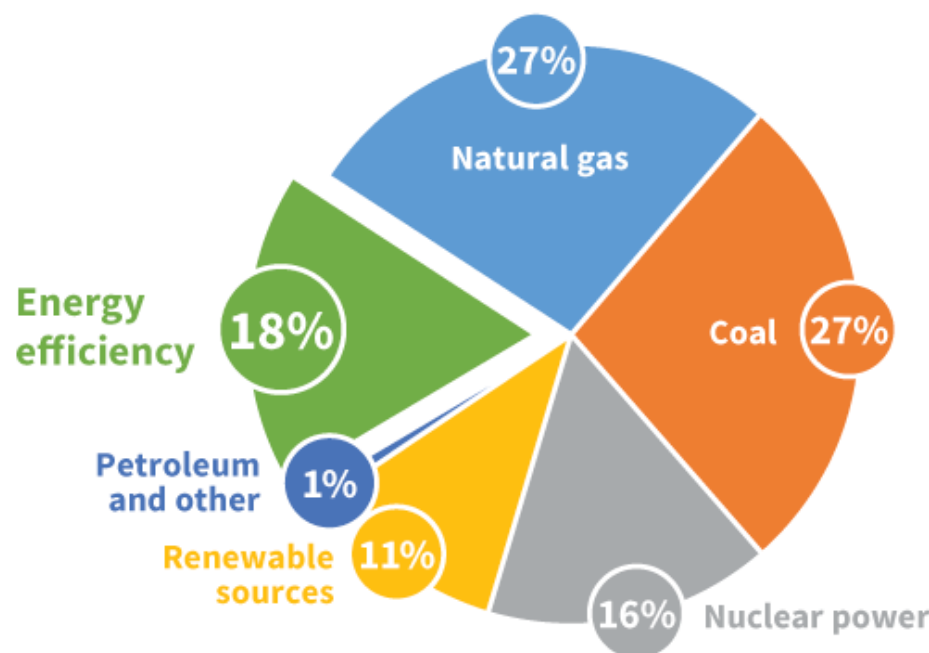
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ADB HQ, Manila



Dispatching energy efficiency (EE) as the “first fuel”

Energy markets need to gradually move toward integral resource planning

Share of US electricity generation by resource in 2015



Source: EIA for all except energy efficiency, which is based on ACEEE estimates. EIA data source is May 2016 Monthly Energy Review, Table 7.2a Electricity Net Generation: Total (All Sectors).

ACEEE

Source: ACEEE, 2016

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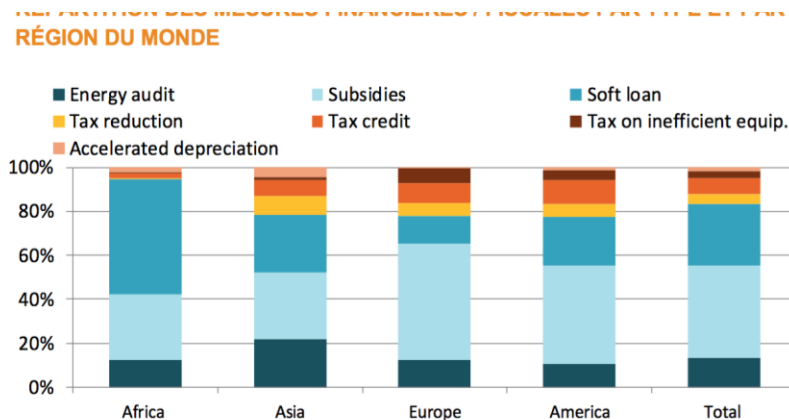
EE Laws implemented globally: Most of Asia's major economies have an EE law in place



Source: Enerdata

Several EE policy measures incorporate fiscal, tax-based incentives

- Asian countries tend to employ more tax reductions than tax credits
- Reduction on VAT and on import tax on EE equipment is widely used in developing countries

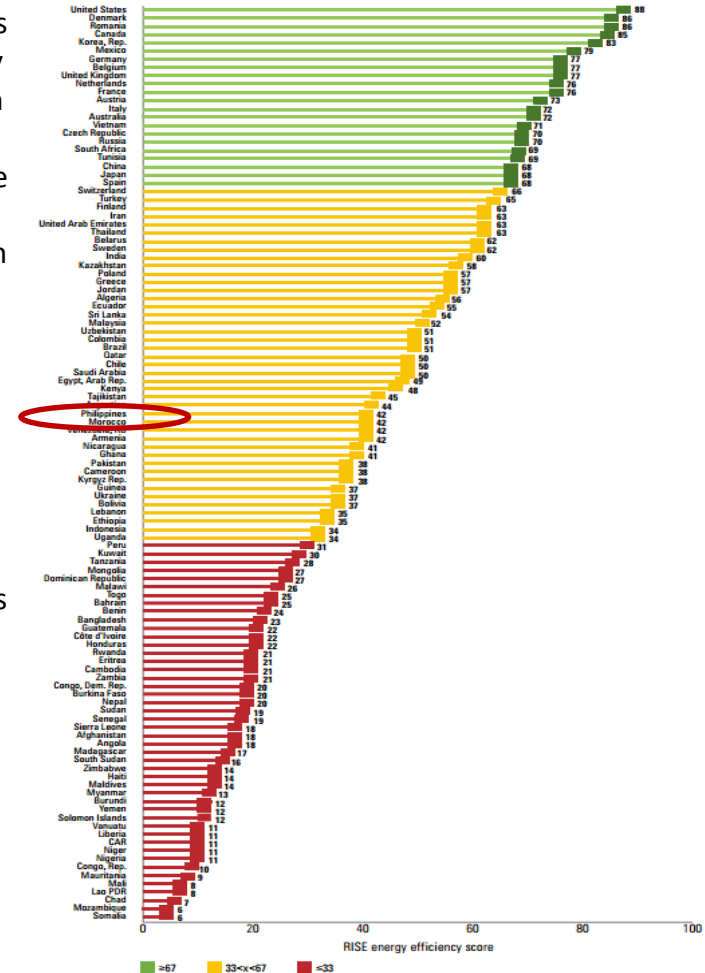


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Philippines' EE Policy Scorecard, 2016

