

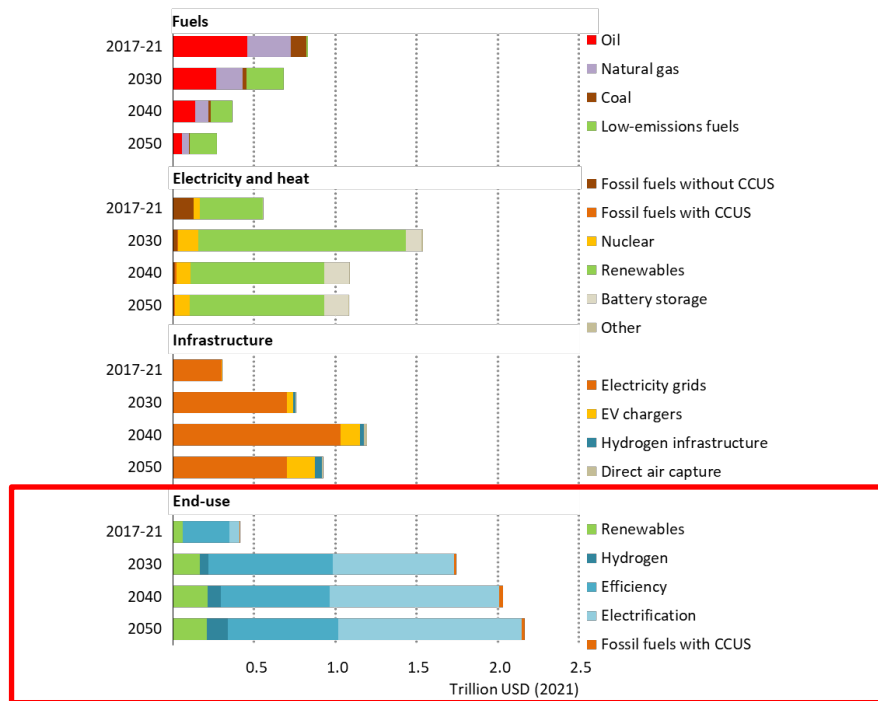


International Best Practices for ESCO approaches

Melanie Slade, Programme Manager, Energy Efficiency in Emerging Economies (E4) Programme, IEA
EELA Stakeholder Forum, 30.03.2023

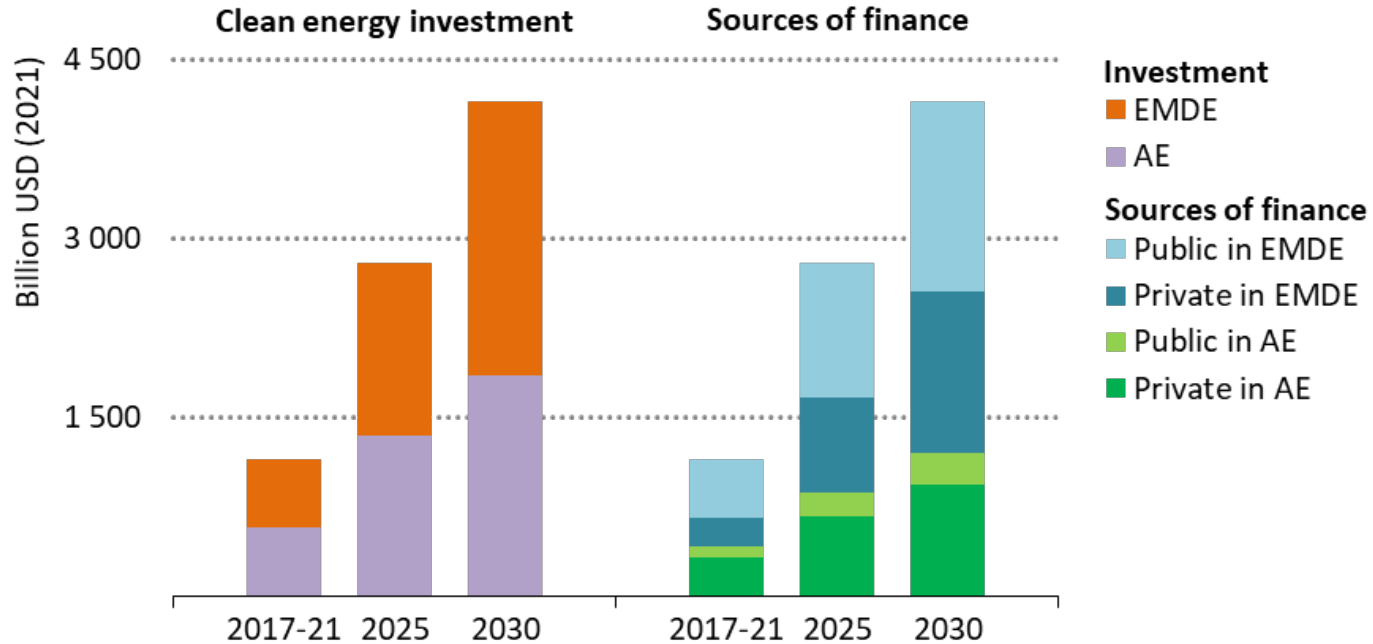
Investment needed to drive a Clean Energy Transition

