

Global Green Growth Institute (GGGI)

ENERGY SUFFICIENCY AND SAVING

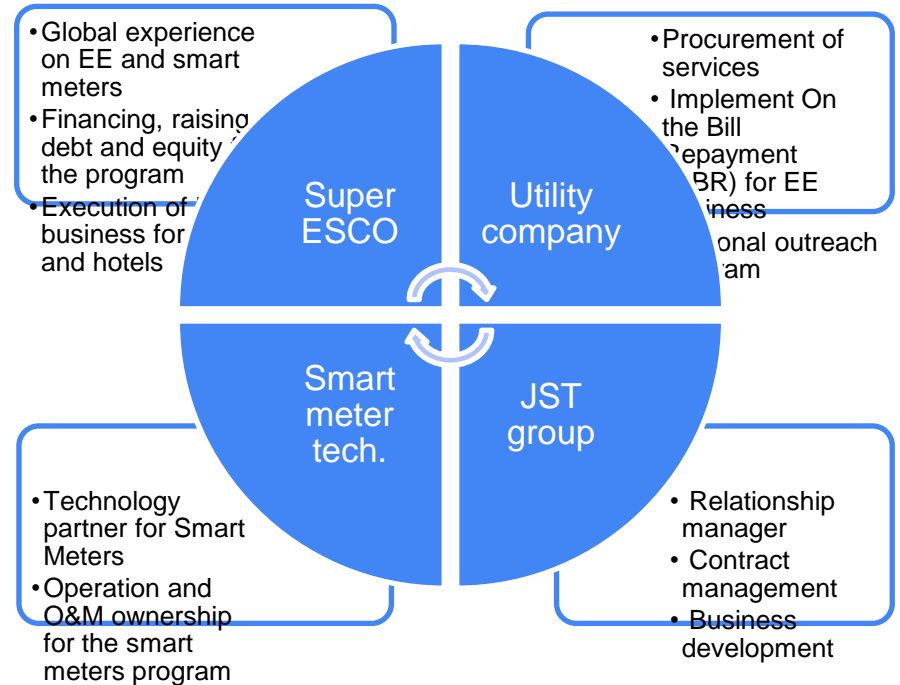
29 November 2022



Investment Pitch

- Investment opportunity - US\$ 250mn program
- Nature of business – Energy Efficiency for SME industries and hotels. Smart Meters
- Debt to Equity ratio – 70:30
- Investment ask – US\$75mn equity
- Key technologies - EE lighting, air conditioner, air compressor, motors, variable speed drive and Smart Meters
- Key client for the business – Provincial Electricity Authority
- Key partners – Smart meter tech. (technology providers on smart meters), JST (relationship management with Utility company)
- Key characteristics of the proposition
 - Super ESCO is a US\$400mn ESCO and manages the role of Utility company for the Indian market, hence they understand the business very well.
 - Super ESCO is the largest ESCO in Asia and has been able to raise funds from World bank, ADB, AFD and GEF to name a few multilaterals.
 - Super ESCO's procurement and potential to get major cost reductions due to economies of scale achieved for India.
 - JST is in Thailand for lats 4 decades and deals with Utility company operations on various fronts. As relationship managers they maintain strong business connections within Utility company.

Business structure and roles and responsibilities



More points to added/edited according to Super ESCO

Operational plan – SME industries Energy Efficiency

Target sector	Private industrial and commercial customers particularly from the SME sector.
Objective	To promote the implementation of EE in the SME sector of Thailand through the ESCO model supported by an OBR scheme.
Eligible customers	Credit worthy SMEs (based on electricity bill payment performance)
Program partners	Utility company, ESCOs/EE equipment suppliers, SME customers
Eligible EE measures	EE lighting, air conditioner, air compressor, motor and variable speed drive
Invoice System	<p>Utility company will use its own software system to manage the billing system. The set of bills/ invoices issued to customers to whom Utility company has energy management services will consist of three documents: (1) Electricity Bill; (2) Invoice on the ESCO service fee; and (3) Invoice showing both electricity charge and ESCO service fee.</p> <p>The concept of Bill neutrality will be followed. Meaning total bill amount should not exceed past electricity bill paid by the customer.</p>

