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The Energy Security-Climate Nexus

Institutional Change in the UK and Beyond

Caroline Kuzemko

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The Energy Security–Climate Nexus

Institutional Change in the UK and Beyond

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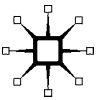

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Contents

Tables

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Abbreviations

ASEAN	Association of Southeast Asian Nations
BBC	British Broadcasting Corporation
BERR	Department for Business, Enterprise and Regulatory Reform
BP	British Petroleum
CBI	Confederation of British Industry
CCC	Committee on Climate Change
CCL	Climate Change Levy
CCS	carbon capture and storage
CEP	Common Energy Policy
CEPMLP	Centre for Energy, Petroleum and Mineral Law and Policy, University of Dundee
CERA	Cambridge Energy Research Associates
CT	Carbon Trust
CFTC	Commodity Futures Trading Commission (US)
DECC	Department for Energy and Climate Change
DEFRA	Department for Environment, Farming and Rural Affairs
DETR	Department for the Environment, Transport and the Regions
DOE	Department of Energy
DSOs	departmental strategic objectives
DTI	Department of Trade and Industry
EC	European Commission
ECT	Energy Charter Treaty
EU	European Union
EU 20-20-20	The European Union Climate and Energy Package 2007
FAC	Foreign Affairs Committee
FCO	Foreign and Commonwealth Office
FFL	Fossil Fuel Levy
FiT	feed-in tariff
G7	Group of Seven
G8	Group of Eight
GATT	General Agreement on Tariffs and Trade

HMG	Her Majesty's Government
IEA	International Energy Agency
IGO	inter-governmental organisation
IMF	International Monetary Fund
IOC	international oil company
IPE	international political economy
ITPOES	Industry Taskforce on Peak Oil and Energy Security
JESS	Joint Energy Security of Supply
MP	Member of Parliament
NFFO	Non-Fossil Fuel Obligation
NOC	National Oil Company
NUM	National Union of Mineworkers
OECD	Organisation for Economic Co-operation and Development
Offer	Office of Electricity Regulation
Ofgas	Office of Gas Supply
Ofgem	Office of the Gas and Electricity Markets
OPEC	Organisation of the Petroleum Exporting Countries
PdVSA	Petroleos de Venezuela S. A.
PEPP	pro-market energy policy paradigm
PIU	Performance and Innovation Unit
PSBR	public sector borrowing requirement
RAE	Royal Academy of Engineering
RCEP	Royal Commission on Environmental Pollution
REC	regional energy company
RO	Renewables Obligation
RPI	Retail Price Index
RSP	regulatory state paradigm
SDC	Sustainable Development Commission
UK	United Kingdom
UKCS	United Kingdom Continental Shelf (North Sea)
UN	United Nations
UNCHE	United Nations Conference on the Human Environment
US	United States of America
WB	World Bank
WTO	World Trade Organization

Introduction: Orthodoxies, Challenges and Change

Since the turn of the new millennium the world has experienced a high degree of change. This follows on from, and is sometimes in response to, the many challenges that emerged out of the post-Cold War era of globalisation and attempts to universalise certain rules and norms. During the first decade of the 21st century, observers noted significant shifts in economic and political power from the West Eastwards; and in 2008, an era of financial and economic crises was initiated across the Western world. Given the crises and the various failures they infer, questions have arisen about a paradigm shift away from Western-backed neoliberal orthodoxies in economic governance practices (cf. Gamble 2009; Hay 2010; Roberts 2010; Crouch 2011; Broome et al. 2012). The conclusion reached, albeit for a range of different reasons, is that although governance failures exist, no such paradigm shift has yet occurred. Neoliberal economic institutions are still entrenched both at the level of many inter-governmental organisations (IGOs) (Broome et al. 2012) and at the national level within many Western nations including the UK (Gamble 2009; Hay 2010).

Similar questions have been posed about energy and governance change – albeit conclusions reached are notably more mixed. Changes observed so far in Western countries have largely been in response to perceptions of different crises, of climate change and energy supply (in)security (Helm 2007a; Mitchell 2008; Kern 2009; Rutledge et al. 2010; Goldthau 2012). As in the case of questions about a paradigm shift in economic and financial governance the starting point against which energy policy change is measured has been a generalisable paradigm heavily influenced by ideas about liberalisation, deregulation and competition (Helm 2007a; Mitchell 2008; Goldthau 2012). The range of conclusions regarding the degree to which energy governance has shifted away from such pro-market orthodoxies has been wide. One

article, in considering energy politics on a global basis, including the rise of National Oil Companies (NOCs) and shifting world power balances Eastwards, has claimed a change from a 'free market' paradigm back to state intervention in energy (Goldthau 2012). Others have maintained that a new energy policy paradigm came into place in OECD countries in the early 2000s reflecting new objectives of climate change mitigation and energy security (Helm 2007a). A recent book has gone further in claiming an end to 'market fundamentalism' in UK energy governance (Rutledge et al. 2010). By contrast, there are those, often but not exclusively from a climate change or sustainability background, who observe that OECD energy policy in general and UK energy governance specifically has proven remarkably resistant to change (cf. Kern 2009; Mitchell 2008; Scrase et al. 2009). They suggest that the neoliberal energy paradigm has heavily constrained policy responses to climate change, a position that has been referred to as the 'compromise of liberal environmentalism' (Bernstein 2001: 4; cf. Carter 2007; Mitchell 2008; Scrase et al. 2009).

These questions of profound change are complex and difficult to assess, particularly given the range of perspectives and normative positions that tend to colour both analysis and conclusions. They are also highly complex in that energy 'transition' is routinely used to refer to overall movement towards a low- or zero-carbon energy system, whereas analyses of energy policy change clearly also pose other questions about the role of states and markets. Questions of change are important to answer given the way in which climate science has evolved and the growing credibility of arguments about the need to transition towards a lower carbon future but whilst also maintaining security and affordability. Therefore, creating a better understanding of how governance systems have been evolving to facilitate these objectives is vital, and this includes understanding change within specific contexts. Generalisations about shifts occurring around the world can point to evidence that a high degree of change is occurring and, perhaps, also suggest the direction of change, but they lose out on the fine, granular detail of how and why processes of change occur. Taking debates about policy paradigm change as a starting point, this book will ask questions about the degree and direction of UK energy governance change between the years 2000 and 2012. It provides detailed and nuanced explanations of how and why change has taken place within a given political and ideational context, whilst also understanding UK energy governance within historical contexts and in relation to the wider international political economy of energy.

A surprising conclusion is reached. A new and alternative governance system has indeed emerged in the UK, referred to here as the 'energy security–climate nexus', as well as within a number of OECD countries and governance institutions. This nexus reflects a combination of two different perspectives on energy: environmental and geopolitical. These ideas are, in turn, reflected in the new climate change mitigation and energy security objectives for energy policy that are setting new direction and purpose. Within this nexus, assumptions are made about the positive inter-relationship between energy and climate policy where climate solutions, such as renewable energy and energy efficiency, are routinely set towards achieving *both* energy security and climate objectives. In addition, changes to the old paradigm signify a comparatively higher degree of state intervention in energy, particularly with regard to deciding the energy mix, to ongoing support for renewable energy and to more active political decision-making and deliberation.

The surprising element of the conclusion, however, is that although the energy security–climate nexus does represent a significant break from pro-market orthodoxies and institutions of the past, it cannot yet be described as a coherent and alternative policy paradigm. This is because it draws not on one new, alternative theoretical paradigm but on three very different perceptions of energy and how it should be governed. This is partly because neoliberal economic, or 'pro-market', ideas have not been completely rejected – just considered temporarily inappropriate – and as such neoliberal economic governance has not been understood to be at fault in creating energy crises. So while the government intervenes at a much higher rate than in the past the private sector maintains a high degree of responsibility, as well as influence, in delivering energy to consumers. We will return in due course to the significance of the mixed nature of the new system, but suffice to say at this point that given the range of different perceptions of energy and how it should be governed that are implicit within each perspective, there may well be difficulties associated with picking and mixing between them.

1. Energy and pro-market orthodoxies

Although recently energy scholarship has tended to underplay the politics of energy, it has long been subject to a high degree of political involvement. One early (13th century) example of direct political involvement in energy was Edward I of England's ruling that wood should be burnt for heating purposes, to avoid the pollution caused by coal (Ezra 1983: 1). During the course of the last century or so, energy

has become a core, if not always overtly recognised, aspect of 'modern' economic and social life, as well as a clearly defined subject for politicians and academics. This is not least because most nations have become increasingly reliant on inanimate energy sources to power those technologies that have underpinned industrialisation, modernisation and, in some instances, prosperity. Historically, as is common in other policy areas, there have been varying ideas both between and within nations about how energy should be governed and accessed and also about what socio-economic role it plays.

What is further evident is that energy, despite a growing number of attempts to build global and inter-regional governance regimes, has remained a highly contested area within which there has been little international political agreement. For example, although the General Agreement on Tariffs and Trade (GATT) provides rules and norms for a large number of traded 'goods', there is also a specific article (Article XX) that allocates trade exemptions to 'natural resource' sectors (Behn and Pogoretskii 2012). Therefore, large exporters of fossil fuels, such as Saudi Arabia and Russia, have been able join the World Trade Organization (WTO) without the need to extend GATT rules to their national resource sectors.[1] This relative lack of an international, or global, governance framework can be interpreted as a reflection of the still existent differences in political approaches to energy, often between OECD consumers and non-OECD producers, and of the degree to which sovereignty over energy is recognised as important. This marks energy out from other areas of trade that increasingly came under GATT, or other international treaty, rules in the post-Cold War period.

It is interesting, within this complex historical context, to note the degree to which the UK had placed its energy eggs in the basket of progressing the internationalisation of market rules in energy. This was largely for ideological reasons and partly related to the perception that heavy state interference in energy markets during the 1970s was largely responsible for the oil shocks and therefore to be avoided in future. Britain was an early mover in energy sector privatisation, liberalisation and attempts to open the sector up to the forces of competition – establishing and maintaining a liberalised and privatised energy system had become the principal objective of energy policy. By the year 2000, UK energy governance seemed, despite some opposition from climate campaigners in particular, to be largely depoliticised, with governance practices deeply embedded within a 'pro-market' framework. This framework had been put in place during the wider

privatisation and liberalisation programme undertaken by the Conservative government of the 1980s and had been further consolidated under New Labour. By 2000, moreover, there was no longer even a Department for Energy – energy policy-making was the responsibility of a subdivision of the Department of Trade and Industry (DTI), and it was still largely distinct from climate policy-making institutions.

By contrast, by 2012, a wide number of profound changes had already been made. A new Department for Energy and Climate Change (DECC) had been established; energy security and climate policy were becoming inter-twined in governance practice; and the state was starting to take a larger role in energy policy-making and in decisions about optimal UK energy mix. Energy policy was, furthermore, being formulated with firm, legally binding climate objectives in mind, and the objective of creating freely trading, competitive markets had been demoted down the hierarchy. These are, no doubt, significant changes, but the question remained whether collectively they constitute, as claimed by some government advisors and politicians, an energy 'revolution' or indeed a policy paradigm shift.

This question is important to answer specifically in relation to UK energy governance for a number of reasons. Firstly, and significantly, the 'pro-market' UK energy governance structure had been widely held up as a 'model' for other countries, seeking to reform their energy systems, to follow (IEA 2006: 9; see also Oliveira and MacKerron 1992; Thomas 2006). The UK has, in addition, been one of the most vocal advocates of energy marketisation on an international basis, particularly within the European Union (EU) and Russia, and considers itself to have been influential over recent EU liberalisation processes (Davies 1996; DTI 1998a; FCO et al. 2004; Timmins 2006). A wide number of countries, often encouraged by IGOs such as the World Bank (WB) and the International Energy Agency (IEA), have over time sought to restructure their energy sectors along UK 'pro-market' lines (Thomas 2006: 583; EC 2011: 14). As such any serious break with, and/or rejection of, the pro-market system has serious international and political implications – not least for the credibility of marketised energy systems. As has already been observed,

> One . . . has to wonder what view the competition directorate in Brussels might take if UK energy policy were to swing sharply away from 'market fundamentalism'.
>
> (Buchan 2010: 418)

The UK has also regularly claimed leadership both in attempts to secure international climate agreement and in setting legally binding climate targets. By doing so, the UK has left itself open to measurement against these goals, and critique if these goals are not achieved – as such the UK's credibility is at stake here especially given its previous role as an energy policy 'model'. It is increasingly noted that other countries that put alternative energy and climate governance models into practice, mainly co-ordinated market economies (CMEs), appear to have had a higher degree of success particularly with regard to production of renewable sources of energy and new technologies (Toke and Lauber 2007; Mikler and Harris 2012). Failure to produce a low-carbon energy system by a country claiming leadership in the complex and difficult battle to reduce global emissions might, in addition, engender dangerous inferences for some countries about the achievability of climate change mitigation objectives.

2. Energy policy paradigms and change

The wider literature on energy, governance and politics has, over time, rarely departed from one of two sets of theoretical lenses, geopolitical or (neo)liberal. Indeed, a recent review of European energy governance literature has suggested that the 'markets versus geopolitics' debate is still 'state of the art' (cf. Correlje and van der Linde 2006; Finon and Locatelli 2008; Luft and Korin 2009; Youngs 2009). This dichotomy has served to somewhat narrow down what kinds of questions are asked about energy governance and possibilities for change. This book is rooted not only in allowing for conceptual variety but also in understanding what role different perspectives have been playing in changes to UK energy governance so far in the 21st century.

Common International Political Economy (IPE) questions about states and markets as well as environmental questions about how to mitigate climate change have also been under-represented so far in analyses of energy policy and politics.[2] The lively debate, which had taken place in the 1980s, about the role of the state in energy governance fell away over the course of the 1990s as neoliberal, and rational choice, ideas started to assume a position of both academic and elite political 'orthodoxy' in many OECD countries (cf. Yergin 1998; Hay 2007). So much so that the 'pro-market' energy governance system became, over time, less open to question and to an extent reified. Energy policy was researched but largely with problem solving, in Coxian terms (Cox 1981), in mind (cf. CEPMLP 2006). The debate about climate change,

by contrast, continued to build throughout the 1990s and early 2000s, albeit the section that challenged and critiqued existing energy policy was largely marginalised or compromised within elite political circles (Jacobs 1991; Bernstein 2001; Carter 2001; Dryzek 2005). This book will address questions about the role of the state and the market in UK energy governance, in addition to making important claims about the ways in which energy and climate policy have come to interact over time.

The energy paradigm literature largely argued that energy governance has, over the past 20 or 30 years, been heavily structured by neoliberal economic ideas. Analyses referring to varying types of energy paradigms have tended, however, not to pose specific questions about why energy has been governed in such ways, whilst also tending to generalise widely across regions, or globally (for example Stanislaw 2004; Klare 2008a; Nuttal and Manz 2008; Froggatt and Levi 2009). Rarely within this literature are paradigms, or what constitutes paradigm change, clearly or rigorously defined. The marked exceptions being Catherine Mitchell's book on UK sustainable energy policy and Florian Kern's thesis on Dutch and UK energy innovations policy (Mitchell 2008; Kern 2009). Both these works provide definitions of paradigms, with a particular focus on the ways in which they have constrained change, but not of paradigm change and why and how it takes place.

As already suggested very different conclusions have been reached about profound change to this 'pro-market' energy paradigm. Amongst the available papers and books on energy policy, three works have gone so far as to claim a paradigm shift (Helm 2007a; Rutledge et al. 2010; Goldthau 2012). More have concluded that UK energy policy has remained remarkably closed to new influences despite the urgent need to change in order to facilitate important climate change and energy security objectives (Rutledge 2007; Mitchell 2008; Kern 2009; cf. Scrase et al. 2009). For example, Mitchell has observed that 'it is far easier for Government to do nothing than it is to make change' (Mitchell 2008: 14). It is within the context of this debate that this book seeks to provide a more rigid measurement of what would constitute a policy paradigm shift in energy.

Although it is now more overtly acknowledged that ideas and interpretive frameworks are important to energy policy-making, a range of questions about energy governance and change remain unanswered. Few analyses have much to tell us about why energy policy is formulated in the way that it is and even less consider longer-term historical

and wider political contexts. Those that do provide explanations of specific governance practices and processes are not always focused on analysing one energy policy system in detail. For example both Mitchell and Kern are concerned with individual subsets of UK energy policy, i.e. sustainable energy and innovations policy (Mitchell 2008; Kern 2009), whilst Helm generalises across OECD energy policy more broadly (Helm 2005a, 2007a). This book analyses not only UK energy policy, including objectives and instruments of policy, but also other relevant structures by including in its characterisation of energy governance interpretive frameworks as well as physical institutions such as government departments and independent regulatory bodies. In this way, the combined structures of UK energy governance, referred to as the 'pro-market energy policy paradigm' (PEPP), represent a broad but complex and inter-related governance system.

3. Defining policy paradigms and change

Given that this book seeks not only to measure but also to explain change four simple questions have been chosen to guide the focus of the analysis:

1. Has UK energy governance undergone change of paradigmatic proportions?
2. Why has UK energy governance been changing; what have the catalysts for change been?
3. How do processes of change unfold?
4. What type of governance system now exists and how does it compare with others?

In order to provide answers to the first question, it is necessary to provide definitions of both policy paradigms and paradigm change upon which analysis can then be built. It has already been observed that without a clear definition of paradigms and change it is highly difficult to make credible claims about either the degree or the direction of change. Furthermore, change is understood here to be a relative concept (cf. Hay 1999c: 30), and as such it is important to be able to clearly define the energy governance system that existed at the start of the period of analysis. This book relies, in part, upon policy paradigm theory in order to both define the initial governance system, the PEPP, and assess whether a policy paradigm shift has taken place (Hall 1993; see also Campbell 1998; Hay 2001 and 2004; Blyth 2002; Oliver and Pemberton 2004).

Not only does this theory provide some definitional clarity, but it also helps to structure this book about complex and changing energy policy, whilst remaining at all times aware of the political contexts within which change takes place.

The second principal aim of the book has been to provide detailed answers as to what has motivated and structured change with an eye also to better understanding the newly emergent energy governance system. In this way, change is not only defined but also understood as a complex process unfolding unevenly over time. In approaching the question of why change became possible notions that widely perceived crises can provide political impetus for change (Hay 1996 and 2001; Blyth 2002) have been reinforced with notions, from the Copenhagen School, that the language of security can also be the language of political priority (Wæver 1995; Buzan et al. 1998). As such, it is argued here that perceptions of an energy security crisis, which started to emerge strongly from 2004 to 2006, were essential to an opening up of debate, and to a political re-awakening regarding energy. It argues that it was precisely the specific nature of that crisis narrative, focused on supply insecurity and fears of dependence on 'unstable' foreign suppliers, which elicited a high degree of political response. This claim that security narratives provided a catalyst for more significant processes of change is one that is original with reference to UK energy governance.

Fears about energy insecurity are understood here to have also necessitated a 're-think' of energy which, in turn, brought to light the degree to which the UK state lacked political capacity to understand, deliberate and act in an informed manner in energy. This observed process of 're-thinking' energy can also be offered as a part answer to question (3) above about how energy governance change has taken place. As energy became politicised and 're-thought', and as the problems understood to be facing energy did not relent over time, the depth and complexity of these problems started to come to light.

A struggle ensued between those that supported institutional change and those that did not. The neoliberal economic perspective persisted within energy governance institutions, including within Ofgem and the Energy Directorate of the DTI, and some maintained that structural changes were not required. Others believed and argued, however, that the PEPP needed a significant overhaul. Amongst these groups were those informed by ideas about climate change and the ways in which energy policy could be used as a tool in reducing carbon dioxide emissions. These climate narratives continued to argue for change, and most importantly, provided evidence of failure of existing policy

to deliver on new objectives (Greenpeace 2006; Mitchell 2008; Giddens 2009; Scrase et al. 2009; WWF 2010). This book claims that ultimately both geopolitical narratives of energy supply crisis and climate change narratives acted as catalysts for change and informed a wide range of governance changes in the UK. This is a claim that sets this book apart from other new institutionalist concepts of policy paradigm change that argue that one crisis narrative wins out battles to influence the new policy paradigm (Hay 1996; Blyth 2002; Oliver and Pemberton 2004).

What this book also tells us, therefore, is that the PEPP has indeed shifted towards a new energy governance system, but that this new system is not underpinned by one, alternative perspective on energy and how it should be governed. The new governance system in fact actively draws from three different perspectives on energy – pro-market, climate change and geopolitical – and represents, as such, a hybrid model. Each of these perspectives has been influential within the process of change as well as in providing solutions to the energy security–climate crisis. The hybrid nature of the new system may suggest not only that energy governance in the UK is moving beyond singular paradigms, but also that it is highly complex and potentially contradictory in nature.

4. Brief book outline

As already suggested, there are three structuring elements to this book: the conceptual framework, the four research questions and the three perspectives on energy and energy governance. Chapter 1 investigates the literature on energy governance, paradigms and change through the lenses of the three perspectives on energy governance. This provides the rest of the book with an indication of not only what kind of energy world was understood to exist from each perspective, but also what kinds of political responses were taken to be appropriate as events unfolded. These perspectives, and the narratives they inform, are understood as being analytically separable, but also as being fluid and subject to change over time. One viewpoint that each perspective came to share over the course of the 2000s, however, was a perception that energy, albeit for very different reasons, was once more in crisis.

Chapter 2 provides an outline of the conceptual framework, which suggests that frameworks of ideas are important within moments of consistency and change. A definition of the UK PEPP as of 2000 is provided. It is characterised as being made up of five separate, but inter-related, levels of governance: ideas about energy, rarely analysed elsewhere, and about energy governance, which together provide the 'interpretive framework', objectives and instruments of policy, and physical

institutions. Governance, as such, is understood here as taking place upon a variety of levels and requiring a greater or lesser degree of state and market input over time (cf. Rosenau and Czempiel 1992). This chapter also puts forward the notion that change and crisis are connected and that exploring the role of crisis narratives within processes of change can provide answers as to how and why profound change takes place.

This book has been structured in order to take account of the idea that change, as a relative concept, cannot really be understood or indeed measured if there is no in-depth understanding of the starting position provided. This premise might fall foul of criticisms that such an approach would tend an analysis towards taking too little account of the longer-term evolution of that area of policy (Mahoney and Thelen 2010: 5). Chapter 3, therefore, has been constructed in order to place the PEPP, as of the year 2000, into historical context. It draws our attention not only to the challenges that needed to be overcome during this time period, but also to the depoliticised and embedded nature of the PEPP by the advent of the New Labour Administration in 1997.

Chapters 4–6 consider, in detail, changes made to the PEPP over three separate 'eras' of change: 2000–2004, 2004–2007 and 2008–2010. Chapter 4, following on from Chapter 3, initially provides more detail about the ways in which the PEPP was maintained and operated under New Labour. It soon moves on, however, to suggest the emergence of various challenges to the status quo in energy governance and a high degree of resilience within the various levels of the PEPP. The degree of resilience is explained in particular through the application of notions of depoliticisation, in particular 'technocratic' and 'deliberative', which are outlined in Chapter 2. By considering the PEPP during this period of growing climate challenge, we can better understand how it managed to continue to draw on existing ideas, policies and methods of governance in answer to growing commitment to action on reducing carbon dioxide emissions.

Chapter 5 deals mostly with the question of why change of more profound proportions did start to take place. Various events were unfolding within the international political economy of energy at this time, not least Russian energy governance restructuring and the Russia–Ukraine gas transit dispute, which were perceived as possibly threatening to UK energy supplies and governance. This chapter traces relationships between the particular way in which energy crisis was becoming perceived, as a national security concern, and the start of processes of energy repoliticisation and of 're-thinking' energy. Some consideration, within this, will be given over to the role of wider public perceptions as

well as to the language of security in prompting political engagement with energy once more. Links will also be drawn between the ongoing process of 're-thinking' energy, the continuing sense of crisis and the formalisation of climate objectives through the acceptance of the EU's '20-20-20' commitment on climate change.[3]

In Chapter 6 the process of 're-thinking' energy is understood to still be ongoing. It is, however, also accompanied by mounting evidence of policy failure, and alternative solutions being produced by increasingly high-profile political protagonists. It can be claimed that change really started to escalate during this era, much of which was based on the emergence of a new narrative that combined arguments from geopolitical and climate change perspectives. The chapter concludes by observing that a high degree of change had taken place within each identified level of the PEPP but that the new system, which was based on multiple perspectives on energy and governance, cannot be identified yet as a policy paradigm. This is also partly because, as of the end of 2010, 'market' ideas about economic governance had not been rejected outright but just considered temporarily unsuitable within the context of the energy security–climate nexus.

Chapter 7 analyses energy policy under the Conservative–Liberal Democrat coalition and observes little change from that which had emerged under New Labour. This suggests that assumptions upon which the new system were based, including the refocus on 'home grown' energy and ongoing links between energy and climate policy, had become reasonably well embedded by 2010 and that change of paradigmatic proportions had taken place. The new energy governance system, however, is characterised as being highly complex and contradictory, albeit these complexities were somewhat unplanned and not acknowledged by policy-makers.

The chapter also reflects in more detail on the various iterations of change and on the differences between each chapter in the ways in which change had evolved. This chapter ultimately places UK energy governance changes within the context of how energy governance practices have been evolving elsewhere in the world over this time period. It concludes that within the context of shifting world power balances and the growing acceptance of state intervention in energy markets for security and climate reasons elsewhere, the UK's relative reluctance to intervene in energy markets appears increasingly isolated.

1
Perspectives on Energy, Governance and Profound Change

Introduction

> all we have so far, are competing doctrines – sets of normative ideas about the goals to which state policy should be directed and how politics and economics (or, more accurately, states and markets) ought to be related to one another.
>
> (Strange 1988: 16)

It has been observed on a number of occasions that within the social sciences there are competing doctrines, or sets of normative ideas, about the objectives and organisation of state policy. These also compete to provide explanations of and solutions to problems in the social and political world, and offer ideas about the goals to which state policy should be directed and how politics and economics, or states and markets, ought to be related to one another (cf. Runciman 1969: 156ff.; Smith 1987; Strange 1988: 16). It is within this broader context that energy governance is analysed here. Three primary perspectives are identified as having been influential over energy policy in the 2000s, namely pro-market, geopolitical and climate perspectives. This chapter will be organised around these three different and in some ways competing understandings of, and political approaches to, energy. The pro-market perspective has, as with other areas of research, dominated analyses of UK energy over the past few decades, both in academia and within the Energy Directorate of the DTI. This has left little room for insights from other perspectives offered within the social sciences. More recently, however, geopolitical and climate interpretations have become increasingly commonplace and have had a growing impact on how energy is governed.

It is important to note, at this early stage, that these differing perspectives are presented here more as heuristic devices than as rigid definitions. The boundaries between the perspectives as characterised here are porous, there are some similarities between groups, some ideas overlap, and they are clearly understood as subject to change and adaptation over time. These perspectives are, however, also put forward as largely reflective of genuinely held beliefs about energy and how it should be governed. They are important because they have been, to greater or lesser degrees, influential in government thinking about energy and also because they have underpinned the three energy crisis narratives that are understood here to have had a large degree of influence on energy governance change and on the new system that has evolved. Understanding how these narratives have driven change and influenced type and degree of change is fundamental to explaining change as well as understanding energy governance in the 2010s.

This chapter commences with a definition of each approach to understanding energy and its socio-economic role as well as outlining the sets of corresponding ideas about how it should be governed. It starts from the notion that these different perspectives produce in application particular sets of policy, governance recommendations and structured outcomes and this is a point worth reinforcing given the degree to which, ultimately, the new energy governance system draws on multiple theoretical paradigms. This is followed in each case by a more detailed assessment of the different ways in which each perspective has tended to construct understandings of, and responses to, energy events in the 2000s. In this way these sections fulfil the function of outlining both the ideational and the material context within which energy governance changes were taking place, whilst recognising and emphasising variety over narrow interpretations of events.

