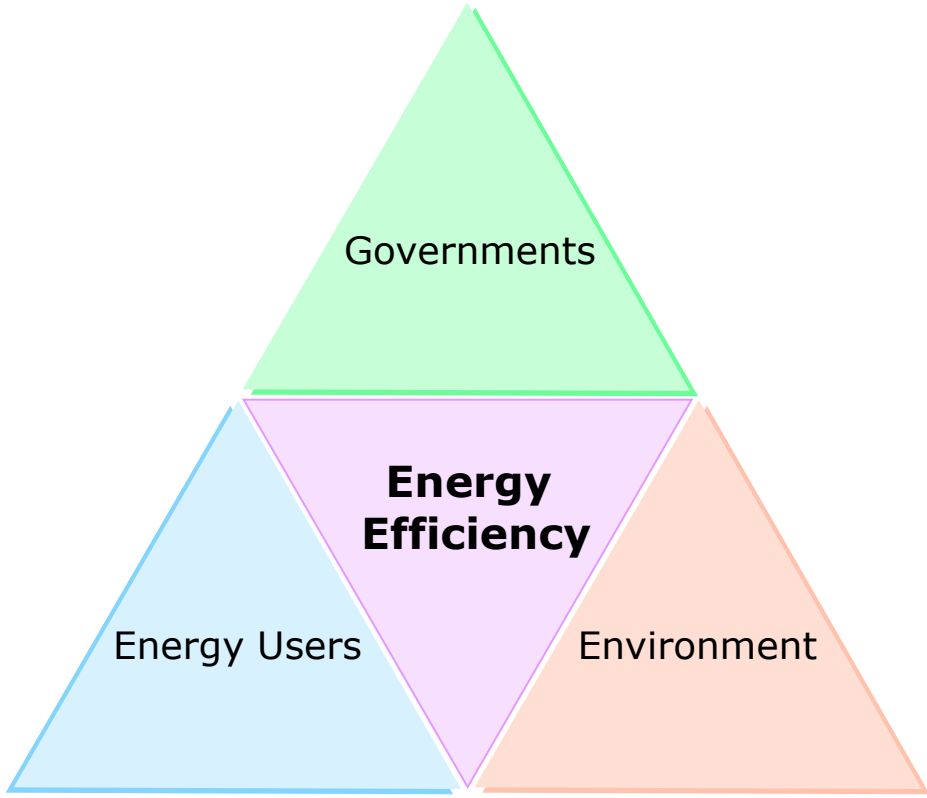



Government Actions to Foster the Development of ESCO Markets

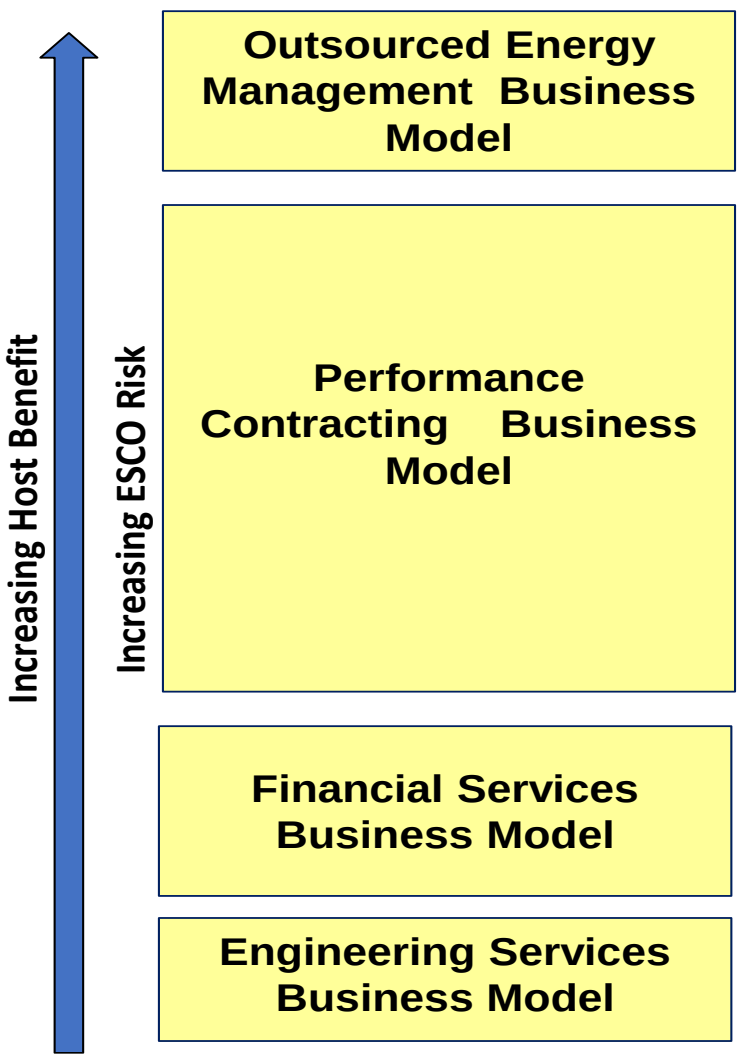


Importance of Investments in Energy Efficiency

- Continued economic growth will lead to increased energy needs.
- Meeting SDG goals, commitments under the Paris Agreement and NDCs requires substantial scaling up of energy efficiency (EE)
- EE represents the "first fuel" among the various options to meet climate goals
- Estimates by the IEA indicate that annual EE investments need to be about 40% of the total - USD 1.8 trillion - to meet the Net Zero goal
- While governments and IFIs have made large investments in EE, there is a requirement for substantial additional capital from commercial financing sources
- ESCOs represent a potential vehicle to mobilize commercial investment.



Energy Services Business Models



Outsourced Energy Management Business Model

Energy supply contracting - ESP takes over equipment O&M and sells output at fixed unit price ("Chauffage", "outsourcing", "Outsourced Energy Management")

Public or Super ESCO

Performance Contracting Business Model

ESPs with third party financing design, finance, implement, verify, and get paid a share of actual energy saved (ESCO "Shared Savings")

ESPs with design/implement project, and guarantee minimum level of savings (ESCO "Guaranteed Savings")

ESPs with variable term contract act as full service ESCO, but contract term varies

ESPs with 1-year contract design/implement project, receive 60–70% of payment

Financial Services Business Model

Supplier credit, an equipment vendor designs, implements, and commissions project with payment deferred

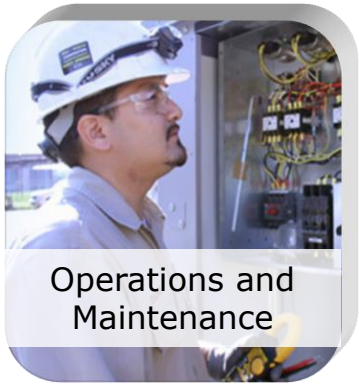
Equipment leasing, providing EE equipment under lease with fixed payments over several years