Since the 1970s, the Philippines has promoted Energy Efficiency & Conservation (EE&C) through policy measures and market transformation projects. Private capital flows toward EE&C projects have nonetheless been slow.

The World Bank's **Regulatory Indicators for Sustainable Energy** (A Global Scorecard for Policymakers) 2016 Report, released in February 2017, shows that the **Philippines ranks 50th** among 111 countries surveyed as far as energy efficiency policies are concerned. The Philippines' 42% rating shows that there is significant room for energy efficiency market aggressive policy reform.



2017-2040 Philippine Energy Efficiency and Conservation (EE&C) Roadmap targets 10,000 ktoe annual savings and 3% energy intensity reduction by 2040

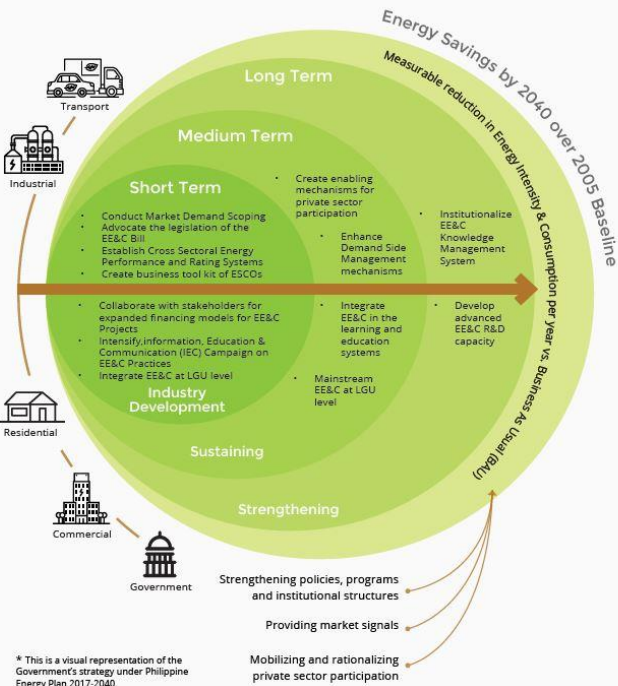
Updated EE&C roadmap launched by DOE on 12 July 2017



New Paradigm: Global/Regional Drivers



Figure 2 Philippine Government strategies and priorities for energy efficiency



	Annual energy saved by 2040 (KTOE)	Implied annual % savings (total savings by 2040)
Transport	4,500	1.9% (25%)
Industry	3,000	1.3% (15%)
Residential	1,000	1.2% (20%)
Commercial	1,200	1.9% (25%)
Agriculture	300	0.9% (10%)
Total	10,000	1.6% (24%)
Economy-wide improvement in energy intensity		3%

ASEAN Plan of Action for Energy Cooperation (APAEC) 2016-2025

•20% energy intensity reduction by 2020 from 2005 levels

23rd APEC Economic Leaders' Meeting Declaration of November 19, 2015 (based on the APEC Energy Ministers' Joint Statement of October 13, 2015)

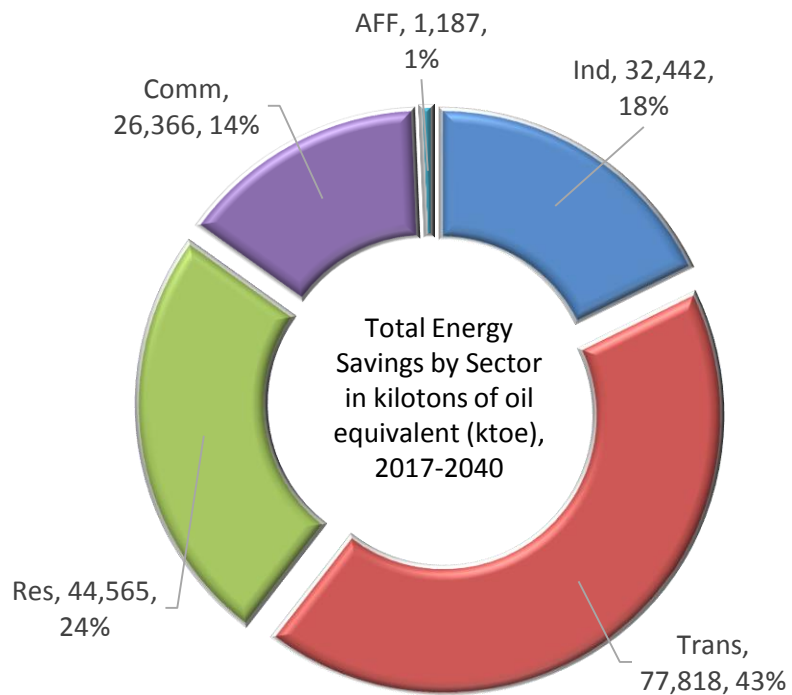
•45% energy intensity reduction by 2035 from 2005 levels