There has, however, been one consistent perception across pro-market, geopolitical and climate perspectives, and that is that energy had entered a period of crisis in the first decade of the 21st century. The various ways in which energy crisis has been constructed and understood are shown to be partly constitutive of the range of governance solutions offered. As a generalisation, although each perspective recognises certain core components of energy's renewed hour of difficulty, different emphasis has been placed on the importance of those components depending on the theoretical approach and/or related, normative position taken. Clearly each perspective may well represent an over-simplification of events but it is important to understand how they have interpreted events in that these interpretations have influenced the

type and degree of change that has taken place in energy governance. Although crisis is understood to exist for a range of different reasons it is important to note that a widespread perception emerged in the UK, as elsewhere in the world, that energy crisis exists.

As the review of perspectives on energy evolves an interesting, arguably underanalysed, debate emerges – one that takes place within academic, political, policy-making and public circles. Elements within each of the three perspectives have increasingly begun to consider alongside, and often because of, perceptions of crisis that international energy has entered, or at least should enter, a period of significant change. As might be expected, a range of reasons are offered for change, but arguments have now emerged that change of a profound nature, often referred to as paradigm shift, is ongoing in energy. Debates about energy paradigms and change are utilised within this book as a starting point from which to begin the analysis of change in UK energy policy and governance.

Perspectives on energy

This section defines each perspective of energy, and a summary of each view on the socio-economic role of energy and of what the objectives and instruments of energy policy should be is contained in Table 1.1. As outlined in the Introduction to this book, it is often suggested that there are two competing narratives that currently dominate the analysis of energy governance and policy (Youngs 2009: 6; cf. Correlje and van der Linde 2006; Finon and Locatelli 2008; Luft and Korin 2009: 340). Clearly this kind of debate is not new in IPE terms, and it gives energy analysis from an IPE perspective an impression of being stuck in a bit of a time-warp. But it is at least a debate that recognises that there are differing political approaches to energy both geographically and historically, even if it rarely asks questions about why these different approaches exist. Prior to the re-emergence of this debate, many energy experts had fallen in line with leading energy academic and US government advisor Daniel Yergin, who had in 1998 concluded with regard to energy that 'it is the economic terms themselves, rather than the philosophy of the terms, over which governments and companies wrangle' (Yergin 1998a: x).

As with so many other areas of governance, neoliberal economics had become the dominant approach utilised within both energy policy-making and academic analyses in OECD countries from the early 1980s to the mid-2000s (Hadfield 2007; Youngs 2009). By 2001, one much-cited study concluded that international commodity markets had now

Table 1.1 Three perspectives on energy

	Socioeconomic role of energy	**Policy objectives**	**Governance strategies**
Market-liberal	tradable commodity; sector of the economy; low intrinsic value;	competitive, markets; economic and cost efficiency; free trade; fiscal responsibility; marketisation as a source of energy security	liberalisation; unbundling; market-liberal norm diffusion; establishment of multilateral institutions and rules
Geopolitics	strategic asset of national importance; 'lifeblood' of modern economies; internationally powerful tool	secure and reliable supply (and demand); sovereign control over energy mix and natural resources; independent energy supply if possible	direct state involvement; bilateral relations; national control of energy assets
Climate	fossil fuel use as principal emitter of carbon dioxide emissions	reduction of carbon dioxide emissions; growth in energy from renewable sources; growth in energy efficiency and demand reduction; environmental sustainability	energy policy as a vehicle for achieving climate objectives; direct state involvement to support renewable energy, demand reduction and efficiency schemes

developed to such an extent that 'competition is the rule and economics works' (Mitchell et al. 2001: 176). As recently as 2006, pro-market energy analysts suggested that the 'old world' model, which is laden with state guarantees, subsidies and other measures that dampen the 'pure expression of market forces', has been rejected by Western nations. The 'new world' model had come to replace this old model to the extent that '[t]oday almost all consuming markets have adopted plans to allow for a greater role for the "invisible hand" of the market' (Hayes and Victor 2006: 322). The extent to which this perspective, particularly in terms of appropriate roles for markets and the state, had become accepted amongst energy academics and policy-making elites alike meant that

privatised and liberalised energy markets were increasingly analysed as *fait accompli* as opposed to socially constructed (Egenhoffer and Legge 2001; cf. Helm 2005a; Cherp and Jewell 2011). This indicates the large degree of power that these ideas have had both over governance systems and policies as well as to resist change – themes to which this book returns in Chapter 2.

The pro-market perspective on energy

The pro-market perspective is outlined here only in brief, given that chapters 3 and 4 will emphasise this perspective in detail owing to the degree of influence it has had over policy-making internationally, and in the UK, over recent decades. The pro-market view rested largely upon neoliberal economic and rational choice ideas about governance (cf. Hay 2007). One of the fundamental aspects of this perspective, as argued by advocates of neoliberal economic governance practices in the late 1970s and early 1980s, was related to the socio-economic role that energy was considered to play. The post-1945 emphasis on energy's central role in powering modern economies was de-emphasised in the 1980s when it was suggested that energy should be considered first and foremost as 'just another commodity' rather than a national or merit good (Lawson 1989: 23; see also DoE 1982; Littlechild and Vaidya 1982). From this perspective energy, as a commodity, is ultimately fungible or replaceable which implies little or no intrinsic value (cf. Youngs 2009: 7). By 2001 oil, the most dominant and problematic energy source, was understood to have been successfully 'commoditized' (Mitchell et al. 2001: 176).

Broadly speaking, therefore, energy should be left to trade on open markets and, to the extent that governance is required, should be pursued principally with an emphasis on economic or cost efficiency over state planning and on ensuring competition (Littlechild and Vaidya 1982). It follows that energy, like other economic sectors, should become subject to processes of deregulation and privatisation as new ideas become implemented and later sedimented (Jegen 2009: 5). The newly emergent freely trading energy markets, once established, should be supported through international co-ordination, based around the setting of generic, good governance standards and multilateral institutions (Youngs 2009: 8). The clear focus within this perspective has been on positive economic interdependence in energy trade, on 'markets and institutions', and on their internationalisation and their vital roles in energy governance (Goldthau and Witte 2009; Youngs 2009; Lesage et al. 2010). Much of the original thinking behind promoting the liberalisation of oil markets and pricing was intended to prevent 'states' from

impacting negatively upon the international oil trade, in that smoothly functioning 'free' markets were understood to be the 'best insurance' for a country's security of supply (Mitchell et al. 2001: 177).

The pro-market system of governance which first emerged in the UK, and in Chile under General Pinochet, was underpinned internationally by the emergence of the Washington Consensus within IGOs in the 1980s and 1990s (Held 2006: 161). It was further supported by energy institutions such as the IEA, which assessed the energy policies of member states against what they referred to as the model UK system (IEA 2006: 9). Energy systems around the world were privatised and deregulated, often under the auspices of International Monetary Fund (IMF), WB or EU funding conditions (de Oliveira and MacKerron 1992). Even Russian national resource companies, so long the engine of Russian economic growth, were passed in the 1990s from centralised control to albeit centralised private control in the form of oligarchs.

Geopolitical perspectives

As is the case in other areas of analysis and politics there are clear tensions between the pro-market and geopolitical perspectives on energy, events and governance. As such, the geopolitical perspective on energy can be taken here as a direct critique of the pro-market perspective or, as one analyst put it, of the 'economistic' turn in energy analysis (Hadfield 2007: 2). It is worth, however, making a brief point of differentiation here to avoid confusion. Much pro-market research on energy refers to 'statism', or resource nationalism, in a blanket fashion as covering a multitude of approaches to energy that is, any approach that assumes state, or political, intervention in energy markets. This might include states pursuing 'aggressive' energy relations internationally, such as China, as well as governments deciding on state ownership and management of domestic energy companies, as was evident in the UK prior to the 1980s, but which could also be referred to as socialism. This section of the book, in attempting to avoid analytical confusion between realist and socialist politics, defines geopolitics separately from state socialism.

It could be argued that geopolitical perspectives on energy share a long and well-established history. These perspectives represented arguably the dominant way of thinking in international energy relations, with the emphasis on oil, for most of the 20th century. After the brief hiatus in the 1980s and 1990s, geopolitical perspectives seem to have been substantially revived in the UK and Europe in the mid-2000s, particularly as perceptions that energy is in crisis have deepened (McGowan 2008: 91). This is, as with all organisations of political

thought into groupings, a wide-ranging approach to energy and its governance.

In general, however, and in contrast with the pro-market perspective on energy the geopolitical perspective is defined here as emphasising the geographically fixed and finite nature of natural resources, in particular, and tends to associate possession of resources with power and influence (Venn 1986; Gilpin 1987; Hadfield 2007 and 2008; Klare 2008a). Partly as a consequence of this and the associated importance of being able to access energy, the role of state sovereignty in energy governance is stressed, as are international energy relations and foreign policy.

Historically, energy has been understood through geopolitical lenses more as a national or *strategic* asset which states must be able to access for the maintenance of modern life or, as one analyst defined it, as the 'lifeblood' of modern economies (Gault 2004: 182; cf. Yamani and Ahmad 1981: 66). Other analysts have emphasised the importance of energy within diplomacy and international relations. Fiona Venn in her historical account of oil observes that 'the history of oil and the history of international relations' are intrinsically linked (Venn 1986: 1). Such analyses contrast clearly with pro-market analyses that emphasise the fungible nature of natural resources as traded commodities within an economically and positively interdependent world.

Emphasis within this analytical group has been placed on the role of the state in ensuring energy supply security, on strategic, often bilateral alliances, on the search for 'exclusive backyards' and on the use of military power to protect supplies (Youngs 2009: 8). Energy security has therefore been considered as a question for state-level politics and associated arrangements (Goldthau 2011: 129). Analyses of energy's past, particularly oil's, often refer to military conflicts between nations exacerbated by the perceived need to access oil on acceptable economic and political terms (Venn 1986; Bromley 1991; Painter 1997; Clarke 2007). A reading of geopolitically informed energy literature offers up some pointers as to why energy, as an area of international negotiation, has remained remarkably free of agreement let alone global governance 'norms' over the last century (McGowan 2008; Natorski and Surralles 2008).[1]

This line of thinking ties in with recent foreign policy analysis that concluded that in the energy sector 'the state has been more resilient than anticipated' (Hadfield 2007: 33). This is despite the period of substantial international marketisation that energy has been through. Furthermore, with reference to Keohane and Nye's earlier observations on energy, the analysis concluded that the global dynamics

inherent in a sector like energy are still largely at the mercy of national 'holders of power' (Hadfield 2007: 33). Examples of energy politics informed by geopolitics are the recent restrictions placed by Russian, Venezuelan, Bolivian and Kazakhstani governments on foreign investment in national oil and gas industries (cf. Goldthau 2012: 203). China's development of bilateral energy deals with African and Caspian Basin countries which bypass both international markets and multilateral agreements show a clear recognition of the geography and geopolitics of energy supplies and infrastructures.

Climate perspectives

The market-geopolitics debate, for all that it may still represent quite accurately academic research into energy and its governance, is too narrow to reflect current thinking on energy policy. Analyses focusing on such debates tend to underestimate and underemphasise another way of thinking about energy governance, the climate perspective. This is characterised here as being concerned specifically with how energy policy and governance practices might enable climate change mitigation. This perspective has long presented a critique of pro-market energy governance by repeatedly suggesting policy and governance change, often in the form of greater state intervention in transition, in order to enable the delivery of a more sustainable, low-carbon energy system.

The way in which the climate perspective is characterised here is, perhaps, more artificial than the two previous perspectives. As Steven Bernstein suggests, providing definitions of climate or environmental groups can prove problematic. He has observed that environmental analysts, although they may be pursuing a similar end game in the protection of the planet, often suggest extremely different routes to that same end (Bernstein 2001: 29). Even at the time of the first United Nations Conference on the Human Environment (UNCHE), held in Stockholm in 1972, splits had emerged. These were between environmental scientists and conservationists who understood the earth's resources to be finite, and therefore argued for limits to growth, and those who were more concerned with economic growth and poverty reduction (Bernstein 2001: 29; cf. Meadows et al. 1972; Tickner 1993). This split is characterised by Joerg Friedrichs as that between the neo-Malthusians, who take the view that limits to growth present an inescapable human predicament, and the Cornucopians, who believe in man's ingenuity and ability to solve problems with technology and knowledge (Friedrichs 2011: 1; cf. Carter 2001).

Attempts to characterise the climate perspective here need to be conscious of these rifts. By the early 1990s a 'shift in norms of environmental governance had occurred' which can be characterised by a general acceptance of 'liberalization in trade and finance as consistent with, and even necessary for, international environmental protection' (Bernstein 2001: 29; cf. Carter 2001: 169).[2] Although this view has tended to dominate political approaches to climate governance, as argued by a range of climate analysts (Bernstein 2001; Carter 2001; Dryzek 2005; Mitchell 2008; Scrase et al. 2009; Friedrichs 2011), the climate perspective will be characterised here as those that have opposed this position. As such this perspective has been concerned with openly critiquing pro-market energy policy in that it is understood to be less capable of delivering on climate mitigation goals. This perspective is therefore interested in arguing for, and bringing about, political change, albeit with some differences remaining with regard to ideas about how to change.

Like pro-market perspectives on energy, climate groups understand the world to be interconnected and interdependent, but with a focus on the ways, both positive and negative, in which humankind's actions reverberate around the living planet. Energy is clearly understood to have an important role to play in climate change and clean energy is understood to be something which should be made available for all. Estimates are that the global energy sector contributes almost 60% of the world's annual greenhouse gas emissions (Blyth 2010: 133). On the other hand, energy policy if designed around the objective of bringing about a low-carbon energy sector might also provide the possibility for mitigating climate change (Campbell 2005; Scrase et al. 2009). Energy use and climate change are therefore perceived to be inextricably interrelated within the deeply interconnected world, the 'global commons' (Vogler 2000). It is in addition considered increasingly difficult to disentangle questions of energy policy from those of climate change policy (Carter 2001; Held 2006; Giddens 2009; Scrase et al. 2009; Blyth 2010). This viewpoint has been encapsulated well in the claim that 'climate policy is energy policy' (Scrase et al. 2009: 3).

Such a view is in clear evidence today amongst policy-making groups involved in governing for climate mitigation, largely in OECD countries and especially in the EU. A recent European Commission (EC) report on how to facilitate moving to a low carbon economy claims, like geopolitical narratives, that a greater degree of state intervention is required given the degree of market failure in energy (EC 2007: 3). Also in evidence are calls for a 'post industrial revolution' in how energy is

used, traded and governed (EC 2007: 2). This narrative also claims that climate change mitigation targets should become the primary objectives of energy policy above other security or market-creating objectives (PIU 2002).

Perspectives on a crisis and what should be done

It has been argued above that there is one idea that has been consistent across these perspectives over the past decade or so: that energy is in crisis. Clearly each perspective has understood the crisis differently, but an agreement certainly emerged that something is wrong. It is important to note here some of the detail of how each perspective interpreted and narrated key energy events, in terms of both why they were happening and what should be done about them. Identifying these details helps us to understand that there are real differences in interpretation and in the policy responses recommended. The pro-market perspective resisted the notion that policy needed to change to meet newly recognised challenges, arguing that the existing system could still deliver. From this perspective what was 'wrong' was the anti-market actions of other countries, whereas geopolitical and climate narratives both argued for profound change to UK energy policy. By outlining these debates about crisis, this section also illustrates clearly some of the events taking place during the 2000s and how they became constituted as different crises requiring different solutions. This, in turn, provides us with an important backdrop, or context, in terms of understanding how and why energy governance changed between 2000 and 2010.

Pro-market interpretations of events

At the start of the 2000s, key elements of the international energy system had started to alter but perceptions about these changes, particularly within UK energy policy-making circles, were quite sanguine (PIU 2002; DTI 2003; cf. Noel and Pollitt 2010). After two decades of declining demand for oil, substantial but relatively unanticipated growth in fossil fuel demand was emerging. Much of the additional growth was coming from China and India in line with their fast-accelerating economies (Mitchell et al. 2001; DTI 2003). Over this same time period the UK was due to move from a net exporter to a net importer of oil and gas (Blackhurst 2004), and European energy markets were becoming increasingly reliant on imports of gas. At the same time, climate change arguments were gaining political saliency, the Enron and California crises had occurred, and Hugo Chavez's administration had gained

control of Venezuela's large oil-exporting company, Petroleos de Venezuela S.A. (PdVSA) (Goldthau 2012: 203).[3]

However pro-market analysts had spent much of the very early 2000s arguing that neoliberal economics had become political orthodoxy in energy, on a globalising basis, and was providing solutions to old problems (Mitchell 1998; Yergin 1998a; Mitchell et al. 2001; Hayes and Victor 2006). One leading energy analyst argued, for example, that energy security, in a geopolitical sense, was now 'a footnote . . . an empty phrase', as archaic as 'medieval mystery plays' (Mitchell et al. 2001 in Youngs 2009: 7). Historical issues facing world energy trade, such as 'nationalism' and 'sovereignty', were understood to have been resolved (Yergin 1998a: x). Attempts were being made to further sediment neoliberal energy governance via international institutions, such as the Energy Charter Treaty (ECT), with a degree of success (Bielecki 2002; Chen and Jaffe 2007). Given that many believed that free and fair international energy markets had been established and that these are constitutive in and of themselves of energy security, it is less surprising that, even as the events of the early 2000s started to unfold, the pro-market perspective still upheld a sanguine view of the international energy environment.

By the mid-2000s, however, things had started to change even from a pro-market perspective in that 'politics', in the form of 'statism' and 'resource nationalism', was starting to re-emerge strongly. Pro-market commentators, having so recently celebrated the death of 'old world' energy, were perplexed. China, it was now observed, was pursuing a programme of aggressive energy diplomacy (Baghat 2006; Yergin 2006; Chen and Jaffe 2007). It had begun to sign bilateral energy deals with various African states, Venezuela and Russia, as opposed to buying its energy on open markets. Furthermore, many of the countries with which China was dealing directly were considered to be anti-OECD, if not outright enemies of the modern liberal, democratic order. China was thereby understood to be undermining marketised energy as well as current and further multilateralism in energy (Chen and Jaffe 2002).

In 2004, Russia had started to extend state control over various of the country's key energy companies, despite much criticism from Western powers, and had imprisoned leading energy oligarch Mikhael Khodorovsky. Russia had 're-negotiated' contracts with high-profile global energy companies, such as ExxonMobil and Shell, and had announced restrictions on foreign direct investment in Russian oil and gas sectors, thereby discriminating against international oil companies (IOCs) (Baghat 2006; Yergin 2006; Dickel 2010). It was, however, the

gas dispute between Russia and Ukraine, and the consequently reduced European gas supplies in 2006, that really shook pro-market commentators. It was considered that Russia was directly using energy as a political tool, a strategy which ought to have been unthinkable given claims about the orthodoxy of neoliberal forms of energy governance (cf. House of Commons 2007a).

In addition, oil and gas prices had started to rise rapidly, arguably partly as a result of market speculation that growing 'resource nationalism' would prove bad for investment prospects, but also reflecting growing political uncertainty. Prices more than trebled between 2002 and 2007, with those for oil peaking at over $140 per barrel in 2008 (Youngs 2009: 1). What is reasonably clear, however, is such prices had not been anticipated by pro-market analysts – *The Economist* had not been alone in 1999 when it speculated a future price of $5 per barrel of oil (*The Economist* 1999 in Helm 2003: 387). However, the high and volatile energy prices of the mid- and late 2000s provided much of the reason why energy was starting to be considered to be in crisis in Western importer nations within public, political and academic circles.

This overtly geopolitical, and/or 'statist', turn in energy trade and relations was interpreted as having negative consequences for international energy markets and future investment requirements (Erixon 2009; Goldthau and Witte 2009). In fact, it was precisely this kind of state interference, considered so detrimental to markets, that pro-market pioneers were trying to rid the energy system of in the 1980s. But by the end of the 2000s, state-run oil companies or NOCs had access to over 80% of the world's oil and gas reserves and were understood as posing a real threat to markets (Myers Jaffe and Soligo 2010: 107). From a pro-market perspective, this constituted a very particular problem in that NOCs were understood not to have sufficient management capability or financial capacity to reinvest in the required levels of exploration and production to meet rising global demand. This was partly because 'investment decisions based on political calculations tend to ignore some of the underlying economics' and as a result there was a high 'risk of money flowing into the wrong projects . . . thus negatively affecting allocation of investment' (Goldthau 2010: 43). NOCs were, in addition, understood to be less transparent, transparency being held as key to the efficient operation of world markets (Dasgupta and Heal 1979: 473; Goldthau 2009: 44).[4]

As such there increasingly emerged a trend amongst previously sanguine pro-market energy analysts of concluding that energy was, once again, in crisis and of referring once more to 'energy security', meaning

(in-)security of supply, as a significant current problem (Yergin 2006 and 2007; Baghat 2006; Stanislaw 2006).[5] Pro-market explanations laid the blame for the experience of crisis largely outside the OECD countries, on those countries that were reverting once more to the practices of 'resource nationalism'. The project of international liberalisation would only work properly if all major players in the energy markets followed 'good governance' practice, and state intervention in energy trade clearly did not fit with such practice.

Some pro-market analyses were dismissive of the re-emergence of statist behaviour in concluding that it would over time quite simply just be proved 'wrong' (Considine and Kerr 2002; Finon and Locatelli 2008; Noel and Pollitt 2010). Others, however, started to consider solutions to the crisis as perceived. Some analysts have noted that from the pro-market perspective on energy governance if a particular outcome is unsatisfactory in some way the answer usually proposed is 'more private ownership, the removal of restrictions on trading, and the promotion of competition' (Carter 2001: 63; cf. Scrase et al. 2009; Ciuta 2010). It has also been observed that solutions offered with the intent of improving market functionality are often put forward with the understanding that they are 'generic' in that they can also be applied to many other areas (Ciuta 2010: 12). It is not surprising therefore that initial responses to the energy crisis, and to new climate change targets, represented little break from 'business-as-usual' (Mitchell 2008).

Solutions proffered initially were based again upon a reiteration of notions of markets, and market instruments, as sources of energy security in and of themselves (Bielecki 2002; Baghat 2006; Yergin 2006; Erixon 2009). It had previously been understood, as alluded to briefly above, that free trade represented the 'best route to national energy security for most countries' and, in addition, that market institutions were vital components of energy security for Western nations (Mitchell 2002: 4–5). Some analysts emphasised the need to further develop and internationalise gas markets, and short-term trading in gas, such that gas could be traded more freely, thereby hindering the possibility for countries such as Russia to impact on trade (Interview 1; Youngs 2009: 7).

Much analysis focused on the need to make renewed efforts to encourage further liberalisation, privatisation, transparency and competition around the world, and to support emerging market institutions (Bielecki 2002; Yergin 2006; Erixon 2009; Goldthau and Witte 2009). The idea was that those countries pursuing statist energy policies might still be convinced of the inefficiency, particularly economically, of such programmes thereby making them more likely to move back towards free

market international trade, good governance and transparency (interviews 1 and 19). This viewpoint was, perhaps in hindsight, hopeful in the extreme, especially given the lack of co-operation from producer states historically in providing relevant market information (Goldthau and Witte 2009). Interestingly, given later developments, Daniel Yergin had cautioned against political reactions in the West to the crisis that would encourage greater 'independence' in energy. From his perspective, security for all consumers resided in the stability of the market, so secession was not an option (Yergin 2006: 76).

Geopolitics and the energy supply security crisis

Analyses of energy, through pro-market and geopolitical lenses, have some factors in common in the interpretation of energy events of the 2000s. As already mentioned, they both understand energy to have entered a period of crisis and they both identify underinvestment in energy as a core component of that crisis. Geopolitical lenses, however, tend to otherwise interpret the crisis differently. Whereas pro-market analysts have understood underinvestment in energy to be in part caused by the statist behaviour of some states, the geopolitical perspective conversely understood it as a problem caused specifically by the marketisation of energy (Gault 2004; Umbach 2010). It is claimed that international energy markets are inefficient, not through lack of transparency but in that they tend not to reflect some of the hidden costs of the world trade in energy. These costs range from environmental impacts to maintaining military protection for production sites, sea routes and pipelines (Youngs 2009: 9). In addition it is not considered possible to refer to international energy markets with any degree of accuracy as gas (and liquefied natural gas) continue to be traded via long-term contracts and not on open exchanges (Belyi and Kuzemko 2007).

The argument continues that too much faith in the ability of markets to deliver has resulted in underinvestment in exploration and development for primary energy sources as well as in energy transit systems (Gault 2004; Umbach 2010). The private sector is understood not to have been sufficiently motivated to invest in this increasingly uncertain, and historically long-term area. One analyst observes that it constituted 'a huge leap of faith to assume that since markets functioned in the 1990s, they will be able to cope with a future crisis in today's changing political backdrop' (Myers-Jaffe 2005: 9).

Broadly speaking, this perspective has likewise understood the role of changing energy supply fundamentals within the crisis differently. It has been observed that after 2010, oil and gas supplies would increasingly

come from non-OECD states and NOCs. Given that national access to natural resources is also considered to confer power and influence, hence notions of 'energy superpowers', these conditions would distort free-market dynamics and further exacerbate existing dependencies (Venn 1986; Clarke 2007; Klare 2008a). Together this would lead to a further reduction in the ability of markets to respond to an energy crisis (Youngs 2009: 9; cf. Klare 2008a; Umbach 2010).

Michael Klare takes this argument one step further by dividing the world into 'energy-deficit' and 'energy-surplus' nations when defining his 'new international energy order' (Klare 2008a:14). Given that trade in resources is understood from this viewpoint as a zero-sum game, energy deficit nations such as the US, China and the UK would increasingly have to compete with one another to secure supplies from energy surplus nations such as Russia and Saudi Arabia. Furthermore, enormous wealth transfer will continue to take place between consumers and producers (Clarke 2007; Reihing 2007; Klare 2008a). Klare claims that 'in 2006 alone, oil-exporting countries sucked up an estimated $970bn from oil-importing states' (Klare 2008a: 15).

In extreme cases, as in the past, it is understood that increased competition and a relative lack of primary energy sources may well lead to interstate conflict, militarisation and war (Russell 2008; Wilson 2008; Klare 2008a; cf. Parra 2004). This has been seen as particularly relevant in developing countries but also as developed countries seek to defend access to globally important natural sources of energy such as oil and gas (Klare 2008a). Some have claimed that 'the conflict-laden history' of international oil in the 20th century is therefore bound to continue (Mommer 2000: ii). This line of thinking leads to a natural conclusion, as explicated in more detail below, that nations should defend themselves by seeking to become more independent in energy, and that those with sizeable indigenous energy supplies should keep control of them.

From the geopolitical perspective therefore, Western governments are understood to have been slow to understand and react to these emerging political realities, thereby exacerbating the energy crisis. Western governments stand accused of failing to fully acknowledge the entrenched role of the sovereign state in procuring and protecting national supplies of energy (Klare 2008a: 21). These criticisms are largely levelled at EU countries, such as the UK, which have overemphasised the role of market forces in energy and underemphasised the role of national, strategic and geopolitical interests (Umbach 2010: 1230).

Perhaps not surprisingly, given the kind of critique levelled at the pro-market energy system above, some within the geopolitical group

have suggested that governments in the West need to become more directly involved in governing energy. Amelia Hadfield's suggestion that energy should be integrated with and into wider foreign policy structures is one that is echoed quite widely elsewhere in this group (Gault 2004; Hadfield 2007; Umbach 2010; cf. Youngs 2009). Specifically, she suggests that

> the challenge of ensuring a consistent supply of energy whilst avoiding 'security of supply' problems clearly moves energy out of the commercial realm . . . and into the terrain of cross-border issues and national interests where foreign policy issues reside.
>
> (Hadfield 2007: 3)

This she observed was a particular concern for the UK.