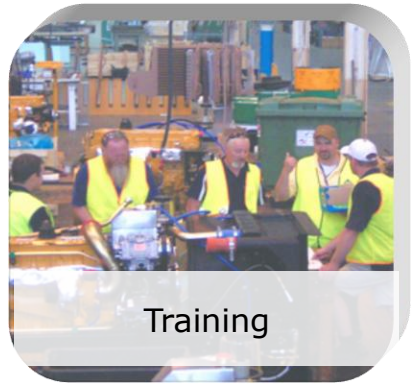
Engineering Services Business Model

Engineering services with performance-based payments

Engineering services with fixed payments

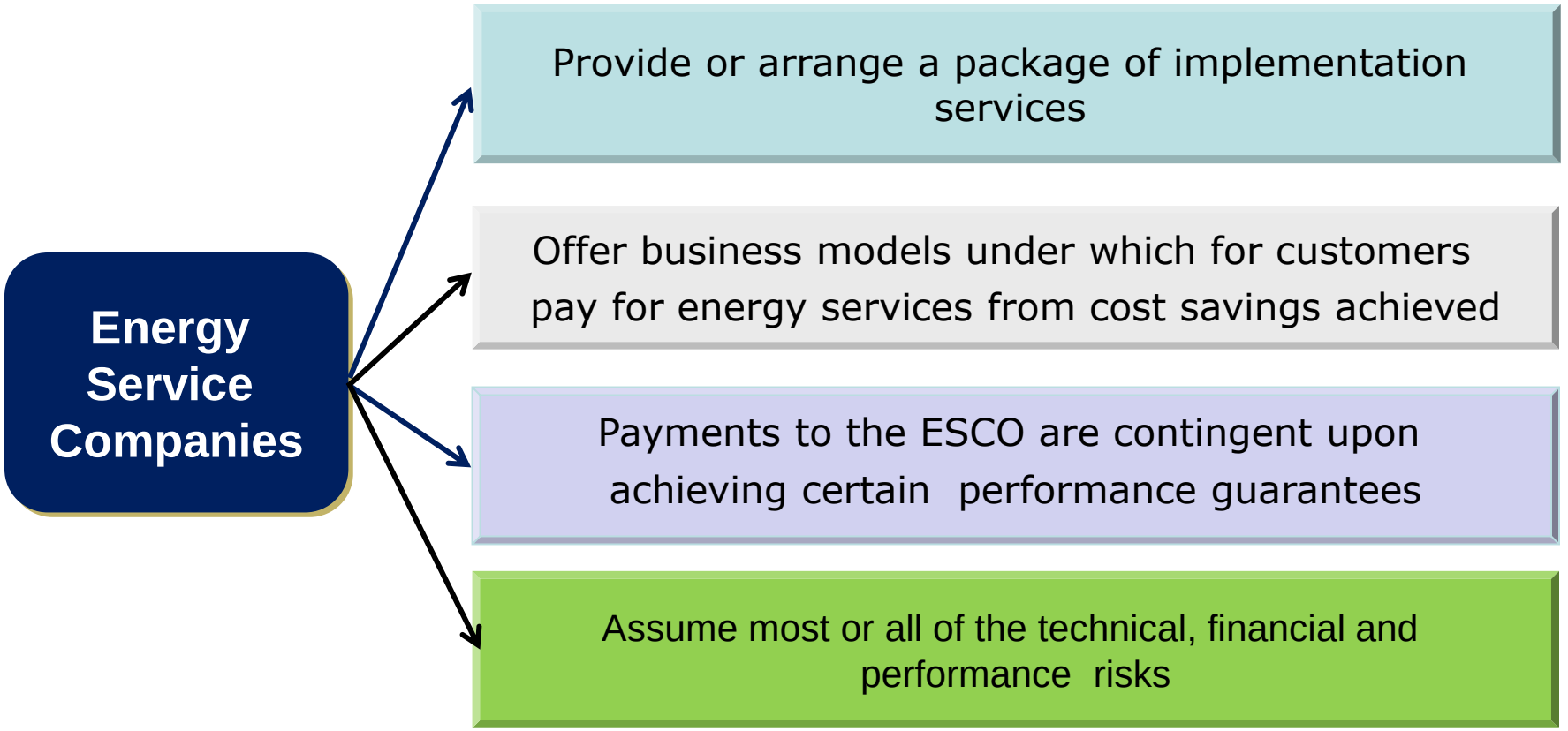
Typical Services Provided by ESCOs





Key Characteristics of ESCOs

While there may be many definitions of the term "ESCO," and there are many different business models, the major elements of ESCO services are:



Despite Benefits, Limited Development of ESCOs in LICs and MICs

Potential benefits provided by ESCOs

- Mobilize innovation and entrepreneurship
- Access the latest technologies
- Reduce project risk through performance guarantees
- Mobilize private financing
- Offer a range of business models
- Provide high quality installation, operation and maintenance
- Achieve faster completion of projects
- Provide training to operating personnel

Types of Barriers faced by ESCOs

- Despite the recognition of the potential benefits of ESCOs, there has been limited development of ESCOs in LICs and MICs due to many barriers:
  - Policy and Regulatory
  - Institutional
  - Market-related
  - Financing
  - Technical Capacity
  - Barriers specific to public sector EE

Policy & Regulatory Barriers and Potential Actions

Barrier	Mitigation Action
Limited development of national legislation and lack of long-term strategy and targets	Enact EE Act and supporting secondary legislation; Develop strategy and targets consistent with national goals
Low energy tariffs	Reform prices to market-based pricing
Lack of supportive regulations regarding performance contracting	Reform prices to market-based pricing
Lack of EE building code and building certification	Develop building code and certification
Lack of appliance labeling and standards	Establish MEPS and labeling program

Institutional Barriers and Potential Actions

Barrier	Mitigation Action
Overlapping or conflicting responsibilities for EE program design and implementation	Develop formal mechanism for coordination and cooperation among public agencies
Limited awareness among energy users regarding performance contracting and ESCOs	Develop pilot ESCO projects and disseminate success stories
Low comfort and/or service levels	Provide grant support to allow facilities to meet national norms
Need for parallel, non-EE investments for structural or safety needs	Provide grant support where needed
Lack of incentives for EE among large energy consumers	Require mandatory energy audits and implementation

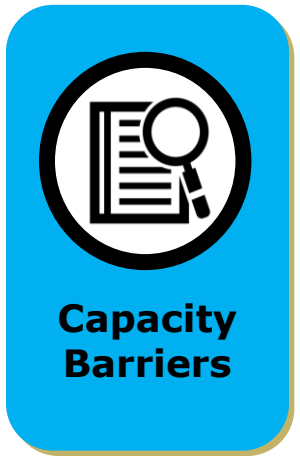
Market-Related Barriers and Potential Actions

