

Regulatory Barriers for ESCOs 2nd edition

26 Sept 2023

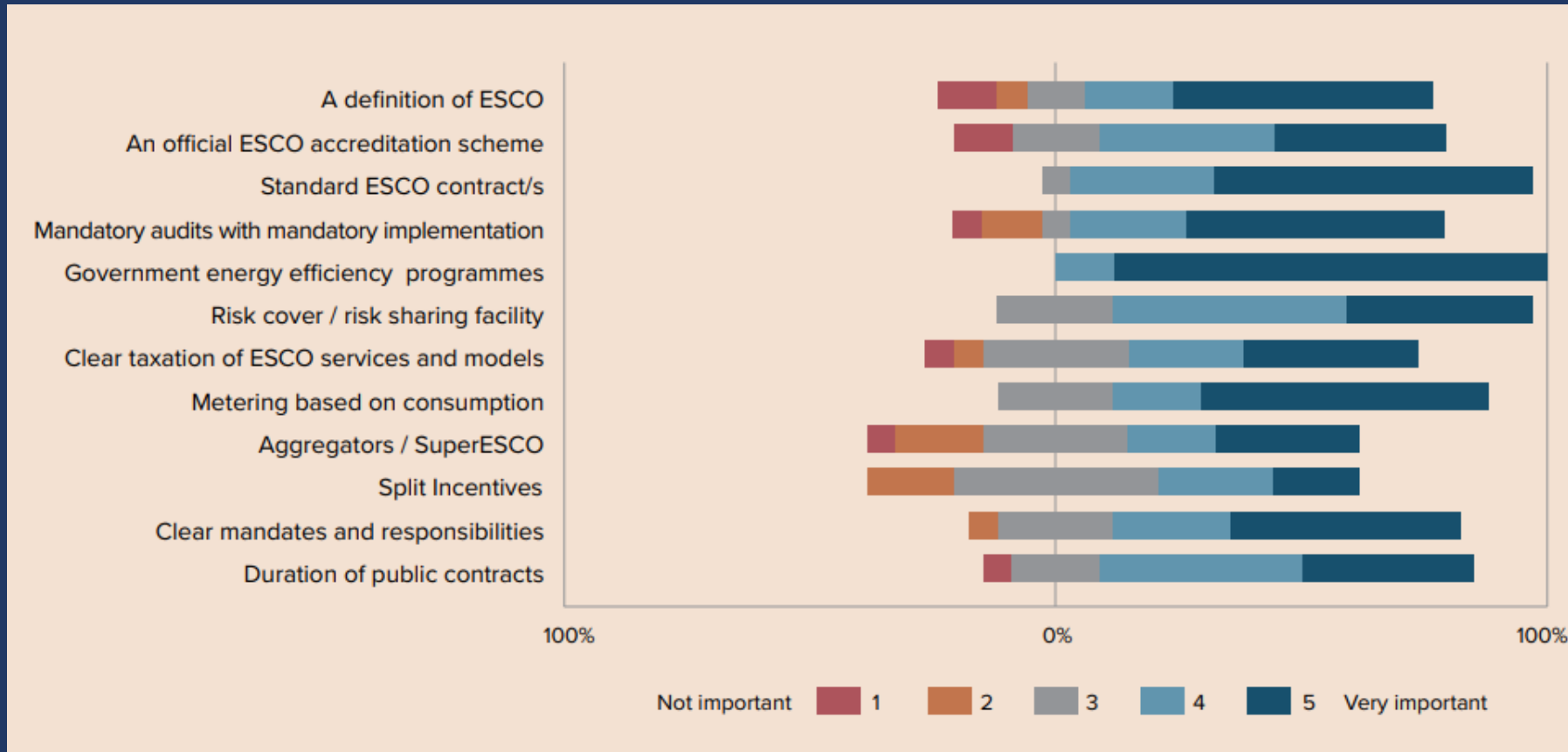


- 18 associations and 1 academic institution
- Revised structure of the analysis
 - ESCO-specific regulation
 - non-ESCO-specific regulation,
 - Frameworks inhibiting ESCO investments
- 1st edition, existing vs. lack of regulation
- 3 categories:
 - Favorable condition
 - Unfit
 - Barrier
- Provides the basis for upcoming policy advice