Philippines' Nationally Determined Contribution (NDC) as obligation under the Paris Climate Agreement

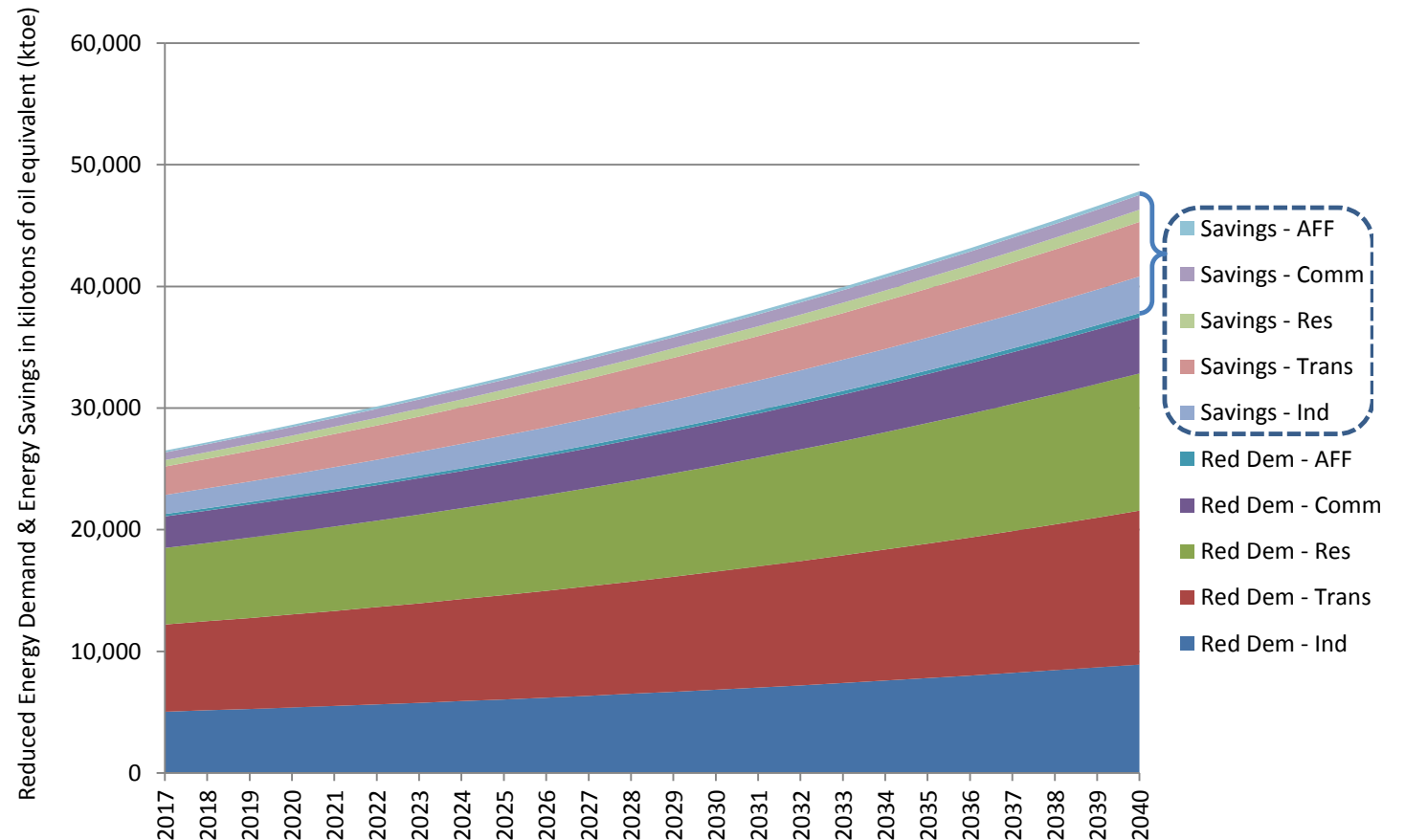
•Target 70% greenhouse gas (GHG) emission reduction by 2030 relative to its business-as-usual scenario of 2000-2030 (under review)

Attaining 2040 target will need economy to shave off 182 Mtoe across end-use sectors

