

Contents

Acknowledgments	ix
1. The Lens of Upfront Carbon	1
What Are Upfront Carbon Emissions and Why Are They Important?	5
Why We Are Fixated on Energy, Not Carbon	9
Carbon Takes Command	11
The IPCC Does Not Say We're Doomed	14
OK Doomer	17
The Building Industry and Upfront Carbon	21
The Carbon Footprint of Everything	23
The Unbearable Heaviness of Carbon	28
Transparency from Shoes to Motorcycles	29
The Future We Want: Supply vs Demand	31
Dematerialization and Degrowth	34
Enjoy the Ride with Demand-Side Mitigation	39
Why Sufficiency Is the Solution.	42
2. Strategies for Sufficiency	47
Materiality: Build Out of Sunshine	48
Ephemerality	60
Frugality.	65
Simplicity	68
Flexibility	70
Circularity.	73
Universality	77
Resiliency	79
Satiety or Enoughness	81
Electricity	83
Intermittency	88
Operating Efficiency	93

Design Efficiency	96
Inequality, Inequity, and Justice	99
3. Stuff	103
The Single-Use Coffee Cup	104
From the Two-by-Four to Mass Timber to a Block of Flats	107
The Block of Flats	115
The Folly of Foam Insulation	121
The Heat Pump	124
The Puffer Jacket	127
The Hamburger	131
The Car	137
The E-Cargo Bike	142
4. Everything Connects	149
A Prosperous Ascent	151
Conclusion	161
Appendix A: Cheat Sheet:	
A Short Guide to Sufficiency	165
Notes	167
Index	173
About the Author	181
About New Society Publishers	182