Region	Country	ESCO association / institution	
Europe	Belgium	BELESCO	Belgian ESCO Association
	Czech Republic	APES	Czech Association of Energy Services Providers
	France	Fedene	French Federation of Energy and Environment Services
	Germany	DENEFF EDL_HUB	German Business Initiative Energy Efficiency
	Italy	federesco	Italian National ESCO Federation
	Poland	University of Warsaw	Public Administration Research Unit of the Faculty of Law and Administration
	Portugal	APESE	Portuguese Association of Energy Service Companies
	Spain	APESE	Spanish National Association of Energy Service Companies
	Switzerland	swissesco	Swiss ESCO association
	UK*	ESTA	Energy Services and Technology Association
Asia	Japan	JAESCO	Japan Association of Energy Service Companies
	Republic of Korea	KAESCO	Korea Association of ESCO
	Malaysia	MAESCO	Malaysia Association of Energy Service Companies
	Philippines	PE2	Philippine Energy Efficiency Alliance
	Taiwan (China)	TESA	Taiwan Energy Service Association
	Thailand	ThaiESCO	Thai ESCO Association
Latin America	Chile	ANESCO	Chilean National Association of Energy Service Companies
	Mexico	AMENEER	Mexican National Association of Energy Efficiency Companies
Africa	Uganda	EEAU	Energy Efficiency Association of Uganda



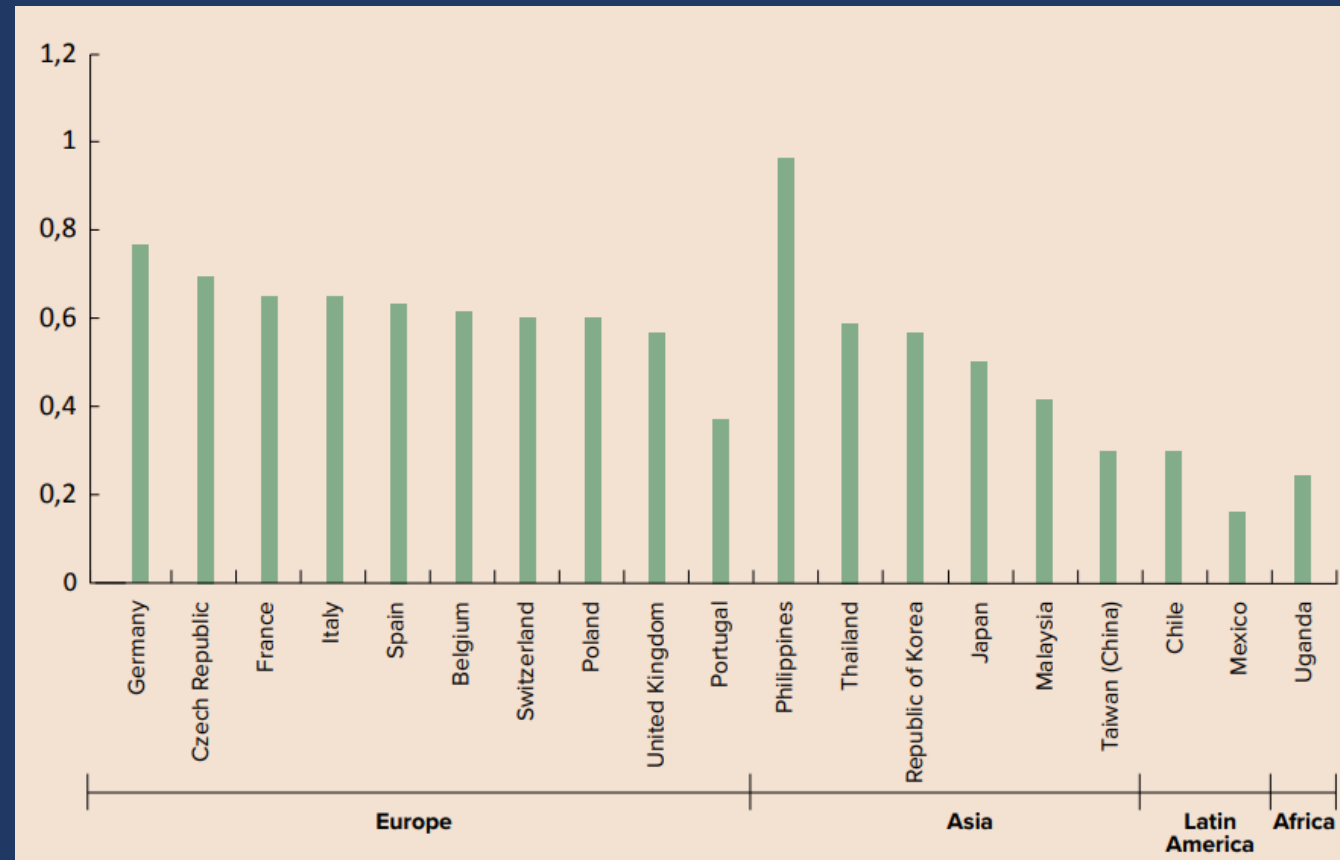
ENABLING FRAMEWORKS AND RELATIVE IMPORTANCE



