

**FRAMEWORK TO OVERCOME BARRIERS IN
IMPLEMENTING MEGA SOLAR POWER
PROJECTS IN SRI LANKA**

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Declaration

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Abstract

The ultimate goal of this research is to develop framework to overcome barriers for mega solar power projects in Sri Lanka. Sri Lanka being one of the tropical countries with high irradiation, still contributes only 51Mw of solar energy out of total of 4043Mw to fulfil the current demand of electricity. 77% of total energy production being coal and crude oil which causes to flow money out of the country and pollution to take place. Sri Lanka receives approximately $1.2 \times 10^{13} \text{Js}^{-1}$ through solar energy which is 3000 times greater than the current total energy demand in Sri Lanka if all receiving solar energy is utilized.

Solar energy systems are not introduced long ago, but its potential should lead to speedy development and growth of solar industry. There are barriers which cause to slow down the growth of solar industry in Sri Lanka and they are identified through literature survey and refined accompanying expert focus group and classified according to the negative influence of each barrier. Sample mean method and principal component analysis is used to categorize and classify the refined barriers. Solutions were identified to overcome barriers for solar mega projects through interview survey and explained in detail except stating in the framework. Not only barriers, also causes of those identified barriers are revealed and solutions were recognized. Alternatively, negative influences to the project phases by barriers also were considered and influential barriers at each phase have been identified.

Finally, framework is developed to overcome barriers of mega solar power projects in Sri Lankan context identifying barriers, causes of barriers for solar mega projects and developing solutions to overcome those negatively influenced barriers to speed up the growth of solar industry

Key Words - Solar, Barriers, Solutions, Framework

Dedication

This thesis is dedicated to my loving mother who strengthens me in all endeavours and supports me in each and every segment of my life.

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Table of Contents

Title Page.....	i
Declaration.....	ii
Abstract.....	iii
Dedication.....	iv
Acknowledgement.....	v
1. INTRODUCTION	1
1.1. PROBLEM STATEMENT	3
1.2. AIM.....	3
1.3. OBJECTIVES	4
1.4. RESEARCH METHODOLOGY	4
1.5. SCOPE AND LIMITATIONS.....	5
1.6. CHAPTER BREAKDOWN	5
2. LITERATURE REVIEW.....	7
2.1. INTRODUCTION	7
2.2. RENEWABLE ENERGY VS NON-RENEWABLE ENERGY	8
2.3. SCARCITY OF NON- RENEWABLE SOURCES.....	9
2.4. INCREASING POTENTIAL FOR RENEWABLE ENERGY.....	10
2.4.1. Potential for renewable Energy in Sri Lanka	11
2.5. SOLAR ENERGY	12
2.5.1. Potential for Solar Energy in Sri Lanka	12
2.5.2. Current Solar projects and usage in Sri Lanka	16
2.6. SOLAR POWER PROJECTS CLASSIFICATION.....	18
2.7. BARRIERS AND ISSUES FOR SOLAR POWER PROJECTS	18
2.7.1. Non-Technical & institutional barriers for solar mega projects.....	19
2.7.1.1. Legal and policy barriers.....	19
2.7.1.2. Environmental and Social Barriers	22
2.7.1.3. Economical Barriers	26
2.7.1.4. Institutional barriers	29
2.7.1.5. Political barriers	31
2.7.1.6. Infrastructural barriers	32
2.7.1.7. Management barriers.....	33
2.7.2. Barriers for solar power mega projects in Sri Lanka.....	34

2.7.3. glossary of Barriers Identified for mega solar power projects	37
2.8. BARRIERS FOR MEGA SOLAR PROJECTS AND PROJECT MANAGEMENT	40
2.9. SUMMERY	40
3. RESEARCH METHODOLOGY	41
3.1. INTRODUCTION	41
3.2. RESEARCH PROCESS	41
3.3. RESEARCH APPROACH	43
3.4. RESEARCH STRATEGY	43
3.5. RESEARCH TECHNIQUES.....	44
3.5.1. Data collection techniques	44
3.5.1.1. Preliminary Survey	45
3.5.1.2. Questionnaire survey.....	47
3.5.1.2.1. Target population	48
3.5.1.2.2. Sample selection.....	48
3.5.1.2.3. Sample size.	49
3.5.1.2.4. Questionnaire design	50
3.5.1.2.5. Conducting the questioner survey.....	51
3.5.1.3. Interview survey	51
3.5.1.3.1. Selection of interviews	52
3.5.1.3.2. Interview guidelines design	53
3.5.1.3.3. Conducting the interview survey	53
3.5.2. Data analysis.....	54
3.5.3. Analysis for the questionnaire survey findings	54
3.5.3.1. Mode	54
3.5.3.2. Mean	54
3.5.3.2.1. Categorizing of factors according to its negative influence	55
3.5.3.3. Principal component analysis	56
3.5.3.3.1. Eigen value.....	58
3.5.3.3.2. KMO and Bartlett's test	58
3.5.4. Analysis for interview survey findings	59
3.6. SUMMERY.....	59
4. DATA ANALYSIS AND FINDINGS.....	60
4.1. ANALYSIS OF QUESTIONNAIRE SURVEY DATA	60
4.1.1. Capability of implementing solar mega projects in SL context.....	60
4.1.2. Solar energy against non-renewable energy	61
4.1.3. Solar energy against renewable energy	62
4.1.4. Satisfaction of current solar usage.....	63
4.1.5. Suitability of solar in SL context	64

