

## CONTENTS

		Page
<b>Chap. 1</b>	<b>Introduction To Solar – Electrics</b>	
	1-1 World Energy Situation	2
	1-2 United States Energy Situation	13
	1-3 Solar – Our Major Inexhaustible Energy Income	29
	1-4 Electricity : A Vital Energy Form	49
	1-5 Solar – Electrics – A Part of Larger Solar and Electric Energy Technologies	69
	1-6 Dispersed Vs Centralized utilization	78
	1-7 Multiple Conversions - - A Recurring Principle	89
<b>Chap. 2</b>	<b>Direct Solar – Electrics</b>	
	2-1 Introduction	99
	2-2 Prior Photovoltaic Methods	119
	2-3 Present Art and Problems Being Addressed	129
	2-4 Site Selection Considerations	143
	2-5 System Integration of Photovoltaics	147
	2-6 Economic Aspects	179
	2-7 Barriers to Photovoltaic Integration	184
	2-8 Future R&D Needed For Integration	186
<b>Chap. 3</b>	<b>Wind – Electrics</b>	
	3-1 Introduction	211
	3-2 Wind and the Atmosphere	211
	3-3 Maximum Energy Via Wind-Electrics	213
	3-4 Site Selection Considerations	215
	3-5 Basics of Wind Energy Conversion	223
	3-6 Prior Wind-Electrics Methods	237
	3-7 Present Art	243
	3-8 System Integration of Wind-Electrics	247
	3-9 Economic Aspects of WECS	259
	3-10 Environmental Aspects of WECS	260
	3-11 Barriers To Wind-Electric Integration	262
	3-12 Future R&D Needed for Integration	264
<b>Chap. 4</b>	<b>Energy Storage</b>	
	4-1 Introduction	277
	4-2 Prior and Present Art of Energy Storage Methods	280
	4-3 System Integration of Energy Storers	320
	4-4 Economics	322
	4-5 Future R&D Needed for Integration of Energy Storers	324
<b>Chap. 5</b>	<b>System of Solar – Electrics</b>	
	5-1 Systems of Direct Solar-Electrics	348
	5-2 Systems of Wind-Electrics	348
	5-3 Systems of Solar-Electric Vehicles	350
	5-4 Integration of Solar-Electrics Into Existing Energy Systems	355
	5-5 Economics	361
	5-6 Barriers to Solar-Electrics Systems Integration	362
	5-7 Future R&D Needed for Systems Integration	364
<b>Index</b>		<b>369</b>