Global average annual energy investment by sector and technology in the NZE Scenario



Investment increases rapidly in electricity, infrastructure and end-use sectors; fossil fuel investments decrease and low-emissions fuel investments increase

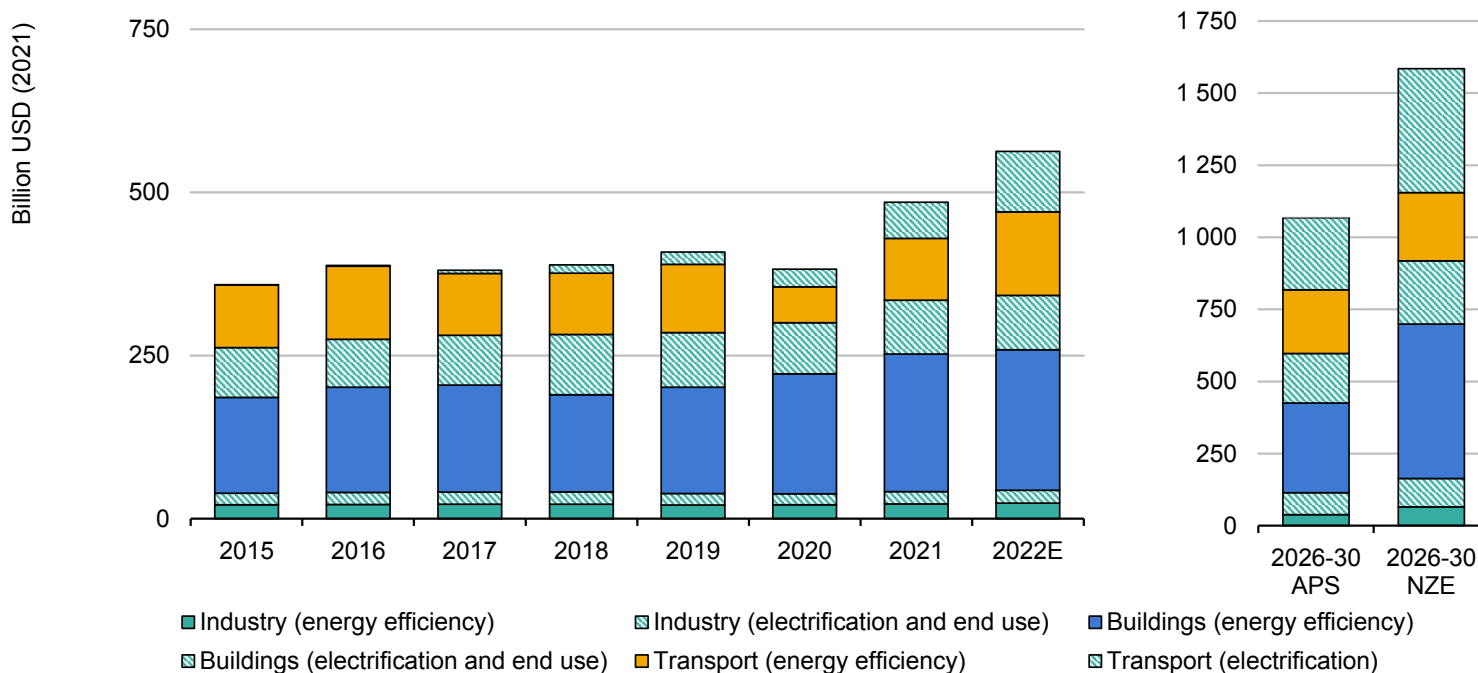
Clean energy investment and sources of finance in the NZE Scenario to 2030