PREVALENCE OF FAVOURABLE CONDITIONS ADJUSTED TO ASSOCIATIONS' ASSESSMENT OF THEIR RELATIVE IMPORTANCE

- Not a ranking

Gives an indication
of what the
associations feel is
needed in their
jurisdictions and
optimism in the
regulatory conditions



ESCO-SPECIFIC REGULATORY FRAMEWORKS

- A fit for purpose ESCO definition

Region	Country	ESCO definition
Europe	Belgium	No
	Czech Republic	Yes
	France	No
	Germany	Yes
	Italy	Yes
	Poland	Yes
	Portugal	Yes
	Spain	Yes
	Switzerland	No
	UK*	No
Asia	Japan	Yes
	Republic of Korea	Yes
	Malaysia	Yes, unfit
	Philippines	Yes
	Taiwan (China)	Yes, unfit
	Thailand	Yes
Latin America	Chile	Yes, unfit
	Mexico	No
Africa	Uganda	No

ESCO – not a protected term, without a definition:

- Uncertainty of what constitutes an ESCO – lack of credibility
- Tendency towards component approach
- Over-estimate of potential savings and use of sub-optimal solutions (EE)

We believe the essence lies in the (savings) performance risk taken by the ESCO





ESCO-SPECIFIC REGULATORY FRAMEWORKS

- A fit for purpose ESCO definition

Proposed definition:

An Energy service company (ESCO) is a legal entity that delivers energy services and energy efficiency improvement measures in a user's facility, premises and operations and accepts some degree of financial risk in so doing.

The implemented services and improvement measures are based upon a holistic analysis of the users' energy and resource demand, against financially and technically viable alternative energy and resource efficient low-carbon technologies, and/or energy management systems.

The payment for the services delivered is based (either wholly or in part) on the measured and verified achievement of energy efficiency improvements and of any other agreed performance criteria.