Super ESCO receives partial upfront payment – operation model 1

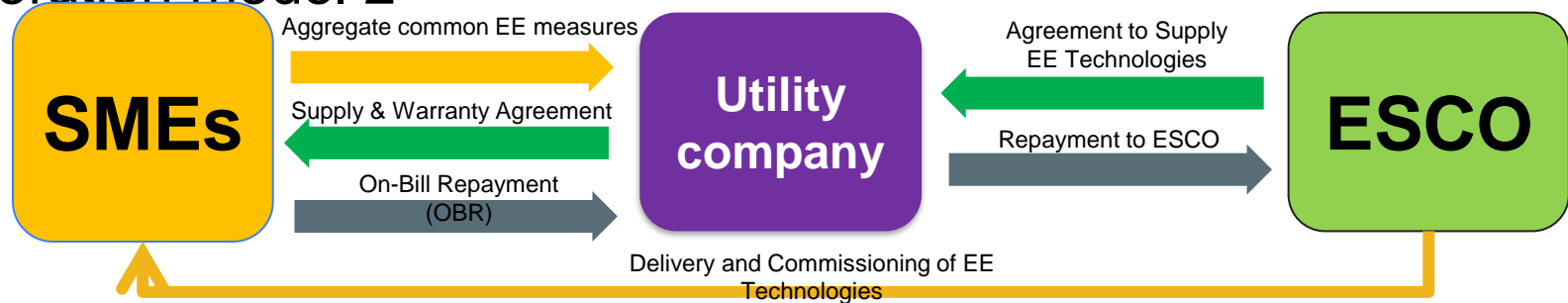


- Demand aggregation and contractual arrangement are like Model 1.
- SMEs pay down payments (not more than 50%) and the balances repaid through Utility company's bills within 1-5 years max.
- Costs of EE technologies will be at least 20-30% lesser than

PROS	CONS
Risk reduced for ESCO	SME participation is slightly restricted
Price advantage for the SMEs	
Lesser administration for Utility	

ESCO risk exposure	Relatively low
SME participation	Medium to high (because of price advantage, more bankable SMEs may join)
ESCO participation	Medium
Gestation period	medium
Scalability	Medium to high, win-win model for phase 1 implementation

Ongoing Utility company model – Operation model 2

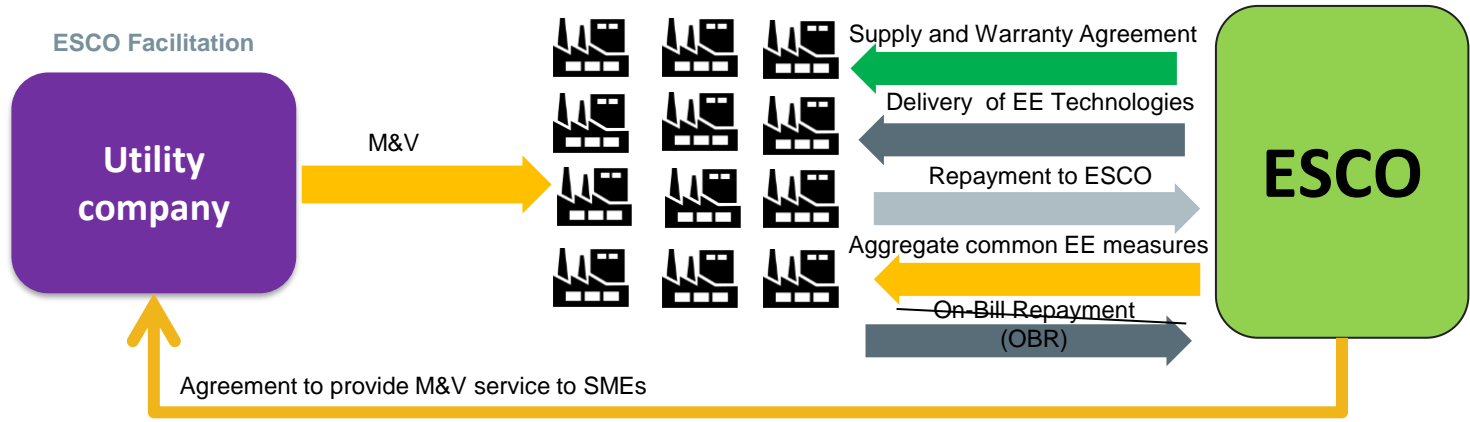


- Utility company is implementing this model with govt. buildings and large industries
- Utility company aggregates demand for common EE measures through simple walkthrough audits.
- Utility company enters in an agreement with ESCO and SMEs for supply, delivery and commissioning of EE technologies.
- EE technologies are priced at market average price (standard price by DEDE) with extended warranty by Utility company.
- SMEs don't pay upfront, repayments through Utility company's bills within 1-5 years max. depending on the size of implementation and savings.

