Figures

1.1	Yearly number of articles in selected UK national newspapers related to	
	climate change	page 2
1.2	Basic elements of socio-technical systems	6
1.3	Three ontological dimensions of socio-technical systems	9
1.4	Multi-Level Perspective on socio-technical transitions	11
1.5	Indexed CO ₂ developments of major developed economies, 1990–2019	16
1.6	UK domestic GHG emissions, 1990–2019	17
2.1	Diffusion as a process of niche-accumulation	26
2.2	Configurational dimensions of incumbent actor groups	36
4.1	Schematic representation of the material elements and flows in the	
	electricity system	58
4.2	Greenhouse gas emissions from power stations in MtCO ₂ , 1990–2019	58
4.3	Relative contribution of UK electricity industry to Gross Value Added	
	and number of jobs, 1980–2019	60
4.4	Electricity supplied by fuel type in TWh, 1980–2019	60
4.5	UK electricity price index in real terms for industrial and domestic sectors,	
	1970–2019	61
4.6	Average prices of fuel inputs purchased by the major UK power producers,	
	1993–2019	62
4.7	UK coal production, imports, and employment, 1970–2019	63
4.8	UK natural gas production, net imports, and net exports, 1970–2019	63
4.9	UK natural gas consumption by main user categories, 1970-2019	64
4.10	UK market share evolution of energy companies, 2004–2019	64
4.11	Final electricity consumption by different sectors, 1970–2019	79
4.12	Total number of electrical appliances owned by UK households, 2006–2019	
4.13	UK domestic electricity consumption by appliance category, 1970–2015	81
4.14	Number of light bulbs owned by UK households, 1970–2015	81
4.15	Average energy consumption of new cold appliances, 1990–2015	82
4.16	Number of wet appliances owned by UK households, 1970–2015	83
4.17	Number of home computing devices owned by UK households, 1970–2015	
4 18	Flectricity generated from renewable sources 1990–2019	91

4.19	Global average levelised costs of electricity for different technologies,	
	2010–2020	91
4.20	Cumulative and annual installed capacity of UK onshore wind turbines	94
4.21	Cumulative and annual installed capacity of UK offshore wind turbines	97
4.22	Electricity generated from bio-power sub-categories, 1990–2019	99
4.23	Global weighted-average total installed costs of different RETs, 2010–2020	100
4.24	Cumulative UK installed capacity of solar-PV by capacity size, 2010–2020	102
4.25	Number of different kinds of bulbs for non-directional lighting owned	
	by UK households, 2006–2019	105
4.26	Decreasing prices of light emitting diodes	106
4.27	Domestic smart meters operated by large suppliers, 2012–2020	109
4.28	Domestic smart meters quarterly installation by large suppliers	111
4.29	Annual number of new R&D and demonstration projects with smart grid	
	technologies in the UK	112
4.30	Number and type of UK battery storage projects larger than 150 kW,	
	2013–2019	116
4.31	Annual installed capacity (in MW) of UK battery storage projects larger	
	than 150 kW, 2013–2019	116
5.1	Schematic representation of different land-based passenger mobility systems	134
5.2	Schematic representation of the material elements and flows in the	
	automobility system	135
5.3	Domestic passenger mobility (in billion passenger-kilometres) by transport	
	mode, 1952–2019 in Great Britain	135
5.4	Daily use of transport modes (cars, railways, bus) in Great Britain	
	between March 2020 and July 2021 (excluding the Christmas 2020 break);	
	figures are percentages of an equivalent day or week	136
5.5	UK domestic transport-related greenhouse gas emissions, 1990–2019	137
5.6	Length of different road types (in kilometres) in Great Britain, 1923–2019	140
5.7	Motor vehicle traffic (road miles) by road class in Great Britain, 1993–2019	141
5.8	Annual car sales (new registrations) of private and light goods vehicles	
	in Great Britain, 1954–2020	142
5.9	Crude oil price from 1978 to 2020	142
5.10	Annual car sales (new registrations) of petrol, diesel, and 'other' cars	
	in Great Britain, 2001–2020	143
5.11	Relative cost developments 1997–2019 (1997=100) various motoring costs,	
	bus and rail fares, and cost of living	143
5.12	Passenger car fleet (total number of licensed vehicles) in Great Britain	
	by fuel type, 1994–2020	144
5.13	Sales-weighted average new car fuel consumption in Great Britain,	
	1997–2019	145
5.14	Passenger cars produced in the UK in millions, 2003–2020	146
5.15	Average distance travelled by car/van for different purposes	
	(miles per person per year, England), 2002–2019	148
5.16	Household car availability in England, 1985–2019	149
5.17	Average per capita passenger travel by cars and light vans in Great Britain,	
	1971–2019	149