ESCO-SPECIFIC REGULATORY FRAMEWORKS - ESCO accreditation

- A fit for purpose definition is a prerequisite
- Enhance professionalism and building trust
- Ideally include a registry where clients can access information and provide feedback
- Weed out non-performing ESCOs
- Requires a constant input of resources to function

Region	Country	ESCO accreditation
Europe	Belgium	No
	Czech Republic	No
	France	No
	Germany	No
	Italy	Yes
	Poland	Yes, unfit
	Portugal	Yes, unfit
	Spain	Yes
	Switzerland	No
	UK*	Yes, unfit
Asia	Japan	No
	Republic of Korea	Yes
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	Philippines	Yes
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ESCO-SPECIFIC REGULATORY FRAMEWORKS

- ESCO accreditation, criteria

Business criteria	
Longevity	Length of time that the ESCO business has been in operation
Project completion and investment amount	Total amount of projects in monetary value that have been completed
Staff capacities	Staff experience, competency, capacity and organizational structure
Insurance verification	General liability insurance on construction and business maintenance
References	References from clients to evaluate the perceptions of performance
Ethics agreement	Signature of ESCO Code of Ethics of the accrediting organization
Legal action description	Monitoring point of ESCO performance and issues with project fulfilment
Certifications	Potential certification requirements e.g. ISO9000 on quality management systems
Financial criteria	
Financial strength	Documentation of ESCO's profitability and evaluation of debts, timely payments, capital availability, general bookkeeping practices
Financial statements	Review of audited financial statements
Technical criteria	
Number of projects	The competency of the ESCO to deliver projects
Ability	The ability of the ESCO (staff) to perform certain aspects of project delivery e.g. minimum amount of staff being certified energy auditors or other
Audit equipment ownership	Availability of energy audit equipment for the staff to use in project development phases
Safety requirements	Conforming with governments safety requirements for workers
Measurement and Verification Demonstration	Competence to guarantee project's performance as predicted in detailed energy audit

Source: Inspired by (Langlois & Unruh, 2020)

Overall information an accreditation registry could provide:

- Information about the process to become accredited, including on:
 - Different types or classes of accreditation
 - Documentation requirements for the different types or classes
 - Steps and timelines in the accreditation process
 - Duration of accreditation before renewal is needed
- An official list of accredited ESCOs including:
 - The specific attained accreditation type/class
 - Date of accreditation
 - Contact information
- The Code of Ethics that the ESCOs have agreed to adhere to
- Reviewed and approved client feedback on ESCO performance
- A description of a process on how concerns and disputes are addressed
- Contact information for the registry itself for:
 - Becoming accredited
 - Communicating concerns and addressing disputes

ESCO-SPECIFIC REGULATORY FRAMEWORKS

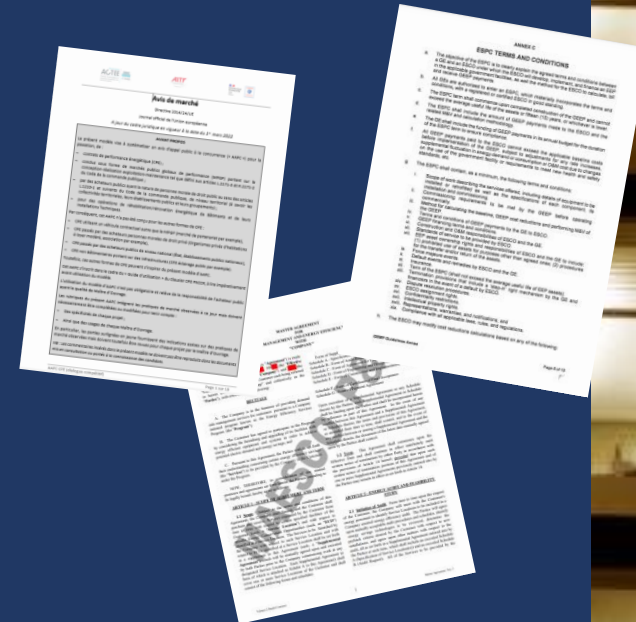
- ESCO model contracts

Energy Performance Contract is the core of the ESCO business model.

- ESCO implementation modalities are (more) complex.
- Model contracts avoid recurrent drafting and negotiations.
- Create trust amongst the parties.