Others have emphasised the need for government to become more involved *per se* and not just in devising energy foreign policy (James A. Baker III Institute for Public Policy 2001; cf. CEPMLP 2006; Hadfield 2007). One high-level report in the US warned that

> the US administration had retreated too much from the energy sector, leaving decisions to demonopolised private companies when a more 'comprehensive strategic approach' needed to be pursued through national champions.
>
> (James A. Baker III Institute for Public Policy 2001: 29)

Furthermore, it has been proposed that foreign policy should be designed in such a way to take greater account of rights to policy-making sovereignty and specific national demands within producing states (Gault 2004: 182; Umbach 2010: 1239). Too much emphasis on global economic processes when analysing energy and its governance has been to the detriment of analyses that take national and regional political requirements into account (Umbach 2010: 1239).

Within the context of this analysis of energy governance and change, the geopolitical perspective on energy is understood to have provided an alternative picture, or retelling, of the energy crisis. This book, largely in Chapter 5, argues that it is partly the urgent and evocative picture created by this perspective on energy crisis, and its effects on public perceptions of energy, that prompted political elites to reconsider energy governance in the UK. In fact Klare's recent book, which outlines a geopolitical nightmare in future energy relations, can to some extent be read as an example of the strategic appeal to fear of such a future to provoke change (Klare 2008a).

Climate change crisis

Generally speaking, from a climate perspective the current energy crisis is understood as part of a larger problem that has been analysed and discussed, with increasing frustration, for decades (Bernstein 2001: 29–47; Giddens 2009: 49; cf. Jacobs 1991; Carter 2007). The energy crisis is understood within the context of the ongoing warming of the planet partly due to the use of fossil fuels to power modern society. Reference is often made to key events such as the 1972 Declaration of the UNCHE and the 1992 UN-led Earth Summit, where world leaders convened to discuss and attempt to effectively address global environmental concerns, but which since then have produced little real change in policy or behaviour (Vogler 2000; Bernstein 2001).

Whereas the pro-market perspective might present the causes of the current energy crisis as being external to current systems of energy governance, the 'climate' perspective often highlights problems of an endogenous nature. The modern system of growth and accumulation, including current forms of globalisation, is critiqued in that it has through its emphasis on economic growth over other variables exacerbated climate change (Carter 2001: 63; Held 2006: 160; cf. Paterson et al. 2003). The current world system, which underpins a 'hegemony of the market', has been criticised as being capable of little more than offering market solutions to environmental problems and being, in this sense, ineffective (Carter 2001; Mitchell 2008; Scrase et al. 2009; Kern 2009). Held goes on to suggest that by widely promulgating a deep distrust of positive roles for government in core areas of socioeconomic life, the Washington Consensus viewpoint has further undermined the ability of governments to work together to address energy and sustainability concerns (Held 2006: 161).

Steven Bernstein takes this relationship between energy and environmental governance systems and wider political systems further. He perceives there to be a wider system of governance, labelled the 'economic paradigm', which creates problems for progress towards establishing a sustainable energy system. This paradigm had been winning out over scientific and other environmental ideas about how to govern the environment for decades, in a process which he terms 'the compromise of liberal environmentalism' (Bernstein 2001: 187). Specifically, he argues that

> economic ideas overshadowed scientific ideas and ecological thought in producing normative compromises at key junctures in the evolution of the environmental norm-complex over the last thirty years.
>
> (Bernstein 2001: 190)

Examples of policy outcomes of this kind of compromise can be found in recent analyses of UK energy policy (Helm 2003; Mitchell 2008). Catherine Mitchell points to the dominance of quantitative over qualitative analysis within UK government institutions concerned with energy and to the dangers of 'ideological lock-in'. This has meant that the bulk of analysis has failed to assist in making policy decisions related to judgement calls or, just as importantly, to highlighting progressive change required to the system of governance (Mitchell 2008: 1). Dieter Helm also previously concluded that the inability of UK energy policy-makers to think outside the neoliberal energy 'box' had resulted in policy that was no longer fit for purpose (Helm 2003: 402). It has thus been observed that an economic paradigm, based on pro-market ideas, had been sufficiently institutionalised such that although the need to reach climate change goals could be identified, more productive methods of achieving this often lay outside accepted 'normal' practice.

As already asserted above, this perspective on energy and crisis has been concerned with the urgent requirement for change in how energy is governed, and used, on a global basis. That is not to say that all within this broad church would recommend the same specific policies – there are deep divides between those who might recommend nuclear as a clean, low-carbon and sustainable energy source (Helm 2007a; Giddens 2009; cf. DECC 2009a) and those who would not (Held 2006; Mitchell 2008; Rogers-Hayden et al. 2011). Some in the anti-nuclear, climate camp suggest that narratives of energy security and climate change have been utilised purely strategically in order to promote the nuclear industry and to give it a future in electricity generation (Scrase et al. 2009; Rogers-Hayden et al. 2011). This book will suggest that whilst these narratives have been used strategically, there are also those who believe that producers such as Russia genuinely represent a threat to energy systems and that countries should reduce dependence via increased domestic energy production, including nuclear.

Like those writing from the geopolitical perspective, some climate experts start with the recommendation that current energy governance systems need to change. Specifically, governments should become more directly involved in order to establish sustainable energy systems and to protect niche, emerging technologies which could replace existing energy sources (Carter 2001; Held 2006; Mitchell 2008). This is not least because of the view that markets, left to their own devices, would deliver gas-fired power stations to the exclusion of all else given that that would be perceived as the economically efficient answer (Fells 2001: 1). This perspective often points to the very urgent need to build energy,

and climate, governance capacity both domestically and internationally (Stern 1987; Carter 2001; Helm 2005c; Held 2006; Giddens 2009).

Energy policy should be set towards achieving specific climate mitigation targets, including carbon dioxide emissions reduction, renewable energy and energy efficiency, and these should take precedence over other energy policy objectives (PIU 2002). A range of specific recommendations to improve energy usage, thereby slowing the pace of global warming, have been suggested, including the implementation of an effective national sustainable energy strategy (Carter 2001; Giddens 2009; Scrase et al. 2009). Such a strategy is understood as being capable of going some way towards reinstating collective thinking on sustainable energy to counter-balance the short-term outlook of the markets for energy (Giddens 2009: 128). Other more specific policies include an increase in direct government investment in renewable energy technology research and development (Mitchell 2008: 214; cf. Kern 2009), improved market regulation (Jacobs 1991: 136–138), feed-in tariffs to provide generators of renewable energy with a 'risk-free' deal (Mitchell 2008), and renewed usage of qualitative alongside quantitative analysis (Hope et al. 1987; Mitchell 2008). All of these suggestions infer, to a greater or lesser degree, less devolved and/or independent energy governance.

Again, with specific regard to ways in which energy is governed, others have observed that energy and climate policy should be reached through an interlinked process (Carter 2001; Greenpeace 2006; Held 2006; Giddens 2009; Scrase et al. 2009; Blyth 2010: 133). As of 2000, the starting date of the period of analysis covered in this book, responsibility for climate and energy policy lays with separate UK government departments, the Department for Environment, Farming and Rural Affairs (DEFRA) and the Energy Directorate of the DTI respectively.

Energy, paradigms and structural change

Given the consensus across perspectives that energy has been in crisis for much of the first decade of the 21st century, it is unsurprising that there has also been much talk of change. Chapter 2 will explore in some detail conceptual linkages between perceptions of crisis and political ability, and willingness, to change but it is worth highlighting here that such links exist. This can be done with reference to Colin Hay, who suggests that crises should be understood as moments not just of considerable uncertainty but also of 'decisive intervention' (Hay 2001: 196).

The paradigm comeback

What has complicated questions about how to respond politically in energy's renewed time of crisis, or of how to intervene decisively, is the existence of the above-mentioned variety of ways in which the crisis has been understood. One way of claiming that there are different ways of understanding and doing things is to talk in terms of paradigms. These are often used in political science to denote certain, distinct, ways of thinking theoretically (cf. Keohane 2009). The term has very recently started to appear in analyses of energy, and of climate change, to denote fixed ways in which energy has been used and governed, often specifically within the context of wider political paradigms (cf. Helm 2003; Stanislaw 2004; Clarke 2007; Mitchell 2008; Nuttall and Manz 2008; Jegen 2009; Kern 2009). This body of work is largely focused on describing the ways in which the context within which energy governance takes place is changing, often by pointing to global warming, peak resources or energy supply insecurity.

Given that this book is concerned with institutional change, it is interesting to note that there are high-profile pro-market energy analysts who have recently suggested that a new energy paradigm needs to emerge (Stanislaw 2004 and 2006; Yergin 2006). Daniel Yergin and Joseph Stanislaw have been involved politically in the 'marketisation' of energy partly as advisors to various governments, including that in the US. Joseph Stanislaw served as senior economist at the IEA, and together they founded Cambridge Energy Research Associates (CERA), the world-leading energy consultancy firm. They are co-authors of *The Commanding Heights: the Battle for the World Economy* (Yergin and Stanislaw 1998). Both analysts have, however, recently proposed that current energy governance needs to change. Specifically what is needed is a greater understanding that energy is lodged within broader, complex relations amongst nations, and OECD governments should become more capable of acting accordingly (Yergin 2006: 71; Stanislaw 2006: 10).

Analysts writing about energy from a climate perspective have, as already suggested, had more to say about specific ways in which energy governance should change and in which energy resources are used and utilised around the world. Pablo Gonzalez has concluded that the current 'economic paradigm', in which the 'scarce factor of production' has been capital, is fast moving to one where the scare factor will become natural resources (Gonzalez 2006: 12). What needs to change therefore is the economic paradigm given that it is based on growth without due consideration for environmental and social consequences (see

also Carter 2007; Friedrichs 2011; Garner 2011). Carter references the existence of an 'alternative paradigm of sustainable development' which has not been pursued due largely to the above-referenced compromise between neoliberal forms of economic governance and climate change ideas (Carter 2001: 169; cf. Bernstein 2001).

Across the energy paradigm debate, the term paradigm tends to be applied in an undefined manner, assuming that the audience will understand what a paradigm is. Some sort of intersubjective meaning seems to be assumed between author and reader, thereby suggesting that the term paradigm is widely understood and recognised.[6] What is missing, therefore, is more substantial definitions of what a paradigm and a paradigm shift are. Analyses of paradigms and energy are often undertaken with reference to either global or regional energy systems, thereby formulating conclusions that are generalised across broad geographical boundaries.

With regard to UK energy governance processes more specifically, however, a few analysts have recently characterised UK energy policy as being influenced by neoliberal ideas which deeply constrain its ability to respond to climate, and energy security, problems as they arise (Helm 2003; Rutledge 2007; Mitchell 2008; Kern 2009). In his stinging critique of energy governance under New Labour, Ian Rutledge describes a 'Lawsonian paradigm' underpinned by a particularly fundamentalist view of the role of competitive markets in achieving objectives (Rutledge 2007: 901 and 903). This view on the role of competition is also understood to have been very influential in EU energy policy-making and in thinking within institutions such as the IEA. Florian Kern in his recent PhD thesis applies discursive institutionalism to great effect to reveal ways in which neoliberal ideas about energy governance have affected how energy 'innovation policy' has been devised (Kern 2009). His analysis highlights in detail the way in which personnel working within innovation policy, particularly at the UK's Carbon Trust (CT), have openly reflected ideas about government 'doing as little as possible', 'giving the market room to breathe' and allowing for markets to deliver (Kern 2009: 124–125).

Catherine Mitchell's recent book refers to UK sustainable energy policy as having been devised very much within the context of wider UK economic governance practices. She starts with a definition of the UK's sustainable energy policy as reflecting the character of the 'underlying political-economic paradigm' (Mitchell 2008: 1). This paradigm is further defined as a regulatory state paradigm (RSP) with reference to

the work of Michael Moran (Moran 2003). This suggests that government should 'provide a regulatory framework which "steers" towards a defined general direction and then leaves it to the market to select the means to reach that end' (Mitchell 2008: 1). Much of the rest of the book is given over to articulating the ways in which this politico-economic paradigm has restricted change and the development of effective sustainable energy policy in the UK. Mitchell suggests a range of solutions, many of which would require a break with existing practices.[7]

These pieces of research are highly significant as they are the first to suggest that the parameters of energy policy have been severely restricted within specific but narrow ways of thinking. Although all three focus on consistency of policy over change, they do not include analysis of actual changes ongoing in wider energy policy, nor do they define ways in which paradigms can be changed.

Policy paradigm change

More recently some analysis has emerged which is more focused on questions of paradigm *change* in OECD energy policy. Although there is agreement within this small group of work about the starting position from which to evaluate change, conclusions about change differ quite widely. These range from suggestions that a paradigm shift has already taken place (Helm 2007; Keay 2010; Goldthau 2012), through those that understand key elements only of the policy process to have been changing (Jegen 2009; Froggatt and Levi 2009), to those that recognise and elucidate a range of policy failures challenging the pro-market energy model (Rutledge and Wright 2010; Rutledge 2010). These debates about challenge and change to an established system of governance heavily influenced by neoliberal economic thought can be considered important within the context of wider discussions within IPE about challenges to financial governance under conditions of financial and economic crisis (cf. Gamble 2009; Hay 2010; Broome et al. 2012).

Dieter Helm, a climate change economist and advisor at times to both the UK government and the EU, has produced an in-depth work on paradigm change in energy policy (Helm 2005a and 2007). His analysis of OECD energy policy is concerned less with the wider system of economic governance as representing a paradigm, as was the case with Mitchell's book, and more with energy governance in particular as constituting a policy paradigm. The analysis does start with a brief definition of a paradigm, with reference to Thomas Kuhn's seminal work on the philosophy of science, as 'a coherent pattern of research organized around commonly shared theoretical propositions and models' (Kuhn

1962 in Helm 2005a: 1). He continues by suggesting that paradigms can exist also in politics – hence the term 'policy paradigm'. Helm's 2005 and 2007 articles paint a picture of an energy policy paradigm that dominated policy-making across the OECD during the 1990s, and which was built upon ideas about liberalisation and privatisation. However, although he has referred to the ways in which a policy paradigm is internally consistent and therefore provides a preferred solution to problems, he does not explicitly offer any detailed definition of what a policy paradigm is or how it operates, something that this book will correct in Chapter 2 (Helm 2007: 32).

With regard to change, Helm proposes that a paradigm shift can be understood as 'the emergence of an alternative framework of common and shared analysis' (Helm 2007: 9). A paradigm shift can be understood to have occurred when

> the historical context changes to a sufficient degree making it increasingly hard to reconcile the existing mindset of policy-makers with the evidence leading eventually to new objectives and new policy instruments.
>
> (Helm 2007: 9)

Paradigm shifts in policy are understood, in addition, as also requiring a change in ideas and instruments in response to changing contexts (Helm 2007: 9). All of this suggests that it is exogenous conditions that lead to change rather than implying any critique of the existing policy paradigm *per se*.

The energy policy paradigm shift that Helm claims took place seems to be more concerned with changing objectives than anything else. He suggests that the primary focus of energy policy changed from competition, and associated cost minimisation, to climate change and security of energy supply (Helm 2007: 18). However, although it is implied in the title of this piece, 'the new energy paradigm', it is not clearly argued within the body of each work that an energy policy paradigm shift has indeed taken place (Helm 2007). By concluding that policy objectives have changed, whilst arguing that the instruments of policy have not yet changed, the title is left somewhat stranded from the text (Helm 2007: 32). This is because by Helm's earlier, fleeting definition of a policy paradigm shift, both new objectives and new policy ideas and instruments are required (Helm 2007: 9). However, in some recognition of the temporality of, and constraints on, change, he posits that any change to the existing energy policy paradigm takes place as part of an ongoing

process which will be problematic due to the existence of 'institutional and structural constraints to a new paradigm in energy' (Helm 2005a: 14). This is perhaps why he proposes that part of the problem of devising new instruments of energy policy rests on the question of how to marry up 'the new objectives with the liberalized markets' (Helm 2007: 32). In this Helm is not actually claiming an alteration in the underlying market-based model or a rejection of the ideas upon which it rests.

By contrast, in a recent book entitled *UK Energy Policy and the End to Market Fundamentalism*, scholars have argued that the ideas about energy upon which the UK energy policy paradigm was based are now being rejected by a range of advocates for change (Rutledge and Wright 2010). Much of the book is given over to arguing that market-based energy policy is facing enormous and unprecedented challenges that should and will cause a shift in how energy is governed. However, some, such as Malcolm Keay, suggest that the UK government has already rejected the PEPP to the extent that state intervention to achieve climate and security objectives has overtaken previous 'market innocence' about the ability of markets to deliver on these goals. He points to a gradual movement towards more direct forms of intervention 'whilst not conceding that liberalised markets might not be the right vehicle to achieve the required results' (Keay 2010: 301). This depiction of change also contradicts Helm's description above of a new policy paradigm being based on a new programme of common and shared analysis. Keay's work more than any other represents a confused and confusing picture of UK energy governance, and one to which this book will return in detail, particularly in Chapter 7.

Keay also raises the question as to why the ability of liberalised markets to deliver investment in the electricity sector was not questioned earlier. This is something that many climate change academics, who have long pointed to failures in pro-market energy policy, have repeatedly asked: Why has change taken so long to come about? This is a question which this book answers by elucidating to the ways in which the PEPP resisted change.

Analyses of change in EU energy policy also claim, in line with Helm, that objectives are now much more oriented towards reducing carbon dioxide emissions and ensuring energy security as well as achieving competitive markets (Jegen 2009: 18; Buchan 2010: 414).[8] Again, there is some ambiguity about whether enough aspects of energy policy have changed in order to claim a paradigm shift. Jegen, for example, remains ambiguous as to whether a 'genuine' paradigm shift, outlined yet again with a brief reference to Kuhn's scientific revolutions, has taken place

(Jegen 2009: 19). Buchan, on the other hand, also emphasises a greater degree of active EU intervention in member states' energy policies, of direct EU financing of energy infrastructure and of concerted effort to devise a more robust combined EU energy policy (Buchan 2010: 414; see also Goldthau 2012). His claims about the historical influence of UK energy policy on EC energy thinking are of note here. He suggests not only that the UK was influential over EC market liberal policy-making in the 1990s but also that it has been at the forefront of the creation of the more recent, interventionist EU energy policy (Buchan 2010: 401–402). As such, changes to the UK PEPP can be understood as having significance for energy governance on a geographically broader scale.

Conclusions

The focus of this chapter has not been to establish which perspective is 'right' or 'wrong' in its interpretation of the political economy of energy in the 2000s but to build a profile of each perspective on energy in terms of how it understands and represents crisis, what it recommends in response to it, and the degree to which it understood change to be taking place. Clearly, as already mentioned, there is some overlap between each perspective but sufficient generalisations exist in their normative positions and/or their theoretical approaches to argue for separation. The three energy perspectives will underpin much of the rest of this book in that each is understood to have a role in the process of change to UK energy governance and policy in terms of both facilitating and constraining change.

It appears, on reading the analysis on energy paradigms and change, that it is at best ambiguous whether or not an energy policy paradigm shift is taking, or has taken, place. Academic work on energy paradigms consistently suggests that UK, and OECD, energy policy has been heavily influenced by ideas about liberalisation, deregulation and competition over a period of decades. What can also be read from this literature is some similarity in the consideration of the objectives to which energy policy is now being set. Objectives appear to have been reordered such that the security and sustainability of energy supplies have emerged as primary, in some cases ahead of the creation of liberal and competitive energy markets. Some now claim that that the state is intervening more in energy markets in OECD countries, partly in response to the need to meet climate objectives and partly in response to changing energy governance practices elsewhere, often in BRICS countries (Brazil, Russia, India, China and South Africa) (cf. Goldthau 2012: 198).

There has been a remarkable increase in debates about energy centred on energy security and climate change as issue areas, and these have arguably partly served to repoliticise energy and to raise a range of questions about change. Although there is considerable agreement, across perspectives that change is required there appear to be quite deep differences about the degree and type of change happening. This book takes the notion of a paradigm shift in energy policy as a starting point for analysing not only whether or not a profound shift has taken place but also how and why institutional change takes place. By closely investigating and measuring this process of change in detail it also formulates better understandings of the newly emergent energy governance system, the energy security–climate nexus and its internal inconsistencies.

2
Conceptualising Change and the PEPP

Introduction

This chapter sets out the conceptual framework through which this book develops the analysis of UK energy governance change. As already noted, there has been a widespread perception within academic, government and wider circles that we have been living through a period of crisis in energy for much of the 2000s. Renewed emphasis has emerged in the UK, as elsewhere, on questions of international energy security, perceived often as insecurity of supply, alongside growing political traction behind arguments about climate change and the need to reduce carbon dioxide emissions. Much of the debate about energy paradigm change centres on the argument that political change is required, but also despairs over the lack of change over time (Bernstein 2001; Carter 2001; Stanislaw 2004; Gonzalez 2006; Mitchell 2008). Furthermore, given the lack of precise definition within this debate of what might constitute a paradigm shift or, indeed, how this might happen, this chapter argues that clear conceptualisation is required.

The conceptual framework is based predominantly on ideational strands of institutionalism, proposed by Colin Hay as a 'synthesis' of historical and discursive variants of neo-institutionalism (Hay 2001: 193). The framework presents first of all a clearly defined concept of a policy paradigm with reference to Peter Hall (Hall 1993). It then builds on Hall's concept of a policy paradigm in outlining five 'levels' of governance within the UK PEPP against which change can be measured. An explanation of the PEPP, why certain energy decisions were made over others, and some of the social, political and economic outcomes of those decisions provides us with a deeper understanding of the context within which change occurred in the 2000s.

It is further argued, through reference to other new institutionalist concepts, that the PEPP had become well sedimented in the UK by the start of the 2000s. This chapter claims not only that energy had become quite significantly depoliticised over time (cf. Kern 2009) but indeed that various processes of depoliticisation had actively served to embed and cement the PEPP (cf. Hay 2007). These processes are introduced here as 'marketised', 'deliberative', 'technocratic' and 'secretised' depoliticisation. The depoliticised nature of the PEPP, along with the policy-making mindsets inherent within Hall's notion of a policy paradigm, help to explain the degree to which, and ways in which, the PEPP proved resistant to change. If such a sedimented system can be seen to have changed profoundly, and in a lasting manner, then this can be understood as significant. This is not only because UK energy policy had been actively held up as a model which other states wishing to 'reform' their energy sectors should follow (IEA 2006; cf. Thomas 2006; Buchan 2010), but also because of the context of wider IPE debates about change to neoliberal economic governance.

Having established a starting point for the analysis of change, this chapter supplements the concept of policy paradigms, and the PEPP in particular, by considering *how and why* change of profound proportions can take place within such a well-sedimented energy governance system. Arguably, by explaining change as a process, we can learn a lot more about the new system of governance than we could by just measuring one system against another. The latter sections of this chapter provide a thorough conceptualisation of change by considering the role of narratives, based partly on the perspectives outlined in Chapter 1, as catalysts for and enablers of change (Hay 1996 and 2001; Blyth 2002 and 2003). Understandings of the role of narratives in change are supplemented by arguments about repoliticisation (cf. Wood 2011), rethinking and the policy effects of 'speaking security' (Wæver 1995; Buzan et al. 1998).

Policy paradigms and ideas

> The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else.
>
> (Keynes 1997: 383)

In the conclusion to Chapter 1 it was observed that amongst the failings of the current, albeit nascent, energy paradigm literature is a lack of

any well-defined explanation of what a paradigm is. With the notable exception of Catherine Mitchell's work on sustainable energy policy, paradigms remain largely emblematic, used as heuristic devices to signify a particular way of doing things. This chapter is an important step towards being able to characterise in detail a specific PEPP, something to which much research on paradigms and change refers but without entering into much detail.

As already noted at the end of Chapter 1, Catherine Mitchell and Dieter Helm have gone the furthest in trying to define paradigms by providing us with some, albeit brief, descriptions of some internal machinations. Without specifically referring to ideas as influential variables within political processes, Mitchell has put forward the notion that UK sustainable energy policy reflects the *character* of the overall socioeconomic paradigm, referred to as the RSP (Mitchell 2008: 1). She notes that the RSP 'supports the status quo and the momentum of the current energy system' (Mitchell 2008: 50) and observes throughout her book that the character of the political paradigm has to change in order for successful sustainable energy policies to be pursued (Mitchell 2008). However, by failing to define what constitutes a political paradigm more generally, beyond the definition of one particular paradigm, the RSP, or how it can be that paradigms have a certain 'character', it becomes harder to also conceptualise how it might be possible for such change to take place.

Policy paradigm as interpretive framework

Given the range of different paradigms associated with energy referenced in Chapter 1, providing a specific definition of a paradigm is considered to be fundamental to this book. There are, however, a number of other reasons for this. Firstly, as already mentioned, change is considered here as a relative concept (Hay 1999c: 30). As such, a full understanding of the UK energy governance starting position, as PEPP, is considered necessary in order to qualify and quantify that change with any degree of accuracy. Secondly, if we remain ignorant of the ways in which a specific policy paradigm operates then it might be problematic to suggest how and why it might be changing. Lastly, it might be possible to argue that some of the political and economic consequences of policy-making, structured within a particular set of ideas, might in turn constitute crisis.

The definition of a paradigm offered here is based on Peter Hall's conceptualisation of policy paradigms (Hall 1993). His work is situated within a growing literature that understands policy both as socially

constructed and as influenced and structured by sets of ideas (see e.g. Hay 1996; Berman 1998; Campbell 1998; Blyth 2002).[1] In an early analysis of UK economic governance, Hall observed that there are certain 'paradigms of politics' (Hall 1986: 3). This was an attempt to understand how institutions, taken as formal rules and standard operating practices, structure decision-making within certain broad units of polity. These institutions were understood as more formal than cultural norms but not necessarily derived from any legal standing (Hall 1986: 19). This work also served to 'illuminate the political dimensions of economic management', arguing that the direction of policy was determined 'not simply by economic conditions but also by a political dynamic' and as such that policy was not predetermined (Hall 1986: 20).

Hall built on this concept of socially constructed rules and norms in political practice when he came to define the policy paradigm. His work on policy paradigms furthered the notion that individuals within political institutions were structured in their decision-making but reflected in more detail on how this process takes place and with what consequences. He put it this way:

> policymakers customarily work within a framework of ideas and standards that specifies not only the goals of policy and the kind of instruments that can be used to attain them, but also the very nature of the problems they are meant to be addressing . . . [T]his framework is embedded in the very terminology through which policymakers communicate about their work, and it is influential precisely because so much of it is taken for granted and unamenable to scrutiny as a whole. I am going to call this interpretive framework a policy paradigm.
>
> (Hall 1993: 279)

There is a lot that we can take from this quote when trying to understand more about what policy paradigms are, how they work and the ways in which they are influential. Instead of a paradigm presented as a given and left largely undefined, Hall's concept allows us to problematise existing sets of governance structures and to understand effects of ideational contexts on policy-making.

Hay and Wincott offer a further explanation of the role of ideas in policy-making processes by proposing them as the link between context and conduct, institutions and behaviour or, in other words, as part of the 'why' of analysing actions (Hay and Wincott 1998: 953). As such, what becomes important is the way in which political actors

interpret events and how policy decisions relate to interpretations. This kind of linking-up of ideas about a problem area and how it should be addressed with political outcomes in the form of policy choices assists us in understanding Mitchell's proposition that the RSP has particular 'characteristics' (Mitchell 2008:1). These characteristics, which have resulted in certain methods of governing sustainable energy, are the visible outcome of working within a given interpretive framework.

