STUDY ON THE ISSUES RELATED TO EFFECTIVE IMPLEMENTATION OF ENERGY SERVICE COMPANIES IN SRI LANKA AND ITS IMPACT POTENTIAL TO ENERGY EFFICIENCY

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Degree of Master of Engineering

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DECLARATION

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Prof. R. Attalage

ABSTRACT

Energy Service Companies (ESCOs) business started in Sri Lanka more than a decade ago. However, formal registration of ESCOs in Sri Lanka began with the establishment of Sri Lanka Sustainable Energy Authority (SLSEA) which is the successor of the Energy Conservation Fund. Due to various barriers, growth rate of ESCOs found to be very low compared with some ESCOs in the region. This study was undertaken to identify the root causes of this issue, and to understand the likely market for an ESCO business in Sri Lanka.

According to the findings of the study which involved the active ESCOs, industries and commercial sector organizations and energy experts, major barrier for growth in ESCO business is found to be the low level of data collection in industry and commercial sectors related to their energy systems. This is followed by the unfavorable procurement practices and economic uncertainties in the country which are not directly controllable by ESCOs which shall be a consideration for the policy makers of the country. Due to the lack of mutual trust between ESCOs and their customers, Sri Lanka's ESCOs seem to be caught up in a vicious cycle, which leads to reduced revenue growth of this business. In order to break this vicious cycle, strong government support with necessary policy changes is required. Similar initiatives have been taken in China and many more countries in the world. When comparing Sri Lanka's position in energy efficiency and energy conservation relative to the world's most energy efficient economies based on International Energy Score Card, Sri Lanka's situation can be seen as far from satisfactory.

According to the estimations made, for year 2010, amount of tradable energy which is more related to ESCOs revenue, is around 817,000 toe. With a bare minimum saving of 10% and 5% in industrial and commercial sectors respectively, there is US$50 million (based on 2010 energy prices and exchange rates) potential market for exploitation by an effective ESCO, business. Energy saved by the ESCO business today will have much more value than what is perceived in financial and economic terms when it is seen in a broader perspective of sustainability of the world. Startup ESCOs in a country, if supported by a pool of practical and efficient energy experts who are not entirely dependent on the revenue of ESCOs, will improve the trust between ESCOs' and their customers and it will lead to break the vicious cycle, allowing the ESCO business to exploit the considerable market potential available.

In this context, this study recommends the formation of pilot ESCOs, creation of a guarantee fund and compulsory energy audits for industrial and commercial sectors with sufficient awareness through government support.

ACKNOWLEDGMENT

I express my sincere thanks to Prof. R.A. Attalage, professor of mechanical engineering, University of Moratuwa, my research supervisor, for his guidance and encouragement to enable me to complete this project successfully. I also thank Dr A.G.T. Sugathapala, Course coordinator, MEng/PG Dip in Energy Technology, Department of Mechanical Engineering ,University of Moratuwa for his support during selection of a topic for the research project and onwards.

I am grateful to Mr. M.R. Ranjith , Director Energy Management, Sri Lanka Sustainable Energy Authority for his valuable commitment and kind support delivered to me at every instant required. Also I thanks Mrs. Ushani Epa, executive officer , Sri Lanka Sustainable Energy Authority ,for her dedication to help whenever I requested data from SLSEA to use in my report.

I would like to express my thanks to Mr. A.P. Sampath, Mechanical Engineer, Kelanithissa Power station and most of my batch mates who helped me during the questionnaire survey to get feedback from relevant parties.

The support given by the respondents from ESCOs, Industrial and commercial sector is also much appreciated.

Finally I would like to thank my wife and two children for understanding and making my life and work bearable.

W.H.Wikramarathna

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ABBREVIATIONS

ESCO	Energy Service Company
HVAC	Heat Ventilation and Air Conditioning
ECF	Energy Conservation Fund
EE	Energy Efficiency
EC	Energy Conservation
SLSEA	Sri Lanka Sustainable Authority
CEA	Central Environment Authority
teo	ton of oil equivalent
PUCSL	Public Utilities Commission of Sri Lanka
CFL	Compact Fluorescent Lamp
NEEA	National Energy Efficiency Award
EPC	Energy Performance Contract
EERS	Energy Efficiency Resource Standard
ARRA	American Recovery and Reinvestment Act
SSM	Shared Saving Model
GSM	Guaranteed Saving Model
FI	Finance Institute
TPF	Third Party Financing
CHP	Combine Heat and Power
GHG	Green House Gas
EMS	Energy Management System
SPV	Special Purpose Vehicle
JAESCO	Japanese Association of Energy Service Companies
GEF	Global Environmental Facility
BEE	Bureau of Energy Efficiency