Reaching the NZE Scenario investment levels requires a larger contribution from private finance than seen today, particularly in emerging market and developing economies

Global efficiency-related investment rose significantly in 2021

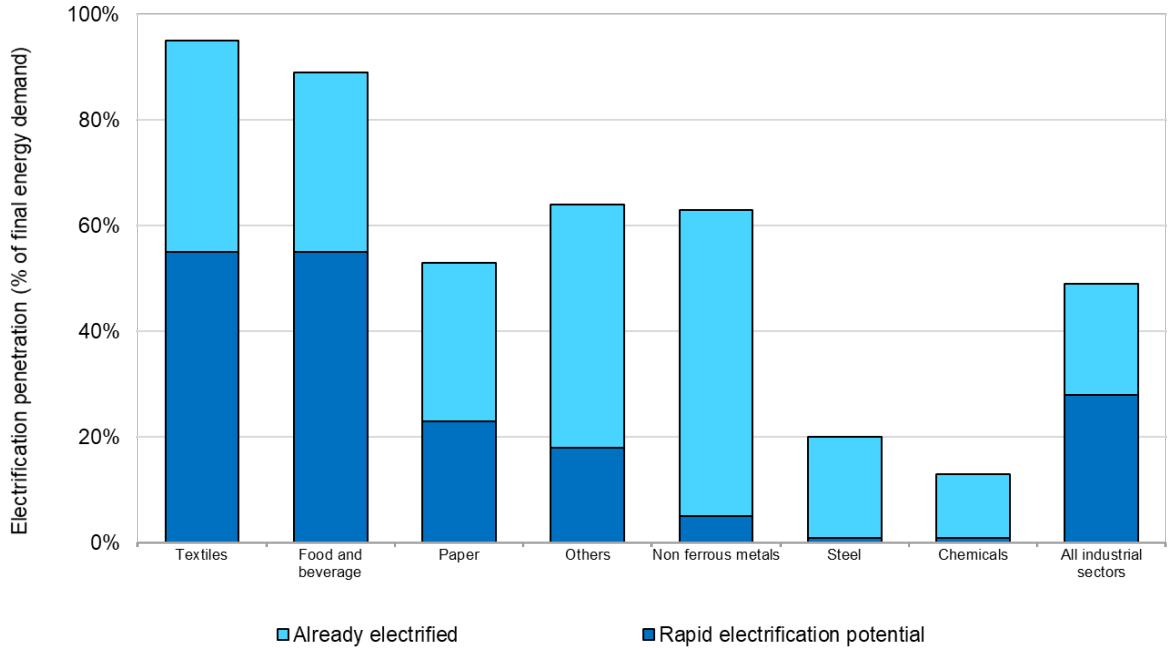
Energy efficiency investment, 2015-2022 and average annual investment needs 2026-2030 by scenario



After continued stagnation, global investment in energy efficiency, electrification and renewables for end uses reached new highs in 2021, and was expected to rise by another 16% in 2022

