



Technical Report

ESCO models for the retrofit of existing buildings in China

GBPN

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The global building sector accounts for approximately 30% of total energy consumption and CO₂ emissions, which translates into approximately 10 billion tonnes of direct and indirect CO₂ emissions using CO₂ emissions data from in 2011. Given this impact, “green building” and energy efficiency renovation strategies of the 12th 5-year plan plays a key role in supporting the Chinese transition to a low carbon economy.

GBPN conducted a study on the factors affecting the use of ESCO models for the retrofit of existing buildings in China. The research focused on best-practice examples of ESCOs globally, and investigated how they could be applied to the Chinese context in order to stimulate the Chinese ESCO market.

The study identified current barriers to the development of the Chinese ESCO market, while also researching best-practice examples of ESCOs globally, and investigating the feasibility of introducing those examples to China. The results of the international research were shared with practitioners in China to assess the implications of international experience for China.

The main barriers identified to the development of the ESCO market for renovated buildings in China include:

- **Insufficient market drivers,**
- **Poor access to finance,**
- **Lack of consistent standards,**
- **Large variance in the quality of ESCO companies due to a low threshold for recognition as an ESCO by the government.**

Despite the many barriers identified, interviews with experts suggest that there is still potential for broad development of the ESCO market. Experts identified the importance of increasing the interest of building owners and operators in improving energy efficiency in order to overcome many of the current challenges.

The report recommends a number of other market stimuli and enablers including compulsory energy consumption standards, improved effectiveness of incentives, improved standards for energy saving measurement and verification, innovative financing guarantee mode and establishment of accreditation mechanisms for energy services companies.

The report concludes that government policies are critical in stimulating the uptake of the ESCO model by providing strong guidance to the market. In China more emphasis is now being placed on the importance of strong building codes and supporting policy packages including awareness raising. These policy reforms are in line with the key policy measures proposed by GBPN in their report ‘Building Energy Efficiency Policies in China’, but there is room for further improvement focusing in particular on stimulating the ESCO market.