PROS	CONS
SME Participation is attractive due to no CapEx	Payment recovery is risky unless safeguarded
Larger number of SMEs could be able to participate	Challenging for ESCO's to invest

ESCO risk exposure	High
SME participation	Medium to high (good to kick start first lot)
ESCO participation	low to very low
Gestation period	low
Scalability	low (can be used to demonstrate Utility company intent to champion EE for SMEs)

Conventional ESCO Investment – operation model 3

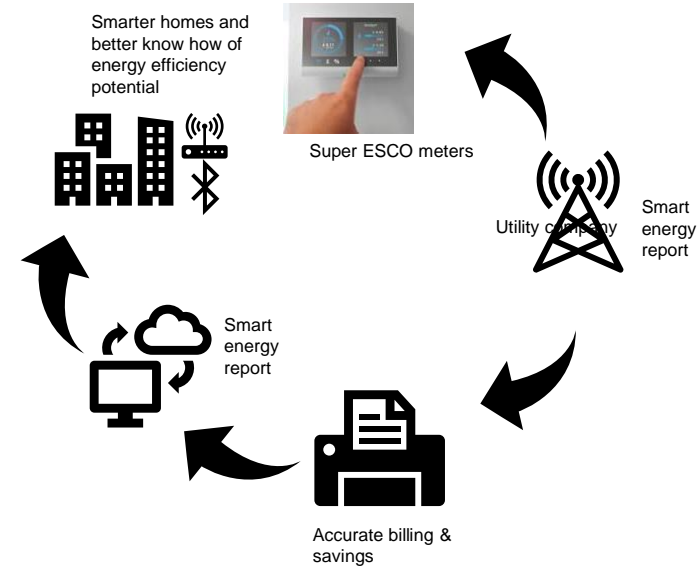


- ESCO enters an agreement with SMEs for supply, delivery, commissioning and warranty of EE technologies
- Down payment and installation plan are set based on the ESCO's agreement with SMEs
- ESCO enters an agreement with Utility company to provide M&V service to SMEs

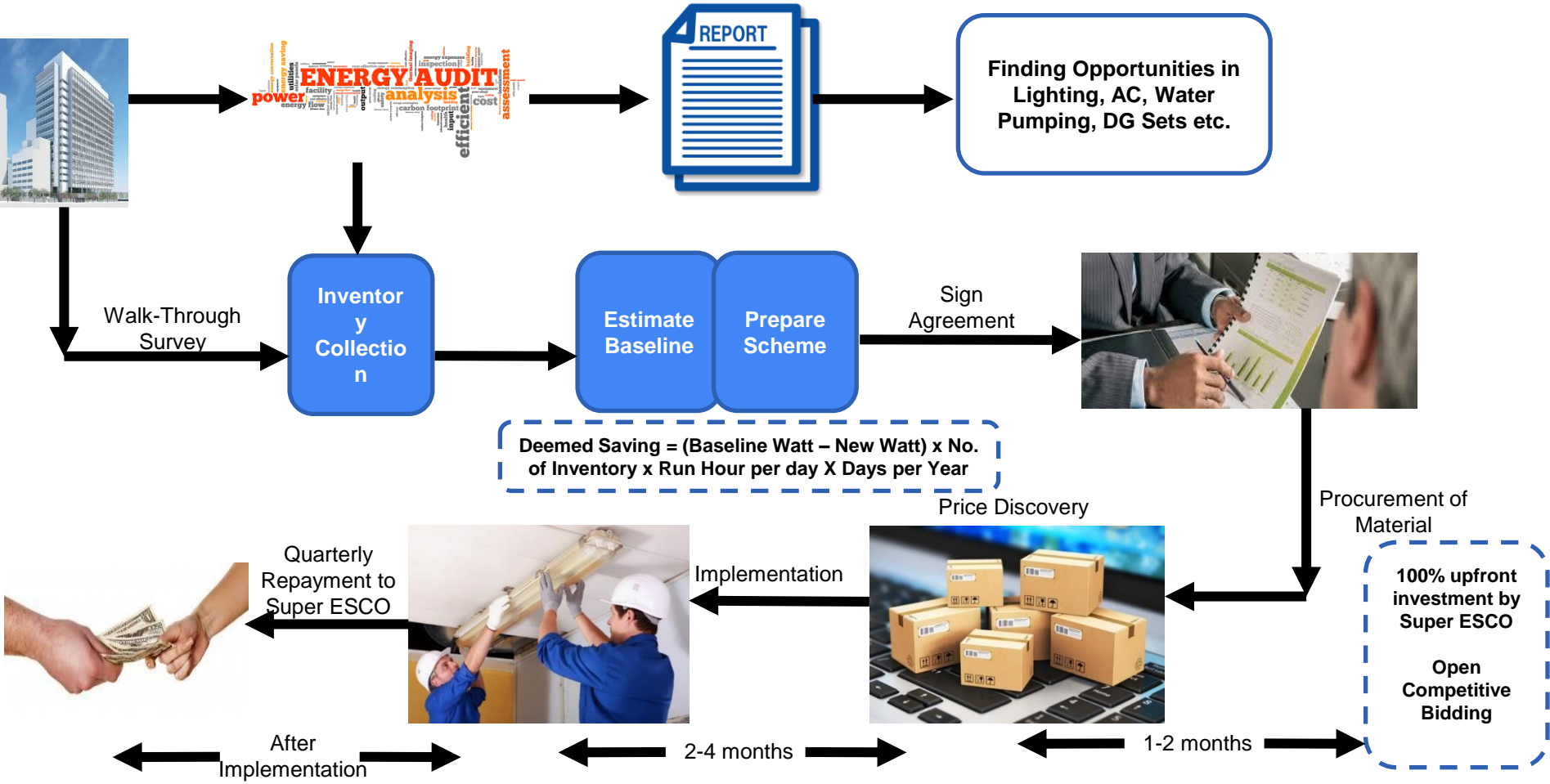
PROS	CONS
Gestation period is low	Non scalable model
Initial implementation project can be done quickly	ESCO needs to manage 100s of contract
Good for large implementation	No central agency to collect payments
	Non standardized agreement
	OBR mechanism is not available
	Utility company plays a passive role
	Only a handful of SMEs benefit