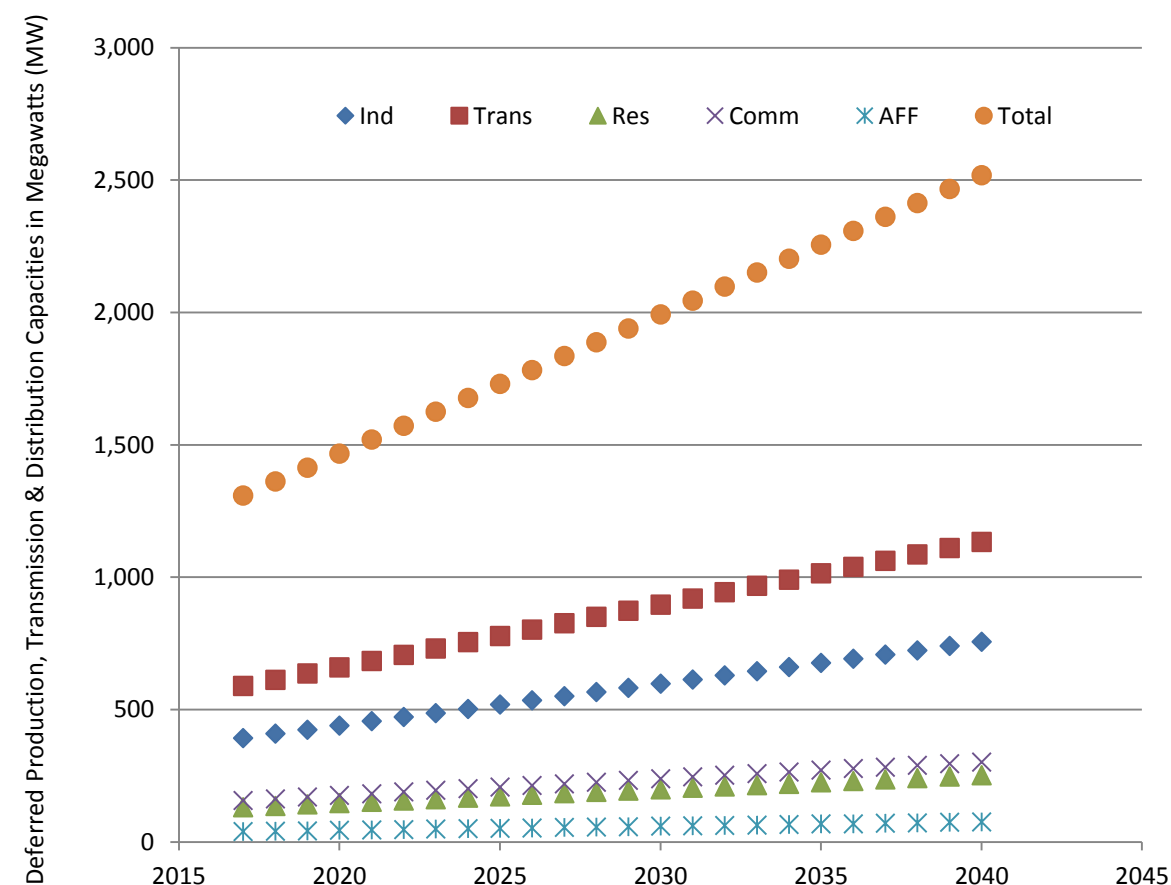
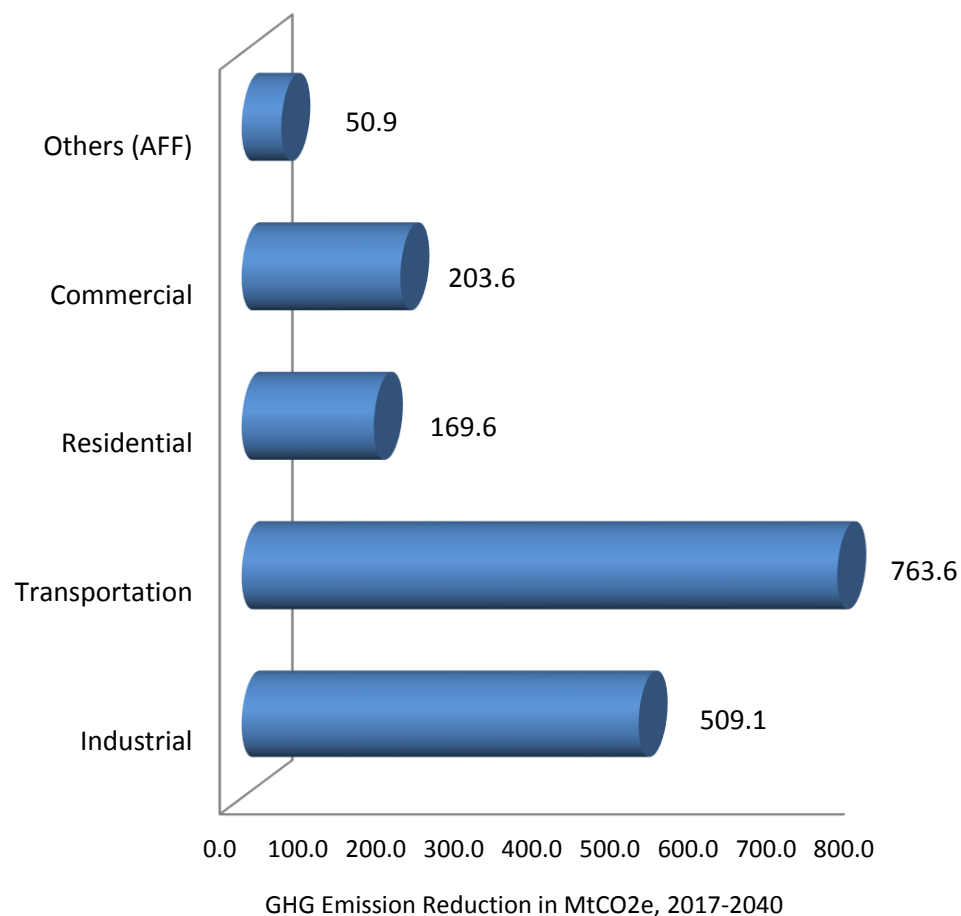
USD 726 billion in energy savings can be achieved by 182 Mtoe reductions through 2040



