

Introduction

THE RATIONALE FOR THIS BOOK

Climate change – the ‘heat’ of the title – is the most encompassing and threatening of all the planetary limits that characterise this new age of the Anthropocene. It is subject to a wide range of research and analysis. My hope is that this book adds five things to the current literature.

First, I advance a new concept with which to grasp the social impact of climate change – that of human need. Climate change threatens human wellbeing across the globe today and into the future. To address this requires a measure that is constant across both space and time. I argue that the only candidate is basic human needs and the extent to which they are satisfied. Consumer preferences will not do, nor will ‘happiness’: since both are affected by present circumstances and institutions, they lead us into a circular process which can neither escape the driving forces of the past nor encompass the future. A theory of human need is developed that provides a universalist framework and at the same time enables what I call ‘need satisfiers’ to be identified in a myriad of specific circumstances, across different contexts and cultures. This provides the normative and ethical underpinning for evaluating the social dimension of climate change.

Second, I try to overcome the too frequent gulf between idealist visions of a different world and hard-headed appreciation of the current global system. So this book provides an economic, social and political analysis of the drivers of climate change. At the core lies capitalism – the ‘greed’ of the title – and the relentless processes of accumulation, growth and inequality that it reproduces. Alongside this is the global system of nation states. Together they mobilise the interests and institutions of the modern world and shape our dominant ideas. Any attempt to halt and reverse global warming will have to begin within this encasement. The book argues for a clear-headed appreciation of current political economy.

Third, my approach is multi-disciplinary. Scholarship on climate change has been dominated by natural scientists and economists, studying the environment and ‘the economy’ and their interactions. The social dimension is much less developed. It encompasses vital issues such as

equity, justice, inequality, poverty and empowerment but often with little coherence. It is essential to bring in other social sciences to give credence to the truth that we live social lives within structures of power, both overt and hidden. Multi-disciplinary research provides an essential antidote to the continuing prevalence of neoclassical economics and the assumptions of neoliberalism. But it inevitably spreads the net wide rather than deep: my hope is that the synergies derived from a broad reach will more than compensate for the absence of disciplinary focus.

Fourth, this book stems from a life-long interest in social policy – the mobilisation of collective action and state power to improve human wellbeing. Yet, with a few exceptions, the study of social policy has (blindly or wilfully) ignored the environment and the planetary limits within which the pursuit of human needs and wellbeing must necessarily take place. The second part of this book attempts to close that gap in some detail. It analyses the ‘welfare states’ of the developed world: how far they are dependent on the carbon economy and how they can be reformed to pursue simultaneously both carbon mitigation and human welfare. This leads into analyses of policy-making under different scenarios of production, consumption and growth and proposes certain ‘eco-social’ policies that could combine sustainable livelihoods with human wellbeing.

Finally, the book concludes that the strategy of ‘green growth’, which underlies the Paris 2015 agreement and will dominate in the coming years, will only work if it is treated as a stepping stone to a political economy based on needs, sufficiency and redistribution, not on continuing economic growth. Green growth alone will not be enough, yet ‘degrowth’ seems impossibly daunting in political terms. Transitional strategies are needed to move from the former to the latter. The book develops an intermediate stage where consumption in rich countries is ‘recomposed’ away from high-carbon luxuries to low-carbon necessities. This three-stage process – from green growth, through recomposed consumption to degrowth – seems to me the only way to progress from the hard-headed ‘greed’ and technological might of contemporary capitalism to an ethical, just and sustainable future.

THE CONCEPTUAL FRAMEWORK

To use an old distinction, this book engages – perhaps recklessly – with both normative and positive issues. *Normative* statements make claims about how things should be and how to value them; they entail a standard, rule or principle used to judge or direct human conduct. *Positive* statements purport to describe and/or interpret events in the ‘real world’.

These are simplified definitions,¹ but they help map out the distinctive approaches of need theory and political economy in this book.

The Normative Framework: Human Need

The terms *welfare* and *wellbeing*² raise a host of questions. The dominant conception today is that of welfare economics, which is primarily concerned with utility or the satisfaction of consumer preferences (now closely pursued by a school pressing the claims of ‘happiness’). This rests on two normative foundations: that individuals are the best judges of their own preferences or wants, and that what is consumed should be determined by the private consumption preferences of individuals. It precludes questioning the nature and content of consumer preferences, except within narrow limits. However, it has been subject to numerous challenges, on the grounds of subjectivity, epistemic irrationality, endogenous and adaptive preferences, the limitlessness of wants, the absence of moral evaluation, and the non-specificity of future preferences (Gough 2015a).