Pitfalls:

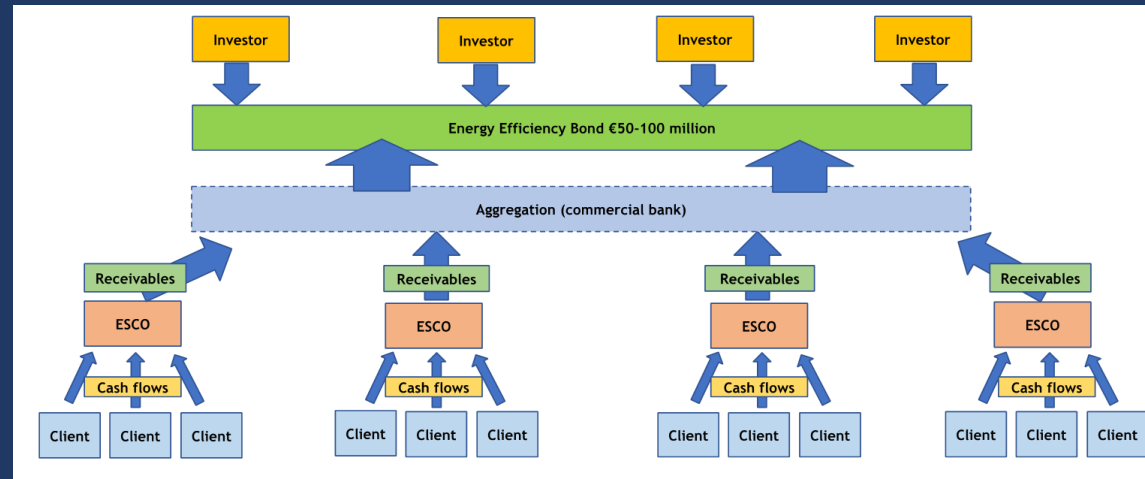
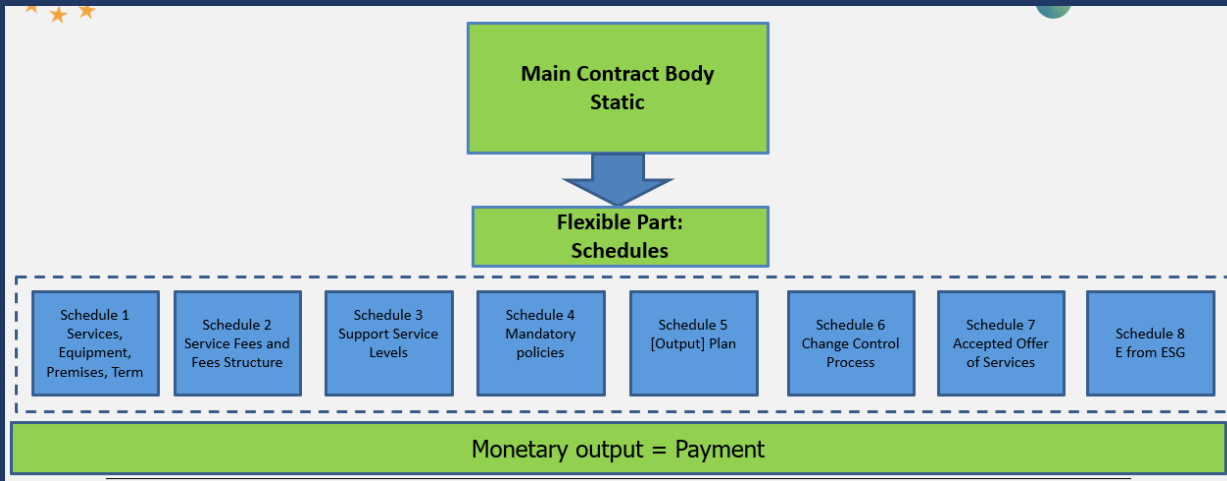
- Not tailored to the ESCO business model
- Overly complex
- Uneven risk sharing