Source: A. Ablaza , Jul 2017

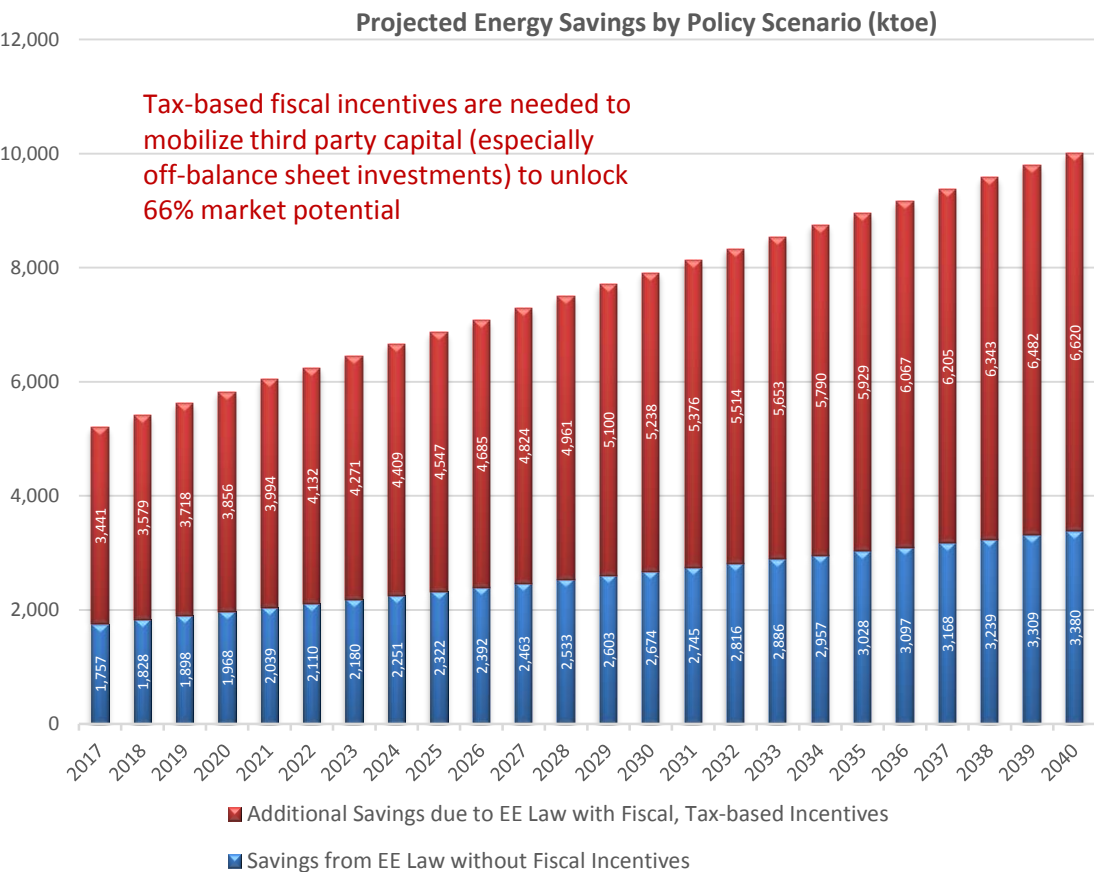
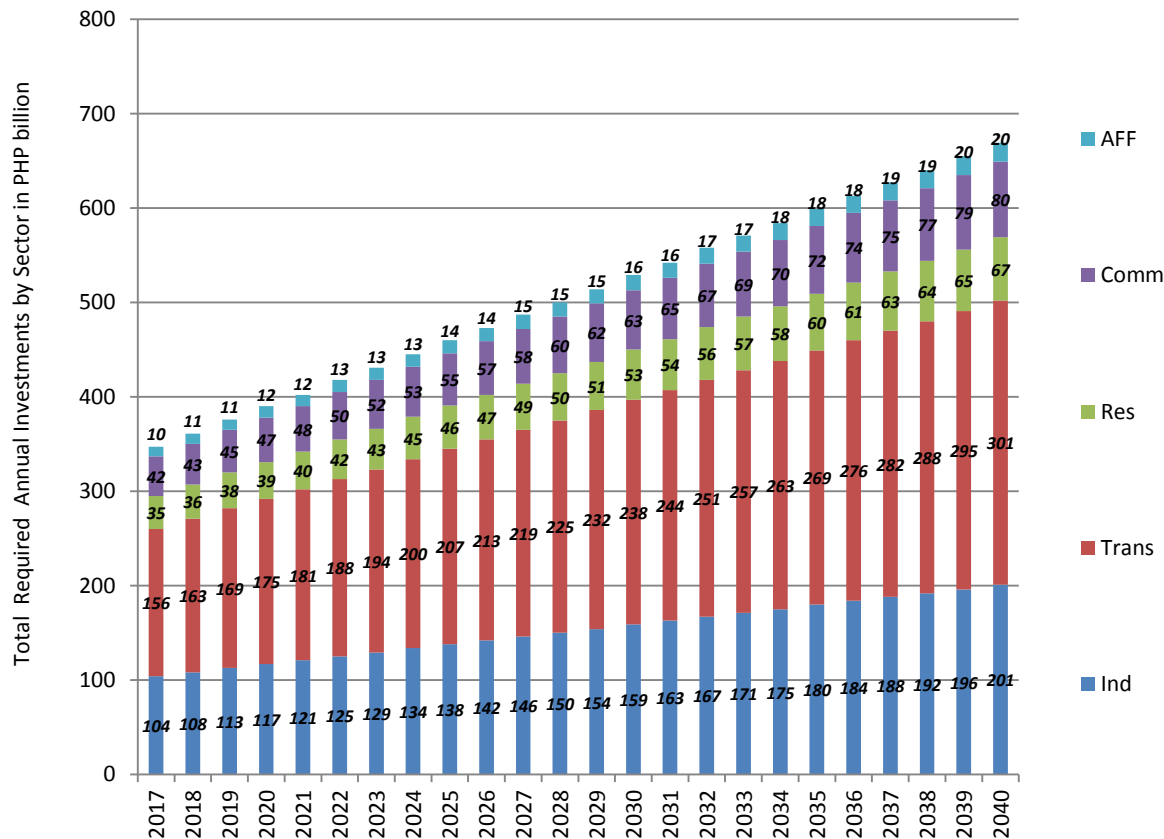


