Transforming the Energy Services Market through Non-Profit Organizations

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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

Source: Enerdata

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

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

Indicative energy efficiency targets

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

Economy-wide improvement in energy intensity: 3%

New Paradigm: Global/Regional Drivers

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

- 20% energy intensity reduction by 2020 from 2005 levels


- 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)

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

Total Energy Savings by Sector in kilotons of oil equivalent (ktoe), 2017-2040

- Ind, 32,442, 18%
- Trans, 77,818, 43%
- Res, 44,565, 14%
- Comm, 26,366, 14%
- AFF, 1,187, 1%

Source: A. Ablaza, Jul 2017

Reduced Energy Demand & Energy Savings in kilotons of oil equivalent (ktoe)

Red Dem - AFF
Red Dem - Comm
Red Dem - Res
Red Dem - Trans
Red Dem - Ind
Savings - AFF
Savings - Comm
Savings - Res
Savings - Trans
Savings - Ind

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1.7 GtCO2e GHG emissions avoided and 45.9 GW 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 BAU impacts (self-financed & debt-financed)

Source: A. Ablaza, July 2017

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

Source: A. Ablaza, July 2017

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EE market stakeholders working together for a 4-point approach

- ESCOs
- EE Tech/Services
- EE Finance
- NPOs / Implementors

- Establish EE alliance and build sector capacities
- Enable EE Law and Fiscal Incentives
- Enforce EE Bridge Policies
- Establish a Public-Private Collaboration

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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

www.pe2.org
Primary Purpose

To organize, encourage, and promote advocacies, initiatives, studies, projects, programs, policy-directions, financing strategies, best ethical practices and sources in energy efficiency, energy conservation and renewable energy; thus, to assist the Philippines in achieving its long term targets of:

- energy intensity reduction
- increasing energy productivity
- greenhouse gas (GHG) emission reduction
- increasing energy security

Other Purposes

1. To provide a forum for leadership and exchange including best practices and knowledge transfer with regard to energy efficiency (EE), energy conservation (EC) and renewable energy (RE), as well as impact on climate change.

2. To encourage, support and strengthen appropriate policies, laws, rules and regulations that increase the application of and investments in EE, EC and RE throughout the Philippines.

3. To act as a catalyst of cooperation among private sector, government agencies, international institutions, non-governmental organizations, industry associations, and other partnerships and initiatives with regard to EE, EC and RE.

4. To push for the identification, study, evaluation, analysis, and development of policies, projects and programs on EE, EC and RE, which in turn help to transform the economy and generate green jobs.

5. To convene and represent the interests of the Energy Service Company (ESCO) industry, especially in collaborating with Government for the promotion of ESCO Performance Contracting (EPC) and for regulatory concerns such as ESCO accreditation.

6. To convene and represent the interests of other EE, EC and RE stakeholders which include but not limited to, technology and solutions providers, EPC contractors, service providers, consultants, investors, financiers, financial institutions, commercial and industrial end users, large EE, EC and RE program implementing entities, and other market players.

7. To facilitate the country accelerate the transformation to an energy efficient economy with EE, EC and RE as increasingly prominent, viable and competitive low carbon technology options towards the achievement of energy security and increased energy productivity in the Philippines.
Medium-term EE Policy Reform and Sectoral Development Program

**EE Policy Reform Agenda**

- Push for the swift passage of the EE Bill and fiscal incentives
- Push for immediate enforcement of bridge policies
- Push for enabled Government procurement, budgeting and multi-year contracting of ESCO services
- 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.


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%
Short- to medium term programs

- Pilot Energy Monitoring System for Government Buildings
- Audits for Government Building EE Projects
- Expand Recruitment Drive
- 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:

<table>
<thead>
<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>
</tr>
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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 Lessons:

• Government cannot transform the market by itself.

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

• NPOs provide a resource vehicle that could mobilize knowledge, technologies and capital for the higher objectives.
Thank You

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