5.18	Indexed transport modes in London, 2002–2018	150
5.19	Length of railway infrastructure and electrified routes (in kilometres) in Great	
	Britain, 1946–2019	158
5.20	Passenger kilometres by rail in Great Britain, 1952–2019	158
5.21	Average distance travelled by railways for different purposes	
	(miles per person per year, England), 2002–2019	159
5.22	Government support to the rail industry, 1985–2019 in £million	160
5.23	Number of English passenger journeys (in millions) on local buses,	
	1982–2019	165
5.24	Operating revenue (in £millions at current prices) for local bus services	
	in England, 2004–2019	167
5.25	Passenger kilometres by pedal bicycles, Great Britain, 1952–2019, in	
	billion kilometres	171
5.26	Daily use of bicycles in Great Britain between March 2020 and July 2021	172
5.27	Trend in cycle flows (in thousand cycles per day) across central cordon,	
	1977–2018	173
5.28	Annual electric car sales (new vehicle registrations) in Great Britain	
	in thousands, 2001–2020	177
5.29	Battery pack price	178
5.30	Number of public electric vehicle charging devices in the UK	179
5.31	Biofuel use in UK transport, 2004–2019 (excluding aviation),	
	in million tons oil equivalent	184
5.32	Real and adjusted percentage of biofuels in road transport fuel use,	
	2005–2019	184
5.33	Percentage of working population working 'at home' and 'from home',	
	1992–2020	187
5.34	Major occupational groups (from ONS categorisation) in the 'working	
	at home' category, 2012–2020	188
5.35	Number of members and number of cars in London car sharing clubs,	
	2010–2018	191
5.36	Number of licensed London taxis and private hire vehicles (PHVs)	
	and drivers	192
6.1	Schematic representation of the material elements and flows in the	
	dominant UK (domestic) heat system (involving heating and buildings)	221
6.2	UK greenhouse gas emissions (in MtCO ₂ e) from buildings, 1990–2019	222
6.3	Gas production, imports, and demand in the UK, 1998–2020	223
6.4	Evolution of average gas price (in GPB/GJ) for households in the UK,	
	1991–2019	224
6.5	Boiler types in the UK, 1975–2017	225
6.6	Domestic energy consumption for space heating and water heating	
	in kilotons of oil equivalent, 1970–2019	225
6.7	Average internal temperature in UK homes, 1970–2012	226
6.8	Domestic market gas supply market shares in GB, 2005–2020	227
6.9	Age profile of UK housing stock	236
6.10	Average heat loss per dwelling	237
6.11	Diffusion of different home insulation measures in UK homes, 1976–2018	238

6.12	Total number of UK dwellings (in millions) per tenure category, 1980–2018	239
6.13	Insulation measures in English houses by tenure, 2010 and 2019	240
6.14	Delivery rates of key insulation measures in UK houses, in millions	
	of installations	240
6.15	Number of permanent dwellings completed, by sector, United Kingdom,	
	1949–2019	241
6.16	Renewable sources to generate heat (all sectors), 1990–2019	251
6.17	Quarterly and cumulative accreditations of low-carbon heating	
	installations under domestic RHI (number of installations)	254
6.18	Variations in domestic RHI subsidy levels between 2015 and 2020 (p/kWh),	255
6.19	Diffusion of solar thermal in the UK, annual installed capacity, in m ²	261
6.20	Green gas price premium versus blend percentage	265
6.21	Cumulative number of passive house units in the UK	271
7.1	Schematic MLP-representation of electricity system reconfiguration	
	with bold, normal, and dotted lines representing the relative contributions	
	of different innovations to unfolding carbon reductions	295
7.2	Schematic MLP-representation of passenger mobility systems	
	reconfiguration with bold, normal, and dotted lines the relative	
	contributions of different innovations to unfolding carbon reductions	296
7.3	Schematic MLP-representation of heat system reconfiguration	
	with bold, normal, and dotted lines the relative contributions of different	
	innovations to unfolding carbon reductions	297
7.4	Final energy consumption (in million tonnes of oil equivalent)	
	by user category	332