Barrier	Mitigation Action
Large energy users may not trust ESCOs	Provide information on M&V protocols, successful ESCO projects and their achieved benefits; develop ESCO accreditation scheme
High project development and transaction costs	Develop standard templates for auditing and contracting
Limited market demand for EE products and services	Develop the long-term EE strategy and related programs to assure large market demand
Limited experience with performance contracting mechanisms	Develop and disseminate information and examples of performance contracting

Financing Barriers and Potential Actions

Barrier	Mitigation Action
Perception of high risk in ESCO projects	Provide risk-sharing guarantees
Lack of financial products for ESCO projects	Develop and disseminate examples of financial products from international experience
Limited interest in financing EE projects due to relatively small project size & high transaction costs	Develop templates to streamline transactions; aggregate projects to obtain higher project size
High market interest rates and low tenors	Offer concessional financing through a credit line
Limited availability of ESCO equity funds	Develop a forfaiting facility to purchase ESCO receivables

Barriers Related to Capacity Building Needs and Potential Actions



Barrier	Mitigation Action
Limited ESCO skills and capacity for technical assessment, business models and risk management	Provide TA to ESCOs to build skill and capacity
Limited capacity of energy auditors and poor quality audits	Develop and implement auditor training and certification program
Need for formal M&V of ESCO projects	Develop M&V protocols and provide training and capacity building for M&V professionals
Banks have limited capacity for Technical and financial appraisal of ESCO projects	Conduct capacity building program for bank loan officers and risk managers
Need to increase knowledge and understanding of energy and facility managers on benefits of ESCOs	Conduct capacity building program on performance contracting for facility and energy managers

Public Sector Barriers and Potential Actions

Barrier	Mitigation Action
Restrictive budgeting procedures limit ability to pay from cost savings	Allow retention of cost savings and/or multi-year budgeting
Public procurement regulations require selection of lowest up-front cost provider	Change procurement rules to selection based on most life cycle value
Limitations on public debt	Exclude ESCO payments from public debt limits
Lack of borrowing and repayment history	Utilize public financing and pilot projects to demonstrate timely repayment
Lack of collateral, perceived risk of late payment or non-payment	Establish risk-sharing guarantee facility
Small size of individual projects leads to relatively high transaction costs	Aggregate projects to increase transaction size
Lack of motivation and incentives	Establish mandatory EE targets and reward exemplary performance
Limited knowledge, experience and capacity to undertake ESCO procurement	Provide TA and capacity building re ESCO business models and potential benefits

Financing and Implementing Strategies to Facilitate ESCOs

Innovative financing approaches combined with a strong regulatory initiatives that can create an environment conducive to ESCO project implementation

- Energy Efficiency Revolving Funds
- Public or Super ESCO
- Credit Line with Development Bank

Financing mechanisms that can directly leverage commercial financing and help facilitate ESCO project implementation

- Credit Line with Commercial Bank
- Partial Risk-Sharing Facility
- Blended Financing
- Management Contracts
- Public-Private Partnerships

Illustrative Examples of Government Actions from selected countries

China	Strong government EE policy and legislation with mandatory EE targets for industry Financial incentives including subsidies, EE funds, loan guarantees, and preferential tax policies Standardized energy management contracting model and related ESCO capacity building & certification Establishment of regional public ESCOs with World Bank support
India	Energy Conservation Act; EE requirements for large energy consumers; PAT system for trading ESCs ESCO capacity building and accreditation program by BEE Financial incentives and partial risk-sharing facility Establishment of EESL as "super ESCO" leading to market transformation for EE
South Africa	Regulatory-driven DSM program for ESKOM provided financing for EE projects implemented by ESCOs Standard Offer and Standard Product programs for "purchase" of energy and demand savings National EE Agency provides technical support, financial assistance and capacity building for ESCOs ESCO Market Development Initiative (EMDI) fostering PPPs
Philippines	EE Act with mandatory EE audits for large energy users Training and capacity building programs for ESCOs Accreditation of ESCOs Encouragement of public-private partnerships
Thailand	ECPA Act requiring energy audits and energy management plans for large energy users Establishment of ESCO Fund to provide equity, credit guarantees, and technical assistance to ESCOs Tax exemptions and credits for EE project investments Support for establishing Thai ESCO Association to facilitate ESCO capacity building, advocacy, and collaboration
Dubai	Regulatory initiatives and national demand-side management strategy Establishment of Etihad Energy Services as Super ESCO to stimulate ESCO services in public sector Standard contracts for guaranteed and shared savings ESCO accreditation scheme
Czech Republic	Reformed public procurement procedures to facilitate ESCO contracts in the public sector Allowed retention of cost savings and multi-year contracts for public agencies Certification system for "energy experts" to ensure the quality and reliability of ESCO services