1.7 GtCO₂e GHG emissions avoided and 45.9 GW energy infrastructure capacities deferred by 182 Mtoe cuts through 2040



Over USD 243 billion in investments will be required to reduce final energy demand by 182 Mtoe through 2040

Third-party capital flows will need to be incentivized to treble the BAU impacts (self-financed & debt-financed)



Source: A. Ablaza, July 2017

EE market stakeholders working together for a 4-point approach



Establish EE
alliance and
build sector
capacities

Enable EE
Law and
Fiscal
Incentives

Enforce EE
Bridge
Policies

Establish a
Public-
Private
Collaboration

PE2 embraces the needs of:

- Energy service companies (ESCOs)
- EE technology/solutions/service providers, professional services, contractors, EPCs
- Financial institutions, equity providers, leasing cos, guarantee cos, fund managers
- Non-profit, non-market, non-state civil society organizations, academe and research institutes
- Large organizations or enterprises which have mainstreamed EE in their core activities

www.pe2.org

Pushing the EE&C bill: Achievements in the last 2 years have overtaken those in last quarter century

8th Congress to 15th Congress: The Energy Efficiency & Conservation (EE&C) bill is refiled in both houses of Congress multiple times, with the intent of perpetuating and improving B.P. 73, aka EnerCon Law, which had a 5-year effectivity that expired in 1985.

16th Congress – House of Representatives: On 17 Jan 2016, the House of Representatives Committee on Energy approved the Substitute Bill on Energy Efficiency & Conservation, which harmonizes 11 House Bills and 2 House Resolutions, and incorporates public-private consensual position.

17th Congress – Senate of the Philippines: On 1 Aug 2017, Senate Committees on Energy, Ways & Means, Public Services and Finance took to the floor substitute bill **SB 1531**. On 5 Feb 2018, Senate approves SB 1531 on 3rd and final reading after lengthy deliberations on the floor.

17th Congress – House of Representatives: On 14 Aug 2017, House Committee on Energy (COE) approved a substitute bill, consolidating 8 bills relating to EE&C. On 7 Feb 2018, the House Committee on Appropriations approves the bill. On 13 Mar 2018, the House Committee on Ways & Means (CWM) conducted the first deliberation on the fiscal incentives provision of the bill. An approval by the CWM is seen as the last step before the bill is sent to the House plenary.

