

CONTENTS

About This Book	ix
Preface	xi
Foreword by Marvin Odum (President, Shell Oil Company)	xv
Foreword by John W. Rowe (Chairman and CEO, Exelon Corporation)	xvi
1. DEFOSSILIZING FUELS	xx
The True Cost of Oil Addiction	3
Oil and Insecurity	5
Coal's Hidden Costs	6
Turning the Supertanker	8
Lighting the New Fire	9
No Miracles Required	12
2. TRANSPORTATION: FITTER VEHICLES, SMARTER USE	14
Designing and Building Autos Differently	17
Using Autos More Productively	42
The Rest of the Story: Beyond Automobiles	49
Powering Vehicles with Cleaner Energy	62
Conclusion: Better Mobility at Lower Cost without Oil	69
3. BUILDINGS: DESIGNS FOR BETTER LIVING	76
Understanding Today's Building Quagmire	82
The Efficiency Revolution: What's Profitable and What's Possible	86
The Conundrum and the Challenge	103
Solving the Efficiency Puzzle	105
Conclusion: More Comfort, More Productivity, Less Energy, Stronger Economics	117

4. INDUSTRY: REMAKING HOW WE MAKE THINGS	122
How the Industrial Jungle Drives U.S. Energy Demand.....	128
Viewing Industry through the Efficiency Lens.....	133
How Much More Productive Can Industry Become?.....	144
Transforming the Industrial Jungle.....	155
Conclusion: Competitiveness through Radical Energy Productivity	158
5. ELECTRICITY: REPOWERING PROSPERITY	164
Imagining the Next Electricity System.....	167
<i>Maintain</i> : The Elusiveness of “Business-as-Usual”	171
<i>Migrate</i> : The Conventional Approach to “Carbon-Free” Electricity	180
<i>Renew</i> : Tapping Nature’s Inexhaustible Energy Sources.....	187
<i>Transform</i> : A Seismic Shift in Scale	202
Four Cases, One Broad Direction	211
How Do We Get There from Here?	217
Conclusion: The Path Forward	222
6. MANY CHOICES, ONE FUTURE	226
Looking Back from 2050.....	229
How Can Reinventing Fire Evolve Smoothly?.....	232
How Do We Seize the 2050 Prize?.....	246
Kindling the New Fire.....	250
Acknowledgments	252
About the Authors	258
About Rocky Mountain Institute	263
Other Publications by Rocky Mountain Institute	265
Figure Credits	266
Notes	267
References	289
Index	322