The second observation that the policy paradigm, or interpretive framework, can end up being taken for granted is a fascinating notion that will be taken up in more detail in the next section of this chapter. As such, policy-makers may not actively be aware that their choices are constrained *in this way* as by its very nature an interpretive framework presents choices as 'common sense', 'the norm' or just simply correct procedure.[2] This form of ideational constraint is similar to one of John Campbell's 'types of ideas' that effect policy-making, which he also refers to as 'paradigms'. A paradigm for Campbell, who draws on historical and organisational institutionalism, is an 'elite assumption that constrains the cognitive range of useful solutions available to policy makers' (Campbell 1998: 385). These result in elite policy prescriptions, or 'programs', which help policy-makers to chart a clear and specific course of action. As such, ideas enable action but only action constrained within a range of elite assumptions. As such, the interpretive framework also allows for a large degree of certainty when addressing complex political and economic issue areas such as energy, and such certainty can allow for stability as well as a lack of political or public discourse about such policy areas. This may be what Dieter Helm means when he suggests that policy paradigms are 'internally consistent' (Helm 2007: 9). It can also, however, leave policy-makers blind to, or dismissive of, alternative ways of understanding their issue area and other, potentially more effective, methods of achieving policy goals.

Hall's conceptualisation of a policy paradigm also suggests that policy-makers, and those associated with the policy-making process, understand the 'very problem they are supposed to be addressing' through this interpretive framework. As suggested in Chapter 1, and as outlined in more detail in Chapter 3, the 'very problem' that UK energy policy-makers were addressing was indeed interpreted in a particular, arguably somewhat narrow, way. It is further argued that the way in which energy was initially conceptualised by the Conservatives in the early 1980s, as a tradable good or commodity, is a key variable in understanding how energy came to be treated politically.

Legitimacy, belief and strategic language

Lastly, in terms of understanding the ways in which a policy paradigm, in the form of the interpretive framework, is understood to impact upon policy-making it is worth noting Hall's claim that the 'framework is embedded in the very terminology through which policymakers communicate about their work' (Hall 1993: 279). Steven Bernstein, writing on the evolution of climate policy-making, has also suggested that legitimacy and credibility matter. He observes that 'the question is not whether the norm exists, but the political authority the norm enjoys' (Bernstein 2001: 30). Communication is key here and it is linked to notions of legitimacy in policy-making and to questions of what kind of policy, based upon a certain set of ideas, is considered acceptable. For example, within the context of an embedded policy paradigm wherein policy-makers communicate using specific, often highly technical, language those seeking to advise would need to use similar language to be perceived as credible. As such it can be further argued that the dominant interpretive framework influences who and/or which organisations have credible voices within policy-making processes (Adler and Haas 1992; Kern 2009: 53; Mahoney and Thelen 2010). There is, as such, a considerable degree of authority implied in the way in which Hall has characterised the policy paradigm given these ways in which it structures policy practices.

A further question to be raised here is that of strategic action as opposed to acting on the basis of belief. Hall's policy paradigm theory suggests that policy-makers' actions are informed by a framework of ideas in which they may well believe. Colin Hay's analysis of political behaviour also suggests that actors can pursue certain courses of action because they genuinely perceive those courses to be correct, or right (Hay 2007: 94). Given the degree to which it is often argued that neoliberal ideas have come to dominate economic, and energy, policy-making over time, genuine belief in these ideas might not be too surprising a prospect. This would relate to Campbell's notion of ideas as elite assumptions constraining action (Campbell 1998: 385), which are left unproblematised, and a somewhat less cynical take on policy-making than is sometimes offered.

The other side of this argument suggests, however, that some policymakers, politicians and political protagonists also act strategically in that they use certain language and reference certain ideas to appeal to the public in order to get legislation through or get elected (Geddes and Guiraudon 2004: 335; Kern 2009: 54). This corresponds with another of

Campbell's idea types, 'frames', which can help policy-makers to 'legitimize policy solutions' (Campbell 1998: 385; cf. Geddes and Guiraudon 2004: 335).[3] This process implies a degree of intersubjective understanding between the policy-maker, or other political protagonist, and their audience (Schmidt 2006: 252). This may not always be the case, but an example of the use of particular concepts on the assumption of intersubjective understanding is the way in which climate analysts, in seeking to promote support for renewables, have drawn on the language of national security and energy independence.

Depoliticisation and physical structures of governance

The PEPP has been referred to in this book as being deeply embedded and therefore somewhat resistant to change, which arguably makes any claim of significant alteration all the more meaningful. A good way of coming to understand what is meant by an embedded, or institutionalised, policy paradigm is by starting to think about it as a process that takes place over time. At any particular moment in time certain sets of ideas effectively dominate politics or, more precisely, political decision-making and therefore can be seen as having both legitimacy and authority. Chapter 1 claimed, for example, that sets of neoliberal ideas had come to dominate both energy and wider macroeconomic policy-making in the UK and beyond. To reach such a position of legitimacy within elite circles a policy paradigm, and the ideas upon which it rests, would first have to have been subject to certain social and political processes often referred to as institutionalisation. In a general sense, it has been noted that 'paradigms become entrenched both culturally and institutionally' (Hay and Marsh 1999: 213). Others observe that ideas, when they become embedded in institutions, be they political, economic or social, tend to become more established and harder to challenge and therefore change (Jacobsen 1995: 285).

We will take here the example of the establishment of neoliberal and public choice ideas as influential over political practice across OECD countries and beyond. There were, according to Colin Hay, two distinct phases of establishing this policy paradigm. The first, referred to as 'normative neoliberalism', took place in Anglophone democracies in the 1970s and 1980s, and it was highly politicised in that neoliberal ideas came to dominate political debates. The second phase, 'normalised neoliberalism', was by contrast a period of diffusion and consolidation that extended neoliberal economic governance beyond Anglophone democracies in the 1990s (Hay 2007: 98). This latter phase is understood

here as that within which the dominant neoliberal ideas became embedded within political practice – therefore as part of the relationship between theory and praxis.

Depoliticisation as institutionalisation

It has been suggested, albeit somewhat briefly, that energy innovation policy in the UK could be considered as being depoliticised in that responsibility has been passed on to the private sector, but without much discussion or analysis of what is meant by the term or of its consequences (Kern 2009: 131). Depoliticisation is understood here as being capable of taking a policy paradigm from an accepted normative position, supported by a certain set of ideas, to an established political system which could be described as normalised (cf. Buller and Flinders 2005; Hay 2007: 98). Specifically depoliticisation has been used to refer to the passing of responsibility and accountability in a given issue area away from government (Burnham 2001; Buller and Flinders 2005; Hay 2007).[4] Although these decisions can result in a depoliticised issue area, the decisions themselves remain highly political (Flinders and Buller 2006: 307).

Flinders and Buller suggest that depoliticisation is something of a misnomer in that the politics remain 'but the area or process through which decisions are taken is altered' (Flinders and Buller 2006: 296). In this respect we can turn to Hay's suggestion that depoliticisation can take one of two general forms. The first is the displacement of responsibility from governmental to public or quasi-public authorities, which works particularly well for subjects that can be considered as 'technical' (Hay 2007: 82).[5] This form will be referred to in this book as technocratic depoliticisation. With regard to the institutionalisation of the PEPP, technocratic depoliticisation can be used to refer to the process whereby the Ministry of Energy was disbanded and responsibility for energy policy-making was passed to the Energy Directorate within the DTI and to independent regulators. As time passed, energy was viewed increasingly as a 'technical' matter suitable for the rigorous quantitative analysis of experts at the DTI and Ofgem, mostly economists or statisticians rather than elected representatives of state.

The second form that depoliticisation can take is the 'off-loading of areas of formal political responsibility to the market', or marketised depoliticisation in the terminology of this book (Hay 2007: 82). This can likewise be applied to the institutionalisation of the PEPP in that it was decided to privatise energy companies such that supplying energy to British consumers became the responsibility of the market. Together,

marketised and technocratic depoliticisation can result in an immediate disadvantage for energy politics in the 'potential loss of policymaking capacity that displacement of responsibility may entail' (Hay 2007: 83). Both forms of depoliticisation include 'the effective demotion of issues previously subject to formal political scrutiny, deliberation and accountability to the non-governmental sphere' (Hay 2007: 82).

A third type of depoliticisation applied here, deliberative, refers again to political capacities but this time to comprehend an issue area. If we take politics as needing to include active, open and representative deliberation as a prerequisite for informed policy choice then deliberative depoliticisation is entirely problematic (Hay 2007: 93; cf. Woods 2011). This is because for politics to be representative, or for the state to act as an effective guarantor of the public good, decisions taken on behalf of the collective whole need to have been underpinned by open and active deliberation. Both marketised and technocratic depoliticisation help to reinforce deliberative depoliticisation by limiting debate about energy policy to small, defined communities which often use terminology which is not accessible to lay communities. This estranges the wider public as well as elected, public representatives from the issue area given their position as generalists rather than experts, and this reduces their ability to make discretionary decisions about energy (cf. Burnham 2001: 136). As such, deliberative depoliticisation can be understood as much as an outcome of other forms of depoliticisation than as a governance strategy pursued based on ideological beliefs.

Further aspects of these processes of depoliticisation are worth covering briefly here. One outcome is the erosion of trust in governance and political authority, as identified in a recent study of UK sustainable energy trajectories (Rayner 2009). The public can end up, through exclusion from debates, becoming disengaged from topics, distrusting motives for policy and failing to support change. This is something which Jonathan Stern warned about in a 1987 article about the exclusion of energy from public policy debates, both between elections and at times of national elections (Stern 1987: 498).

It has been argued that the tendency for all of the above forms of depoliticisation to be pursued under New Labour has been enabled by the growing acceptance not only of neoliberal ideas but also of public choice theory (Hay 2007; cf. Interview 20). In developing a 'science of political failure', public choice theory has taken neoliberal ideas about the role of government one step further by positing that the state holds limited capacity to govern and that public servants are self-serving (Hay 2007: 96). Putting these ideas about the role and capacity of the state

into political practice has served as a method of more deeply embedding the neoliberal economic paradigm by distancing the state from deliberation, active decision-making and the provision of certain goods. Furthermore, public choice theory has served to further institutionalise and legitimate the idea of a limited role for the state by pronouncing neoliberalism as the only feasible economic paradigm in an era of globalisation. In doing so it has effectively both depoliticised neoliberal political practice and rendered it 'non-negotiable' (Hay 2007: 98).

Dieter Helm has claimed that both Conservative and New Labour politicians actively sought to remove energy from politics by making it an 'economic' subject:

> From the early 1980s, British energy policy, and its associated regulatory regime, was designed to transform a state-owned and directed sector into a normal commodity market. Competition and liberalization would, its architects hoped, take energy out of the political arena . . . Labour shared this vision and hoped that energy would drop off the political agenda.
>
> (Helm 2003: 386)

Energy is understood here to have been, at least temporarily, quite successfully depoliticised by 2000. It could be claimed that technocratic depoliticisation had previously occurred in energy, specifically when the Ministry of Power and Fuel was disbanded in 1969. However, by 2000, energy had also been depoliticised in marketised and deliberative senses. Arguably it was the very nature of the ideas that came to dominate in the 1980s, given specific arguments about energy as a commodity and about governments as incapable of ruling effectively over the economy, that underpinned such an extremely depoliticised policy area.

Government institutions

Physical government institutions, once established, can further reinforce a policy paradigm and the ideas upon which it rests thereby limiting the influence of new or alternative sets of ideas. It has been suggested that the way in which a system is organised can allow or restrict 'the access of social groups to political leaders and bureaucratic officials' (Yee 1996: 92). The way in which formal institutions are constituted can thus 'set the parameters of what people talk about as well as of who talks to whom in the process of policy-making' (Schmidt and Radælli 2004: 197). This can refer both to who is hired and also to who may offer credible information and to assigned mandates, as already suggested above.

Specific hiring practices can mean that only individuals who have been educated to interpret meanings in a similar, or appropriate, way are offered employment within a given institution (Adler and Haas 1992). Such individuals may naturally present as being 'qualified' and/or 'right' for the job. The proposed tendency within formal institutions to hire likeminded, or appropriately educated, individuals can be further reinforced by specific training once inside an institution – training that can lead to 'institutionalised subjects and institutional environments' (Hay and Wincott 1998: 954). As such, formal institutions can serve to both reinforce and reproduce certain codes of practice and appropriateness in that actors are 'socialised or otherwise learn to follow them' (March and Olsen 1984 in Mahoney and Thelen 2010: 5).

This has very much been the case with employment and training structures within the DTI (see Chapter 3). Within the DTI, those hired to research energy have generally come from economics or statistics backgrounds (interviews 1 and 15). Physical institutions of government, run by groups of likeminded experts, can be further reinforced by processes of technocratic depoliticisation which serve to isolate 'policy making from public debate and democratic scrutiny' (Mügge 2011: 189). As an example, both Mitchell and Helm have referred to the ways in which the narrow analytical methodologies adopted, and in particular a focus on quantitative over qualitative analysis, have resulted in missed opportunities to develop and improve UK energy policy (Helm 2003: 395; Mitchell 2008: 31). Mitchell refers to the ways in which a focus on economic variables leaves policy-makers and analysts blind to non-economic factors, such as human consumption and behaviour or to any preference for energy source, such as low-carbon energy (Mitchell 2008: 31).

One further way in which physical institutions can serve to further embed interpretive frameworks into political action is by designing formal mandates, or departmental public service agreements, around these ideas. This helps to delineate what a government institution's purpose is and what it's overall aims should be. For example, as discussed in detail in Chapter 3, the DTI was mandated to provide support and regulation for UK business and to provide for competitive markets. As such it was designed to deliver and support a certain type of business environment for the UK which emphasised competition over other factors.

The five constituent levels of the PEPP

Policy paradigms have often been used to refer to macroeconomic policy (Hall 1993; Hay 2001; Blyth 2002; Oliver and Pemberton 2004), but they

have also been used to explore other areas, such as welfare and even 'drinking' policy (Greenaway 1998; Greener 2002; Larsen and Andersen 2009). Policy paradigms are not as strong or influential, however, in all policy areas as they have been in macroeconomic policy-making, but they are relatively strong in areas which involve highly technical issues as well as a body of specialist knowledge, such as energy (Hall 1993: 291).

According to Hall, different policy paradigms, or interpretive frameworks, also lead policy-makers towards different methods of governing (cf. Ciuta 2010). He understands the policy-making process as being made up of different variables:

> [t]he overarching goals that guide policy in a particular field, the techniques or policy instruments used to attain these goals, and the precise setting of these instruments.
>
> (Hall 1993: 278)

The goal, or objective, of energy policy under the PEPP in 2000 was the secure, (cost-)efficient and competitive supply of energy to UK households and corporations. The principal methods of achieving this objective were centred initially on the long process of privatising and deregulating the sector, and later on the construction of a new regulatory framework which would effectively 'steer towards a defined general direction . . . [but] leave it to the market to select the means to reach that end' (Mitchell 2008: 1). Specifically, as opposed to the previous policy of 'planning', markets would determine the price and quantity of energy supplied (Helm 2005a: 7). The regulatory framework, once established, did become the principal instrument of energy policy and it came to be managed not by any government department but by the independent regulator, Ofgem.

I argue here, partly based on Hall's variables, that it is possible to separate the PEPP into five different levels of analysis, which are given in Table 2.1. Each level is taken as important in understanding specific ways in which the PEPP operated. The table suggests some specific ways in which each level of the PEPP influences structures of energy governance as well as each other. It therefore represents the working definition of the UK energy policy paradigm as it stood in 2000 against which change is measured and understood. In Chapter 4 it is possible to fill in more detailed characteristics of each level of the PEPP.

As can be seen from Table 2.1, objectives and instruments of policy make up two of the constituent levels of how the PEPP is here defined. These are variables suggested by Hall as being part of policy-making

Table 2.1 The five levels of the pro-market energy policy paradigm

	Pro-market energy policy paradigm
Ideas about energy	• the socioeconomic role of energy: commodity • encourages marektised depoliticisation
Ideas about energy governance	• economic efficiency and competition • inability of government to supply and govern • encourages technocratic and marketised depoliticisation
Objectives of policy	• competitive, reliable and cost-effective energy supply • partly defines mandates of the physical structures of goverance
Physical institutions	• reflect-ideas about energy and governance: moved to independent and quasi-government sphere • reduced capacity reinforces and reflects technocratic depoliticisation
Instruments	• regulatory framework designed to enhance ability of markets to supply • limited by ideas about energy governance and mandates

processes (Hall 1993: 278). This book also proposes a new level, which will be called 'physical institutions'. These institutions are considered particularly important in the sense, outlined above, that they actively reinforce which ideas are appropriate or legitimate by the ways in which they are mandated and what kinds of people they hire. These three levels are all understood to be heavily influenced by the sets of ideas which make up the interpretive framework. This framework represents ideas both about energy and about how it should be governed. Suggesting that these sets of ideas, as well as objectives, instruments and physical institutions, all represent separate levels of governance serves to draw together Hall's conception of a policy paradigm with his variables of policy-making processes. Together this definition of a policy paradigm therefore recognises both ideas and the particular ways in which they actively structure and become embedded within policy-making processes.

Crises, insecurity and repoliticisation: Why change commences

Clearly, and as pointed out on a number of occasions, work on policy paradigms and the ways in which they reinforce themselves suggest

continuity over time and relatively conservative and path-dependent politics (Streeck and Thelen 2005: 16; Schmidt 2008: 313). The next two sections will proceed, however, with a detailed examination of processes of change. This examination will enable an understanding of what the catalysts for change have been, the ways in which change of profound proportions can unfold, the timescales involved and the type of policy that is emerging.

A reasonably accurate measurement of a policy paradigm shift can be found in the work of Peter Hall who suggests that third-order change can be considered to have taken place in the event that all of his above variables of policy-making change. In his definition it is essential that the goals to which policy is set change; if only the instruments or settings of policy shift then third-order change cannot be claimed (Hall 1993: 279).[6] It is important to consider not just how central objectives are to measuring whether paradigm change has taken place but also any changes in the hierarchy of objectives (Hall 1993: 279). Although Hall has less to say than some analysts, mentioned below, about the conditions under which third-order change can occur, he does suggest that it can take place during times of crisis or of a change of government. He furthermore suggests that a shift in the locus of authority over policy-making is important such that supporters of the new paradigm can institutionalise it (Hall 1993: 281).

One critique of Hall's notion of paradigm change is that it is defined largely by changes in the variables of policy-making but does not reflect in any detail on the role of changing ideas (Hall 1993). His separation of policy, however, into different variables in order to measure whether or not they have changed has suggested one method of assessing change, which will be both adopted and expanded upon throughout this book. By including the interpretive framework along with other levels of policy in the above definition of a policy paradigm, the measurement of change utilised here will also be able to measure changes in ideas. Paradigm change will therefore be measured in terms of a departure from previous practice at each level of the policy paradigm – that is, interpretive framework, objectives, instruments and physical institutions.

Temporal aspects of governance change

So far we have embarked upon the process of finding a definition of change by looking into the question of how change can be measured, or that of 'degree of change' (cf. Marsh 1999: 10). In addition to measuring change to all five levels of the PEPP, this section will move on to also

consider conditions for change in terms of both causes (why) and means (how) change takes place.

In conceptualisations of policy change the distinction is often drawn between those who understand political change as a more discontinuous or revolutionary event and those who understand it to be a more continuous or evolutionary process (see Marsh 1999: 10; Campbell 2004: 33–35). Although most of these analyses have considered change as diachronic, in that they take time into account, what separates them is a question of pace and degree of change at junctures in time. Evolutionary change is understood, over time, to be as capable of resulting in profound change as revolutionary change (Mahoney and Thelen 2010: 23–31). It seems fair to say that both revolutionary and evolutionary conceptions of political change will be relevant at different points in history and for different political systems (Hay 2002: 155). It also seems fair to say that even in revolutionary times there will be some continuities between past and future political institutions.

There is a third notion of change that combines aspects of both the revolutionary and evolutionary conceptions of change. This notion, 'punctuated evolution', references contemporary evolutionary biology which points to the punctuated nature of species evolution and the significance of catastrophic events (Hay 2002: 160). Hay characterises punctuated evolution as

> a discontinuous conception of political time in which periods of comparatively modest institutional change are interrupted by more rapid and intense moments of transformation.
>
> (Hay 2002: 161)

He goes on to suggest, like Hall, that these intense moments of transformation may well coincide with moments of perceived crisis, an observation to which we return below (Hay 2002: 162). In this way we can understand that institutions of governance can change both incrementally over time and more quickly, and perhaps profoundly, during periods of punctuation.

Oliver and Pemberton take a very particular line on questions of profound change and time (2004). Their understanding of processes of change is that they can be messy and contingent, not linear, clean-cut or leading necessarily to paradigm shift. They complicate the matter further by suggesting that although profound changes can be revolutionary, often in response to crisis, they do not always result in the adoption of a new policy paradigm (Oliver and Pemberton 2004: 416).

This is partly explained here by separating a policy paradigm into different levels of governance and suggesting that each level may change at different points in time. A widely, publically perceived crisis might be understood as providing impetus for change, or revolution, but it may not immediately spark change to all levels of a policy paradigm. As an example, on the level of 'physical institutions', the UK Energy Ministry was disbanded only in 1992, almost ten years after the pro-market energy paradigm was initially accepted as the replacement for planning.

Shocks, perceived crises and security

The notion that change can be associated with periods of crisis, uncertainty or shock is common across the social sciences. James Mahoney, an historical sociologist, refers to the distinction between 'critical junctures', which are moments within which new institutions are formed, and periods of stasis (Mahoney 2000: 1). Ann Swindler, a sociologist, draws a distinction between 'settled' and 'unsettled' times, in which the latter are seen as 'periods of social transformation' (Swindler in Mahoney and Thelen 2010: 29). In human biology, osmotic shock, which is a sudden change in the solute concentration around a cell, causes rapid change (Lang et al. 2005), and in economics both 'technology' and 'supply' shocks, not to mention 'shock therapy', are understood to be causal of change (Klein 2008).[7]

What seems to be understood within all these applications of 'shock' is that the human condition is such that radical change can come about when everyday life is perceived as being disrupted, sometimes causing a reaction in the form of change (cf. Widmaier et al. 2005: 748). Such disruptions are reminiscent of the proposals above that large-scale policy change can come about at times of crisis, experienced as rupture and breakdown (Hay 1996; cf. Widmaier et al. 2007; Challies and Murray 2008; Chwieroth 2010), or as Mark Blyth suggests as 'Knightian' uncertainty (Blyth 2002: 31–34). These are both elements of how the events which came to constitute the energy crisis of the mid-2000s, such as Russian nationalisations in its energy industry and Gazprom's reduction in the gas supply to Europe, were perceived in the UK.

In a continuation of this theme, it is apparent in Catherine Mitchell's book (specifically her chapter on why UK sustainable energy policy has been so resistant to change) that she also understands shock as productive of change. She begins by claiming that the UK government is better at slow, incremental change than the kind of rapid change that she, and other climate change specialists, insist is required. She goes on, however, to reference the ability of government to drive new legislation in

the light of a 'shocking event' and uses the example of 9/11 (Mitchell 2008: 61).

This shocking event is one that was understood, and constructed, as potentially threatening the national security of the UK. Analysts within the Copenhagen School have also drawn a link between shocking events, perceived as security threats, and political action. According to Buzan and Wæver, key proponents of the Copenhagen School, 'speaking security' is

> the move that takes politics beyond the established rules of the game and frames the issue either as a special kind of politics or as above politics. Securitization can thus be seen as a more extreme version of politicization.
>
> (Buzan et al. 1998: 23)

Once a subject has been securitised and taken beyond 'normal' politics then government, as security is the language of political priority, is enabled to break with 'normal' political practices to address the problem (Wæver 1995: 54–55; cf. Buzan et al. 1998).[8]

According to the Copenhagen School, however, a topic that has been successfully securitised may well become subject to reduced levels of public discussion or involvement, or to policy-making in secrecy, as well as to heavy handed or militaristic solutions. This is partly because a topic, once securitised, tends to move into the logic of national security where the state becomes more preoccupied with identifying and countering enemies (Wæver 1995: 55; cf. Williams 2003; Floyd 2007; Browning and MacDonald 2010). As such the topic could be considered as having been depoliticised through securitising moves. An example of this, or of what we term here secretised depoliticisation where policy-making takes place behind closed doors, might be the way in which access to oil is rarely discussed openly by politicians as a reason for war.[9] This is despite the vast military spending over the years, principally by the US but also by the UK, to protect access to oil (O'Hanlon 2010: 60; cf. Bromley 1991).

There are, however, other, recent suggestions within the critical security literature that speaking security does not always have to lead to negative outcomes or to policy-making behind closed doors (cf. Floyd 2007; McDonald 2008: 580; Browning and MacDonald 2010). This might be portrayed as unsuccessful securitising moves, whereby a subject is spoken about as a security issue, and it travels along Wæver's continuum from non-politicised to politicised but not all the way to

securitised (Wæver 1995). It is taken here therefore as an instance when a subject is repoliticised in that it is spoken about as potentially threatened, the public accepts this notion and politicians become more engaged and involved.

This is reminiscent of the claim that politicians can be pressured to repoliticise a subject and become engaged with it again (Flinders and Buller 2006: 296), but it offers a set of specific conditions under which this might happen. What is important therefore about this form of repoliticisation is that fears about the security of a particular subject can equate to a sense that something is wrong, that something needs to be done (cf. Widmaier et al. 2005: 749) and that it provides *impetus* for a deliberation of, as well as a challenge to, existing policy. It also implies that, possibly because security is still understood largely as a public good, government has a direct responsibility to respond (cf. Wæver 1995: 55).

These kinds of claims are echoed in some scholarly research on energy policy in OECD countries that highlights the strong growth in energy narratives that emphasise security from the mid-2000s onwards. Some have suggested that notions of threat to security have been used to repoliticise energy and make it an issue for EU energy policy-making, whereby the EC would act as to centrally set energy policy, internal and foreign, for member states (Jegen 2009). Likewise, in the UK it has been suggested that the framing of energy as a security issue, in that it is about promoting and defending the national interest as a whole, speaks to 'core government imperatives of surviving internal and external threats' (Scrase and Ockwell 2009: 46).

Suffice to say, at this stage, that crisis, which can be experienced in many ways, including as shocking or as representing insecurity, can be understood as the moment when agency can win out over structure (Mahoney and Thelen 2010: 494). This book proceeds on the understanding of a connection between ways in which crises are experienced – that is, as uncertainty, shock and rupture, and conditions for repoliticisation, in a deliberative sense, and change. This interpretation is in line with those that claim that crisis is a time not only of uncertainty but also 'of decisive intervention', (Hay 2001: 196), but is more specific in terms of the mechanisms involved.

Crisis narratives: How profound change takes place

As already implied in the concept of securitisation, sociological institutionalists have also suggested that crises are not self-apparent

phenomena and as such they need to be narrated and explained (Blyth 2002: 9; see also Hay 1996; Widmaier et al. 2005). Chapter 1 outlined three different, although at times overlapping, perspectives on energy governance, reasons for crisis and related solutions. If we are to link change with crisis then a widespread perception that crisis does indeed exist needs to be established first (Hay 1996: 261). A number of events, some of them unexpected, were occurring over the course of the early to mid-2000s which were perceived as having various impacts, including on the production and distribution of energy. What was important, however, for governance change was not only that these events occurred but *how* they came to be interpreted in elite and public circles.

The suggestion that narratives, or explanations of events, can be important in processes of change relates also discourse analysis which suggests that language not only shapes political action and practices but can become a central form of agency for political actors (Yee 1996; Geddes and Guiraudon 2004; Schmidt 2006). Vivien Schmidt suggests that an understanding of discourse, or how an event is narrated, can help in understanding how 'sticky' institutions can be changed (Schmidt 2008: 313). Much discourse analysis has tended to stress the 'strategic' use of narratives, or storylines, in order to achieve political ends (cf. Wæver 1995: 54). This book, however, understands narratives to be as often populated by sets of ideas in which political protagonists have a high degree of belief – that is in a more ideological sense – as by merely strategic applications to beliefs. In this way it moves beyond the traditional separation of ideas and discourse by showing that they are interrelated, but an appreciation of discourse also shows how ideas 'actually orient behaviour on the ground' (Epstein 2010: 183).