An alternative is required, and Chapter 2 summarises *A Theory of Human Need* (Doyal and Gough 1991) and related frameworks. The essential premise is that all individuals, everywhere in the world, at all times present and future, have certain basic needs. These must be met in order for people to avoid harm, to participate in society and to reflect critically upon the conditions in which they find themselves. Only if we understand needs in this way – in universal terms, applied across time and place – can we plan for and measure progress towards our social and environmental goals, both globally and into the future. Having identified this core objective, I go on to address the immense cultural variety in ways of meeting needs and set out a methodology for identifying need satisfiers in particular social settings.

According to this and allied theories, human needs are objective, plural, non-substitutable and satiable. This means that needs are also *cross-generational* – a crucial point since global warming will progressively impose dilemmas of intergenerational equity. We can assert with much confidence that the basic needs of future generations of humans will be the same as those of present generations. Moreover, human needs, unlike preferences, have a sound ethical grounding: they come with claims of justice and equity in tow. Universal needs imply ethical obligations on

¹ For example Putnam has written on ‘entangled concepts’ that are both evaluative and descriptive (Putnam 2002).

² Throughout this book these terms are used interchangeably.

the part of individuals as well as claims of justice – universal rights and obligations – on social institutions. An important corollary is that meeting human needs should be given priority over meeting wants if the two conflict or if resources are scarce. Human needs, present and future, trump present (and future) consumer preferences.

The Positive Framework: Political Economy

A major part of the book addresses ‘positive’ issues, describing and explaining features of what we can loosely call ‘climate capitalism’. It utilises political economy but also draws on ecology and social theory to develop what might be called an *eco-social political economy* approach (ESPE). This aims to bring into a more embracing framework the following elements: the economy (profits and the drive to accumulate capital), ecology (ecosystems and organisms, including humans), the social domain (paid and unpaid labour, human and social resources and relationships, and inequality) and the political (states, governance and power). The intention is to provide a realist framework for analysing the contemporary drivers and consequences of climate change. I discuss in turn: the relationship between environment, society and economy; capitalism as a system; the ecological and social domains; and the neoliberal era.

Environment–society–economy

The domain of the *economy*, which is central to both the environmental and the social domains, refers to the monetised commodity economy made near-universal in the latest phase of globalisation. It is one of the three interrelated domains of sustainable development, along with society and environment. Chapter 1 presents Kate Raworth’s ‘doughnut’ or ‘life-belt’, which understands that the biophysical environment frames societies and economies, and that the social dimension establishes the values and components of need satisfaction or sustainable wellbeing. It implies that the economy is a means to these ends. ‘The economy is, in the first instance, a subsystem of human society . . . which is itself, in the second instance, a subsystem of the totality of life on Earth (the biosphere). And no subsystem can expand beyond the capacity of the total system of which it is a part’ (Porritt 2006: 46). This idea of nested domains can be pictured as a series of concentric circles, with the biosphere encompassing society, which in turn encompasses the economy.

However, the global capitalist economy is a mighty system with an inbuilt dynamic propelled by actors with immense power, so much so that it is already overwhelming planetary boundaries. In practice, far from being the junior domain, it dominates. To visualise the interrelations

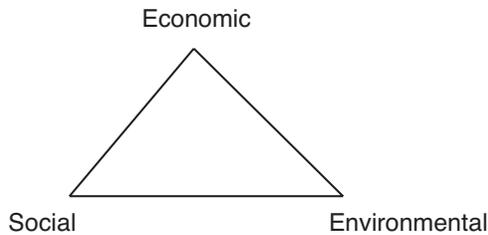


Figure I.1 The sustainable development triangle

between the three domains a Venn diagram or triangle can also be useful (Figure I.1).

The three domains or points of the triangle are traditionally associated with clusters of different values, goals and policy domains:

<i>Economy</i>	<i>Society</i>	<i>Environment</i>
Efficiency	Human needs	Ecology
Productivity	Equity/equality	Biophysical system
Competitiveness	Wellbeing	Planetary limits
Economic growth	Social justice	Ecosystem services
	Social inclusion	Intergenerational justice
<i>Economic policy</i>	<i>Social policy</i>	<i>Environmental policy</i>

The downside of this visual metaphor is that the economic, environmental and social clusters look both separate and equal. They are neither, as this book makes clear.