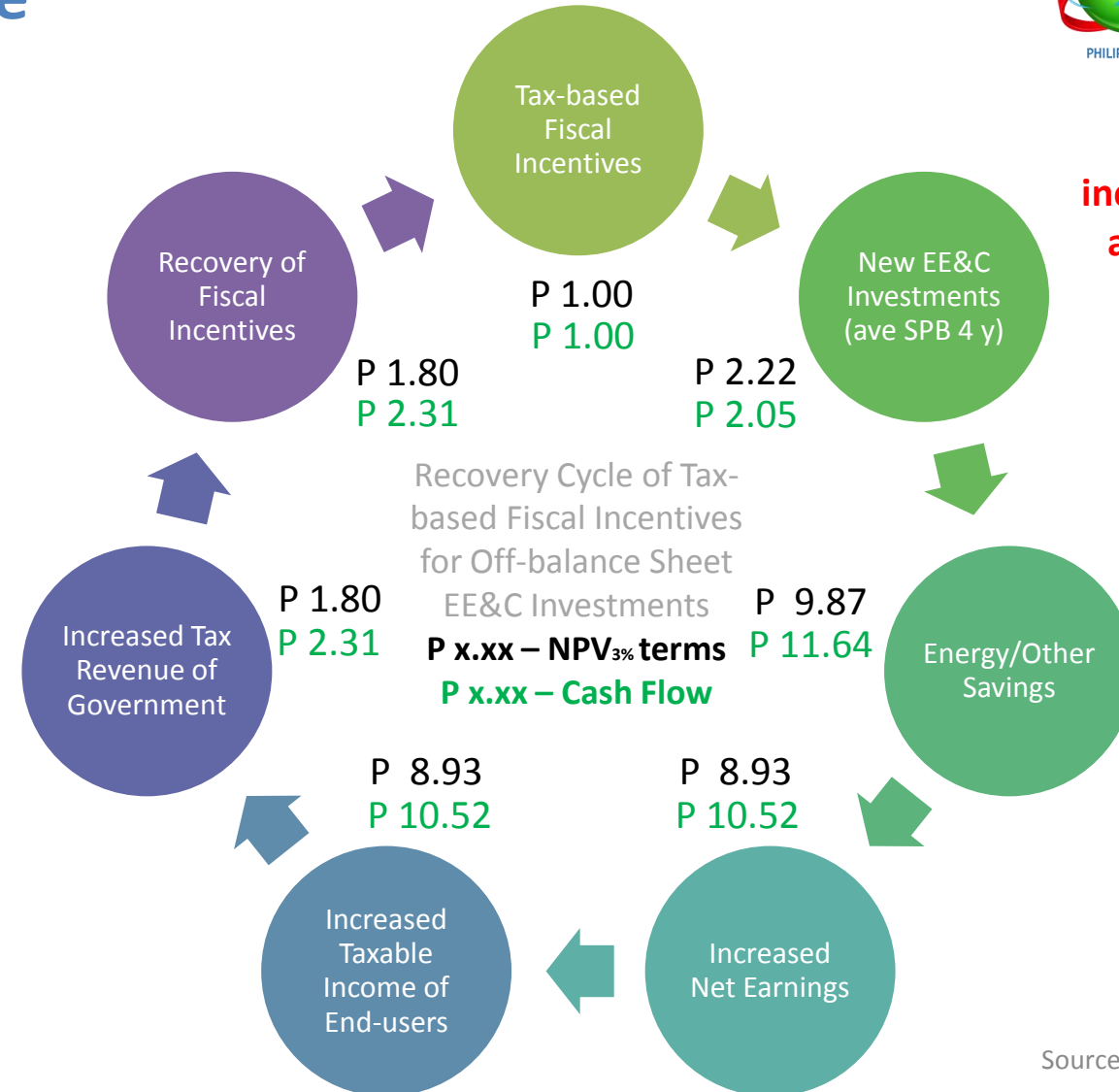
What the EE&C bill provides

- Definition and Obligations of Designated Establishments:
 - Type 1 – Consuming 1.8 TJ (or 0.5 GWh) to 14.4 TJ (or 4 GWh) per year
 - Type 2 – Consuming > 14.4 TJ (or 4 GWh) per year
 - Employ Energy Conservation Officer (Type 1) or Certified Energy Manager (Type 2)
 - Keep energy records, set annual targets and programs (which may include self-use RE), submit Annual Energy Consumption Report, conduct Energy Audit every 3 years, and reduce Specific Energy Consumption
- Minimum Energy Performance (MEP) – to address energy efficiency needs of households, micro/small enterprises and all other energy users consuming less than 1.8 TJ per year
- Fiscal & Non-fiscal Incentives
- Penalties
- Roles of lead energy agency (DOE), other national government agencies, state-owned financial institutions, local governments
- Supplemental resources for DOE

Tax-based incentives for EE are over 200% recoverable – a case to make amid major tax reform

A financial model for a portfolio of off-balance sheet-financed EE&C projects in the Philippines shows that **every P1.00** invested by Government in the form of tax-based incentives **flows back to the Treasury as P2.31 (cash flow basis) or P1.80 (NPV terms)** in tax revenue through the economic life of the EE&C assets. This pure cash flow analysis conservatively excludes other social, economic and environmental impacts.

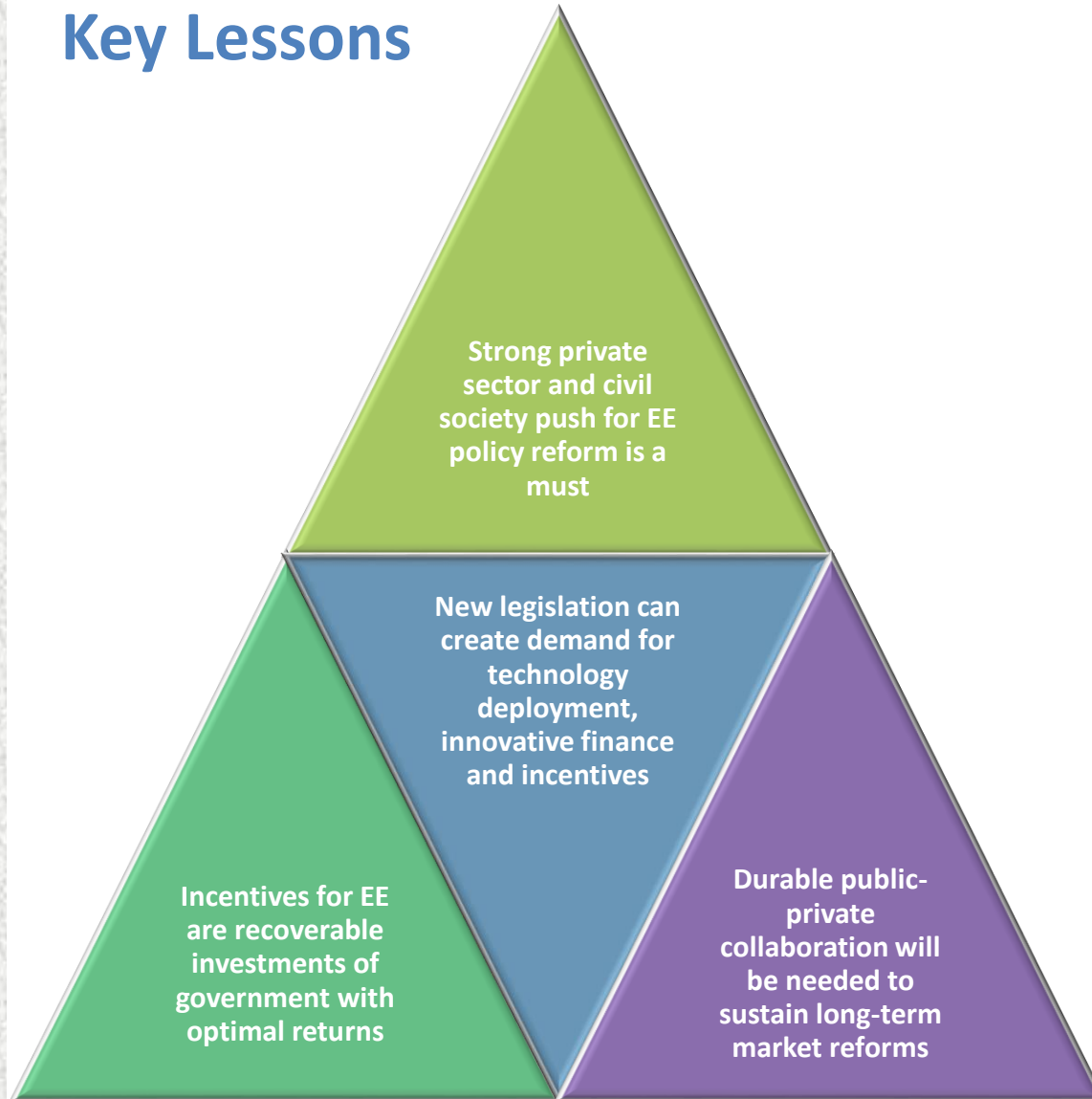
Tax-based Incentives include duty-free importation, zero-rated VAT and 6-year income tax holiday