Narratives in times of crisis: 'What has gone wrong'

During times of crisis there usually ensues a search for a credible way of explaining what is going wrong as well, of course, for solutions. This search may be conducted across and between political groups, the media, and public and academic circles (Blyth 2002: 36; Greener 2002: 164). Ideas can be seen as assisting the diagnosis of 'what has gone wrong' by providing an explanation for these events and of the uncertainties that surround them (Blyth 2002: 10). Successful versions of events would need to have elements of Campbell's 'frames' about them in that audiences, elite and public, would need to identify with the problem as explained in order to request, and then support, any associated version of change (Campbell 1998; see also Schmidt 2001: 249).

This brings us to the notion that change of paradigmatic proportions comes about based on which 'crisis narrative' prevails through the process of change (Hay 1996; Blyth 2002). As observed in Chapter 1, pre-2004 from a pro-market perspective there was no energy crisis and climate change was understood as being resolvable through the extension of existing policies and instruments. By 2005, however, a perception was emerging that not only was energy in crisis but that it was a security of supply crisis. This narrative, informed by geopolitical perspectives, put forward an interpretation of energy events, based in turn on a particular conception of international relations, that suggested energy that was once more a matter for national security. Reputable newspapers, such as *The Times* and *The Financial Times*, and journals such as *The Economist*, painted a picture of energy supply insecurity underpinned by overt threats to UK supplies from countries such as Russia (Ostrovsky 2006: 5; Wagstyl 2006: 3; Rodgers 2007: 5). The UK was described, with its move to being an importer of fossil fuels once more, as increasingly energy dependent, reliant on 'unstable' states for supply and subject to energy competition from other consumer countries, such as China and India.

What ensued was a debate about energy the like of which had not been witnessed since the 1970s and a repoliticisation of energy, particularly in a deliberative sense. Growing academic, elite and media debates in the UK, and across the OECD, also bore witness to the re-emergence of geopolitical understandings of energy (Fox 2006; DTI 2006, 2007; House of Commons 2007a; Wicks 2009). These debates drew also on the 'peak oil' argument, which served to throw more fuel on the fire of fears about being able to access sufficient energy supplies in future (Leggett 2005; Simmons 2005). It should be noted that peak resource arguments, about running out of oil, gas and, in some instances, water have a long-standing record of widespread popular appeal.[10]

Indeed, it has been argued that for a narrative to prevail it does not necessarily need to be complex or sophisticated, but that it should be cognitively convincing and normatively appealing (Hay 1999: 100; cf. Schmidt 2001 in Kern 2009: 48). In psychology it is also suggested that in order to be persuasive, an argument needs firstly to be simple and, secondly, to appeal to a person's 'self-interest' (Dutton 2010: 13). Success, as such, can depend on whether a narrative can appeal to existing, or emerging, norms, values and understandings (Schmidt 2006: 252). Simple explanations can be effective in that they can be communicated more easily and widely than complex explanations that perhaps require a more in-depth knowledge of the subject to be

comprehended – especially under conditions of technocratic and deliberative depoliticisation. Furthermore, it has been suggested that not all subjects can be as successfully spoken about in terms of security as others (Browning and MacDonald 2010). I argue here, and in more detail in Chapter 6, that an energy crisis perceived in terms of a threat to national supplies seems to have struck a chord in the UK with both public and elite groups in a way that climate explanations previously failed to. The idea of an energy supply crisis was not only simple and easy to express but also resonated with a reasonably recent history of oil price crises and, arguably, to near-term self-interest.

In addition to the popular appeal of arguments about threats to energy supplies, it is worth emphasising the role that Russia was perceived as playing. This is in terms both of threatening supplies of gas and oil, particularly following the Russia–Ukraine gas transit dispute, and posing a threat to the further marketisation of energy internationally. Language previously prevalent during the Cold War, and with popular resonance, came once more to the fore. Well-regarded newspapers ran stories about Russia 'bullying' the UK and other Western energy companies (*The Times* 2006), and of Russia now carrying a 'threat' rather than a solution, as had previously been assumed, to energy security in Europe (Ostrovsky 2006). Articles were replete with Cold War terminology, and reference to Russia's emerging position as an energy superpower, based on geopolitically informed assumptions that the possession of large quantities of oil and gas qualified a nation to be internationally powerful (Ostrovsky 2006; Rodgers 2007: 5). Clearly Liechtenstein might not be as successfully interpreted as a threat to UK security as might, for example, Iraq or Russia.

Just as much as perceptions of a security of supply crisis were emerging strongly what also needed to be established, to facilitate institutional change, was that current domestic political institutions were failing. This is because in the instance that policy failure is credibly claimed, an existing policy paradigm may weaken and lose 'authority' and/or legitimacy in that it ceases adequately to provide solutions for policy problems (Hall 1993: 280). Oliver and Pemberton refer to the importance of 'mounting evidence of failure' in weakening the position of the existing paradigm (Oliver and Pemberton 2004: 417). It would not be enough therefore for widespread perceptions of a security of supply and climate crisis to exist but it would need to be proven that the existing paradigm was partly at fault.

This was a more complicated part of the puzzle in that much of the UK energy crisis debate initially tended not to identify reasons for change as

being endogenous to the PEPP. Technocrats and much of the media in the mid-2000s blamed the perceived security of supply crisis on external actors, largely outside the West, who were refusing to govern energy in the 'right' way (DTI 2005; JESS 2006). Others suggested that the external context for energy governance was changing but without laying any blame on current governance practices (Helm 2005a and 2007a). Climate narratives, however, came to play an important role in proving governance failure, and in the repoliticisation of energy. From 2008 onwards, in the context of a much more active and widespread debate about energy, it was increasingly being claimed that the UK was missing new climate targets (Carbon Trust 2006; Greenpeace 2006; Jha 2009). As such, arguments that climate change mitigation, whilst maintaining security of supply, could take place without profound change to the existing PEPP started to become more difficult to defend.

What makes the interplay between geopolitical and climate perspectives within the crisis debate more interesting is the way in which climate groups, particularly those involved in pushing for political change, seized upon the new sense of urgency and fear surrounding energy. Some started to utilise geopolitical language about energy dependency to underpin their arguments about the need to support domestic renewables production and, as such, an energy security–climate narrative emerges. Although climate groups were still explaining the crisis differently and were suggesting solutions consistent with those explanations, their methods of doing so changed. There is a clear sense of instrumentality in the way in which some political activists used existing fears about UK energy security to further their conclusions about the need for change (Greenpeace 2006; Bird 2007; Ochs 2008; ITPOES 2010). The instrumental application of geopolitical language suggests, again, that UK audiences were understood to engage much more thoroughly with arguments about energy as a near-term, national security issue, under threat from Russia and others, than with long-term, global climate arguments (BBC 2010).

It is worth making explicit here links, which are implied above, between elite politicians, technocrats and wider society within the process of establishing a successful crisis narrative. It has been argued that there is an intersubjective relationship between the public and political possibility (Widmaier et al. 2007: 755), and that 'paradigm shifts . . . are generally associated . . . with highly politicized and public debates' (Hay 2001: 200). The concept of securitisation also suggests that the wider public matters in the processes of political change when it is suggested that governments can use public fear about an issue to justify a break

with normal political practice (Wæver 1995; Buzan et al. 1998). The evocative language of security, threat, urgency and dependency arguably did refocus wider public and political attention on the subject of energy and also lent those who pursed change new mobilising powers.

Ideas, narratives and seeking solutions: 'What is to be done'

What has been suggested in the above section is that narratives are here understood to play two specific roles in processes of institutional change. The first relates to the establishment of the idea, amongst varied social and political groups, that a crisis did indeed exist. The second relates to the ability of one, or in this case more, narratives to explain why it exists, which might also include claims of policy failure. The combination of these two roles of narratives within processes of change had resulted in a deliberative repoliticisation of energy, and growing deliberation about, and a rethink of, energy policy and governance. New work by Matthew Wood (2011) suggests that repoliticisation can be considered as an 'explanatory concept' of paradigm change in that contestation and the recognition of political agency are important determinants of change (Wood 2011: 21).

For profound change to occur ideas must, in addition to explaining what is going wrong and providing evidence of failure, successfully recommend 'what is to be done' (Stone 1989; Hay 2001; Blyth 2002). Theoretically, legitimate ideas can provide agents with both a scientific and a normative critique of the existing economy and polity but also a blueprint that specifies how these elements should be constructed (Blyth 2002: 37). A key factor in the replacement of a politicoeconomic paradigm is the perception that a credible alternative exists (Hay 2001: 102). The alternative, based on a different set of ideas, is usually related directly to the explanation of crisis.

It is at this point that this book, however, finds it most difficult to fit the empirical evidence into the conceptual picture. What appears to have happened within the process of change through which energy governance has been travelling is that alternative ideas about governance have not broken cleanly from the market model. This takes us to the work of Oliver and Pemberton, who suggest that although policy paradigms can travel quite far down the route of profound change, they are not always replaced in the 'battle to institutionalise a new paradigm'. This can be because, reiterating Hay's emphasis on the importance of an alternative paradigm in completing a shift, alternatives are not always perceived to be legitimate (Oliver and Pemberton 2004: 419). It is suggested that policy-makers, in this instance, return to addressing

problems using the existing framework but with further experimentation with policy instruments (Oliver and Pemberton 2004: 420). What happened in the UK case appears somewhat different and, if possible, more complex.

This may in turn be related to the fact that two prominent, alternative narratives were explaining crisis in different ways, or offering up *different energy crises*. Together, and over time, they provided what is theoretically needed for paradigm change to occur: one offered up a sense of crisis and urgency, and the need for political deliberation, whilst the other provided evidence of policy failure. However, this left policy-makers with two alternative sets of solutions based on quite different perspectives about energy. As a result, although a break can be identified with previous practice on all levels of the PEPP, what emerged in its place cannot be referred to as a policy paradigm. The new governance structure was not based upon a coherent blueprint for action but upon more than one interpretive framework. It also contained a range of objectives and instruments that related back to geopolitical and climate explanations of crisis, as well as some of the old pro-market economic governance ideas. As such it could be argued that the new governance structure represented what might be described as 'interparadigm' borrowing (Hay 2010: 22).

Conclusions

This chapter has started off the process of presenting the UK energy policy paradigm as one which was, as of 2000, institutionalised and depoliticised in a deliberative, technocratic and marketised sense. As will become clear in Chapter 3, this is not to claim that the UK energy governance system had devolved authority completely to the market but to say that it was structured by pro-market ideas about competition, economic efficiency, privatisation and liberalisation. The system of governance in place in 2000 largely reflected these ideas and viewed other ideas as less credible. Regulation was still a not inconsiderable part of the UK PEPP but it was always hoped that with the passage of time it could be increasingly withdrawn. It can be claimed therefore that the PEPP could be found, on any continuum between a 'state' or 'market' system, closer to the market end than most other countries in the world.

Having established this as a starting point against which to measure paradigm change, this chapter was then given over to understanding why and how change might come about. In particular, it has focused on conceptions of policy paradigm shift that link together widespread

perceptions of crisis with punctuations in the evolution of policy-making and those which underpin the importance of crisis narratives to the process of change over time. Narratives are understood to have provided for a widespread perception that energy was in crisis, to have been responsible for providing evidence of policy failure and to offer up a range of alternative solutions. When applied to energy governance change in the 21st century, these insights can assist in explaining why perceptions of energy crisis, explained as a security of supply crisis, came to inject a sense of urgency into political circles resulting in a repoliticisation and then a rethink of energy.

3
Historical Context, Ideas and Political Practice

Introduction

> In the last decade, the case for market economics has emerged, coherent and formidable, as a blueprint for prosperity and a guarantee of freedom.
>
> (Department of the Environment, This Common Inheritance 1990)

The above quotation from a seminal UK document on climate change, 'This Common Inheritance', is a clear reminder of the extent to which belief in the possibilities of market economics had penetrated the UK political establishment by 1990. This recognises claims made within new institutionalism that ideas can be acted upon because they represent beliefs, as well as for more strategic purposes. This chapter, instead of taking the PEPP as a *fait accompli*, analyses the evolution of the PEPP by seeking out how and why this system came into being, as well as by starting to consider the degree to which it became institutionally embedded, and with what consequences.

The opening section on UK energy policy between the Second World War and the early 1980s reflects an alternative perspective on energy based within a Keynesian model of economic governance. Energy companies were largely nationalised during this period and the emphasis was on ensuring nationwide, industrial and domestic, access to electricity, on ensuring energy supply security and on protecting the domestic coal industry. This period, from the mid-1940s to the late 1970s, was one within which the notion of actively maintaining energy provision and security was regularly on political agendas. This was particularly as Western domination over the primary source of energy, at that time oil,

came to be challenged by huge finds in, and production increases from, the Middle East.

By the late 1970s and early 1980s, neoliberally informed economists had come to decry what they perceived as high levels of managerial inefficiency and a lack of cost-effectiveness in the energy sectors. This tied in well with other, increasingly dominant, ideas about economic governance and, specifically, the appropriate role of the state relative to that of the market in the provision of economic goods. Such pro-market ideas were implemented over the course of the 1980s and they became over time part of everyday political practice in energy. The Conservative administration embarked on a programme of energy sector privatisation and liberalisation. It set new goals for policy, created new policy instruments and, in 1992, disbanded the Energy Ministry and with it the role of secretary of state for energy. The process of implementation can be better understood by applying the various types of depoliticisation, as put forward in Chapter 2, in particular marketised, technocratic and deliberative.

Although the argument here is that pro-market political practice came to be deeply embedded within UK political norms and institutions over time, this did not spell the complete demise of alternative ways of thinking about energy governance. It should by no means be assumed, either, that the processes of putting pro-market ideas into policy practice were straightforward. The social upheaval experienced by mining communities in the wake of attempts to withdraw state support for coal was one salutary warning of the difficulties inherent in attempting to remove energy from politics.

British energy politics under Keynesianism

Energy, like many areas of polity, has been subject over time to various ideas about how, and indeed whether, it should be governed. In the 12th century, Edward I of England ruled that wood should be burnt for heating instead of coal, which had polluting properties. Much later, in 1819, parliament convened a select committee on the subject of the environment (Ezra 1983: 199). The concerns have remained largely consistent over time – pollution and access to supplies – but political attitudes about and priorities given to energy, and pollution, have changed.

Quite consistent over the past century or so, and across perspectives, however, is a sense that energy can, and does, play an important socioeconomic role. Early examples of this view are arguments put forward about the central role that new knowledge about how to produce energy

played in both the Agricultural and the Industrial revolutions (Cipolla 1962; Hartshorn 1966). Such studies of historical energy transitions also suggest that these were considerable processes, involving a wide variety of inter-connected areas, but that what was key to these transitions was the successful development and deployment of niche, alternative energy technologies (Fouquet 2008).

More recently, energy analysts and key political commentators from a range of theoretical perspectives have emphasised the role of energy in modern society, politics and policy (Strange 1988; Painter 2002; Klare 2008a; Giddens 2009; Wrigley 2010). Such observations, which highlight humankind's dependencies on energy, are well reflected in this quote from Heinberg:

> If we were to add together the power of all the fuel-fed machines that we rely on to light and heat our homes, transport us, and otherwise keep us in the style to which we have become accustomed, and then compare that total with the amount of power that can be generated by the human body, we would find that each American has the equivalent of over 150 'energy slaves' working for us twenty-four hours a day.
>
> (Heinberg 2003 in Giddens 2009: 36)

Except for pro-market perspectives on energy, all others have to a greater or lesser extent highlighted this deeply integrated relationship between energy and modern, industrial and technological life.

Domestic energy policy under Keynesianism

Energy in the post-war era was very much intertwined with overall ideas about economic governance practices and with ideas about the role of the state. This period in the UK bore witness to major political changes described by some as a policy paradigm shift. This was the emergence, under the Atlee government, of the dominance in economic governance practice of Keynesian ideas and concepts (Marsh 1999: 9). Also underpinning the way in which energy was governed at the time was a strong sense of energy's socioeconomic role: as vital to much-needed economic growth, as a public service and as linked to modernity.

In 1942 a new Ministry of Fuel and Power had been established, initially with the intention of ensuring adequate energy provision for military as well as commercial and domestic purposes.[1] During the Second World War, energy prices were controlled and petrol was rationed. Indeed since the conversion of the British navy from coal to oil, supplies

of petrol were considered to be integral to the war effort (Strange 1988; Yergin 1991). After the war the Ministry of Fuel and Power was maintained but energy policy's objectives and design changed. The principal objective of energy policy then became to produce the energy required to provide social goods and to grow the economy, which had shrunk considerably over the course of the war. Energy, importantly, was seen as a prerequisite for economic growth (Helm 2003: 2).[2]

Energy, and specifically electricity provision, was also deemed important as a part of some of the wider aims of the Welfare State. It was understood that individuals should have access to certain social or 'merit goods', such as 'food, clothing, heating, health and shelter' (Helm et al. 1989: 56–57). Although electricity was understood to be a direct input into the minimum requirement of heating, it was also a key input into the other merit goods. As such, it was understood to provide social as well as distributional roles in society (Helm 2003: 15; cf. McGowan 2008). Energy policy planners were, in addition, concerned with ensuring an 'optimal' supply mix to meet estimated future demand. During the 1950s and 1960s, energy efficiency was not on the policy agenda, although technological change and large investment had led to steady improvements in energy utilisation (Chesshire 1986: 396).

Indeed, it had been considered that energy was of such vital national importance that, in line with wider Keynesian principles, markets were hopelessly inadequate in providing appropriate energy supplies. Energy companies were largely nationalised and some industries, especially coal, were protected (Hartshorn 1966: 1). Over time, in the energy sector, 'state owned companies were deemed to be so natural that they were made *statutory* monopolies' (Helm 2003: 1). There had emerged a national energy policy which was designed to map out demand and supplies, and to ensure that they were balanced within a planned, monopoly system. The coal industry was supported by the state, and energy prices were controlled. A new system of electricity supply was over time established, following work that had started in the 1920s, requiring enormous state expenditure on a National Grid, large regional power stations and extensive transmission systems.[3] The role of the state in planning, managing and financially supporting the establishment of the UK's energy system, including power stations, the National Grid and pipeline infrastructures from the North Sea, was absolutely central, as has been the case in many OECD countries historically.

By 1969, however, with the physical infrastructure to support national demand and with political consensus about energy and how it should be governed largely in place, the Ministry of Power was merged with the

Ministry of Technology. This was subsequently, in 1970, merged with the Board of Trade to form the DTI. Unlike the later dissolution of the Department of Energy (DOE) in 1992, this change inferred a continued faith in the role of the state, particularly given the established structure of state-run energy enterprises, infrastructure, and area and general boards. However, it does display a similarity in political thinking with the later dissolution in that both reflected the degree to which political consensus had emerged about how energy should be governed. Once each system had been established it appeared that political desire for a separate ministry, or department, with all the associated costs incurred, diminished. The 1969 decision had also coincided with a couple of decades of stable oil prices (see below) – a sharp contrast with what followed in the 1970s when old energy institutions were re-established and new ones formed.

Energy, international relations and foreign policy

UK foreign energy policy has, at best, been controversial over the course of the last century or so. Keynesian politics may have come to dominate domestic energy policy but geopolitics arguably continued to dominate international relations in energy over much of the 20th century. During Victorian times and the early 1900s, the UK was a net exporter of coal. Some have suggested that large indigenous supplies of the world's, at that time, primary energy source played a material part in the UK's ability to maintain a hegemonic role or 'great power status' (Katzenstein 1978; Bromley 1991).

As oil replaced coal, however, UK foreign policy came to reflect the need to access oil, and on acceptable economic and political terms. The UK moved from its long-standing position as a net exporter of energy to a being a large net importer of oil (Hartshorn 1966: 7). This material change was replicated in the mid-2000s when the UK moved from an albeit shorter period of net exports of oil and gas to being a net importer of hydrocarbons. The UK's switch to oil and its lack of indigenous supply was understood as having major foreign policy implications. Churchill famously suggested that '[t]o commit the Navy irrevocably to oil was indeed "to take arms against a sea of troubles" ' (Churchill in Yergin 1991: 12). There were widespread fears about reliance on distant and insecure oil supplies, but oil was considered by many to be so technologically superior to coal that the decision was made to switch the British navy to run on oil.

As new finds of oil were increasingly being made outside the US, in the Middle East in particular, it was assumed that access to supplies at

'reasonable' prices would be enabled through UK control of oil companies, particularly the Anglo-Iranian Oil Company (Keohane 1984: 164).[4] And through extensive diplomatic relations, particularly with the US, oil diplomacy became a central theme of foreign policy (Keohane 1984; Venn 1986). The UK maintained its foreign policy of supporting access to reserves on terms favourable to the 'Seven Sisters', which included earlier versions of British Petroleum (BP) and Shell.[5] Access to oil from 'Persia' was maintained through a range of different, but interrelated, structures, partly corporate, partly 'imperial' and partly military (Tretault 2009: 376–377). When oil diplomacy failed, military means were sometimes adopted. An oft-cited example is US and UK support for the overthrow of Iran's Mossadeq administration, which had nationalised the Anglo-Iranian Oil Company in 1951. In retrospect the extent to which the UK was prepared to protect access militarily became clear (Painter 2002), although at the time the decision to become involved in Iran was taken under conditions of secretised depoliticisation.

Not long after the overthrow of Iran's Mossadeq, the Suez Crisis became widely perceived as threatening to UK energy supply security. It has been argued that as a result of this crisis the UK government made a specific decision to treble in size the already planned nuclear power programme (Helm 2003: 34). This implies an increasing awareness of the risks of depending on too few sources of energy as well as the existence of links between perceptions of crisis, in the form of supply insecurity and policy change. Nuclear electricity, in that it is understood to be a domestically produced source of power, has in addition often been the response of UK governments to perceptions of supply insecurity.

The period following the early 1950s was one in which there was a low and stable world oil price, growing international oil trade and a 'greater ability of oil companies to control both the supply and price of oil' (Chesshire 1986: 395). This was accompanied by very little concern in the UK, as was the case in the 1990s, about long-term global energy availability. It is also worth noting briefly, however, that although the 1950s and 1960s marked the start of a substantial increase in international agreements and organisations, many of which covered trade, energy remained remarkably free of international agreement (McGowan 2008). The EU, which started life as the European Coal and Steel Community in 1951, did not ultimately manage to come to an agreement on energy (McGowan 2008). When the internal market of the EU was launched in 1992, the energy sector was left out, although attempts have recently (2007) been reinstated to launch an energy policy at the European level (EC 2011a: editorial).

1970s 'Oil Shocks': Energy and crisis

> In the last three decades we have become so increasingly dependent on imported energy that today our economy and well-being are hostage to decisions made by nations thousands of miles away . . . The energy crisis has placed at risk all of this nation's objectives in the world.
>
> (Kissinger in Strange 1988: 204)

The two 'oil shocks' of 1973 and 1979 swiftly reversed energy policy trends. The shocks, once more, prompted broad and extensive public debate about energy in the UK and the West. There was a renewed emphasis on international threats to security of supply, defined as reliable supplies at affordable prices, this time from the Organisation of Petroleum Exporting Countries (OPEC). Over the course of the 1970s, complacency gave way to acute concern that total global energy consumption had, over the previous decades, been doubling every 15 years (Chesshire 1986: 396). The depth and breadth of public concern were unsurprising given OPEC's decisions, consumption growth, the sudden quadrupling of oil prices in 1973, and various economic and social knock-on effects across the UK. In fact there are those who directly relate the 1970s economic recession with the impact of the oil shocks (Scrase and Ockwell 2009: 46; Newell and Paterson 2010: 19; cf. David Steel in Ezra 1983: 196). One of the most clear-cut political responses internationally was the formation of the IEA to attempt to co-ordinate consumer nations' energy strategies, and to improve communication and technology sharing (Leaver 2007: 92). Other energy organisations were also set up at this time – for example, the ASEAN (Association of Southeast Asian Nations) Council on Petroleum (Karki et al. 2005: 499). The IEA recommended that member countries should seek to become more energy efficient, improve excess storage facilities, and look to diversify access both geographically and in terms of energy sources (Yergin 2006).

The oil shocks also prompted a much wider review of energy policy in the UK (Chesshire 1986: 396). In 1974, in the immediate aftermath of the first crisis, the Department of Energy (DOE) was formed in recognition that Britain again needed a government institution dedicated to energy, but only five years after the Ministry of Power had been merged into the Ministry of Technology. Again, we can draw parallels between renewed fears about energy supply security mounting in the mid-2000s and the formation of DECC in 2008. Although in the period between oil

shocks energy policy did not undergo a profound structural shift, aside from the reinstatement of the DOE, a large number of changes were made. The price shocks were interpreted as another reminder of the dangers associated with dependence on foreign supplies and so domestically based nuclear and coal industries received another boost in the UK. This was common practice elsewhere – for example, in France, the US and Germany (Chesshire 1986: 396). In an associated political reaction, the first, albeit small, state support programme for renewable energy was also established in the UK (van der Horst 2005: 705).

Oil and gas had, however, been discovered in the late 1960s in the UK Continental Shelf (UKCS) region of the North Sea and production from there started in the 1970s. In a move again not dissimilar to initial reactions to perceptions of energy insecurity in the 2000s, the UK also responded to the 1973 oil crisis by decreeing a boost in output from the UKCS with the intention of becoming self-sufficient by the end of the decade (Katzenstein 1978: 296). So although diversity in terms of source and geographic location of energy was being overtly encouraged, and at this stage also by the IEA, there ran alongside a tendency to concentrate on energy independence and on *domestic* production as an antidote to international insecurities.

The DOE produced a consultative document on energy policy in 1978, in the immediate aftermath of the second oil shock (DOE 1978). This was primarily concerned with questions of energy security and it took the view that 'energy policy is necessarily concerned with a long time horizon' and with the wider world energy environment. Concerns were expressed about the longer-term availability of oil:

> there is wide agreement that world oil supplies cannot continue to increase for much more than a decade or so and will thereafter become increasingly scarce and expensive.
>
> (DOE 1978: 1)

Diversity in terms of energy sources therefore also remained a priority and energy policy would be required to deliver on this. The objectives of energy policy were focused, unsurprisingly, on the provision of adequate and secure supplies of energy but with an eye to the least social cost and the efficient allocation of resources. It was understood that energy policy could intervene to change the pattern of energy use in order to ensure development of energy sources in accordance with the national interest (DOE 1978 in Webb 1985: 28).

The evolution of the PEPP: Ideas about energy and governance

In Chapter 1 a brief introduction was given to the pro-market perspective on energy, and Chapter 2 constructed a picture of the UK PEPP, which was characterised as containing five separate levels. These included a level – that of 'ideas about energy' – that is generally not considered within analyses of energy governance. This section starts to explore in some detail how pro-market ideas came, first of all, to be so important in energy policy-making processes as well as how important conceptions of energy's role in society are to how it is governed. It establishes clear links between political narratives and ideas about energy, stated objectives relating to these ideas and how energy then came to be governed.

Ideas about energy

To resolve questions of how to govern energy, the Conservatives needed to formulate understandings of the function that energy plays within the UK political economy, or its socioeconomic role. One of the core ideas underpinning the Conservative approach to energy emerged such that it could, and should, be treated as 'just another commodity' or traded good which is ultimately replaceable, or fungible (Lawson 1989: 23; cf. DOE 1982). Energy, it followed, should be treated in political terms like any other sector of the economy (Lawson 1989: 23) and not be subject to state provision like those other services that were still viewed as 'minimal basic services' or public goods, such as education and health care (Helm 1986: 1). By assigning it to the category of 'just another commodity', energy, which had formed the basis of the UK's ability to modernise in an industrial and economic sense, had been stripped of much of its wider national and social meanings. It became an industry which had 'no place in the public sector' (John Moore, MP, in Webb 1985: 28).