Light industry offers particularly large opportunities for rapid electrification

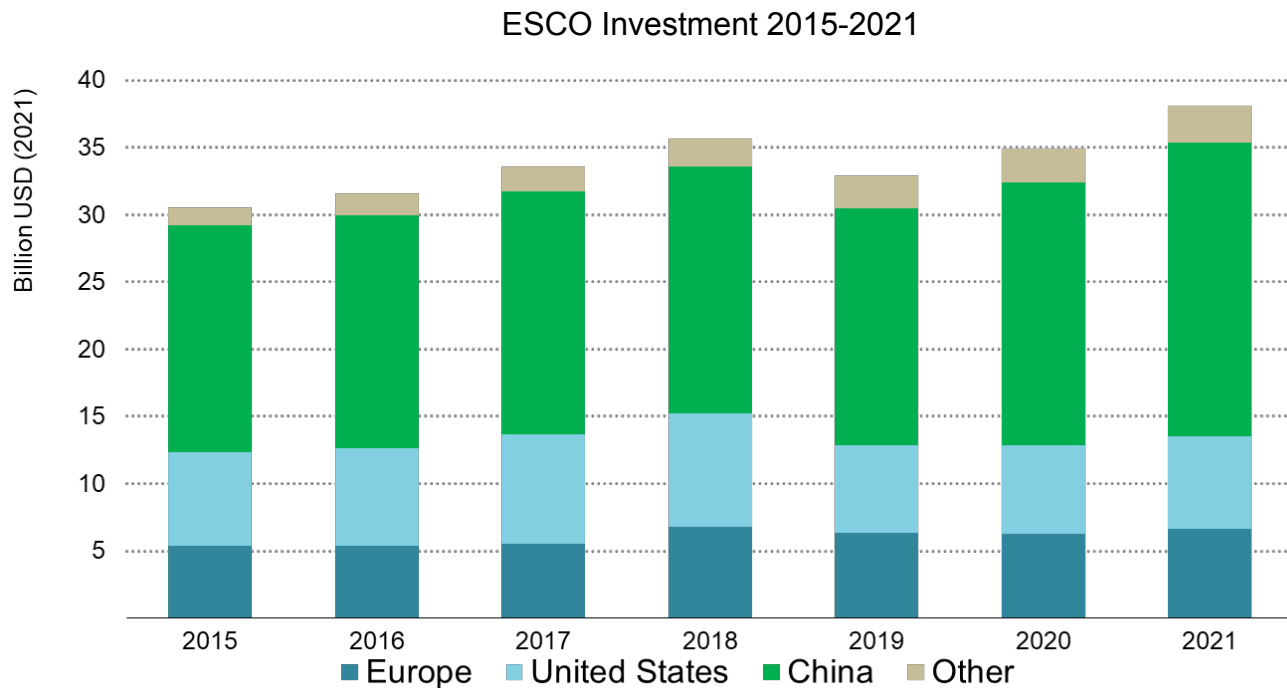
Potential for rapid electrification of industry in Europe



Largest savings are achievable through process integration of electrified equipment, digital performance monitoring and operational controls