Region	Country	Standard ESCO contracts
Europe	Belgium	Yes
	Czech Republic	Yes
	France	Yes
	Germany	Yes
	Italy	Yes, unfit
	Poland	Yes
	Portugal	Yes, unfit
	Spain	Yes
	Switzerland	Yes
UK*	Yes	
Asia	Japan	No
	Republic of Korea	Yes
	Malaysia	No
	Philippines	Yes
	Taiwan (China)	Yes, unfit
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ESCO-SPECIFIC REGULATORY FRAMEWORKS

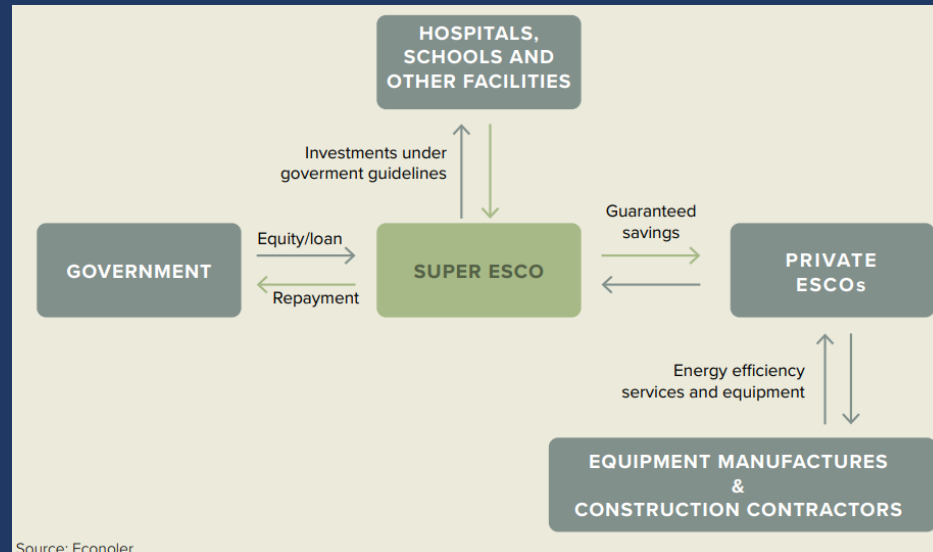
- ESCO model contracts - Webinar recording 5 September



ESCO-SPECIFIC REGULATORY FRAMEWORKS

ESCO aggregator schemes (Super ESCO)

- Reduce fragmentation
- Economies of scale
- Can organize financing
- Mostly public, but also private
 - SOFIAC – Canada
 - Climargy - Philippines



Source: Econler

Region	Country	ESCO aggregator
Europe	Belgium	Yes
	Czech Republic	No
	France	Yes, unfit
	Germany	No
	Italy	No
	Poland	No
	Portugal	No
	Spain	No
	Switzerland	No
	UK*	Yes
Asia	Japan	No
	Republic of Korea	Yes, unfit
	Malaysia	No
	Philippines	Yes
	Taiwan (China)	No
	Thailand	No
Latin America	Chile	Yes, unfit
	Mexico	No
Africa	Uganda	No

NON-ESCO SPECIFIC FRAMEWORKS

- Energy Audits

- Energy audit is the first step for recognizing own consumption and EE potential
- Mandatory Audit schemes - least positive response from survey – does not lead to increased use of ESCO
 - No mandatory implementation
 - No offer for implementation model
 - Audit and/or implementation mandatory only above very high consumption levels

Region	Country	Energy audit schemes
Europe	Belgium	Yes, unfit
	Czech Republic	Yes, unfit
	France	Yes, unfit
	Germany	Yes, unfit
	Italy	Yes, unfit
	Poland	No
	Portugal	Yes, unfit
	Spain	Yes, unfit
	Switzerland	No
	UK*	Yes, unfit
Asia	Japan	No
	Republic of Korea	Yes, unfit
	Malaysia	No
	Philippines	Yes, unfit
	Taiwan (China)	No
	Thailand	Yes, unfit
Latin America	Chile	Yes, unfit
	Mexico	No
Africa	Uganda	No