This recharacterisation also facilitated the idea that it was not a 'political' but an 'economic' subject and therefore not suitable for government intervention (Williams 2003: 515; interviews 2 and 15). Of further note is the extent to which it became a 'technical' subject which would be better understood, and dealt with, by technical experts, preferably economists (cf. Hall 1993: 291). As such, links between how energy was conceptualised and how it was governed suggest that changes in energy governance were more than just part of a wider paradigm shift in economic management.

The specific energy context within which ideas about energy, and its socioeconomic role, changed was also highly relevant. There are some important factors which underpinned this view and prevented it from becoming challenged in a credible way within the UK during the 1980s and 1990s. Firstly, post-war administrations, as already mentioned, had spent considerable funds on building up a significant electricity supply system for the UK (Helm 2003). Likewise, in the oil and gas sector, initial heavy investments in North Sea exploration, production and transit had been further boosted and facilitated by 'state sponsorship' (Helm 2003: 62). Particularly important to the establishment and future success of the North Sea venture were the investments made in infrastructure to enable supplies to reach UK consumers. A new pipeline system was installed, and domestic appliances and commercial boilers had needed to be replaced. The public sector could carry the risk on the back of the monopoly and guarantee of the Treasury (Helm 2003: 110).

Once in place, however, these systems to a certain extent became taken for granted – partly because much of the infrastructure was not visible to the naked eye but also because the bulk of investment requirements had already been met in this sector of heavy initial investment requirements and long-term return cycles. It is these issues of heavy upfront infrastructure costs that inform arguments today, from some large energy producers, about the need for long-term contracts to guarantee returns and for state involvement in investment.

Secondly, large-scale production of oil and gas from the North Sea, which had emerged as significant in the 1980s, meant that questions of supply, and its security, could over time become less directly significant. From the late 1970s onwards, supply from the North Sea rose steadily such that by the early 1990s the UK had become an exporter of both oil and gas. In addition, tax revenues from both became important revenue streams for the Treasury. For example, '[o]il revenues rose sixfold over the period 1979/80 to 1984/85 to some £12 bn, or nearly one-tenth of the Chancellor's budget' (Keegan 1985: 17), and these were used to prop up public finances (Helm 2003: 1; Kemp and Stephen 2007). Also important in terms of keeping questions of energy supply security at bay was the reduction in domestic demand, which in turn was a result of the sharp contraction in the manufacturing sector, steel, coal, aluminium, chemicals, cement and car industries (Helm 2005a: 4).[6] The 1979 oil shock, the 1980–1982 recession and rising exchange rates are understood to have impacted heavily on the manufacturing sector (Helm 2007a: 3).

Ideas about energy governance

The PEPP emerged therefore amidst changing ideas about energy's function in society and facilitated by growing indigenous supply. It was also part of the New Conservative 'conscious change of direction' (Lawson 1980: 1). In the late 1970s and early 1980s, also in the wake of two energy crises, a number of economists became increasingly adamant that energy needed to be freed from government planning and interference in order to improve economic efficiency, to lower end costs to consumers and to improve security (Forman 1977; Eden et al. 1981; Littlechild and Vaidya 1982). This group of economists was responsible for outlining the practical energy policy implications of a range of economic ideas promulgated by well-known academics, such as Milton Friedman and Friedrich Hayek (Littlechild 1981: 11–14).

Economic efficiency and competition, or lack of either, were increasingly held to be of the utmost importance when considering the historical performance of the energy sector. Competition was, wherever possible, to be encouraged so that the responsiveness of energy industries to the forces of the market place could be increased (Lawson 1989). This was also particularly within a wider context of ideas about the need to reduce the overall size of 'the state' financially as well as politically. Conservative thinkers and politicians were intent on monetarism, and in particular on reducing the public sector borrowing requirement (PSBR) (Webb 1985: 27).

This line of thinking followed that if energy could be reclassified as a commodity, always replaceable, then there would be no more need for national management strategies, otherwise known as national energy policy. Such strategies were perceived to cost more than they were worth, to be inefficient in allocating goods and to be run by government who, according to new thinking, did not have the capacity to do so (Littlechild and Vaidya 1982). Stephen Littlechild referred in his work to 'public choice' theory when casting doubt on the adequacy of political rules for achieving 'efficient allocation of resources' and on the merit of running industries in order to achieve political ends, such as the redistribution of income and power (Littlechild 1981: 11–12). It was concluded that a (what some might term 'artificial') separation should be made in active governance terms between energy, as an economic sector, and politics, as previously represented by state interventionism (cf. Bromley 1991: 49).

Unsurprisingly, much academic work from this perspective focused on the need to marketise energy in the UK by ensuring that energy

was supplied to end consumers via freely trading, competitive markets – stripping it away from government planning, interference, price control and specifically national management strategies (Eden et al. 1981; Robinson 1981; Lawson 1989). This would allow, it followed, for greater economic and managerial efficiencies and, through increased competition, for less monopolistic practice in energy supply (Webb 1985; Lawson 1989). Competitive markets would therefore be much more efficient at setting prices thereby sending the correct signal to producers about what to produce, when and in which area, providing a further boost to energy security (Bohi and Towman 1996).

Competition would furthermore improve the procurement of energy (Mitchell 2002: 6), and benefit consumers by bringing down end costs whilst also partially redressing the power imbalance in the consumer–producer relationship (Yergin 1991: 781). Many believed that the internationalisation of freely trading energy markets would help to reduce the potential for 'statist' exporters to interfere in the trade of these commodities. Such interference was perceived to have been responsible for various negative effects on pricing, production, trade and consumer economies over time (Mitchell et al. 2001; cf. Youngs 2009). The institutionalisation of these ideas within international governmental organisations would, theoretically, be the icing on the cake of the establishment in practice of neoliberal economic ideas about energy governance. Energy security became, over time, synonymous with the internationalisation of competitive, freely trading energy markets in that they would provide for a reduced likelihood of supply disruption and leave importers less vulnerable (Yergin 2007).

It has been further observed that from the 1980s onwards the wider ideational climate increasingly became one wherein economic growth, affluence, short-term enhancement of share prices, and other cultural values began to grow in importance against other social values, such as equality (cf. Lockwood 2010: 551).

The making of the PEPP: Ideas and political practice

This section explains how the ideas about energy and governance outlined above came to influence UK energy governance at the levels of objectives, policy instruments and the physical institutions. As such it shows how ideas entered into policy practice. It argues that depoliticisation concepts can be applied in order to explain some of the ways in which pro-market ideas about energy and governance became embedded within political and market institutions. The section also

emphasises processes of marketised depoliticisation, used to mean the passing of responsibility from formal state institutions to the market for energy supplies, as a method of embedding ideas in practice. Depoliticisation, in its technocratic sense, had also taken place in that energy was actively 'demoted' from being subject to formal political scrutiny, deliberation and accountability to a position ultimately akin to political silence (Hay 2007: 82).

'Normative neoliberalism' and energy

If we return to Helm's history of UK energy policy, he notes that

> [c]ompetition and liberalization would, its architects hoped, take energy out of the political arena . . . Labour shared this vision and hoped that energy would drop off the political agenda.
>
> (Helm 2003: 386)

The early years of the Conservative Energy Ministry, despite strong academic blueprints having been presented for the direction of reform to energy, got off to a slow start. This is partly because in 1979 many were more concerned still with energy security risks in the wake of the second oil shock. The first shock had had knock-on effects of energy shortages, petrol queues and gas supply interruptions, and these were feared again the second time round (Steel in Ezra 1983: 196; Hay 1999b: 103). This slow start can also be ascribed to limited early support for energy reforms (Helm 2003: 44). Energy remained, as such, very much *on* the active political agenda right up to the mid-1980s, and the normative ideas of the Conservatives on reform needed to be publically stated and pursued (cf. Hay 2007: 97).

Early opposition to change in energy policy was addressed in part by making sure that those with important posts at the Energy Ministry were 'one of us', and in the September 1981 Cabinet shuffle, Nigel Lawson became secretary of state for energy. This is where we return again to the economists – Stephen Littlechild, Eileen Marshall and Michael Beesley – who had largely been responsible for producing the blueprint of ideas about how to govern energy. They were to receive executive and advisory positions within the DOE and the regulator. Indeed, some of the principal figures, such as Marshall and Littlechild, were to hold office for most of the 1990s and into the early 2000s (Helm 2003: 60). This implies an overt understanding that in order to pursue profound governance change, or 'revolution' in New Conservative

terminology, those who supported the new blueprint would need to be placed in relevant positions of influence.

Both Lawson's 1980 treatise 'The New Conservatism' and his early, much cited, speech as secretary of state for energy in 1982 serve as reminders of why Margaret Thatcher had placed so much faith in his willingness to 'radically reform' energy (Lawson 1980 and 1989). So great was his influence in establishing the new energy policy paradigm that it came to be referred to retrospectively as the 'Lawsonian paradigm' (Rutledge 2007). His works, in addition, elucidate the relationship between this certain set of political ideas, the strong desire to put them into political practice and how this could and should be achieved.

Restating the goal(s) of energy policy

This is where we again take up Peter Hall's notion that policy paradigms, and the core set of ideas that delineate them, can help to define the objectives of policy, one of the five levels of the PEPP. If the idea to be pursued, politically and actively, was the reduction of state interference in the energy sector, then an obvious place to start would be by restating the goals of energy policy. The new, overarching, objective of energy policy was the creation of an economically efficient, undistorted market for energy. This was laid out by Nigel Lawson in his 1982 speech:

> [f]or the United Kingdom . . . the pre-eminent objective must be to ensure that the vitally important energy sector functions as efficiently and effectively as possible within the context of economic policy as a whole . . . Our task . . . is to set a framework which will ensure that the market operates in the energy sector with a minimum of distortion and that energy is produced and consumed efficiently.
>
> (Lawson 1989: 23)

Previously, the objectives of energy policy had been focused on the provision of adequate and secure supplies of energy but with an eye to the least social cost and to the efficient allocation of resources. It had been understood that energy policy could and should intervene to ensure the development of energy sources in accordance with the national interest (DOE 1978 in Webb 1985: 28). The objective of secure energy supply did not disappear but was in effect demoted – all efforts were put behind the creation of competitive, efficient markets, which were seen as the only objectives of policy that had come to matter (Mr John Moore, MP, in Webb 1985: 27). Besides, the thinking went that security of supply would (see above) be a natural outcome of the processes

of marketisation, and with sharply increasing production from North Sea Oil and Gas, this theory would not be tested for some time to come. The 'social' qualifications to energy objectives were also somewhat lost, as was the goal of developing energy sources in the 'national interest'. The closest overt recognition of social aspects of energy policy was the assumption that growing competition in the sector would allow for prices to fall, thus facilitating energy affordability and protecting consumers (Littlechild 1981: 13).

By the time of the Gas Act 1986 and the Electricity Act 1989, the secretary of state was charged with only three rather vague and flexible overriding duties relating to security of supply, financial competence of energy companies and the promotion of competition (HMG 1986 and 1989). As such, in terms of hierarchy of objectives, they now seemed to run from creating a competitive market for energy and economic efficiency at the top tier, to a second tier including security and affordability. Assumptions were already being made that if the first tier of objectives were to be reached, then the second tier would automatically fall into place.

Instruments of energy policy

Aligned to changing objectives it had also been suggested that there would, in future, be no more place for a national energy policy that sought to 'plan the future shape of energy production and consumption' (Lawson 1989: 23). The subsequent abandonment of national energy policy, which had already been proposed by Enoch Powell at the 1976 National Energy Conference (Littlechild and Vaidya 1982: 15), was deeply contested at the time, as can be seen in more detail in Section 4. It did, however, follow well the line of thinking, referenced above, that it would be inefficient for states to pursue national energy policies given their limited capacities.

Core energy policies were specifically abandoned, including the calculation of resource costs and the co-ordination of investment decisions by the DOE, as well as its central planner role in price setting (Helm 2003: 58). Within the context of the Conservative plan to reduce the public sector borrowing requirement, the energy sector now faced specific financial targets. These had been proposed in 1978 'to act as proper discipline on the industries' financial management', but they were first implemented in 1980 (Rodriguez 1987: 464; cf. DOE 1978). Once privatised it was assumed that state-set financial targets would no longer be required to discipline energy companies' economic performance – profit

maximisation and competition would act naturally to provide the financial disciplining role.

It was agreed that the ultimate 'job of government' should be limited to setting the framework within which the scope of market forces, and competition, could be maximised (Lawson 1989: 23). This framework became one of the principal instruments of energy policy, but certain conditions first needed to be put into place in order for it to be created.

The 1980s, like the 2000s, were remarkable for the number of acts passed that related to the energy sector, which arguably shows that the implementation of a new paradigm takes much political activity. The Oil and Gas (Enterprise) Act 1982 and the Energy Act 1983 represented the first major attempts to deregulate energy, particularly the electricity sector (HMG 1982 and 1983). The aim of the Energy Act 1983 was to facilitate competition in generation, transmission and supply by abolishing monopolies, requiring the area boards to purchase electricity from private producers, and causing the industry to allow private companies to make use of transmission and distribution systems. Following the act, despite its clear intentions to boost competition (cf. Littlechild 1981: 13), the sector remained dominated by the monopolies and new entrants were seen as 'Davids' to the established 'Goliaths' (Helm 2003: 64; see also Thomas 2006).

Alongside processes to deregulate and reshape the sector to allow for competition, an extensive and extended series of privatisations were undertaken. The process of privatisation took place over the course of the 1980s and 1990s – starting with Britoil (formerly the British National Oil Company) in 1982 and ending with British Energy, the nuclear company, in 1996.[7] For some companies the turnaround between being nationalised and privatised was just a matter of years – for example, the British National Oil Company had been nationalised only in 1977 and then privatised in 1982 (Helm 2003: 18). By the late 1990s, however, all major national companies had been broken up and sold off across all sectors of the energy industry, including electricity, coal, gas, oil and nuclear (see Table 1.1). This had been not only a lengthy but also a difficult process, particularly in the gas and nuclear electricity sectors.

After two decades of policy aimed at enabling competitive energy markets, observations have persisted that the major energy companies still dominated the industry, particularly in the electricity sector (cf. Rutledge 2007; Mitchell 2008). This is partly because in the aftermath of the 1995 release of the 'golden shares', which had prevented

resale, there ensued a frenzy of mergers and acquisitions across the sector. The newly created, smaller energy companies at this time sought economic efficiencies and market power by merging with, or purchasing, competitors and thus reducing the potential for competition within the sector (Helm 2003: 242).

Alongside the series of acts aimed at deregulation, it was decided that, in response to 'natural' tendencies in the electricity sector towards monopolies, a new regulatory system would still need to be established (Littlechild and Vaidya 1982). The new regulatory framework that was established for electricity had an economic formula of price-cap regulation at its heart. The technical formula, otherwise referred to as RPI-X, was designed by the UK Treasury economist Steven Littlechild such that utility prices could increase annually by inflation, as measured by the Retail Price Index (RPI), minus 'X', which represented set efficiency gains (Thomas 2006: 598). The system was intended to mimic a competitive market, to protect consumers against strong price increases by the privatised energy companies and also, importantly, to provide incentives for greater cost-efficiency gains since any gains above those set (at 'X') could be passed on to shareholders.

Privatised regional energy companies (RECs) benefitted financially from this formula as they could strip out inefficiencies, reduce capital expenditure and still, through mergers, maintain dominant market positions. It could be argued, as discussed below, that the emphasis on this kind of return system contributed ultimately to a large degree of underinvestment in electricity networks in the UK (CEPMLP 2006). Certainly underinvestment across all aspects of energy production, storage and transmission is understood, from all perspectives, to be one of the principal issues facing energy today. There was pressure on Littlechild to reset the formula in the early 1990s, as some REC values quadrupled. They had experienced very high profits, had paid generous dividends to shareholders, giving an impression to consumers, many of whom were still bound to certain providers, of being fat cats getting rich on consumers' dependence on them for electricity. Littlechild resisted such pressures, however, preferring to view the price cap mechanism as a 'technical' device whilst arguably underestimating political and social impacts (Helm 2003: 210).

Physical institutions

If we look now to how the PEPP level of physical institutions was constructed, we can also discern a little more about the idea of depoliticisation as a method, and as an active political process,

in implementing neoliberal economic ideas. Changes made to the machinery of government display *how* depoliticisation was achieved on an institutional basis, and are an example of a process of technocratic depoliticisation in practice. A detailed look at the way in which the physical structures of governance evolved over time is also evidence of the ways in which certain ideas became enshrined within institutional mandates, capacities and mindsets.

The decision in 1992 to abandon the DOE is interpreted here as revealing in many ways, not least in that it supports the claim that the Conservatives had actively sought to depoliticise energy (Helm 2003: 386), but this time in a technocratic sense whereby responsibility for policy-making was passed further from government. The existence of the department had been considered as signifying that energy was politically important, whereas Thatcher's opinion at that time was that the title 'Department of Energy' 'smacked of economic planning . . . whereas our energy needs should be supplied by the market' (Thatcher in Blackhurst 2004). Also gone with the DOE was the role of secretary of state for energy. This meant that energy was no longer represented at Cabinet level, further impairing active political consideration and reinforcing both deliberative and technocratic depoliticisation. Responsibility for energy policy-making came to lie with the DTI and for energy efficiency with the Department of the Environment. The DTI's mandate was to provide support and regulation for UK business and to provide for competitive markets, not specifically to ensure security of energy supply or to meet climate targets.

The two new institutions created to regulate electricity and gas, the Office of Electricity Regulation (Offer) and the Office of Gas Supply (Ofgas), are another case in point of technocratic depoliticisation. These institutions were not created as government departments but as 'independent' bodies funded by gas and electricity industry participants, albeit given statutory objectives which had been defined in the Gas Act 1986 and the Electricity Act 1989 (HMG 1896 and 1989). The primary objective for both institutions was to oversee the market for trading and to defend consumers by introducing, and later maintaining, competition (Mitchell 2008: 139). These mandates can be understood as a direct outcome of pro-market thinking that competition breeds efficiency, leading to lower consumer prices, an idea which remains active within DECC today.

There were two further institutional outcomes of the dominance of pro-market thinking over energy policy-making. Under these new structures, elected representatives of the UK population would have less

and less access to energy issues, becoming over time arguably less and less conversant in such matters (Interview 12).[8] Elected MPs can be understood, in democracies, as actors through which the requirements of individuals and groups can be represented in governance practice. By withdrawing them from the process, through technocratic and deliberative depoliticisation in energy, these interests were less likely to be represented, as were questions about the social impacts of chosen governance practices.

As shown in Chapter 4, by the mid- to late 2000s the DTI was indeed being criticised for being too focused on quantitative analysis that did not allow for decisions which might lead to change, flexibility and response to the evolving international energy environment (cf. Giddens 2009). Despite the initial healthy scepticism of 'detailed mathematical, statistical, and econometric analysis . . . which had prevailed in the Austrian school' (Helm 2003: 60), there emerged over time a strong tendency amongst policy-makers to analyse energy quantitatively using bounded models (interviews 1, 2, 5, 12, 14 and 15). These technical models would be unintelligible to generalists and served to place a further wedge between politicians, the public and technical experts in terms of ability to deliberate about energy. This form of anlaysis, furthermore, tended not to account for 'soft', social variables. This in turn might suggest that some of the detailed nuance of complex theories can get lost in the process of uncritical, non-reflexive political practice over time (see Watson 2005).

The second institutional outcome was the way in which energy provision, by 'the markets', became intertwined with and dependent upon private finance such that it has had an active institutional role to play in supporting the market-based approach to energy. Energy liberalisation and privatisation took place alongside the 'Big Bang' liberalisation of London's financial centre, often referred to as 'the City'. Trade in and finance of energy during this period became increasingly sophisticated as the role of derivatives, global trading, commodity exchanges and speculation grew (cf. McLean and Elkind 2003; Smith and Emshwiller 2003). The London-based International Petroleum Exchange, for example, had through the 1990s established itself as one of the world's largest futures and options exchanges and, as such, had a vital institutional role to play in facilitating and supporting a market-based approach to energy (Youngs 2009: 6). Trade in natural resources, including futures and options, and particularly with the advent of the 'Mega Btu-Marketers', like Enron, was now very big business indeed (Rutledge 2007: 903).

The internationalisation of pro-market energy

The above sections provide us with a lot of detail about how the PEPP was constructed, and the ways in which pro-market ideas fed into changes to how energy was governed on all levels. This reasonably detailed analysis of how UK energy marketisation proceeded would, perhaps, be of less interest if it weren't for the fact that this model was so often referred to as a basis for others to follow. The IEA, for example, has actively recommended UK energy policy as a model that other countries aspiring to reform their energy sectors should follow, and *The Economist* also held the UK up as 'the poster-child' for liberalisers (*The Economist* 2003; IEA 2006a: 9). Although it could convincingly be argued that not many countries did ultimately privatise and deregulate their energy sectors to the extent that the UK did, a large number of OECD and non-OECD countries had been attempting to move in a more liberalised and competitive *direction* (cf. Goldthau 2012).

The idea that the neoliberal economic paradigm could and should be actively exported beyond the Anglo-Saxon sphere was reinforced by the collapse of the Soviet Union in the late 1980s and by the accompanying, self-reinforcing, rhetoric of the 'end of history'. This sense that there was a lack of any credible alternative politicoeconomic model was felt strongly amongst key political elites in the UK, and arguably undermined the ability of competing political protagonists to suggest alternative models. Moreover, Russia's new process of political reform based upon aspects of the pro-market model, including privatisation of its considerable energy assets, was seen as further proof of the victory of the 'Western' model. In the unipolar moment of the 1990s it was increasingly assumed that there were no credible alternatives and that 'good' economic governance was neoliberal economic governance. In that alternatives were discredited, this further fuelled both deliberative depoliticisation and a lack of understanding, or even recognition, of different political models. Diplomacy was increasingly conducted both as an extension of business relations and by experts from the business community as if those were the negotiations that were now more worthwhile (Lee 2004; Williams 2005).

As such the 1990s had emerged as a period within which neoliberal economic ideas were widely understood to represent the new 'common sense' (Watson 2002: 187) and of a 'zeitgeist in support of the markets' (Hogan 2003: ix). Likewise acceptance of a limited role for the state in energy had reached a position whereby it was referred to as conventional wisdom in the UK and beyond (CEPMLP 2006: 4).

Further diffusion of the pro-market model more broadly was undertaken through international institutions such as the World Bank and the IMF. These institutions played a specific role in furthering the pro-market energy model internationally, partly under the auspices of good governance (de Oliveira and McKerron 1992: 157). It was to be institutionally underpinned as the 'norm' through the ECT Protocol, modelled on GATT, which was designed to put free market trade norms on a legal footing, assisted by a comprehensive dispute settlement mechanism. Russia, having 'come in from the cold', and Norway both signed the ECT, thereby creating the first international energy trade agreement which included significant net exporters as well as importers. This was widely understood as a profound step forward given previous tendencies for political agreements, based around oil, coal and other energy sources, to fail (Strange 1988: 193).

To the extent that energy featured in UK foreign relations it was largely through active encouragement of the UK energy model abroad: in Europe, Russia and beyond (Davies 1996: 502). In the case of emerging economies, this was often to be achieved through advice and 'educational assistance' to help in the process of energy governance reform, as was the case with Russia and other Eastern European countries (House of Lords 2002; Interview 1). This ties in with the thinking that by promoting the liberalisation of energy markets and pricing it would be possible to prevent states from impacting negatively upon the international energy trade (Lesage et al. 2010: 6). In addition, it was expected that increased competition would drive exporters to expand capacity (Mitchell et al. 2001).

It is worth at this point to briefly allude to the fact that the institutionalisation of market rules in energy did not proceed as well on the global governance stage as in other sectors. Many countries did indeed privatise and liberalise their energy sectors, with greater or lesser degrees of success, but there was a relative failure to establish global governance institutions and agreements in energy. So whilst the World Bank and the IMF were encouraging developing countries to deregulate energy, other institutions maintained 'get-out' clauses for energy. For example, GATT rules exempted natural resource sectors such that countries like Saudi Arabia could join the WTO without extending full coverage to its energy sector. This is an observation which we revisit in more detail in Chapter 6, but it suggests that energy, particularly in the form of fossil fuels, has been considered somewhat differently from other trade sectors, even by pro-market global governance institutions.

Overcoming challenges to neoliberal energy governance

This chapter has so far suggested the successful establishment of a depoliticised, pro-market energy policy paradigm which was understood to be universally applicable. Looking back, however, it might be easy to forget the degree of challenge that was confronted by the Conservative administration on energy. Some difficulties associated with privatising electric utilities in a socially 'fair' manner and with the general lack of competition that ensued were raised earlier. Aside from 'natural' tendencies towards larger, dominant energy companies (cf. Littlechild 1981) there were other difficulties that the Conservatives understood as being necessary to surmount in order to introduce 'economic' efficiency into the energy sector, and to allow for competition.

Coal and the national union of mineworkers

As suggested by Oliver and Pemberton, old paradigms are not replaced until the 'battle to institutionalise the new paradigm' has been won (Oliver and Pemberton 2004: 419). One of the key battlegrounds in terms of implementing the PEPP was over coal. Coal had held a significant political and economic position within the UK's recent history, not least with regard to its role in fuelling the Industrial Revolution and in underpinning the UK's 19th-century hegemony. The coal industry had once been at the heart of UK industrialisation, a major employer, and had become for many a way of life. For some the miners had represented the heart and soul of the Labour Party – they personified the 'working class' and their struggle (Helm 2003: 67). The UK government had long supported coal financially, but this was something that the Conservative administration had hoped to dispense with (Fine 1990; Walker 1991). As time progressed, despite its low efficiency compared with that of other energy sources, coal had managed to maintain its position as an important source of electricity, partly due to its status as a domestic source of energy. As suggested, the oil shocks of the 1970s had reinforced the idea of keeping support for coal, and nuclear, as a part of energy policy.

Key political protagonists within the Conservative Party, however, had different ideas about the coal sector (Helm 2003: 67). These were, arguably, based on core ideological differences. Thatcher and Lawson had long argued for the need to 'break the back' of the unions, which they saw as a fundamental obstacle to economic efficiency and which they referred to as 'the enemy within' (Helm 2003: 67). As one observer noted at the time,

> the Government appears to be motivated by . . . hostility to the miners . . . bound up in an ideological preference for the markets which specifically involves coal imports . . . whatever the . . . wider economic and social implications.
>
> (Fine 1990: 182)

Ideas about the unions played out as part of the construction of the 'Winter of Discontent' narrative, which was widely aired within sections of the UK media, and which placed blame for the 1970s economic crisis on 'strikers' as 'enemies' of the UK (Hay 1996: 263).

As part of the process of privatising the electricity network, the Conservative policy was to start withdrawing financial support for coal prices and for the sector as a whole. In response, the National Union of Mineworkers (NUM), under Arthur Scargill, supported a policy of no mine closures in the mid-1980s. Given the fall in demand for coal domestically and internationally, the shrinking UK manufacturing sector, the strength of the UK pound and Conservative policy on reducing support for coal, this was ultimately to prove an impossible task for the NUM. This was particularly, too, because coal production was still being heavily subsidised elsewhere – for example, in Germany and France. Changes in UK law, including the Coal Industry Act 1980 and the Trade Union Act 1984, a shift from coal to gas for electricity supplies, and the strategic build-up of coal stocks all allowed the Conservatives to prevail over the striking miners. Another key component in fighting off the challenge from the unions was to replace those personnel who were considered not up to the battle even in advance of the start of the strikes (Helm 2003: 76–77). Prior to the national strikes of 1984, Lawson had had key personnel replacements made at the heads of the National Coal Board and the Central Electricity Generating Board in anticipation of what was to come (Lawson 1989; Helm 2003: 77).

