

Contents

Chapter 1	15
1.1 Relevance and Motivation	15
1.2 Contribution to Research	16
1.3 Statement of Contribution	19
Chapter 2	20
2.1 Introduction	21
2.2 Background and Study Design	24
2.2.1 Context	24
2.2.2 Intervention	25
2.2.3 Experimental Design	26
2.2.4 Estimation Strategy	31
2.2.5 Data	32
2.3 Energy and Light Use at Baseline	33
2.4 Reducing Emissions	35
2.5 Increasing Energy Access	41
2.5.1 Effects of Subsidies on Demand and Use	48
2.6 Robustness Checks	52
2.6.1 Attrition	52
2.6.2 Multiple Hypothesis Testing	53
2.6.3 Spillovers	53
2.7 Conclusion	56
2.8 Appendix	59
Chapter 3	74
3.1 Introduction	75
3.2 Study Design, Technology, and Data	80
3.3 Use of Solar Lights	86
3.4 Comparing Survey and Sensor Data	90
3.4.1 Averages from Sensor and Survey Data are Similar	92
3.4.2 Frequent Users Underreport - Infrequent Users Overreport	92
3.4.3 Intense Monitoring Temporarily Increased Use	95
3.4.4 Time Diary Questions vs. Aggregated Questions	96
3.4.5 Precision Gains with Sensor Data	99
3.5 Conclusion	102
3.6 Appendix	105

Chapter 4	116
4.1 Introduction	117
4.2 Study Design and Data	122
4.3 Results	126
4.3.1 Direct Effects of Subsidies on Demand and Use	126
4.3.2 Indirect Effects of Subsidies on Demand	128
4.4 Conclusion	135
4.5 Appendix	138
Chapter 5	143
5.1 Findings and contributions to the literature	143
5.2 Potential pathways for future research	146