The ESPE approach is multi-disciplinary, drawing selectively on analytical perspectives from social sciences – notably environmental economics, ecological economics, Marxism, sociology, political science, historical institutionalism, and social policy. I make no claims for ESPE as a theory, merely as a useful framework to keep in mind the twin encasements of the ‘economy’ – the social and the biophysical. Yet to speak of, and write for, the ‘social sciences’ today is a daunting task. Academic disciplines rule the roost, and research that crosses their boundaries, though constantly advocated, is a struggle to realise in practice. In particular there is a gulf of incomprehension and misunderstanding between economics and other social science disciplines.

The dominant paradigm framing analysis of the economy over the past four decades has been neoclassical economics. I would claim that, as a positive analytical approach, this suffers from at least three blind spots. First, it equates (uninsurable) uncertainty with (insurable) risk, despite

the looming dangers of climate tipping-points and catastrophic outcomes, and thereby many forms of cost–benefit analysis of the future impacts of climate change mitigation. Second, it assumes that technical progress is ‘exogenous’ – determined outside the economic system model – which impairs the ability to analyse the big, non-marginal changes required by rapid economic transformation and decarbonisation and renders all current economic models unviable according to some economists. Third, standard economics ignores or underestimates the role of historical and institutional barriers in implementing effective climate policies (Dietz 2011; Hodgson 2013; Scricciu et al. 2013; Grubb et al. 2014; Farmer et al. 2015).

A survey in 2011 concluded that neoclassical economics advocated a ‘modest’ optimal rate of emissions reduction, well below that recommended by climate scientists (Dietz 2011). Economic rationales for deeper emission cuts can be, and have been, justified by using a lower discount rate to estimate future climate costs (Stern 2007), or by recognising the existence of low-probability, high-impact scenarios (Weitzman 2009). It is probably true to say that neoclassical climate economists are shifting towards a more precautionary approach, but they still lag well behind the accelerating warnings of climate scientists. A variety of economic concepts have value and are used elsewhere, for example in Chapter 6.

Political economy provides a more encompassing and fruitful framework. It embraces two core assumptions (Caporaso and Levine 1992; Gamble 1995). The first is that political and economic processes, though analytically distinct under capitalism, are interlinked and should be studied as a complex and interrelated whole. The second is that the economy, the sphere of ‘material provisioning’, has a special weight in explaining and properly understanding the polity and politics.³ Governments are not perceived as neutral umpires correcting malfunctions in the market economy, but as central institutions both reflecting and shaping the distribution of power and resources in society. The political economy approach can be found in both Marxist and non-Marxist guises, the latter for example in Lindblom (1977), Strange (1988), Dahl (1998) and Hacker and Pierson (2002).

Capitalism as a system

Political economy is willing to refer to *capitalism* and the capitalist system, a now global system driving the relationship between economy, climate change and human needs. Though the exact definition of capitalism is

³ There are two major schools using the label ‘political economy’. Public choice theory, grounded in the assumptions and methods of neoclassical economics, is not considered here.

disputed, there is agreement on some key features. The first is the production of commodities for profit. As first noted by Karl Marx, capitalism subordinates the production of ‘use-values’ to meet human wants and needs⁴ to a drive to accumulate ‘exchange value’ by producing commodities for sale:

The simple circulation of commodities – selling in order to buy – is a means of carrying out a purpose unconnected with circulation, namely the appropriation of use-values, the satisfaction of wants. The circulation of money as capital is, on the contrary, an end in itself, for the expansion of value takes place only within this constantly renewed movement. The circulation of capital has therefore no limits. Thus the conscious representative of this movement becomes a capitalist. His person, or rather his pocket, is the point from which the money starts and to which it returns . . . The restless never-ending process of profit-making alone is what he aims at. (Marx 1926: 169, 171)

This applies whether this thing called capital is invested in energy, industry, agriculture, services, distribution, finance or the immaterial digital world. This is the central driving force of the capitalist world economy.