The incident, however, arguably serves as a salutary reminder of how integrated coal, and energy more broadly, had for some time been within wider social and national political issues. These lingering social aspects of coal, and its position as an indigenous source of energy, meant that, even with a reduction in state support under the Conservatives, it continued to be subsidised throughout the 1980s and 1990s (Thomas 2006: 590; cf. Helm 2003). Coal, and ongoing state support for it, remained a key contradiction within the PEPP, particularly later as New Labour supported carbon dioxide emission reduction whilst at the same time subsidising coal production (Helm 2003: 303). The residual legacy of state support for coal, as indigenous source and large-scale

employer, however, is another sign of the degree to which elements of old policy paradigms can continue even under a new system (Hall 1993: 280).

Domestic challenges to the institutionalisation of the PEPP

It is worth considering at this point how alternative narratives of energy policy fared over this time – especially in the light of claims made earlier about the dominance of the pro-market perspective and about the deliberative depoliticisation of energy during this period. Whilst the UK was going through the early processes of energy marketisation, an ongoing critique of these changes was maintained (see e.g. Lehman and Hough 1983; Webb 1985; Chesshire 1986; Cooper 1987). What is apparent from this debate is that, certainly in the 1980s and early 1990s, there was still a clear ability and willingness to question the emergent PEPP from a critical perspective. This critical debate fell away over the course of the 1990s as political consensus was maintained, and even expanded internationally, and as energy was increasingly understood as a structured, rather than politically contested, area.

The first common thread within this debate revolved around calls for a greater role for the state in energy governance through the provision once more of a strategic framework and/or national management of the energy sector, as opposed to the continued withdrawal of the state apparatus from the energy sector (see e.g. Ezra 1983; Keegan 1985; Rodriguez 1987; Hope et al. 1987; Fells and Lucas 1992). The problem being identified at the time, to which we return in Chapter 6, was that even as government receded further from a central management role in energy, exacerbated by the dissolution of the DOE in 1992, questions of how to provide policy that addressed national collective issues still needed to be considered. One specific problem identified was that energy, as a sector requiring notoriously long-term investment planning, would need a forward-looking, co-ordinated, national approach if sufficient investment were to be made for national security of supply (Hope et al 1987: 5). This was considered a particular difficulty under the PEPP given the Conservatives' stance as 'anti-planning' (Stern 1987: 501), but is an observation made all the more poignant given that ongoing underinvestment in energy is now considered to be one of the central issues that needs to be addressed.

Delegation of responsibility to 'the markets', and a do-it-yourself approach to environmental regulation, was also considered at the time to have potential consequences for the ability of energy policy to respond to social considerations, particularly the environment

(Cooper 1987; Hope et al. 1987). This viewpoint was expressed well in a 1986 article:

> [m]arket forces also have no way of deciding the weight to be attached to the death of a snail darter compared to, say, the death of a worker at an accident at a nuclear power station.
>
> (Hope et al. 1987: 6)

This is an argument which has come to form a significant part of the debate on energy policy in the late 2000s, specifically with regard to the inability of the market model to make qualitative decisions about sustainable energy.

This critical debate also raised concerns about creating an institutional framework for energy governance with monetarist principles and targets, particularly aimed at reducing the PSBR, at its heart. It was feared that one of the outcomes of such a framework would be that government would not be able to meet its real energy objectives, which critics understood as still, ultimately, being the secure and affordable supply of energy (Webb 1985; Stern 1987). Rodriguez further specified that by making energy policy about the achievement of a competitive market in energy, governance was no longer even designed with specific energy objectives in mind (Rodriguez 1987: 464). As already seen earlier, the way in which the DTI was mandated excluded any specific energy objectives, and this can be seen as a clear example of a lack of institutional direction in energy under the PEPP.

There were other concerns expressed about the consequences of not debating energy, and energy policy, publically or, in other words, of emerging deliberative depoliticisation (Hope et al. 1987). In particular, Jonathan Stern noted the absence of any energy coverage in the 1987 General Election campaign, the drop in political debate about energy policy since 1979, and the lack of up-to-date published energy projections. His concern was that there would be a lack of public acceptance and awareness of important decisions about major energy projects (Stern 1987: 498). It was later observed that the relative absence of political debate about energy had ultimately resulted in a lack of awareness, under New Labour, of international energy events and the way in which the energy environment was developing (Blackhurst 2004). The findings of this analysis, in Chapter 4, support this conclusion.

This debate could also be seen as extending to questions of energy affordability, previously a core objective of energy policy. Clearly under the Welfare State, questions of equal access for all households had been

paramount. Although the Conservatives did stick with some welfare policies to help poorer households afford energy, such as hardship payments in bad weather, the question of affordability did not go away despite falling international energy prices. Whilst Conservative critics of welfare provisions continued to oppose them, pointing to the 'paternalism' involved, many households continued in 'energy poverty' (Helm et al. 1989: 55).

One method of dealing with those who sought to challenge the new paradigm, and some of these academics had been involved under the previous paradigm, was simply, as with the miners' strike, to replace them or otherwise exclude them from policy-making circles. This is where Thatcher's 'one of us' policy came into its own. A specific example of this was the replacement of Derek Ezra as head of the National Coal Board (Helm 2003: 77). Thatcher had labelled Ezra 'an appeaser' (Thatcher 1995: 342 in Helm 2003: 77), and Lawson had doubted his commercial credentials (Helm 2003: 342), but there might have been more to their desire to replace him. Ezra had been a keen supporter of a greater role for the state in energy governance and was also a supporter of political action to prevent further climate change (Ezra 1983). Much of what he was writing about in 1983 is still relevant within climate and energy debates today.

The replacement of key personnel was one core part of the Conservative strategy to disperse alternative narratives within the policy-making debate. Another method might be considered the support that much of the UK media gave to the Conservative administration, certainly for much of the 1980s (Hay 1996). Stern's observations above, about the lack of discussion of energy matters within the 1987 election debates, or deliberative depoliticisation, may well have been underpinned by low(er) energy prices in comparison, certainly, with those of the 1970s. To the degree that low energy prices have often equated to public interest, those, such as Ezra, who supported changes to energy policy to recognise social issues, such as climate change, did not at this time enjoy wide public interest or support. Furthermore, Conservatives and other supporters of pro-market energy argued that energy prices were low precisely because of the marketisation of energy and because of the introduction of competition.

Conclusion

Conservatives had claimed 'revolution' in terms of their redesign of economic governance. Certainly, with regard to energy, it can be said

that the reforms being carried out constituted a radical break with recent history. The degree to which this new policy paradigm, the PEPP, had become institutionalised within the UK was, however, later underpinned by the international expansion of 'market' energy – to Australia, the US, the EU, Eastern Europe and, often under the advice of the World Bank, to a number of other developing countries (de Oliveira and MacKerron 1992: 157). By the early 2000s, some experts had come to believe that the international energy economy had been fundamentally transformed over the 1980s and 1990s by the expansion of market institutions, and commodity and financial markets. Pro-market energy originally 'pioneered' by the UK was indeed spreading around the world, although this viewpoint does not take into account its exclusion from other IGO rules, such as GATT, to which more developed countries were bound.

With the benefit of hindsight it appears that the recommendation by some IGOs that energy sectors should be subject to universal, good governance rules and therefore privatised and liberalised may not have constituted the best possible advice. This could be argued with reference to the historical development of the UK's energy sector, outlined earlier, whereby considerable state investment to establish infrastructure had already been made prior to its liberalisation. This is a core factor not commonly acknowledged by the Conservatives at the time, within UK foreign policy, nor by IGOs when passing on advice about good governance of this sector. This is especially as energy is considered by so many to be fundamental to economic growth and to human safety. Given that so many of the weaknesses of the PEPP, outlined in Section 4, have emerged today as relevant, this should make us think again about further recommendation for pro-market rules as universally applicable in energy. The circularity of these debates should also cause us to think again about energy, its role in society, and how best regular investment can be maintained – especially given current efforts to transition towards a low-carbon economy.

It is also worth posing further questions about the impact of depoliticisation on energy policy. There is no doubt that the ideas underpinning the PEPP specifically stated that marketised depoliticisation should take place, and the market remains, today, central to the delivery of energy in the UK as elsewhere. With regard to deliberative depoliticisation, it has been pointed out that debate about and interest in energy has tended to ebb and flow over time (Ezra 1983: 202). As such, deliberative depoliticisation may be an aspect relevant not only to the PEPP but also to energy at regular points in time. Interest in energy has

historically tended to relate to periods when energy has been considered to be in crisis and/or supplies potentially insecure, and this perception has often been related to an increase in energy prices. At these junctures, as shown again in Chapter 6, greater political attention is paid to energy by consumer countries, new institutions are formed, and energy is deliberated in detail. However, the degree to which the questions posed above by energy experts remain as relevant today as then does suggest that a crisis, understood as a security issue, can lead to change but not necessarily to sustainable systems.

4
The PEPP 2000–2003: Resistance to Change

Introduction

By the time New Labour took office in 1997 the new PEPP had been established despite some difficulties experienced, particularly in the early to mid-1980s. This chapter opens with the claim that regardless of the change of government, which could theoretically have presented a firm test for the new paradigm, the PEPP did not markedly shift from the market position. The period from 2000 to 2003 can be understood as one largely of continuity in energy governance. Judged on Labour's first term in office it could indeed be argued that the PEPP came to represent an even more depoliticised system – in technocratic and marketised terms – than that established by the Conservatives.

Conversely, however, Labour's first term in office can also be marked down as a period of mounting challenges to pro-market energy emanating largely, but not exclusively, from outside the UK energy establishment.[1] This period bore witness to the Enron scandal, the California energy crisis, rising energy prices and a related but brief series of energy-related protests in the winter of 2000. Government was also at this time becoming increasingly aware that UK North Sea assets were being depleted at such a rate that the time horizon within which the UK would start importing oil and gas again was narrowing quickly. Most importantly, however, this period saw growing arguments about a mounting climate change crisis, the need to commit energy policy to carbon dioxide reduction targets, and emerging evidence of underperformance in this area (cf. RCEP 2000).

In response to the realisation that the UK would become an importer once more and to the critique of climate policy and claims of climate crisis, Tony Blair announced a review of energy policy to be conducted by the Performance and Innovation Unit (PIU). Much of the content

of this review represented a direct challenge to the PEPP, on a number of levels. However, between the issuance of the Energy Policy Review in 2002 and the production of the Energy White Paper in 2003, many of the more challenging suggestions had been omitted or ignored. The 2003 White Paper did, however, overtly commit *energy* policy for the first time to two new, separate 'social' goals: those of lowering carbon dioxide emissions and of reducing energy poverty. This appeared, on the surface, to be a change to the objectives of energy policy, one of the 'levels' of the PEPP. The conundrum that this chapter seeks to address, however, is how the objectives of energy policy could seemingly change without many other accompanying signs of paradigm shift.

This contradiction is, in part, explained by arguing that certain outcomes of both technocratic and marketised depoliticisation underpinned quite a large degree of resistance to other aspects of paradigm change. In addition, carbon dioxide reduction targets were not legally binding and were seen within parts of the Energy Directorate and Ofgem, the two bodies most responsible for devising and carrying out energy policy, as more indicative than necessarily binding or even realistic. Furthermore, the 2003 White Paper proposed that the new objectives could and should be met using existing methods enshrined within the PEPP. Together this showed the path-dependent nature of the PEPP at this time as well as the way in which government managed to both acknowledge and also seemingly address the challenge from climate change protagonists.

The PEPP under New Labour

Chapter 3 laid out in some detail the intellectual and political backdrop underpinning the processes of creating the PEPP and showed how pro-market ideas came to impact upon and become embedded within energy institutions. This section continues to build towards a detailed picture of the PEPP as of 2000, a picture against which change is then measured. The PEPP is characterised in detail in Table 4.1, which pays specific attention to each level outlined in Chapter 2. By being detailed about what constituted the energy policy paradigm at this stage, we will be able to make more accurate attempts to measure paradigm shift later in the book as well as assess the direction of change.

Domestic energy governance

Despite New Labour's various protestations in opposition to Conservative energy policy, largely focused on a critique of 'fat cat' utility

Table 4.1 The pro-market energy policy paradigm in 2000

	Pro-market energy policy paradigm
Ideas about energy	• a commodity or tradeable good • a sector of the economy not a basic service or merit good
Ideas about energy governance	• competition to drive down prices for consumers and encourage economic efficiency • low ability of state to govern the energy sector: markets to supply energy • fiscal austerity and cost-effective
Objectives of policy	• to implement and maintain competitive and cost-effective markets in energy • safe, reliable and affordable energy
Physical institutions	• responsibility for policy-making: Energy Directorate of the DTI • regulation by 'independent' regulator, Ofgem • technocratic and deliberative depoliticisation
Instruments	• framework to enhance ability of markets to supply • regulation, in electricity, around RPI-X • regulate for competition and to incentivise cost efficiency • marketised depoliticisation: private sector to deliver energy policy

companies making excessive returns from captive markets, its energy policy emerged as largely similar (cf. Keay 2010: 281). New Labour's 1998 'Energy Report' can be seen as an early indication of the party's commitment to private sector energy supplies and competition (DTI 1997, 1998b). It stated that the objective of energy policy was 'to ensure a secure, diverse and sustainable supply of energy at competitive prices' (DTI 1998b: 5). The 2000 'Energy Report' further noted that the key to achieving these was 'competitive markets and companies' (DTI 2000c: 7). The Utilities Act 2000 then set out the merger of Offer with Ofgas to form a new regulator, the Office of the Gas and Electricity Markets (Ofgem). This independent, economic regulator would also have more power than the previous incarnations in pursuing its primary responsibility to

> protect the interests of consumers, present and future, wherever appropriate by promoting effective competition between persons engaged in . . . the generation, transmission, distribution or supply of electricity.
>
> (Ofgem 2006: 107)

Ofgem emerged over time as a principal advocate of the role of competition in energy governance and a defender against any state intervention in electricity and gas markets, which is not surprising given the central role of competition within this mandate.

Aside from the creation of Ofgem, the physical institutions of energy governance remained the same. The subsequent review of energy pricing, the RPI-X model, also resulted in a lack of change. The PEPP was therefore maintained despite accusations at the time that, given its focus on cutting costs and associated asset sweating, it had resulted in a lack of investment in key infrastructure (Helm 2003: 344). Others had hoped that the Utilities Act would result in tougher regulation for utilities companies more broadly.

Therefore, although elements within Labour had been outspoken critics of the PEPP when in opposition they continued not just to maintain but also to further embed it once in power. Some might argue that this position was adopted partly out of convenience (Interview 12), but it could also be due to the extent of New Labour's buy-in to the intellectual ideas of Conservatives overall and the degree to which they had already become embedded in existing institutions of state (cf. Hay and Wincott 1998; Gamble 2009). It has been suggested that commitment to some neoliberal policies, such as financial liberalisation, reflected the need to gain a strong electoral foothold with the middle classes, where 'Old' Labour had traditionally fared less well (Watson 2002: 198).[2] It might also be worth raising questions about the relationship between large energy companies, in particular the 'big six' utility companies, and New Labour. It was felt by some that corporate sector support more broadly was needed to maintain a position of power in UK politics. More importantly for energy, however, is the fact that the private sector had at this point almost sole responsibility for delivering energy to the UK population, including for investing in maintaining and expanding energy infrastructure. The big six were, furthermore, not in support of changes to existing regulation (cf. Interview 14).

Continuity in commitment to competition, and its key role in delivering policy objectives, was echoed across early policy documents, including the 1998 Competition White Paper (DTI 1998a; Rutledge 2007). It was understood that competitive business conditions would have a key role to play in meeting energy objectives. This excerpt encapsulates the thinking of the time well:

> [c]ompetition itself brings with it benefits for consumers, for companies and for security of supply. Consumers enjoy lower prices,

> better choice and higher standards of service. Companies are given the incentive to innovate by the drive to provide ever more desirable products and services. Competition also plays a vital part . . . using the price signal to indicate when and where new investment should take place and encouraging a wide range of suppliers and sources of energy.
>
> (DTI 2001: 1)

The same report goes on to claim that competition will also drive environmental innovation, the 'sustainability' element of supply, in private companies as they strive to respond to consumers who will become more environmentally aware (DTI 2001: 5). As such, competitive conditions were still not only a stated objective of energy policy but also the means of achieving that objective (Rutledge 2007: 904). Other primary drivers of the PEPP, such as cost efficiency (Tutton 2009: 3; cf. Helm 2003) and the understanding of governments as relatively inefficient in terms of economic governance, remained at the heart of policy-making (Mitchell 2008: 138). Hence the continued commitment to markets bearing responsibility for energy supply, or to marketised depoliticisation:

> [m]arkets can be a more effective instrument for delivery of government policy than more traditional mechanisms.
>
> (DTI 2001: 2)

The extent to which this perspective had become embedded within energy governance systems was also reflected within third-party advisory reports (cf. DTI 2005b; Ernst and Young 2006). The active academic debate of the 1980s, when energy was being restructured, had largely dissipated by the late 1990s. So much so that a 1997 review of the UK energy literature concluded that '[p]rivatisation remains the godsend of the last decade to economics research' (Weyman-Jones 1997: 899). A 2006 review confirmed that outside neoliberal economic and technical fields, very little research was being conducted into energy (CEPMLP 2006). Privatised and liberalised energy markets were increasingly being analysed as a *fait accompli* as opposed to social constructs.

Foreign policy and international relations

Continuity between the Conservatives and New Labour in terms of the dominance of pro-market ideas, and in particular of the central notion of positive economic interdependence, was reflected in the

arena of energy foreign policy, and foreign policy more broadly (cf. Lee 2004; Williams 2005). However, due to the degree of deliberative depoliticisation in energy and in the absence of any specific international strategy, it is a little difficult to consider energy as a concrete area of foreign policy at this time (cf. Hadfield 2007). As highlighted in Chapter 3, much of the way in which energy has featured in international relations over the past century has been related primarily to ensuring stable access for net importers of energy, specifically oil, at 'reasonable' prices. With the UK as a net exporter of both oil and gas during the 1990s, and in the absence of any shocks or periods of high prices, perceptions of the international energy environment remained positive. This was reflected in the early 'Energy Reports' and statements from key policy-makers, such as Stephen Littlechild, which suggested that they were 'sanguine about security, both in the short and in the longer term' (Rutledge 2007: 905).

As also suggested in Chapter 3 to the extent to which energy did feature in UK foreign relations it was largely through active encouragement of the UK energy model abroad – in Europe, Russia and beyond. As an example, some sections of the 1998 White Paper on how to build 'competitive modern markets' were focused on New Labour's drive to 'open markets' abroad and to 'ensure competition in international markets' (DTI 1998a: 51). Some policy-makers also believed in the UK's successes both in implementing such conditions in the home market (DTI 1998: 51; PIU 2002) and in encouraging their uptake abroad (PIU 2002: 21). This aspect of policy pursued under the PEPP was underpinned by general New Labour support for the expansion of deregulated capitalism, multilateralism, free trade and liberalisation. It has been argued that Blairism, like Thatcherism, saw itself

> both as an ideological project for export, and as one whose domestic success requires the resetting of international (and particularly of Western European) institutions and practices in its image.
>
> (Coates and Hay 2001: 448)

This policy found support from a wide base of domestic interest groups, particularly in the corporate sector. The banking sector, due to its role in facilitating finance and speculation in energy, and the big six utilities have already been referred to as interested in maintaining a liberalised energy system. In addition, organisations such as the Confederation of British Industry (CBI) firmly supported the expansion of liberal energy abroad (House of Commons 2007d). New Labour, in the interests of

supporting its manifesto commitment to 'enterprise' and UK Plc, were unlikely to stand in the way of such business interests, something which might also be negatively perceived by its new middle-class voter base (New Labour 1997). As an example of how this relationship worked, it has been claimed that Irwin Stelzer, member of the board of Enron and 'employee and confidant' of Rupert Murdoch, had a direct line to New Labour which he regularly used to strongly encourage further energy liberalisation (Rutledge 2007: 903).

Climate and renewable energy policy

At this stage it is well worth understanding more about how climate policy was treated within the PEPP, again as a point of reference against which to measure later changes. The prevailing view amongst a range of experts in OECD countries was that the markets would, in time, 'demand' renewables (IEA 1998: 67), that competition would also help to provide for renewable energy (DETR 2000) and that targets to reduce carbon dioxide emissions would need to be balanced by other economic demands (Department of the Environment 1990). In the late 1980s, partly to take account of the politics of the earlier recession, the UK adopted a definition of 'sustainable development' that included, in addition to environmental elements, possibilities for economic growth.[3] Indeed, economic growth was understood as key to achieving sustainable development, and it was further argued that that the UK economic model already conformed to such sustainable growth (cf. Jacobs 1991: 59).

Questions of which definition of 'sustainable' should be used to underpin policies towards the environment raise another important question: of how dominant political ideas had come to colour responses to environmental science across a number of OECD countries and within the IEA. Climate groups had long claimed a crisis of considerable proportions. This crisis was characterised as being global in its scope and as having severe, if not catastrophic, long-term consequences for all inhabitants of our planet. By the late 1990s/early 2000s, frustration within these groups was mounting because so little policy change had been enacted despite the recognition of governments around the world of the seriousness of the crisis. These groups, as seen in Chapter 1, argued that it was not enough to accept that there is a problem but that policy, including specifically energy policy, must change.

This is where we return to the notion, referenced in Chapter 1, of the liberal-environmental compromise because this helps us to understand how some governments and IGOs could commit to solving the

climate crisis whilst maintaining existing policies. At the core of this explanation is the argument that neoliberally informed political elites took responsibility to act in response to climate change but did so only on their own ideational and political terms. Steven Bernstein's excellent analysis provides a detailed account of how scientific concerns about environmental protection were merged over time with concerns about economic growth and poverty reduction into a single framework of sustainable development (Bernstein 2001: 29). Terminology, previously common in environmental reports such as the 'Brundtland Report', of 'managing' the environment changed over time to a terminology of 'developing', more in line with notions of a reduced role for government institutions (ibid 2001: 59). As such, climate targets could be pursued without much need, for example, for change to the role of the state in energy governance.

As already suggested, New Labour could be marked out from the Conservatives in that it claimed a greater degree of political commitment to the need to mitigate for climate change. Its 1997 election manifesto pledged carbon dioxide emission cuts of 20% over 1990 levels by 2010 and that 10% of electricity should be supplied by renewable sources, also by 2010 (New Labour 1997). It also suggested that it would

> put concern for the environment at the heart of policymaking, so that it is not an add-on, but informs the whole of government.
>
> (ibid 1997)

Not much was included in the manifesto, however, about *how* this target might be achieved, which has been, perhaps, one of the key weaknesses of climate policy under New Labour – the gap between stated aspirations and the ability to meet them. For example, after Labour took office, a review was conducted into the feasibility of meeting the renewable target, the Renewable Energy Review (DTI 1999). The ensuing response suggested that the UK would work towards the 10% target but provided very little in terms of concrete policy to facilitate this (Mitchell 2000: 287).

At around the same time the 'Marshall Report' was commissioned to look into which economic instruments could be used to enable carbon dioxide emission reductions (Kern 2009: 129). The Climate Change Programme was then launched, a key component of which was the establishment of a Climate Change Levy (CCL), which was to be advanced on business energy users ostensibly in replacement of the Fossil Fuel Levy (FFL), which had been in operation since 1989

(DTI 2000b: 27). Given the opposition it generated, this was the first real test of Labour's commitment to achieving the carbon dioxide reduction targets promised in its manifesto. The CCL was introduced in 2000 but when, particularly fuel-intensive, industries objected a number of exemptions and alterations were made along with the notion of giving something back to business (Kern 2009: 129–130 and 147). As a result, negotiated agreements were reached such that large industrial energy users, companies and regions could agree carbon dioxide emission reduction plans in exchange for reductions in the CCL payable. Fuels for electricity generation, petrol and diesel were exempted, and reductions in National Insurance contributions were put in place to offset some of the effects of the CCL (Rutledge 2007: 906).[4]

A second component of New Labour's Climate Change Programme was the establishment of the Carbon Trust (CT), which was set up as a 'business lead' organisation, separate from but funded by government, in order to assist in the transition to a low-carbon economy (Kern 2009: 160). The CT was seen as a body that could help in the delivery of transition by improving communication and dialogue, and also by recycling some CCL receipts (ibid 2009: 130). One in-depth review of this organisation, based on a range of interviews within the CT, has suggested that it represented yet another attempt to keep energy and climate change free from political interference. The dominant assumption was that by having the 'freedom to operate' separately from government departments, this organisation would be able to make objective, 'non-political' decisions and therefore achieve much more (Kern 2009: 131).

In that the CCL can be seen as a replacement for the Conservatives' FFL, and in that it was overtly committed to being independent of state interference, continuity in actual climate policies adopted can be claimed, despite the greater rhetoric on targets. Also consistent with Conservative policy on renewable energy, New Labour continued initially with the Non-Fossil Fuel Obligation (NFFO), which had been in place to support low-carbon energy production since 1990. Given the status of nuclear energy as low carbon, the NFFO had largely supported nuclear energy production since its inception, in 1988, such that in 2000, renewable energy accounted for only 3% of electricity production (Helm 2003: 350). One analyst and government advisor has suggested that the NFFO was never about supporting renewables specifically in that it had been adopted in 1990 only in order to facilitate the tricky process of privatising nuclear (Mitchell 2000: 293–294).

When the NFFO came to an end in 2000, a new obligation, the Renewables Obligation (RO), was placed on electricity suppliers to purchase certain percentages of low-carbon electricity from renewable sources. Any commitment to a renewables policy was an achievement in itself, given the long debate that had taken place within the Energy Advisory Panel as to whether to have a specific renewables policy or not. Despite a large degree of opposition, from the pro-nuclear lobby and *laissez-faire* economists, it was decided to go ahead with a specific renewable policy in place of the NFFO (Interview 14; cf. Mitchell 2000). The RO was, however, not understood to mark much departure from pro-market energy policy. In fact it was described by one analyst, and government advisor, as an even more market-oriented system than the NFFO, providing little real support for renewables (Mitchell 2008: 128). Further it was decided that a price cap would be applied, ostensibly to protect consumers given New Labour's commitment to keeping electricity prices in the 'lower half of the EU/G7 [Group of Seven] basket' (DTI 2000b: 3). The price cap effectively operated as a 'buy-out' element whereby electricity companies could escape the obligation if it appeared too costly (Rutledge 2007: 906). Given the large gap between renewable targets, 10% by 2011, and actual renewable energy production the RO was accompanied by some small capital grants which, despite protestations about not picking winners, were allocated to particular sources of energy over others – that is, onshore wind over energy from waste (DTI 2000b: 3).

A further institutional problem for Labour, other than being seemingly out of new policy ideas, was the existing set-up of energy and environmental governance structures. Changes in the energy sector should be central to meeting renewable targets but there were no specific renewable energy or carbon dioxide reduction objectives for energy policy to follow. In addition the Department for the Environment, Transport and the Regions (DETR) had historically held ultimate responsibility for sustainable development (Department of the Environment 1990; DETR 2000), but elements within the DTI considered their analysis to be 'woolly', non-quantitative and unconvincing (interviews 5 and 13).[5] Under the PEPP as of 2000, the UK's Climate Change Programme was more of a DETR affair pursued largely alongside, rather than integrated into, energy policy (cf. Helm 2003: 361). As such there was an understandable sense within the DTI's energy division that climate change was not its priority (Interview 13). Again, as mentioned above, there was still considerable belief within the DTI's energy division that

markets would deliver on investment in and production of renewable energy (DTI 2001: 2).