NON-ESCO SPECIFIC FRAMEWORKS

- Energy Audits

- Audit schemes require trained auditors and thus cannot be established overnight
- Mandatory implementation requires a similar build-up of a resource base and supply system in the form of ESCOs
- Mandatory audit schemes with built in progressive thresholds combined with training programmes and financing schemes (not excluding ESCOs)

Region	Country	Energy audit schemes
Europe	Belgium	Yes, unfit
	Czech Republic	Yes, unfit
	France	Yes, unfit
	Germany	Yes, unfit
	Italy	Yes, unfit
	Poland	No
	Portugal	Yes, unfit
	Spain	Yes, unfit
	Switzerland	No
	UK*	Yes, unfit
Asia	Japan	No
	Republic of Korea	Yes, unfit
	Malaysia	No
	Philippines	Yes, unfit
	Taiwan (China)	No
	Thailand	Yes, unfit
Latin America	Chile	Yes, unfit
	Mexico	No
Africa	Uganda	No



NON-ESCO SPECIFIC FRAMEWORKS - Charges based on consumption

- Charges based on consumption a prerequisite for EE incentive
 - E.g. In Taiwan (China), Mexico and Chile, there is no metering of energy consumption in place for end-consumers.
- Charges usually a mix of fixed and consumption based
 - Shifting the charges towards consumption creates an incentive for EE

Region	Country	Metering based on consumption
Europe	Belgium	Yes, unfit
	Czech Republic	Yes
	France	Yes
	Germany	Yes
	Italy	Yes
	Poland	Yes
	Portugal	Yes
	Spain	Yes
	Switzerland	Yes, unfit
	UK*	Yes
Asia	Japan	Yes
	Republic of Korea	Yes
	Malaysia	Yes
	Philippines	Yes
	Taiwan (China)	No
	Thailand	Yes
Latin America	Chile	No
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Africa	Uganda	Yes

NON-ESCO SPECIFIC FRAMEWORKS

- Clear delineation of mandates

The public sector and its buildings and infrastructure are often one of the main driving forces behind ESCO market development

Where different public-sector entities act as owners and tenants – there is a risk for split incentives / inaction

E.g.:

- The entity with the mandate for energy efficiency is not responsible for public buildings, and responsibility for the implementation of measures is unclear.
- The entity responsible for public buildings has no control over the budget and payment of energy bills, while the entity paying the energy bills has no mandate to implement EE measures
- Cost savings only lead to less budget allocation

Solutions:

- Mandatory audits (with implementation arrangements)
- Sharing the costs of energy-performance contracting between building owners and tenants (Switzerland)

Region	Country	Clear mandates and responsibilities
Europe	Belgium	No
	Czech Republic	Yes
	France	Yes
	Germany	Yes
	Italy	No answer
	Poland	Yes
	Portugal	No
	Spain	No
	Switzerland	Yes
	UK*	Yes
Asia	Japan	No
	Republic of Korea	No
	Malaysia	No
	Philippines	Yes
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NON-ESCO SPECIFIC FRAMEWORKS

- Public procurement and contract duration

Inability or unwillingness to enter long-term contracts

- Election terms
- Annual budgets
- Predefined maximum length (2 – 10 years)

Barrier often behavioral rather than regulatory
SuperESCO a potential solution

Region	Country	Contract duration
Europe	Belgium	No answer
	Czech Republic	Yes
	France	Yes
	Germany	Yes
	Italy	No
	Poland	Yes, unfit
	Portugal	No
	Spain	Yes
	Switzerland	Yes
	UK*	Yes
Asia	Japan	Yes, unfit
	Republic of Korea	Yes, unfit
	Malaysia	No
	Philippines	Yes
	Taiwan (China)	No
	Thailand	In progress
Latin America	Chile	No
	Mexico	No
Africa	Uganda	No

