

Chapter 1 — Noah's Ark.....	1
Noah	4
Personal Background	6
CO ₂ Emissions Chart	9
Oil — The Magic Fuel	12
Green Energy.....	12
A New World	17
Organization of this Book.....	19
The Missing Happy Chapter	21
Chapter 2 — An Opportunity for Leadership.....	27
The Parable of the Inheritance	28
Isaiah (8 th century BCE)	29
Numbers and Terminology	30
Very Large Numbers	32
Units of Measurement.....	32
Energy and Power.....	32
Paradoxes	34
Jevons Paradox.....	34
The Renewables Paradox.....	35
The Carbon Capture Paradox.....	36
Caution	36
Predicaments — Not Problems.....	40
Limits to Growth.....	41
Three Guidelines	45
Understand Physical Realities.....	45
Accept and Adapt.....	46
Live Within Gaia	47
Today's Church.....	48
Where Is God In All This?	49
Chapter 3 — A Journey.....	51
Jeremiah (7 th Century BCE)	53
The Parable of the Blind Golfers	52
A Chemical Engineer's Journey	53
All Disciplines.....	56
Two Cultures	56
Engineers.....	57
Church Leadership	58
The Journey.....	58
Step 1: The Machine Stops.....	59
Step 2: Entropy: Into the Greenhouse World	60
Step 3: Twilight in the Desert.....	61
Step 4: The Hubbert Peak	62
Step 5: Sustainable Growth — An Oxymoron.....	65

Step 6: No Brighter Future	66
Step 7: City of God	67
Step 8: Light Bulbs.....	68
Step 9: The Ladder of Awareness.....	69
Step 10: Laudato Sí.....	70
Chapter 4 — The 300-Year Party.....	75
The Parable of the Reindeer	76
Thomas Newcomen (1664-1729).....	77
The Party Starts	77
Deforestation	78
Coal and Steam Power.....	80
Information Technology.....	83
The Party Ends.....	85
World Views	86
Medieval World View.....	86
Scientific World View.....	87
Schrödinger's Cat	87
The Parable of the Reindeer Continued.....	88
Chapter 5 — The City of Man.....	91
The Parable of the Red Queen.....	93
Augustine of Hippo (354-430).....	94
Thermodynamic Limits.....	95
First Law	96
The Second Law	96
The Third Law / Zeno's Paradox.....	100
Energy Returned on Energy Invested (ERoEI)	101
Nine Pounds of Gold	102
Defining ERoEI.....	103
The Energy Cliff	104
The Tragedy of the Commons.....	106
Natural Resources	107
Minerals	108
Fresh Water.....	109
Climate Change	109
The Greenhouse Effect	109
Intergovernmental Panel on Climate Change.....	111
The IPCC 1.5°C Report.....	113
Conferences of the Parties (COPs).....	114
Net Zero by 2050.....	115
Causes of Climate Change.....	120
Historical Understanding	121
Methane.....	123
Tipping Points.....	123

Time	124
Natural Carbon Capture.....	124
Environmental.....	126
Ecosphere Destruction.....	126
Population	128
Economics	132
Growth	132
Usury	133
The Consequences	134
The Uninhabitable Earth	135
Six Degrees.....	136
Deep Adaptation.....	138
Decline and Collapse	139
Causes of Decline	142
Catabolic Collapse.....	143
Chapter 6 — Exile	147
The Parable of Ozymandias.....	148
John Shelby Spong (1931-2021).....	148
Climate Exile	151
A Church in Decline	152
OK Boomer	154
Hope with Patience	159
Fatalism.....	159
The Slough of Despond	161
Hoplism.....	163
Realistic Hope	163
Denial	166
Stages of Climate Denial	168
Types of Denial	168
Honest Denial.....	169
Malicious Denial.....	170
Individualism / Tribalism.....	171
Bright Green Denial / Greenwashing.....	172
Don't Want to Think About It	172
Priorities	173
Responding to Denial	174
Climate Science	176
Liberal Thinking	178
Increasing Awareness	180
Story-Telling	182
Humor	184
A Changing Perception.....	184
Chapter 7 — Green Technology to the Rescue	187

The Parable of the Wine Vat.....	188
Al Gore (1948-).....	189
The Energy Grid.....	192
Oil	195
BioFuels	197
Hydroelectric.....	198
Nuclear Power.....	198
Solar.....	199
Photovoltaic	199
Thermal	200
Wind	200
Hydrogen.....	200
Other Energy Sources.....	201
Small Modular Reactors.....	201
Thorium Reactors.....	202
Nuclear Fusion	202
Cold Fusion.....	202
Geothermal	203
Wave / Tidal	203
Realities	203
Going First Subsidy.....	204
Scalability	206
Project Resources	209
Infrastructure	209
Regulations.....	210
Political.....	210
Systems	211
Complexity	211
Broken Supply Chains.....	211
No Technological Fix	212
Unknown Unknowns.....	213
Resilient Systems	216
Petrochemicals.....	216
Intermittent Energy	218
Progress to Date.....	219
Energy Storage	221
Carbon Capture and Storage.....	222
Abiotic Carbon Capture.....	222
Biotic Carbon Capture.....	223
Iron Dust.....	223
Thermodynamic Limits.....	224
Today's Reality	224
Carbon Markets.....	224
Geoengineering.....	225

Chapter 8 — Toward a New Theology.....	227
The Parable of the Green Factory	228
Francis of Assisi (1181-1226).....	229
Semper Reformanda	229
Christianity and	230
Truth.....	231
Prophecy	234
Ethics	238
Elements of Theology.....	240
Biblical Theology	242
Scriptural Accuracy	242
Relevance to the Modern World	243
Human Dominance	244
Historical Theology.....	244
Augustine of Hippo	244
Gregory I and Monasticism.....	245
Luther and the Printing Press	246
Dogmatic Theology	247
Practical Theology	247
The Celtic Tradition	248
Policy and Mission Statements	249
Episcopal Policy Statement.....	253
The 'Green Bishops' Mission Statement.....	249
Episcopal Mission Statement.....	251
Interfaith Mission Statement.....	253
Faith in a Changing Climate Mission Statement.....	255
Elements of a New Theology.....	256
Climate Change as a Value.....	256
Multi-Discipline	257
Quantification	257
Stoicism	259
Sacrifice	261
Non-Establishment	262
Puritanism	262
Old-Fashioned Language.....	264
Confusion of Purpose.....	266
Theologians — One Funeral at a Time.....	267
Social Justice.....	267
Slavery and Energy.....	268
The Laptop Class	271
Gaia	273
Ecotheology.....	275
Chapter 9 — The Once and Future Church	277

The Parable of the Church Kitchen	278
Benedict of Nursia (c. 480-c. 547).....	279
The Opportunity.....	280
The Emergent Church	281
Lessons from the Pandemic.....	283
Yesterday's Priorities	285
Bold Action.....	285
Leaving The Church of Material Progress	286
Response	287
Humility.....	289
Repentance	290
Simpler Life	291
Walk the Talk	291
From the Pulpit	292
Types of Response.....	293
Institutional Change	294
Local Community / The Parish	295
Sharing Grief	296
Remembrance of Things Past	297
Community Gardens	298
Personal Action	299
Monasticism	300
Chapter 10 — The Three Guidelines	303
John of Patmos.....	304
1. Understand Physical Realities	305
2. Accept and Adapt.....	305
3. Live within Gaia	306
Where Is God In All This?	308
Plant a Tree	310
The Canticle of the Sun	310
Conclusion	312
Citations	313
Index.....	320