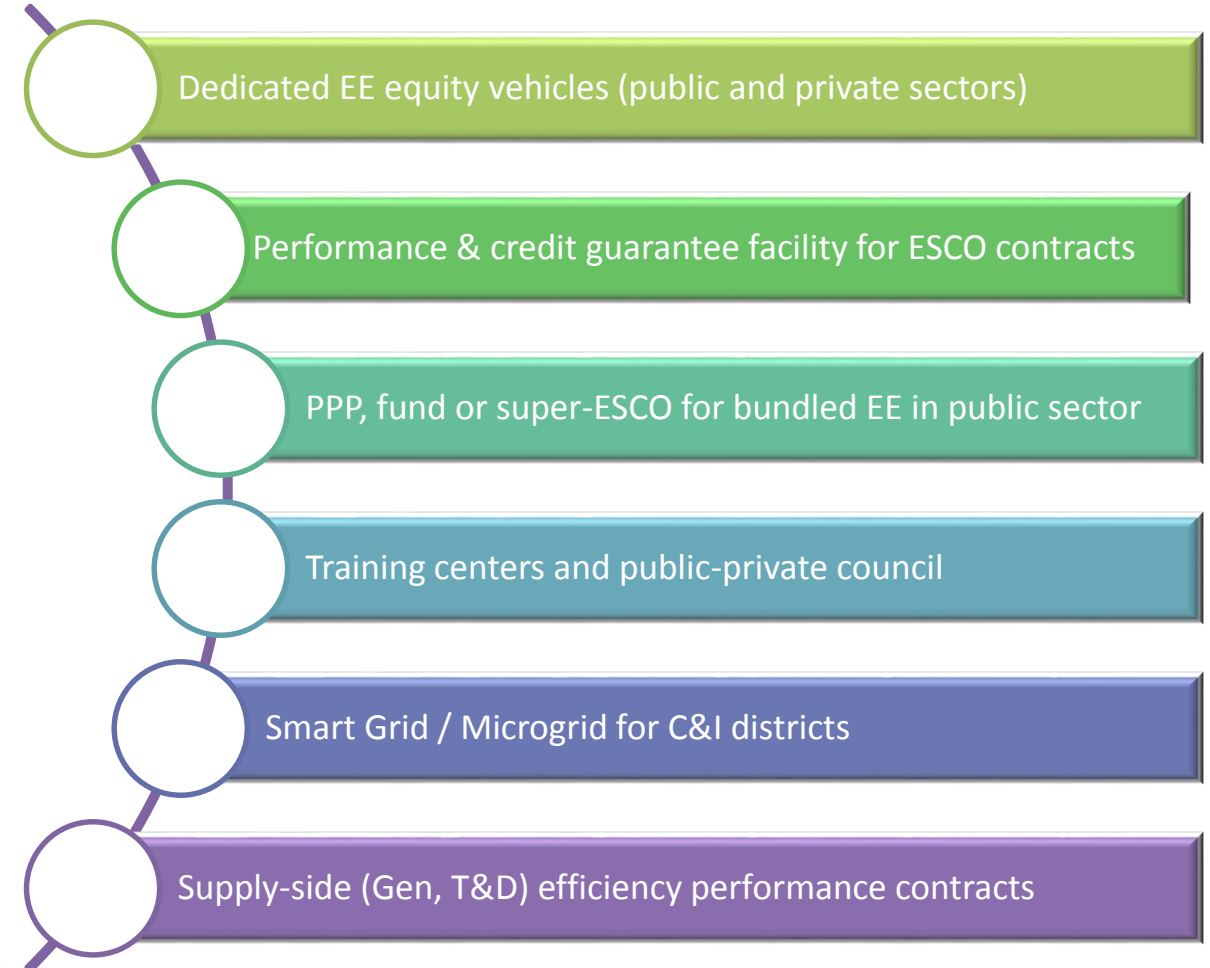
Incentives increase average after-tax IRR of third party investments from 5.9% to 14.6%

Source: A. Ablaza, Apr 2017

Key Lessons



Innovative delivery models for the road ahead..



Thank You

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