4.1.6. identifying negatively influencing factors for mega solar projects	65
4.1.6.1. Initial stage.....	65
4.1.6.1.1. Reliability of influential barriers in Initial stage	67
4.1.6.2. Design stage	71
4.1.6.2.1. Reliability of influential barriers in design stage	73
4.1.6.3. Implementation stage	76
4.1.6.3.1. Reliability of influential barriers in implementation stage.....	78
4.1.6.4. Follow up stage.....	82
4.1.6.5. Summery.....	84
4.1.6.6. Configuring importance of phases.	85
4.1.6.6.1. Initial stage	86
4.1.6.6.2. Design stage	87
4.1.6.6.3. Implementation stage	88
4.1.6.6.4. Follow up stage.....	89
4.1.6.6.5. Categorizing of phases according to its negative influence by barriers	90
4.1.6.7. Identifying causes for barriers of solar mega projects.....	91
4.1.6.8. Demand for solar in SL context	92
4.2. ANALYSIS OF INTERVIEW SURVEY	93
4.2.1. public regulatory policies and lack of framework of land securement.....	93
4.2.2. Grid connection constraints.....	96
4.2.3. Lack of cooperation and coordination among involved authorities	97
4.2.4. Time consuming legal approval mechanism	99
4.2.5. High maintenance and repair cost	101
4.2.6. Rigidity of construction and design policies for solar projects	102
4.2.7. Lack of grid capacity.....	103
4.2.8. Lack of information and research institutions.....	104
4.2.9. Lack of political stability and commitment.....	106
4.2.10. lack policy barriers for market entrance	107
4.2.11. Lack of policies and legal environment to maintain the quality of solar technology	108
4.2.12. High capital cost or investment.....	109
4.2.13. High transmission cost	111
4.3. CLASSIFYING CAUSES FOR BARRIERS	112
4.4. SOLUTIONS FOR BARRIERS AND CAUSES OF BARRIERS	116
4.4.1. Solutions for barriers.....	117
4.4.2. Solutions for causes of barriers	123
4.4.2.1. Suggestions for future mega solar projects	130
4.4.2.1.1. Hybrid solar systems	130
4.4.2.1.2. Nanotechnology in to solar.....	131

4.4.2.1.3. Solar systems in cooperated with battery or capacitor.....	131
4.5. DISCUSSION.....	132
4.6. FRAMEWORK.....	138
5. CONCLUSIONS AND RECOMMENDATIONS	141
5.1. CONCLUSION	141
5.2. RECOMMENDATIONS.....	143
6. REFERENCES	145
7. APPENDIX	155
7.1. APPENDIX A.....	155
7.1.1. Appendix A- 1: Preliminary questionnaire	155
7.1.2. Appendix A -2: Questionnaire	159
7.1.3. Appendix A -3: Interview Giudelines	164
7.2. APPENDIX B.....	170
7.2.1. Figure (B) 4.1: mean for each non-renewable source vs solar	170
7.2.2. Figure (B) 4.2: mean for each renewable source vs solar	170
7.2.3. Figure (B) 4.3: Stats of each factor at initial stage	171
7.2.4. Figure (B) 4.4: Stats of each factor at design stage.....	172
7.2.5. Figure (B) 4.5: Stats of each factor at implementation stage.....	173
7.2.6. Figure (B) 4.6: Stats of each factor at implementation stage.....	174

List of Figures

Figure 2.1: Progress of renewable compared to non renewable energy sources	10
Figure 2. 2:Potential for some of the major renewable sources.....	11
Figure 2.3: CO ₂ emission due to liquid fuel in Sri Lanka from 1960 to 2013	14
Figure 2.4: Renewable energy source potential in Sri Lanka.	16
Figure 3.1: Reserch process.....	42
Figure 4.1: Scree plot for the factors considered at initial stage.....	68
Figure 4.2: Scree plot for the factors considered at design stage.....	73
Figure 4.3: Scree plot for PCA at implementation stage.....	78

List of Graph

Graph 4.1: utilization of solar as preferred percentage	92
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