FRAMEWORKS FACILITATING ESCO INVESTMENTS

- Government EE programmes

Mostly grant programmes

- Expensive
- Not permanent
 - Stop-and-go signals to the market
 - EE waiting for grants
- Some exclude third parties (ESCOs)
 - ESCOs need to go through the facility owner to access the grant
- Technology specific
 - Cherry picking
 - Makes deep renovations and system changes less attractive
- Away from grants towards financing schemes
 - EE revolving funds
 - EE credit lines
 - Guarantees

Region	Country	Government EE programmes
Europe	Belgium	Yes
	Czech Republic	Yes
	France	Yes
	Germany	Yes
	Italy	Yes
	Poland	Yes, unfit
	Portugal	Yes, unfit
	Spain	Yes
	Switzerland	Yes
	UK*	Yes, unfit
Asia	Japan	Yes
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	Malaysia	Yes
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FRAMEWORKS FACILITATING ESCO INVESTMENTS

- Government EE programmes

In 2017 the Malaysian government launched a 44 million USD EPC fund to support SME ESCOs provided by Malaysian Debt Ventures (MDV), a corporation under the Minister of Finance

The fund provides credit to cover CAPEX/working capital up to 85% of project costs to SME ESCOs.

The fund is supported by

- 3.4 million USD credit guarantee by the Ministry of Energy and Natural Resources
- 4.4 million USD contribution from the JKR Building Sector Energy Efficiency Project (GEF – UNDP)
- 1% interest rate subsidy per year by the Ministry

MDV provides principal financing to the ESCOs while the government subsidizes non-principal financing costs such as guarantee costs to ensure low-cost finance.

The EPC Fund also provides a credit guarantee to enhance the credit profile of financing applicants, leveraging finance from other financial institutions.

FRAMEWORKS FACILITATING ESCO INVESTMENTS

- Facilities alleviating payment and performance risk

- Banks are reluctant to accept assets in a facility with a different owner than the ESCO as collateral
 - Guarantee schemes – Targeting ESCOs individual transactions and contracts, or the ESCOs themselves as loan guarantee
 - Credit or risk guarantees to financing institutions
- ESCOs value resides in the EE savings that will materialize in the future
 - Securitization (the model contract example)
 - Philippines Climargy - investing in ESCO project assets outside the balance sheets of the both the ESCO and the customer, and adopting payment risk.

Region	Country	Financing facility to alleviate risks
Europe	Belgium	In Progress
	Czech Republic	No
	France	No
	Germany	Yes, unfit
	Italy	Yes, unfit
	Poland	No
	Portugal	No
	Spain	No
	Switzerland	No
	UK*	No
Asia	Japan	Yes, unfit
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	Mexico	No
Africa	Uganda	Yes, unfit



FRAMEWORKS FACILITATING ESCO INVESTMENTS

- Accounting and taxation rules

- E.g. Spain reduction of VAT for energy supply to 5% but 21% for service (ESCO) in the residential sector
- On- or off-balance sheet rules, e.g. ESCO project finance must be on-balance sheet in Mexico and Korea.
- Important to not disincentivize EPC through taxation and accounting rules
- Allow for ESCO finance as off-balance sheets for clients

Region	Country	Taxation rules and financing definitions
Europe	Belgium	In Progress
	Czech Republic	Yes
	France	Yes
	Germany	Yes
	Italy	No answer
	Poland	Yes
	Portugal	No
	Spain	No
	Switzerland	No
	UK*	No
Asia	Japan	Yes
	Republic of Korea	No
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HIGHLIGHTS

ESCO Specific

Fit-for-purpose definition of ESCO

ESCO accreditation system

ESCO model contracts

ESCO aggregator schemes

Non-ESCO Specific

Energy audit schemes

Charges based on consumption

Clear mandates

Procurement and contract duration

Facilitating investments

Access to government finance

Alleviate payment and performance risk

Taxation and accounting rules

REGULATORY BARRIERS AND THE ROLE OF ESCO ASSOCIATIONS



Timothy D. Unruh
Executive Director

