Government, Civil Society and Business Working Together to Bridge an Energy Efficiency Financing Gap

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21 March 2019
EE Experts Dialogue
RE EE Philippines 2019
SMX Convention Center
Pasay City
EE Laws implemented globally: Most of Asia’s major economies have an EE law in place

- 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

Several EE policy measures incorporate fiscal, tax-based incentives

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: ACEEE, 2016

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).
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

Indicative energy efficiency targets

<table>
<thead>
<tr>
<th>Sector</th>
<th>Annual energy saved by 2040 (ktoe)</th>
<th>Annual % energy saved by 2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>4,500</td>
<td>1.9% (25%)</td>
</tr>
<tr>
<td>Industry</td>
<td>3,000</td>
<td>1.3% (15%)</td>
</tr>
<tr>
<td>Residential</td>
<td>1,000</td>
<td>1.2% (20%)</td>
</tr>
<tr>
<td>Commercial</td>
<td>1,200</td>
<td>1.5% (25%)</td>
</tr>
<tr>
<td>Agriculture</td>
<td>300</td>
<td>0.9% (10%)</td>
</tr>
<tr>
<td>Total</td>
<td>10,000</td>
<td>1.6% (24%)</td>
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</tbody>
</table>

Economy-wide improvement in energy intensity: 3%

Source: Department of Energy (DOE), Philippines
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

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1.7 GtCO2e GHG emissions avoided and 45,900 MW energy infrastructure capacities deferred by 182 Mtoe cuts through 2040

Source: A. Ablaza, July 2017
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 business-as-usual impacts (self-financed & debt-financed)

Source: A. Ablaza, July 2017

Projected Energy Savings by Policy Scenario (ktoe)

Tax-based fiscal incentives are needed to mobilize third party capital (especially off-balance sheet investments) to unlock 66% market potential
On the road to the Philippines’ EE&C Roadmap Targets

**What the Economy Can Achieve**

- **182 Mtoe savings**
  For the country to achieve 10,000 Mtoe annual energy savings by 2040, the entire economy will need to reduce final energy demand by an aggregate 182 Mtoe between 2017 and 2040

- **USD 726B savings**
  An estimated USD 726 billion in energy savings can be achieved by 182 Mtoe reductions through 2040

- **45,900 MW deferred**
  45,900 MW of energy infrastructure capacity upgrades deferred by 182 Mtoe reductions through 2040

- **1.7 GtCO2e avoided**
  1.7 GtCO2e GHG emissions avoided by 182 Mtoe savings through 2040

**Slower Rise in Energy Prices**

- Increased GDP
- Increased Green Jobs
- Reduced Fossil Fuel Imports

**What the Economy Needs to Put In**

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

- **Unlock 66% potential with incentives**
  - Only 34% of EE&C Roadmap targets can be realized through business-as-usual self-financed and debt-financed mechanisms
  - Tax-based fiscal incentives are needed to mobilize third-party capital (especially off-balance sheet investments) to unlock 66% market potential

**Incentives: >200% recoverable**

- Tax-based fiscal incentives are over 200% recoverable as additional tax revenues for Government
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
Embracing the needs of various EE market stakeholders

PE2 has a 14-year history, with its predecessor Energy Service Company Association of the Philippines (ESCOPhil) established in May 2005 with the guidance and oversight of the Department of Energy.

PE2 was officially reorganized in April 2016 as a non-market, non-state, non-profit organization to embrace the needs of various EE market stakeholders through the following membership categories:

- **Regular A** – Accredited energy service companies (ESCOs)
- **Regular B** – EE technology/solutions/service providers, professional/legal services, contractors, EPCs, utilities
- **Regular C** – Financial institutions, equity providers, leasing cos, guarantee cos, fund managers
- **Associate D** – Non-profit, non-market, non-state civil society organizations, industry associations/chambers, foreign-assisted projects, academe and research institutes
- **Associate E** – Large organizations or enterprises which have mainstreamed EE in their core activities

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Medium-term EE Policy Reform and Sectoral Development Program

**EE Policy Reform Agenda**

- Combined push for the swift passage of the EE Bill and fiscal incentives
- Combined push for immediate enforcement of bridge policies
- Combined push for enabled Government procurement, budgeting and multi-year contracting of ESCO services
- Co-establish the Philippine Council for an Energy-Efficient Economy (PCE3), a public-private-civil society collaborative platform that would sustain the long-term EE market transformation efforts

**Strengthening the ESCO Industry**

- Training of trainors and PE2 personnel related to performance contracting, IGAs, M&V and preparing investment-grade projects – certification of CEMs, CMVPs
- Preparation of Investment-Grade Projects
- Drafting and Adoption of Industry-Standard Performance Contracting Templates
- Preparation of a Business Plan for the Establishment, Seed Funding, Operation and Replenishment of an ESCO Guarantee Fund or Insurance Facility
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.


Office of the President: Both chambers of the 17th Congress officially transmit the EE&C bill to the Office of the President on 14 Mar 2019.

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.

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

Source: A. Ablaza, Apr 2017
Short- to medium term programs

- Pilot Energy Monitoring System for Government Buildings
- Audits for Government Building EE Projects
- Reach out to more EE Market Stakeholders
- Industry-standard ESCO Contract Templates
- CEM and CMVP Training and Certification
- International Cooperation
Asia-Pacific ESCO Industry Alliance (APEIA)
APEIA is a regional platform convened in June 2018 intended for:

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<tr>
<th>Knowledge flow</th>
<th>ESCO sector development</th>
<th>Carbon market transactions</th>
<th>Easing technology deployment</th>
<th>Facilitating investments</th>
<th>Business development</th>
<th>Enabling market interventions</th>
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<tbody>
<tr>
<td>Knowledge events (e.g., seminars, conferences, workshops, exhibitions) and knowledge-sharing channels (e.g., website, publications, other knowledge products)</td>
<td>Build technical capacities in nascent ESCO markets by organizing and conducting training programs leading to the certification of energy managers, measurement &amp; verification professionals and other ESCO specialists</td>
<td>Facilitate carbon asset management projects, carbon emission reduction and energy savings offset trading for RE and EE companies</td>
<td>Facilitate and encourage research &amp; development, test-bedding &amp; pilot-testing of technologies in energy efficiency</td>
<td>Provide a platform for governmental, developmental and commercial investors to engage with developers of energy efficiency projects</td>
<td>Promote business development through conferences, ESCO trade missions, business matching meetings, exhibitions and other networking events</td>
<td>Engage with the relevant government agencies, development agencies, international financial institutions and industry associations to mobilize grant, debt capital, knowledge and other in-kind resources to enable the implementation of the above-mentioned activities</td>
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China | India | Japan | Korea | Philippines | Singapore | Taiwan
Key Messages

• No single sector can transform the market by itself.

• A collaboration between government, civil society and business is needed to cause and sustain the EE market reforms.

• A blend of policy and market reforms will be needed to mobilize USD 243 billion in EE capital through 2040. The EE&C Act with its fiscal incentives and ESCO capacity building are initial steps.
Thank You

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