Another key feature of capitalism is the private ownership of means of production or capital (or at the least a substantial privately owned sector). Private firms therefore control investment in means of production and play a major role in determining economic paths of development. A further feature is the existence of a class of people who sell their labour-power for wages; they are without property of their own, or at least without sufficient property to support themselves and their families over their lifetime. Both these features emphasise the role of property rights, or their lack, and legal institutionalists would argue that a system of law recognising legal rights over many kinds of asset is another fundamental component of capitalism (Hodgson 2016).

Capitalism is a system that has evolved in historical time, from mercantile beginnings in north-western Europe in the sixteenth century, through industrial capitalism in Britain in the eighteenth century and it spread to Europe, North America and other settler countries in the nineteenth century. In the twentieth century new socio-technical forms of ‘Fordism’ – integrated production and mass consumption – emerged initially in the US and spread across the advanced capitalist world. Since the 1970s this has morphed into the global and financialised system that characterises the new millennium. As Marx predicted, the system has spread both intensively, commodifying many of our activities and relationships, and extensively, ‘filling up’ the entire world. The pursuit of profit harnesses,

⁴ The distinction between the two can be ignored at this stage of the argument.

shapes and drives technological progress. The result is the accelerating transformations of our economies and lives – and of the globe. The goal of endless economic growth is a necessary corollary of capitalism.

Of epochal importance has been the coevolution of capitalism around fossil hydrocarbons. Since the late eighteenth century fossil fuels have provided the indispensable energy basis for this process of accumulation. With the burning of coal, energy was freed from wind, water, biofuels and animal power, and millions of years of ‘stored sunlight’ energy suddenly became available. The later exploitation of oil provided even more concentrated sources of energy. The fundamental driver of global warming has been a combination of fossil-based industrialisation and global capitalism – carboniferous capitalism (Newell and Paterson 2010).

The ecological and social domains

Societies have always evolved mechanisms to protect and reproduce labour and nature. Activities to care for and socialise children, build and maintain communities and create shared meanings have always existed outside the market economy and mainly been undertaken by women, as feminist analysts stress (Elson 1988; Mellor 1997; Barry 2012; Fraser 2014). Similarly, forms of collective action have evolved throughout history to counteract the over-exploitation of environmental ‘common pool resources’ in local contexts, such as overfishing or overuse of water supplies, as Elinor Ostrom (1990) has documented. These take numerous forms, such as communal tenure or rights to environmental services, with voluntary and communal policing and enforcement.

The reproduction of human capacities and environmental services in local contexts has for long depended on pre-capitalist, uncommodified and collective arrangements. But the supply of natural and human resources cannot be guaranteed from within the capitalist dynamic. Both sets of resources require protection delivered by institutions with distinctive values and driving forces: what Nancy Fraser (2014) calls ‘the hidden abodes of capitalism’. If the dominant value of the capitalist system is ‘legitimate greed’, the values of the ‘hidden abodes’ are social mores such as solidarity, mutual support, and communal and collective responsibility, which over time have mutated into ideas and movements for social citizenship and ecological sustainability (cf. Streeck 2014). Both nature and human needs are complex, messy and multi-dimensional, yet a capitalist economy is ultimately dependent on the reproduction of both (Koch 2012).

Capitalism as a mode of production driven by accumulation is always encased within particular social formations, comprising social and political institutions. Karl Polanyi’s concept of the ‘double movement’ in *The Great Transformation* provides a useful historical perspective. As the

market economy in nineteenth-century Britain became self-regulating and ‘disembedded’ from social institutions and social patterns of behaviour, a contradiction emerged in the social domain. Aside from slavery, labour itself cannot be commodified: it is a ‘fictitious commodity’ because it is not produced for sale and ‘cannot be detached from the rest of life’ (Polanyi 1944). Its de facto commodification resulted in profound insecurity and threats to welfare, which led to counter-mobilisations by workers, communities and social reformers and the political rise of the ‘social question’. New forms of regulation and protective institutions, including social policies, emerged – piecemeal and in a wide variety of forms – to cope with the unplanned, harmful and system-threatening effects of the commodification of labour. After the Second World War this societal reaction was institutionalised in the form of ‘welfare states’.