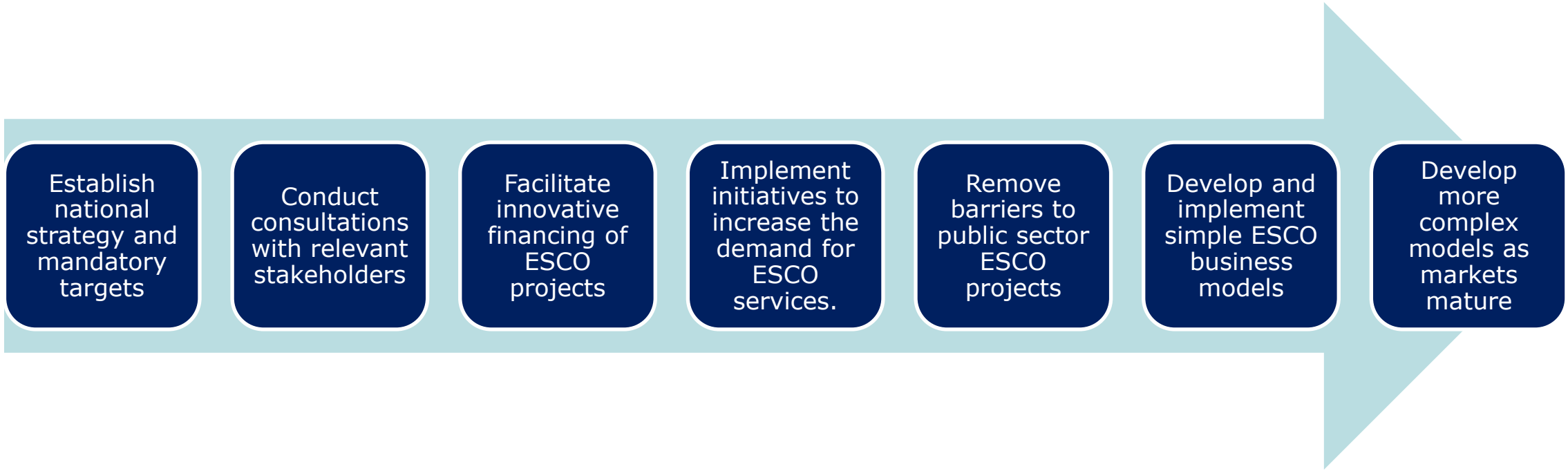
International Experience - Lessons Learned

- Strong and sustained government commitment and implementation of actions helps assure a long-term market for ESCO services
- Initially focusing on the public sector allows governments to "lead by example"
- Establishing EE targets for public agencies and mandatory audits for large users can help create the demand for ESCO services
- Stakeholder consultations can be effective in identifying market and regulatory barriers and potential solutions
- Pilot efforts may be needed to test alternative procurement and financing schemes
- Formal accreditation and/or certification schemes for ESCOs can help improve credibility
- There is a wide range of ESP business models. Governments should encourage the adoption of the appropriate business models suitable for local market conditions
- Governments need to develop a simple and transparent procurement system with well-defined rules, regulations, procedures and supporting documents
- Technical assistance programs are needed to build capacity of all relevant stakeholders
- EE Revolving Funds and public or super ESCOs have been effective in developing the ESCO markets in many countries

Concluding Remarks

- Scaling up EE is a critical element for meeting the NDC targets and climate goals
- Public financing from governments and IFIs will not be sufficient to meet the EE financing and implementation needs
- Scaling up commercial financing is a critical need
- ESCOs provide a viable option for leveraging commercial financing and facilitating EE project implementation
- But experience with ESCO development in LICs and MICs has been limited
- Many challenges exist – can be aggressively addressed through policy, regulatory, financing, market development, and capacity building initiatives
- Development of ESCO markets needs a combination of actions and is likely to take considerable time, effort and patience
- International experience provides useful information & guidelines but selection of financing and implementation mechanisms to promote ESCO market development needs to be adapted to local conditions.

Simplified Roadmap for Facilitating and Promoting ESCO Markets



Thank you

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