- Technology Lists
- ESCOs and Super-ESCOs
- Energy Savings Insurance Schemes

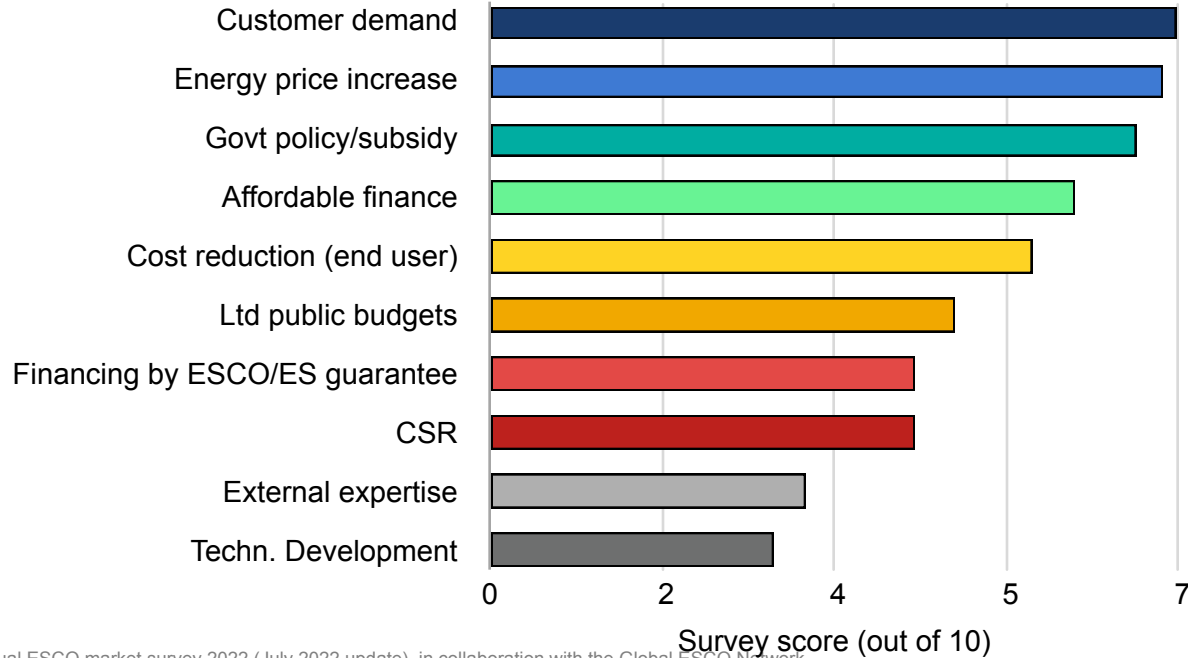
ESCO Market on an upwards trend



IEA (2022). World Energy Investment 2022; source: IEA calculations and estimations based on IEA annual ESCO market surveys (2022 in collaboration with the Global ESCO Network)

The buildings sector dominates, with industry at 20% to 30% of most markets and very little activity in the transport sector although vehicle electrification offers new opportunities

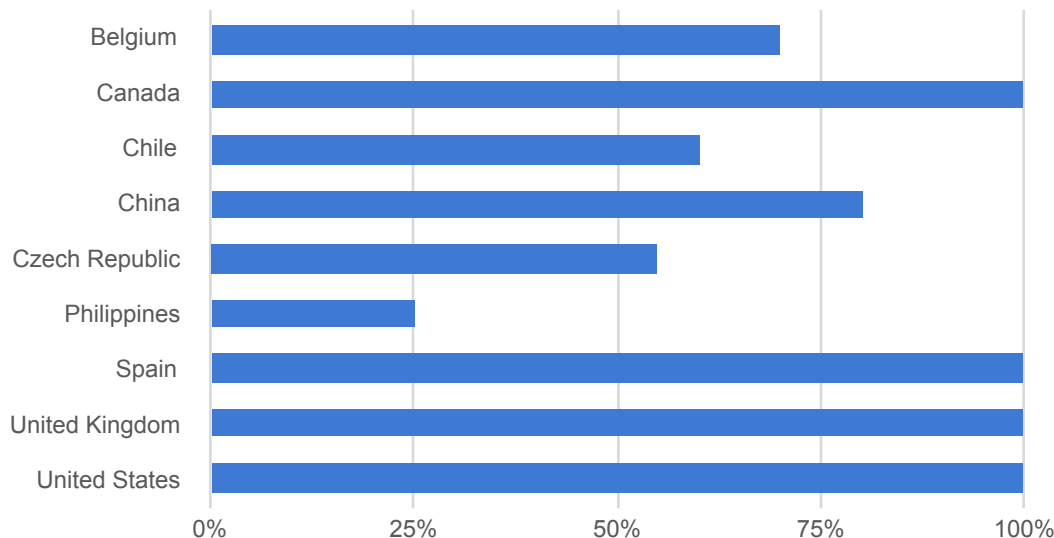
Major drivers for ESCO market growth



IEA (2022). Source: IEA annual ESCO market survey 2022 (July 2022 update), in collaboration with the Global ESCO Network

The current energy crisis with high prices and raised attention to energy efficiency holds promise, but also challenges related to supply chain constraints