The Polanyian perspective can also be applied to understand state interventions in the environmental domain and in climate policy. Nature is – like labour – a ‘fictitious commodity’. Early industrialisation set in train the inexorable rise in CO₂ emissions and accelerated the commodification of natural resources and the despoliation of the environment. This in turn stimulated early counter-movements in the nineteenth century such as municipal regulations over water supply. This was renewed in the late twentieth century when the threats of unregulated industrial and consumption growth motivated environmental movements and green politics. Again this gradually pressured state interventions and environmental governance, including eventually early measures to restrain greenhouse gas (GHG) emissions. Some political scientists have interpreted the emergence of ‘eco-states’ as a parallel to the earlier emergence of welfare states (Barry and Eckersley 2005; Meadowcroft 2005; Gough et al. 2008a; Duit 2014; Duit et al. 2016: 3; cf. Mol 2016).

But the compatibility of capitalism with ecological constraints is even more problematic. *Ecological economics* recognises the ontological and normative priority of a sustainable biosphere but goes on to analyse the numerous interactions that arise. Key themes include scale, coevolution, uncertainty and complexity (Özkaynak et al. 2012). Ecosystems can be disturbed when the *scale* of the human economy grows abnormally in relation to its environment. A central question is that of limits – brought to international attention by the publication of *Limits to Growth* (Meadows et al. 1972) – and the ability of technology to circumvent such limits (Costanza 1991). Herman Daly (1996) argues that there are fundamental limits to economic growth stemming from ‘finitude, entropy and ecological interdependence’ and that technological progress or ‘ingenuity’ cannot endlessly shift outwards the boundaries of the possible: humanity has already moved from an ‘empty’ to a ‘full’ world (Daly 2007). Or,

in Boulding's (1966) telling language, we are moving from a 'cowboy economy' lived on limitless plains to a 'spaceman economy' lived within a capsule.⁵ These issues are revisited in Chapter 8.

From this perspective, capitalism depends on both the ecological sphere and the social sphere: without collective regulation of both, its own survival is threatened. Other disciplines and fields of study can augment our understanding of these mechanisms. Modern-day *institutionalism* is a prominent paradigm in fields of study including economics, political science, international relations and social policy. Institutions can be most broadly defined as durable systems of established and prevalent social rules that structure social interactions. Repeated over time such behaviour acquires normative weight (Hodgson 2006). Systems of government are of course central institutions, both reflecting and shaping the distribution of power and resources within societies. For example, Chapter 5 builds on welfare state scholarship, comprising both historical and comparative cross-national research with a rich variety of methodologies (Castles et al. 2010). As a way of summarising shifts in state policies and their drivers I utilise an earlier framework (Gough 2008, 2016). This posits five drivers of policy development: the 'five Is' of industrialisation (and other structural trends), interests, institutions, ideas/ideologies, and international influences.

Finally, *co-evolutionary* perspectives recognise the conjoint and complex development of natural and social systems, as in new research in the sociology of science, technology and markets and the political science of socio-ecological or green transitions (IPCC 2014c).

The neoliberal era

Post-war capitalism was often characterised as Keynesian welfare state capitalism. A new social settlement or class compromise re-established private ownership of property and markets but contained within a public commitment to full employment, state regulation of key industries and a comprehensive welfare state. During the 1970s this mode of regulation began to be replaced by a very different form frequently designated as *neoliberal capitalism* or *neoliberalism*. This term must be used with care, since it is associated with a bewildering range of meanings (Venugopal

⁵ On the other hand, the potential for solar- and gravity-powered energy to replace carbon fuels (though with less efficiency) is evident and is almost limitless. This does not question the second law of thermodynamics, that the universe is constantly becoming more entropic or disordered, its energy and matter less available for use. It recognises that the Earth is on the contrary an open system constantly powered by a flow of energy from the sun. This enables the flow of entropy within the biosphere to be reversed and with better husbandry can reduce entropy due to human activity (Jacobs 1991).

2015). I take ‘actually existing neoliberalism’ to be a distinct phase of capitalism since around 1980. It embraces a dominant set of ideas and of practices. Its defining ideas included a belief in the superiority of markets and a denigration of much government and collective action. Its defining characteristics include a new international division of labour, the global spread of production networks, trade and financial flows, the dominance of finance, rising profit shares and widening inequalities within countries (Glyn 2006; Newell and Paterson 2010; Duménil and Lévy 2011; Koch 2012; Stiglitz 2013).