Operation plan for smart meters program

- First purchase of 500,000 smart meters will be procured by Utility company. These will be installed as part of an overall Advanced Metering Infrastructure Solutions (AMI) aimed at better demand response designed to reduce energy consumption during Utility companyk hours.
 - +14
- Super ESCO JV will bid for the tender floated by Utility company – JV has already cleared the technical evaluation by Utility company
 - +Rs. 5,000Rs. 2,722
- Price per meter will be quoted by Super ESCO JV, aim is to provide the lowest bid meeting/exceeding the technical requirements due to the aggregating potential of Super ESCO as they are the largest procurer of smart meters for the Indian market
 - +2
- Utility company will install these smart meters in preferred locations/regions to help reduce huge AT&C losses (we can get % losses numbers from Smart meter tech.)
 - +31 Oct 2017
- Super ESCO JV shall also provide system integration services and O&M for the total AMI solution.
 - +250 million
- Conventional meters that will be replaced by smart meters as part of Utility company's SmartMeter programme The meters will be installed for consumers with consumption of more than 200 units (KWh) and expected to be completed by June 2020.
 - +10 million
- Super ESCO JV will provide smart meters as a service and provide additional benefit to Utility company by investing the upfront Capex and managing the O&M services for Utility company and charging them on monthly fees basis for the contract time period.



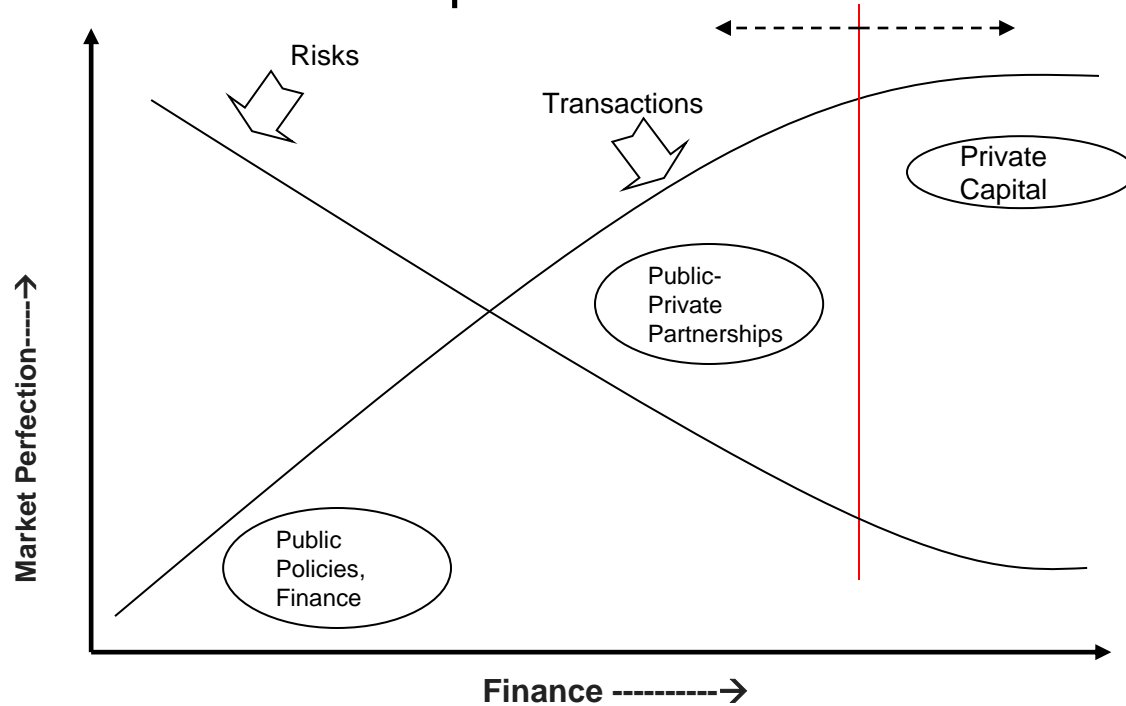
Approach & Methodology – Energy Efficiency