Estimated application of digital technologies

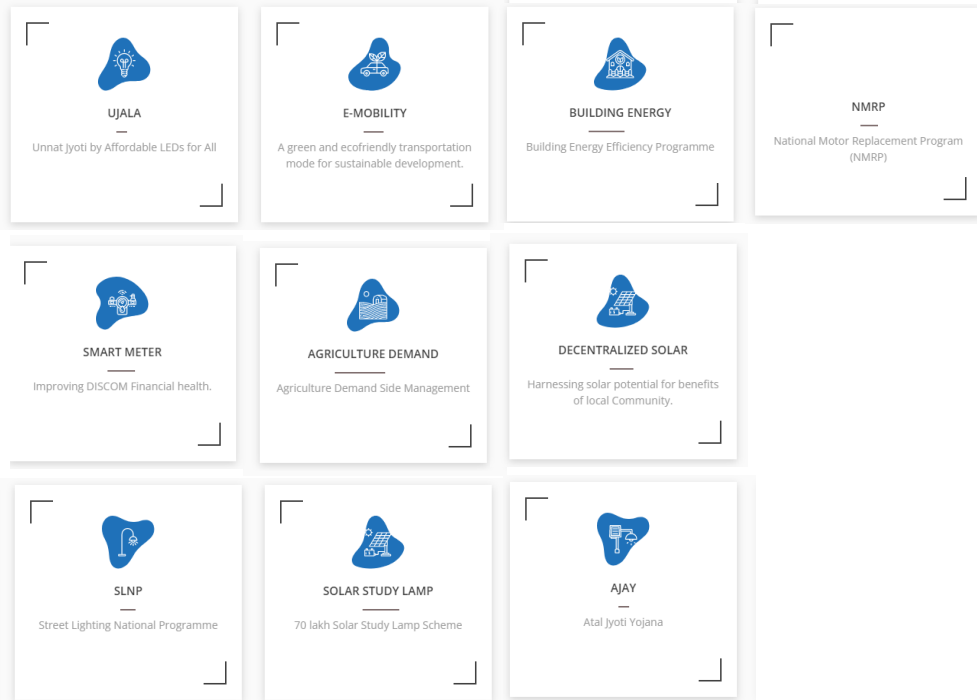


IEA (2022). Source: IEA annual ESCO market survey 2022, in collaboration with the Global ESCO Network

- **94%** agree that digitalisation improved **M&V of energy savings**
- Over 80%
 - registered improved controls
 - were able to identify **new savings opportunities**
- About 65%
 - improved their **customer interactions**
 - identified new business opportunities

Digital technologies are already applied by the majority of the ESCO industry with strong perceived benefits

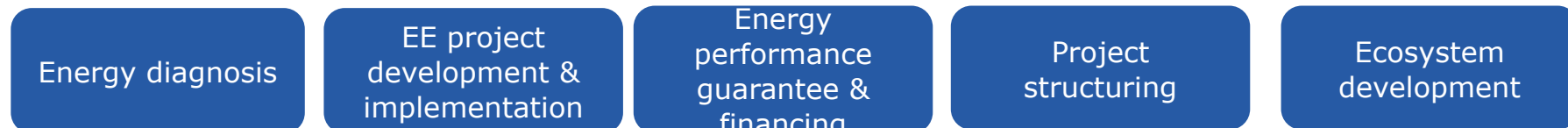
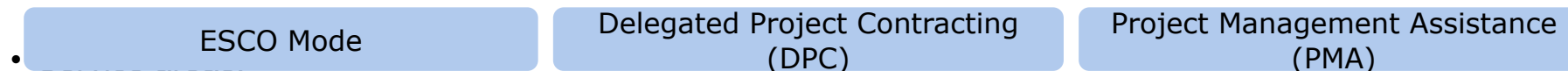
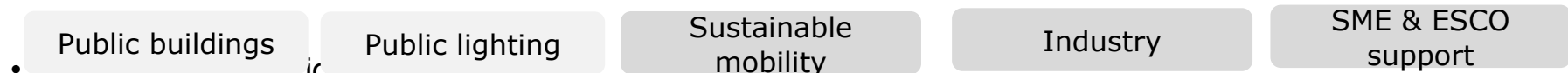
Mission: Enable ecosystems for responsible energy adoption with innovations and market creation approaches