In the new era the relative power of business corporations and the financial sector has grown, especially relative to trade unions and labour interests, but also vis-à-vis nation states. This stems not only from their lobbying power but also from their structural power, the ability to influence policy without having to apply direct pressure on governments through agents. This stems from several factors, but two have become more important in recent decades: the ability to shift investment and economic activity between jurisdictions and the structural position of finance capital in ensuring national economic survival. The end result is a closer symbiosis or even ‘capture’ of governments by big business and finance (Gough 2000, ch. 4; Hacker and Pierson 2002; Woll 2014). It is a historical coincidence (and, I would say, a tragedy) that the widespread recognition of climate change as a global threat has arisen in the neoliberal era – what Naomi Klein (2015) calls the great misfortune of Bad Timing.

To conclude, *eco-social political economy* is used here as shorthand for an approach that draws on the contributions that social science disciplines can make to comprehending the impacts of global warming on human action, social systems and human wellbeing – and vice versa. It recognises that proposals and movements to change direction are situated within historical time and in a context of social and cultural practices, which calls for cross-disciplinary study. The eco-social approach enables us to scrutinise the interrelationships and three-way conflicts between the domains of the biosphere (notably global warming), society and the economy. This is the terrain on which scientific knowledge and public concern over climate change have taken root and grown. Eco-social political economy provides the main analytical framework for this book.

PLAN OF THE BOOK

The book is divided into two parts: the first covering conceptual and global issues, the second the affluent world. My original idea was to study climate change, inequality and social policy within the rich world of the

North, and that is the aim of Part II. But climate change is *the* global threat posing existential dangers while at the same time posing wicked dilemmas in coordinating global action to constrain it. These issues are of epochal significance in their own right, which is justification enough for Part I. They also frame the responsibilities and obligations of the North towards the planet and the peoples of East and South. The basic assumption here is that speedy ‘contraction and convergence’ must take place. Thus there is a double obligation on the rich world to decarbonise rapidly its production and consumption practices and to fund generously mitigation and adaptation programmes in the global South. This is the fundamental assumption framing the discussion of economic and social issues and policies in Part II of the book.

Chapter 1 summarises our best knowledge about the predicted future of global warming and its potentially catastrophic implications for human habitats and human wellbeing. The policy options are summarised, divided between programmes to mitigate climate change and to adapt to it. But climate policy alone could be unjust and inequitable. The goal must be to respect biophysical boundaries while at the same time pursuing sustainable wellbeing: that is, wellbeing for all current peoples as well as for future generations. This means paying attention to its distribution between peoples, and to issues of equity and social justice. Between an upper boundary set by biophysical limits and a lower boundary set by decent levels of wellbeing for all today lies a safe and just space for humanity. The chapter concludes by noting two global landmarks in 2015: the UN Sustainable Development Goals (SDGs) and the Paris climate agreement. Together they reveal a yawning gap between what is needed for a safe climate and the prospects for a just and flourishing society.

Chapter 2 sets out a novel normative framework to judge progress in both human welfare and planetary sustainability: universal human needs and their satisfaction. It outlines a theory of human need and identifies health and autonomy as fundamental needs universally required to enable people to participate in their social forms of life. It goes on to distinguish these universal needs from culturally specific satisfiers and sketches a way of assessing the latter. These material satisfiers themselves require a set of institutions to decide on and produce them in a sustainable way. Finally, the chapter restates the strong normative priorities that follow: meeting people’s basic needs, now and in the future, should be the first priority of justice, and satisfying needs thus takes moral precedence over satisfying consumer preferences.

Chapter 3 develops a political economy approach to understand ‘climate capitalism’, a model that aims to square capitalism’s need for profit and continual growth with rapid decarbonisation of the world economy.

It analyses the major global drivers of emissions, including population growth, income growth, the eco-efficiency of production, and the global divide between emissions from production and consumption. It then turns to the role of inequalities – international and intra-national – and their impact on emissions and responsibilities for global warming. It outlines and critiques the current dominant perspective of ‘green growth’ powered by investment in renewables and carbon-saving technological change designed to decouple emissions from output. The chapter concludes by noting the current three-way contradiction between economic growth, ending poverty and dangerous climate change.