Strategies and Policies for Transforming EE Markets

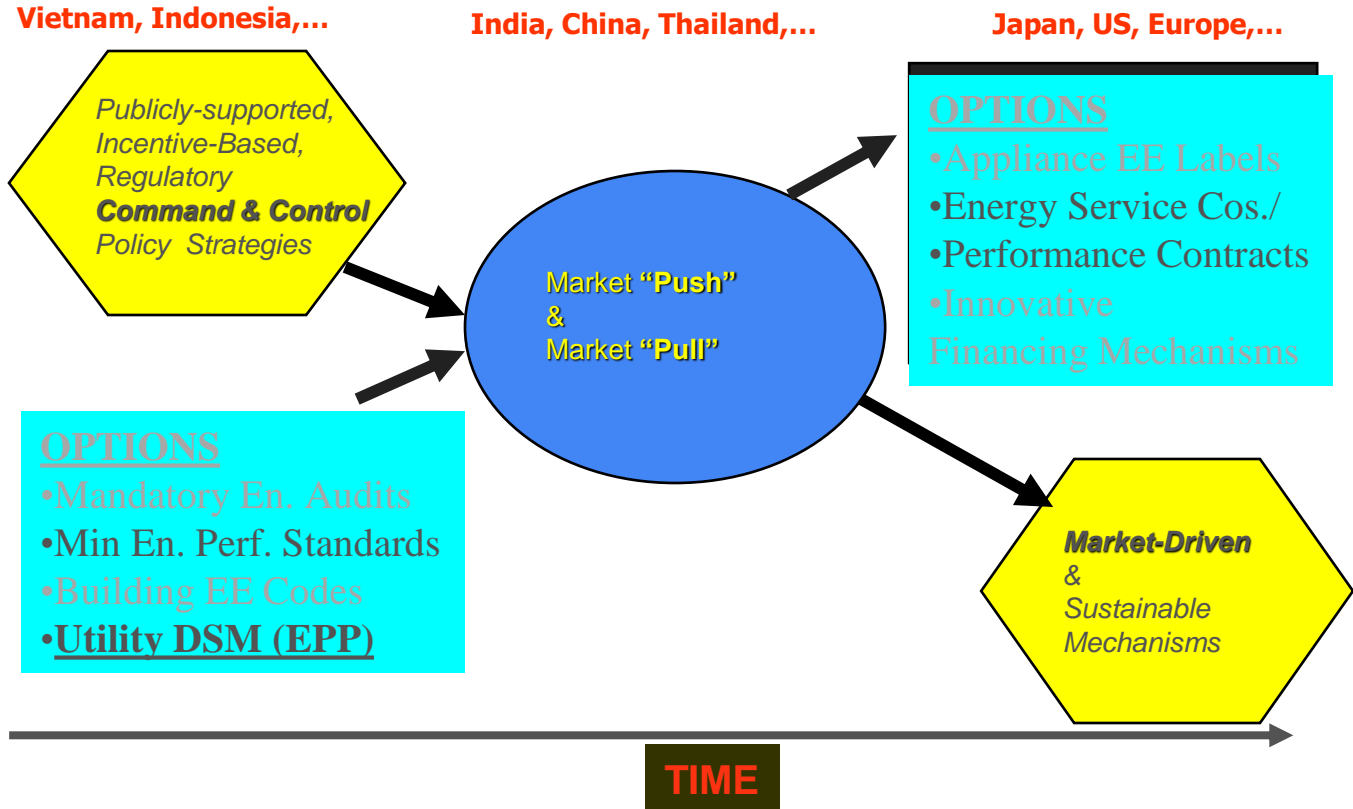
Transforming EE Markets

Experiences from the Developed World



EE Implementation Strategies

Menu of Options to Overcome Barriers



Thank You



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