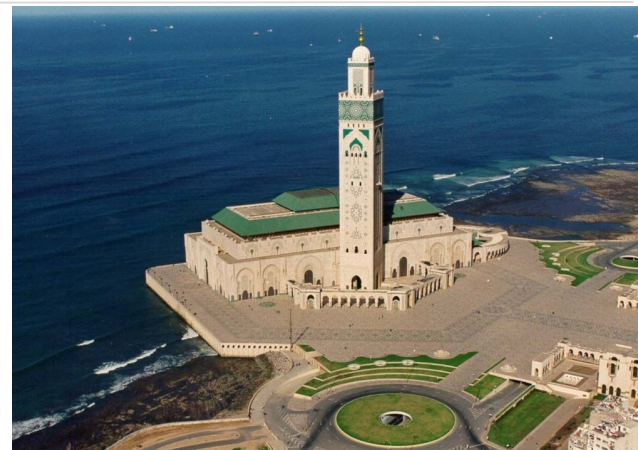
- Founded in 2009
- Promoted by the Indian MoP as a joint venture of four public sector undertakings
- Claims the world's largest non-subsidised EE portfolio
- Business model based on innovation, transformation and transparency
- EESL makes entire upfront investment, applying the Pay-As-You-Save (PAYS) model
- Bulk procurement programmes to leverage economies of scale
- Global presence (UK, Asia-Pacific, Middle East) and international consultancy services

- State-owned energy services company under the supervision of the Ministry of Energy Transition and Sustainable Development founder in 2010
- Mission to sustainably reduce the energy consumption of public and private organisations, while improving their energy performance; contributes to the New Strategic Energy Guidelines aimed at reducing national energy consumption by nearly 20% by 2030

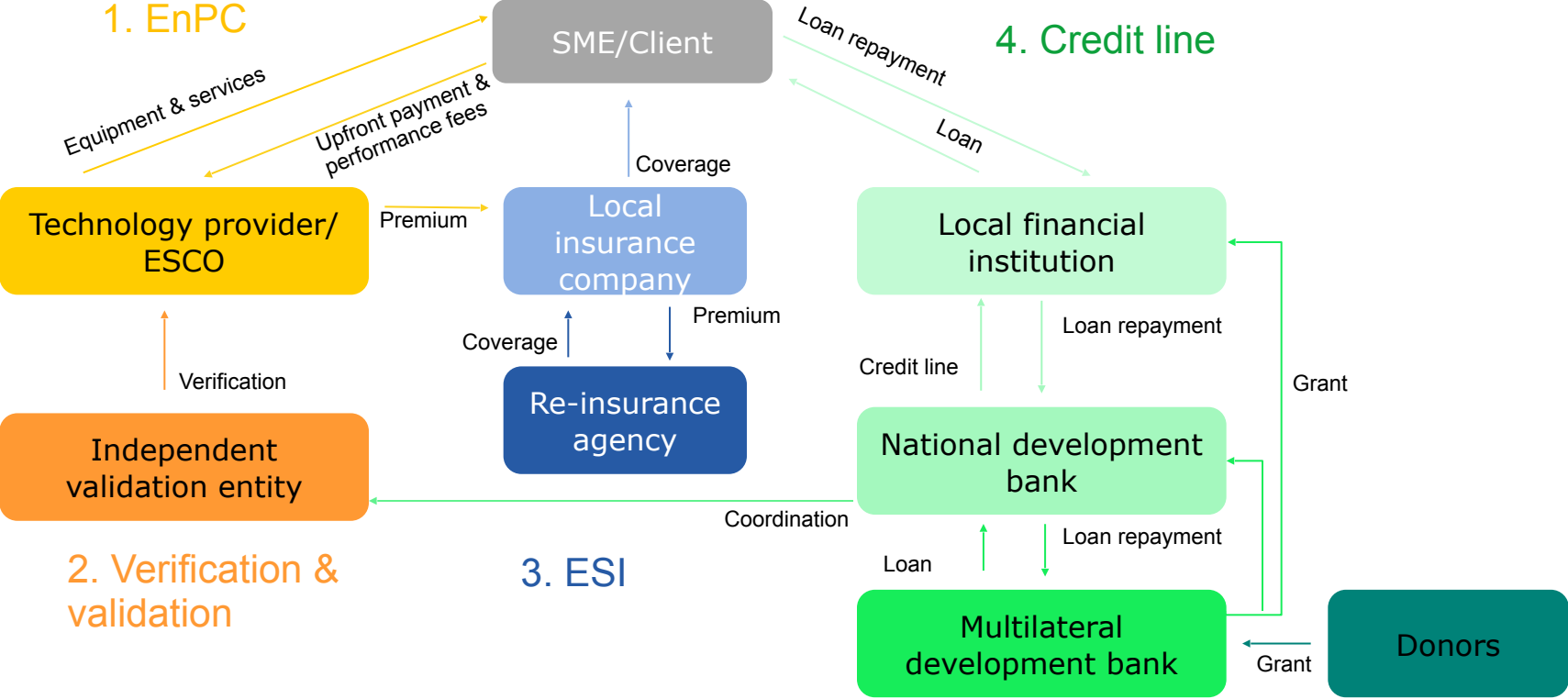
- Key sectors:



- Green Mosques Programme: upgrade and maintain over 50,000 mosques in Morocco
 - Implementation model validated on sets of over 100 mosques each, for projects carried out by SMEs or independent self-employed entrepreneurs
 - Programme under implementation
- Energy Savings Insurance Scheme
- Street Lighting Refurbishment Programme in Marrakech
- Electric Bus Project for Marrakech city
 - Electric trolley buses with solar energy and storage



Energy Savings Insurance (ESI) Model

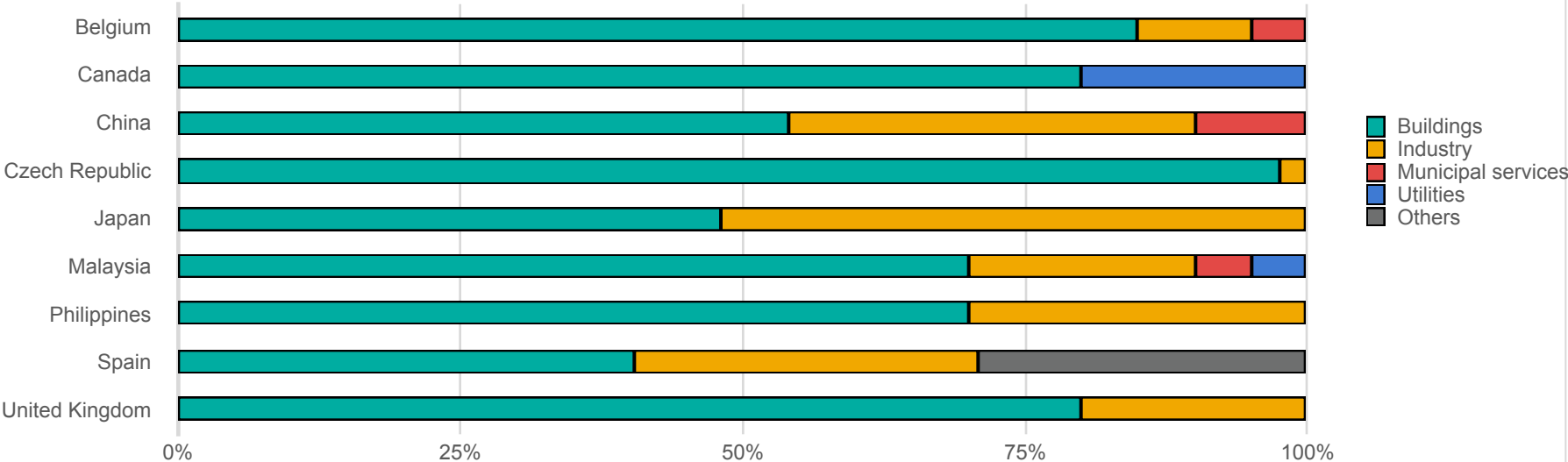


- Canada: SOFIAC private Super ESCO
- Philippines: Climargy private Super ESCO
- Kenya: Started process for the establishment of a Super ESCO run by the Kenya Power and Lighting Company in 2021
- Senegal: announced establishment of a Super ESCO in 2022
- Saudi Arabia: Tarshid
 - Established in 2017 with USD 500 million initial capitalisation
 - Programmes for public buildings, street lighting, government offices, schools and mosques, commercial sector
- UAE: several emirates have operative Super ESCOs e.g. Etihad ESCO, Dubai

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Building sector projects dominate in many economies

ESCO intervention (%) by sector in selected countries



IEA (2022). Source: IEA annual ESCO market survey 2022, in collaboration with the Global ESCO Network

The transport sector is traditionally underrepresented, with vehicle electrification offering new opportunities