Chapter 4 discusses some of the questions, dilemmas and opportunities that arise when the claims of human need confront the present global economic system. It asks what would constitute a moral minimum of need satisfaction across today’s world and then tries to estimate what ‘necessary emissions’ that would entail. Meeting needs will always be a lower carbon path than meeting untrammelled consumer preferences financed by ever-growing incomes. But whether it is low enough to protect the needs of future generations will depend, first, on the conflicts and synergies between the SDGs and a 2 °C mitigation strategy and, second, on the presence of a global equity framework. All existing strategies ignore the role of consumption in the affluent world, yet sustainability and distribution are intimately connected. My conclusion is that equity, redistribution and prioritising human needs, far from being diversions from the basic task of decarbonising the economy, are critical climate policies.

Chapter 5 starts with social policies and their embodiment in Western ‘welfare states’. What are the new climate-related risks we can expect in the developed world and what are their implications for social policy? The chapter traces the development of welfare states and shows how they are being eroded by external and internal pressures, and have been outflanked by a rise in inequality. It applies comparative policy analysis to outline parallels between ‘climate mitigation states’ and welfare states. Such a survey reveals both common trends and significant national and regional variations. The chapter concludes by distinguishing three routes to decarbonisation – green growth, recomposed consumption, and degrowth. It sets up a framework for tracking the relationship between climate policy and social policy within these routes, which is applied in the remaining chapters.

Chapter 6 surveys climate mitigation programmes to reduce territorial emissions in the global North, building on the discussion of green growth in Chapter 3. It describes current policy frameworks for cutting carbon and surveys the major carbon mitigation strategies: pricing carbon, regulation, and strategic investment. It then charts some of the distributive and

social consequences of these policies and the roles that social policies can and cannot play in counteracting them. It calls for a move from reactive social policies to integrated 'eco-social' policies, such as 'green new deals' to retrofit housing and provide sustainable domestic energy. It concludes that radical and fair carbon mitigation will require a shift from the neoliberal model towards a more coordinated and actively interventionist state.

Chapter 7 turns from production to consumption and consumption-based emissions. This leads to another policy goal for the rich world: to 'recompose' consumption to make it more sustainable. Yet simply redistributing income to low-income households could raise, rather than lower, emissions. This chapter therefore returns to the theory of human need. It sets out a 'dual strategy' methodology for identifying a *minimum* bundle of necessary consumption items in the UK and suggests how it might be used to identify a *maximum* bundle for sustainable consumption. In this way a 'consumption corridor' between upper unsustainable and lower unacceptable bounds can be charted. In the light of powerful corporate and other interests shaping consumer preferences a broad strategy of upstream prevention is advocated. To implement this approach, further eco-social policies are suggested, including taxing high-carbon luxuries, more social consumption and household carbon rationing. The conclusion notes that this whole approach challenges some fundamental principles of orthodox economics.

Chapter 8 takes off from the argument that even a combination of radical eco-efficiency and recomposing consumption will not cut emissions fast enough to avoid dangerous global warming if economic growth continues in the rich world. It sets out some basic features of a post-growth or degrowth economy: an emphasis on reproduction not production, investment not consumption, more discretionary time not more commodities, more equality and redistribution not less. This would profoundly affect all existing welfare states, which are premised on economic growth. A variety of policy solutions are considered, including spreading wealth more evenly through alternative forms of taxation and ownership, and fostering the core or social economy. An economy and a society that can no longer rely on annual growth will require a radical redistribution of carbon, time and wealth. The most realistic policy to achieve this transition, it is argued, is gradually to reduce paid work time – another vital eco-social policy.

Chapter 9 concludes. The idea of common human needs provides an essential alternative to the pursuit of unsustainable consumption growth within contemporary capitalism. Needs are limited; wants are limitless. Yet the pursuit of social welfare and climate stability today cannot be separated from the dynamics and future of capitalist economies. The chapter advocates a three-stage process to reconcile human wellbe-

ing with planetary stability. The first, more eco-efficient green growth, requires a shift from liberal to more coordinated forms of capitalism. The second, recomposing consumption, would require at the least a shift from coordinated to a more 'reflexive' form of capitalism. The third, degrowth, is incompatible with the accumulation drive of any form of capitalism yet is ultimately – and quite soon – essential for our future prosperity, if not our very existence. It is for this reason, among others, that this book proposes an interim strategy to recompose consumption in rich countries towards low-carbon need satisfiers. It could provide a viable route from a dangerous present to a seemingly impossible future.