Challenges to the PEPP

The PEPP, characterised in Table 4.1, appeared by the start of 2000 in many senses to be firmly institutionalised as can be seen, for example, from how it had approached climate governance. However, the period following immediately after presented a series of challenges, the most important of which was mounted from the climate perspective outlined in chapters 1 and 2.

Mounting challenges

Before moving on to the more direct challenges to the PEPP, which came from climate narratives, it is worth also covering some of the other, ongoing, problems for policy-makers. These issues were taken less seriously by energy elites than that of climate change but they are nonetheless worth highlighting. This is partly for the very reason that they were not recognised at this time as important and partly because they highlight some of the internal inconsistencies within the PEPP. One of the first real problems that Labour had to face in the energy sector was the expiry in 1998 of the coal contracts, which had supported the price and quantity of coal purchased by generators. A new deal needed to be done and Labour, as the traditional and vociferous supporter of coal in opposition, was put on the spot. A White Paper was drawn up to address this issue, which committed to further support for the coal industry whilst stating that such measures would be temporary (DTI 1998b). This was a difficult position to take given theoretical commitment to keeping state intervention low, but also given the energy policy aim of keeping energy affordable. This can be taken as an example of New Labour trying to maintain its newly acquired but very wide coalition of interests.

As already suggested, as the early 2000s progressed it became increasingly apparent that oil and gas supplies from the UKCS were in rapid decline. It was expected that the UK would become an importer of both gas and oil by the mid-2000s, with imports rising very quickly over time (JESS 2002). This reasonably significant change prompted, in part, the formation of a new group called the Joint Energy Security of Supply (JESS), which was made up of officials from the DTI and Ofgem, and was formed in 2001 (JESS 2002: 3). Related to becoming an importer, questions also started to emerge about the UK's capacity to import gas in large quantities, partly due to a lack of storage facilities, and about levels

of ongoing investment in energy infrastructure (JESS 2002: 4; Interview 13). The Royal Academy of Engineering (RAE) issued a report suggesting that change was needed in order to facilitate substantial investments:

> The Government should reassess the limitations of the market and market mechanisms as the basis for planning and funding new capacity that would lead rather than lag the needs of network users.
> (RAE 2002: 5)

Ian Rutledge's analysis of UK energy policy at this time suggests that New Labour, and the DTI, ignored this advice (Rutledge 2007: 921). Certainly specific JESS responses to growing perceptions of the need for more investment were based around the need to facilitate the private sector by further reducing 'barriers or distortions' (JESS 2002: 4).

The international context was also changing, and not in the pro-market direction. It is reasonably remarkable, given the UK's return to being an importer of fossil fuels, that New Labour and energy policy-makers appeared remarkably complacent about these changes until well into the mid-2000s. Venezuela, under Hugo Chavez, rejoined OPEC in 1999 and OPEC was committing itself, again, to genuine production constraint supported by non-OPEC producers such as Mexico, Norway, Oman and Russia (Rutledge 2007: 908). By the end of 1999, oil prices had doubled, albeit from an all-time low at the start of the year. In 2001 the Venezuelan National Assembly had passed a new Hydrocarbon Law effectively renationalising PdVSA.

Concerns about prices, capacity and levels of excess stocks available were highlighted at the time of the 'mini' energy crisis during the cold winter of 2000. In scenes not untypical of historical moments when energy had become subject to raised levels of public interest, protests flared up about rising petrol prices which, in September 2000, were the highest they had been for ten years. Fuel protesters started to picket refineries, described by Tony Blair as the Achilles' heel of the UK fuel industry, and real fears that supplies would be affected started to mount (Blair 2010: 292). The pickets, combined with the shock of high prices after such a prolonged period of falling prices, caused a rush to petrol stations and considerable pressure on surplus stocks (Helm 2003: 390).

It is briefly worth noting how Prime Minister Blair claims to have responded to the pickets in that it signals a clear contradiction with prevailing ideas about energy governance and markets. He was well aware of public fears about supplies and harboured genuine concerns that petrol would not be able to flow properly from refineries to petrol

stations, which generally require restocking every 48 hours. In his words, '[w]ithout the refining plants, no blood flows to the arteries' (Blair 2010: 292). His response was to 'stamp his political authority all over the situation' with the help of the army and the police. His proposal was that drivers should be instructed to cross picket lines with the help of the police, or be 'sacked', and, if necessary, the army would be drafted in to drive lorries and deal with any violence from protesters (Blair 2010: 296). The treatment of the perceived threat to the UK's 'lifeblood' (i.e. supplies of energy) marks a strong contrast with the idea of energy as a replaceable commodity, and with faith in the ability of markets to supply. It suggests the continued existence at this time of the more old-fashioned notion that threats to energy supplies can be viewed as a national security issue which requires the state, or in this case the prime minister, to take ultimate responsibility.

There were other events, such as the Enron scandal and the California electricity crisis, which also served to highlight the vulnerability of marketised energy but on a geographically wider basis. California's electricity sector had been liberalised in 1996, largely following the UK model, so when the blackouts of 2000 hit, concerns were raised about the benefits of following the UK model (PIU 2002: 15; Helm 2003: 387). Further critiques, although not particularly high profile, followed of privatisation and liberalisation in energy – particularly marking electricity out as an area where such models do not function well (Borenstein 2002; Timney 2004). These critiques could be seen as important given the degree to which the market model was being encouraged via various IGOs in the developing world and to which it had been taken up.

The Enron scandal, however, was less referenced in energy circles, despite the interest shown by academics and other analysts interested in the corporate and financial systems and market manipulation (see Friedrichs 2004; Widmaier 2005; Watson 2008). Gross accounting malpractices, amongst other illegal dealings, were uncovered towards the end of 2001 and Enron plunged from its position as the largest international energy trader, and significant political lobbyist, to filing for bankruptcy by December 2001 (Hogan 2003: x). It had been seen as a primary enabler of the marketisation of energy. Certainly its management had claimed that it was 'leading the fight for competition' and that it was capable of allowing customers and suppliers to strike whatever bargains they found mutually advantageous (Stelzer 2002 in Rutledge 2007: 903). Its demise, in such shocking circumstances, was widely covered and its business practices condemned.

This scandal, however, raised more questions in political circles about white-collar crime (Friedrichs 2004), and the popular prosecution of individuals held responsible, than it did about lasting investigation into systems of energy regulation or into pro-market energy trade and governance.[6] It was barely mentioned in UK energy policy documents except to comment that the collapse of Enron (the largest energy trader) had temporarily impacted on the supply of electricity to the market (JESS 2002: 5; PIU 2002: 77).

Crisis in climate policy

New Labour had come to office with the luxury of a decade of falling carbon dioxide emissions caused by the growth in gas over coal usage for electricity generation. Coal usage had dropped from 74% of overall energy in 1960 to 18% in 1998, and gas had risen from 0% to 34% in the same period (RCEP 2000: 67). As the new century dawned, however, it started to become more apparent that the easy gains of the past were going to be difficult to replicate in the future (DTI 2000a: 48; RCEP 2000: various). Even government projections about future emission reductions did not, by 2000, look positive. A DTI paper reiterated that previous gains had been due to the reduction of coal in the energy mix, supporting again arguments for gas as *the* transition fuel. It also noted, however, that in 2000, electricity produced from renewable sources was still 5% – exactly the same as it had been in 1990 despite a decade of support for low-carbon (read nuclear) energy via the NFFO (DTI 2000a: 32). The future for emissions from, and renewable sources in, the transport sector looked even more negative (DTI 2000a: 48). UK renewable achievements could, in particular, be less than favourably compared with those of countries like Germany, Sweden and Denmark, where the markets had not been left to deliver a lower-carbon future.

The Royal Commission on Environmental Pollution (RCEP), which was set up in 1970 to advise on environmental issues and contribute to policy development, produced a significant report in 2000 which was openly critical of the situation (RCEP 2000).[7] Overall the incredibly detailed and long-term report outlined a negative picture of UK achievements in terms of climate policy and its ability to meet emissions reduction, energy efficiency and renewable energy targets. Its concerns over UK policies were introduced thus:

> [a]ccess to abundant and instantly available energy underlies our entire way of life, yet its impact on the environment is growing. This poses a radical challenge for the UK; a challenge that cannot be

> met successfully unless the government's energy policies and its environmental policies are coherent. A sustainable energy policy for the UK should protect the interests of generations to come, but it must also seek to achieve social justice, a higher quality of life and industrial competitiveness today. Achieving the right balance is formidably difficult; current policies do not strike it.
>
> (RCEP 2000: 1)

The report overtly claimed that positive climate change mitigation could not be achieved through the current PEPP. Ideas contained in the report about the requirement for energy and climate policy to be devised coherently, and about the profound difficulties in balancing the needs of consumers, business and environmental objectives, are revisited later. As suggested by one analyst, the deep complexities associated with meeting various aspirations around energy and climate policy were, at this time, grossly underestimated by policy-makers (Rutledge 2007).

Claims of multiple failings in UK energy and climate policy from such an established group were seen, in addition to the UK's changing import–export status, as requiring a response from government (Helm 2003: 392). UK climate change campaigners started at this time, particularly in comparison with Labour's 'green' stance in opposition, to lament their climate policies and lack of change. It seemed as if government believed that 'there is nothing that cannot be solved by the market' (Carter 2001: 63). This was at a time when countries such as Germany, Sweden and Denmark were already producing positive results in terms of renewable energy production and emissions reductions.

The 2002 review of energy policy

The need to respond to mounting concerns about becoming an oil and gas importer, accompanied by increasing pressure to address climate concerns, were suggested as being responsible for a Review of Energy Policy conducted in 2001 (Blair in PIU 2002: 3). The review was carried out by the PIU, which had been set up in July 2000 as an independent think-tank, although it would report directly to the Prime Minister's Office. It had three primary functions: 'to set out the objectives of energy policy . . . to 2050', 'to develop a framework for reconciling trade-offs among different objectives of energy policy' and, most importantly, 'to develop a vision and strategy for achieving these objectives' (PIU 2002: 15). Some have suggested that a further function of the report was to disarm political opposition by showing that government was, indeed,

addressing these issues (Helm 2003: 394). Some members of the review team, however, including the team leader, considered it to be a viable alternative to the PEPP and had hoped that it would result in significant climate policy change (interviews 13 and 14). As discussed below, the review as a whole represented a mix of ideas from within climate perspectives on energy, which directly challenged the PEPP, as well as ideas consistent with the PEPP.[8]

As with other government documents on energy policy around this time, the PIU report dedicated much time and space to highlighting the importance of addressing climate change, but it went further in terms of recommending specific governance changes to reflect these priorities. The review openly addressed some of the key issues raised in the RCEP 2000 report by suggesting new targets for energy efficiency and for renewables as a percentage of overall energy produced. It recommended that the target for the proportion of electricity generated from renewable sources should be doubled to 20% by 2010 and with a further 20% in the following decade (PIU 2002: 6). This emphasis on renewable energy marked this report out from existing policy, particularly given the ongoing debate, referenced above, about whether or not to even continue with a renewables policy. It was further recommended that energy-efficiency targets should be changed such that an improvement of 20% should be achieved between 2002 and 2010 and a further 20% between 2010 and 2020 – this would serve to double the existing rate of improvement (PIU 2002: 10).

The PIU also represented a direct challenge to three of the existing levels of the PEPP – notably those of objectives and instruments of energy policy and physical institutions. Central to its challenge to existing policy was the suggestion of a new energy policy objective:

> the pursuit of secure and competitively-priced means of meeting our energy needs, subject to the achievement of an environmentally sustainable energy system.
>
> (PIU 2002: 52)

Of particular note, in addition to the notion of qualifying secure and competitively priced energy, is the clear use of the term 'environmentally'. As we saw above, both Conservative and Labour governments had been able to pursue climate policy which reflected the compromise of liberal-environmentalism partly by adopting an understanding of 'sustainable' energy which encapsulated a strong element of economic growth. The PIU review specifically recommended that the economic

element should be subordinated to the environmental element of sustainability within the new framework:

> Energy policy trade-offs affecting the period to 2012 should generally give priority to carbon reduction if there is a material risk of failing to meet internationally agreed emissions targets.
>
> (PIU 2002: 52)

This presented a direct challenge to the existing relationship between energy and climate policy whereby new climate objectives could, and should, trump other energy policy objectives. The suggestion that environmental considerations should be given priority over financial ones was an entirely novel suggestion within elite energy politics at this time (cf. Interview 14). Climate policy would, in addition, in practical terms have to be integrated with energy policy-making processes.

Reflecting this idea, in Chapter 8 on institutions, the PIU recommended the creation of a single government department for climate change, energy and transport policy (PIU 2002: 144). The report did, however, recognise that as this 'fundamental change to existing departmental structures' might take some time to achieve, in the meantime a Sustainable Energy Policy Unit should be established (PIU 2002: 6 and 144). It also suggested much wider public involvement in energy. Specifically, it recommended that an extensive and extended process of public review should be initiated before any commitments were made to implement findings – a review that would take energy out of the narrow realm of departmental policy-makers and associated experts (PIU 2002: 13). It was noted that the nation must not be 'lulled into inaction' by the focus on long timescales in expert debates about energy and climate change. Instead they must be made aware of the need to act now (PIU 2002: 14).

In addition to this core institutional change the PIU dedicated a whole section of the report to providing 'justification for government involvement in energy markets' specifically to meet new environmental goals (PIU 2002: 32–52). In terms of the PEPP level of instruments of policy, the report suggests that

> [m]ultiple policy interventions are likely to be required to achieve energy efficiency objectives, with a mix of regulations, negotiated agreements and incentives.
>
> (PIU 2002: 111)

These could include, for example, direct government spending in research and development to support new energy efficiency and renewable energy technologies, taxation to raise the 'cost of carbon' and further regulation (PIU 2002: 42).

The PIU energy review and signs of continuity

Alongside the changes suggested in the 2002 review, a dialogue also persisted in support of market liberalisation, competition and cost-efficiency. This does, in some senses therefore, also represent support for certain pro-market ideas and, as a result, for the PEPP level of ideas about energy governance (Rutledge 2007: 909). The report claims upfront that the introduction of liberalised and competitive energy markets in the UK 'has been a success, and this should provide the cornerstone of future policy' (PIU 2002: 5). Some specific benefits of liberalisation, it states, have been experienced by the 'fuel poor' as competition has driven down prices for end consumers (PIU 2002: 6). The report suggests, in line with usual DTI thinking, that liberalised markets and their extension to Europe have represented 'an important contribution to energy security' (PIU 2002: 5, and 7).

Particularly noticeable, when considering continuity in energy policy, are the various references to the 'benign' and 'healthy' environment for energy security, even given the UK's move to being an importer of oil and gas (PIU 2002: 6 and 53–54). For example, the observation that 'there appear to be no pressing problems connected with increased dependence on gas, including gas imported from overseas' (PIU 2002: 53). What is surprising is that the renationalisation of PdVSA, the Venezuelan oil and gas enterprise, and Venezuela's re-entrance into OPEC are not mentioned as constituting any possible threat. The 9/11 attacks, escalating energy prices and the 2000 refinery pickets are recognised but only in passing and as a signal to start thinking about future security. This rather sanguine perception of the international energy environment compares markedly to the narrative which emerges in the mid-2000s in the aftermath of the renationalisation of Russian energy assets and the Russia–Ukraine gas transit dispute.

The report could also be read as a little contradictory in parts about meeting emissions targets. For example, in open contrast to the recommendation of giving priority to internationally agreed carbon-reduction targets, a different section suggests that

> it would make no sense to incur abatement costs in the UK and thereby harm our international competitiveness, if others were not contributing.
>
> (PIU 2002: 9)

The report does, by the same token, expect that the 'international community' may well start to set stringent carbon emission-reduction targets that the UK would need to be ready to meet (PIU 2002: 5). Environmental observers, such as the Green Party, were also keen to point out other non-environmental aspects of the review (Toke and Oliver 2003). They highlighted in particular the decisions taken to keep the nuclear option open (PIU 2002: 6 and 12) and the lack of commitment to making clear decisions which would lead to generators favouring renewable over fossil fuels. The PIU refers, in line with PEPP thinking, directly to this question:

> [s]ome submissions to the review have suggested that Government should decide the fuel mix to be used for electricity generation. This review has rejected these proposals on the grounds that they would seriously distort the efficient functioning of the energy markets.
>
> (PIU 2002: 7)

Competing narratives within the PIU and beyond

This mix of challenges to, as well as support for, the existing system reflects perhaps the range of people involved in the review process and the need to balance views (interviews 13 and 14). Even within the review team, and given that many involved came from within energy policy-making circles, individuals had different goals in mind that reflected competing energy perspectives – largely pro-market and climate. Some were angling for quite significant change whilst others were more comfortable with amendments around the status quo (Interview 13). Given the mixed nature of messages in the final document – partly pro the existing situation and partly suggesting radical change – the review did not offer a blueprint upon which to design a new policy paradigm. On balance, however, it appears to have been the first directly government-sponsored report which raised serious questions about existing energy governance structures, in particular in terms of how energy and climate objectives should interrelate in practice.

However, what ultimately happened in response to the PIU's suggestions shows that those involved in UK energy policy-making were not ready for change – from Number 10 down to Ofgem and the DTI

(interviews 13 and 14). The fate of the review is already hinted at in the introduction by Tony Blair, wherein he emphasises 'choices' faced by government and the idea of 'keeping our options open'. He reiterates this approach at the end of the introduction when he states that the report 'is not a statement of government policy' (Blair in PIU 2002: 3–4).

Some of those involved in conducting the energy review have suggested that resistance to the PIU's recommendations kicked in between the publication of the report and the 2003 White Paper, which firmly returned 'energy policy to the current paradigm fold' (Mitchell 2008: 122; Interview 13). Another analysis of energy policy at the time points out that the Treasury, DTI and Ofgem each became involved in an effort to undermine support for the changes suggested. Specifically it has been suggested that Callum McCarthy, then chairman and chief executive of Ofgem, resisted the addition of a firm renewable energy objective or strategy (Interview 13). What could also be suggested, however, is that although the climate narrative was, through the auspices of the energy review, critiquing some aspects of policy and suggesting solutions, by also supporting the broader interpretive framework it was not offering up an alternative policy paradigm to the PEPP.

Our energy future: Creating a low carbon economy: The 2003 White Paper

The government's response to the 2002 energy review was contained in the 2003 White Paper, which neither immediately endorsed nor carried forward the majority of the PIU's recommendations of change. Overall it reflected a commitment to the role of markets and competition in delivering new energy policy objectives, thereby doing away with any need to adopt new policies. As such this White Paper, written by a former City broker, was criticised as claiming to be 'radical' whilst in effect lacking in substance or any profound policy change. In fact, some have claimed that

> [t]he free market fundamentalism already eminent in previous statements of New Labour's energy policy was given full throttle in the White Paper of February 2003 . . . As usual it was all going to happen via 'competitive markets'.
>
> (Rutledge 2007: 911)

Others, however, have claimed that a paradigm shift, based on changing objectives, occurred in OECD energy policy at this time and it is

worth considering the 2003 White Paper in detail within this context (cf. Helm 2007).

The new objectives of energy policy

In his introduction to the 2003 Energy White Paper, Tony Blair states that '[o]ur country needs a new energy policy' primarily in order to meet the environmental goal of shifting the UK towards a low-carbon economy but also in recognition of becoming an importer (DTI 2003: 6). However, this claim of new energy policy was met almost exclusively by including new 'objectives'. Under Hall's version of paradigm shift, and under the definition of the PEPP used here, these ought to have been significant given the emphasis placed on the requirement for objectives to change for a paradigm shift to be successful (Hall 1993: 279). Helm considers changing objectives of energy policy to lie at the heart of his claims that a policy paradigm shift took place in OECD energy policy at this time. In the case of the UK, however, the new objectives seemed to have appeared more as a means of buying time and nodding in the direction of climate protagonists, whilst otherwise maintaining the status quo.

In 2002 the primary stated objective of energy policy had remained the maintenance of a secure, reliable and competitive energy system. In 2003 this had been expanded to four central objectives:

- to put ourselves on a path to cut the UK's carbon dioxide emissions . . . by some 60% from current levels by about 2050;
- to maintain reliability of energy supplies;
- to promote competitive markets in the UK and beyond, helping to raise the rate of sustained economic growth and productivity;
- to ensure that every home is adequately and affordably heated (DTI 2003: 11).

There are clearly two new goals here related to climate change mitigation and energy poverty, whilst the previous objective had been split into one part referencing reliability of supplies and another referencing the role of competitive markets in raising the rate of sustained growth.

It was claimed at this point that the environment had become one of the 'four pillars' upon which energy policy rests (Blair in DTI 2003: 3), similar to the three pillars upon which EU energy policy was understood to rest (EC 2011b: 2). This represented a departure from previous energy policy, which did not include climate targets as formal objectives and as such could be significant in terms of measuring policy paradigm change.

However, we can cast doubt on the significance of this particular new objective in a number of ways. The climate target formally adopted, interestingly using a direct reference to the RCEP report but not that of the PIU, was nothing if not vague. Instead of just stating that the UK would meet a new, specific emissions-reduction target, the commitment given was to 'put ourselves on a path' to cut carbon dioxide emissions (DTI 2003: 11). The target itself, to cut by *some* 60% by *about* 2050, is equally vaguely worded, leaving it open to interpretation as to whether it is a firm commitment or just an aim (DTI 2003: 11). As is shown more clearly in Chapter 5, this new target was not taken as necessarily precise or binding when considering energy policy (interviews 5, 13, 14, 15 and 16).

Aside from the superficially exacting, but in reality rather vague, carbon emissions target, the White Paper did not commit to the recommended renewable target of 20% of energy by 2010 – the commitment was maintained instead at 10% by 2020 and was not made a formal objective (DTI 2003: 45). As such, despite the new objectives, continuity of the PEPP was largely maintained at this time. Both the 2003 White Paper and the later, 2004, Foreign and Commonwealth Office (FCO) report on energy almost exclusively emphasise the role of markets, competition and the private sector in delivering climate change goals (DTI 2003; FCO et al. 2004). Strategies focused on international energy and climate relations also displayed continuity. Much was made of the role that the UK would play in international climate negotiations in terms of 'showing leadership' in bringing more countries into the Kyoto Protocol (DTI 2003: 25). The other major commitment made was the adoption of the new EU Emissions Trading Scheme (ETS), the first phase of which was due to start in January 2005, and making it 'a central plank of our future emissions reductions policies', thereby again committing the responsibility of delivering carbon savings to 'market signals' (DTI 2003: 29).

The White Paper did suggest continuing with one or two more interventionist instruments, such as small capital grants and a more supportive approach to planning. It stated continued commitment to the RO whilst also leaving it open to review, but not until 2005 (DTI 2003: 46). The only practical difference in support for renewable energy at this point was an additional £60m of capital grants in the 2002–2005 spending review period (DTI 2003: 46), in spite of the desperate pleas for investment in renewable energy and energy efficiency in both the PIU and RCEP reports. Certainly £60 million over four years looks like a drop in the ocean next to White Paper estimates that between £1.1 bn

and £1.5 bn each year would be required to boost renewable energy alone (Mitchell 2008: 131).

As has already been discussed, New Labour represented a wide coalition of interests and in energy and policy needed in theory to address this range of constituents, including those less financially endowed. Action on meeting energy poverty objectives had already been made under the Warm Homes and Energy Conservation Act 2000 (Rutledge 2007: 906). The 2003 White Paper gives *energy* policy specifically the objective of addressing energy poverty. The wording of the energy poverty objective is marginally less vague than that used in communicating the climate objective:

> We aim that as far as reasonably practicable no household in Britain should be living in fuel poverty by 2016–2018.
>
> (DTI 2003: 107).[9]

The wording used, by describing the objective as an 'aim' and qualifying it as potentially not practicable by 2016–2018, includes a clear get-out clause. It was claimed that achievements thus far in reducing energy poverty, to 3 million households in 2003 from 5.5 million in 1996, had been reached via 'competitive' energy prices (DTI 2003: 107). And, to the extent that New Labour continued to ascribe such low prices to liberalisation and competition, the understanding was that maintaining such a framework would contribute to further reductions. In addition, of the 3 million households measured as being fuel poor as of 2003, it was suggested that economic growth could be expected to take 1 million out of fuel poverty by 2010 (DTI 2003: 107).

Some complications, however, were starting to be recognised between the laudable energy poverty objectives and views that energy prices were starting to rise. To address this potential conflict the DTI dropped its aim that UK electricity prices would be in the lower half of the EU/G7 price basket. Instead what was instituted in its place was a commitment to ensure that the UK 'ranks in the top three most competitive energy markets in the EU and G7' (Rutledge 2007: 913). No mention was made, however, of the potential trade-offs that might arise between increasing the percentage of electricity from renewable energy sources, which are more expensive to deliver, and energy poverty (Rutledge 2007: 907). The energy review had suggested a 5–6% increase in electricity prices over expected levels if renewable targets were to be met, and these were viewed by others as being very much at the low end of expectations (PIU 2002: 11). Instead the theoretically positive relationship between

energy poverty and environmental measures is regularly highlighted – for example, energy efficiency gains would serve to reduce fuel poverty (DTI 2003: 107).

The effectiveness of this 'new' energy poverty commitment could really only be measured at some point in the future. But if measures adopted were not successful this would, *if* widely noticed, leave energy policy even more open to challenge.[10] This is all the more true as the 2003 White Paper committed so openly to existing instruments in achieving new objectives, and it also committed the DTI to formally reporting on progress made in terms both of environmental and social, or energy poverty, objectives.

The state does not make decisions about fuel mix

It is worth spending a short time here considering how the question of fuel mix, a question arguably central to delivering a low-carbon economy, is covered in the White Paper. There is clear commitment to the notion that 'Government is not equipped to decide the composition of the fuel mix' and that the state should not set targets for the share of total energy to be met by different fuels (DTI 2003: 11 and 87; cf. interviews 1 and 15; Lawson 1989). By contrast not only is the likely future UK fuel mix discussed but various fuels are picked out as preferable to others.

Although the White Paper did not set renewable targets as firm objectives of policy or raise the level aimed for, it did continue with the RO in the hope that this would help to increase the level of renewables in the overall fuel mix. The White Paper also underpinned the role of gas as a transition fuel. Gas had, over the course of the 1990s, been considered secure and reliable, and the replacement of much coal with gas-fired electricity generation in the 1990s had already had a positive impact on carbon dioxide emissions (DETR 2000). Gas was also expected to play a major role in future UK electricity generation due to cost considerations (Helm 2003: 365). This perception of gas as *the* transition fuel, as I argue in more detail in Chapter 5, was to be significantly challenged around the middle of the 2000s, specifically following the Russo-Ukrainian gas transit dispute.

The future of coal as part of the UK fuel mix looked less bright. As discussed earlier, the DTI had in 1998 done an, albeit temporary, deal to support coal further. However, the 2003 White Paper attempted a break with this tradition by suggesting that coal could only remain a significant part of the UK fuel mix in future 'if ways of reducing carbon emissions can be found' (DTI 2003: 12). Likewise nuclear was at

this time out of favour despite the indirect support it had continued to receive under New Labour and consistent lobbying from pro-nuclear groups (interviews 13 and 14). The 2003 White Paper, in pointing out its lack of cost-effectiveness and environmental concerns about waste, basically puts nuclear 'on hold':

> Nuclear power is currently an important source of carbon-free electricity. However, its current economics make it an unattractive option for new, carbon-free generating capacity and there are also important issues of nuclear waste to be resolved. These issues include our legacy waste and continued waste arising from other sources. This white paper does not contain specific proposals for building new nuclear power stations.
>
> (DTI 2003: 12)

What the White Paper fails to mention is that in 2002 when the privatised nuclear generator responsible for around 20% of electricity in England and Wales faced financial crisis the government was 'compelled' to partially renationalise it (Rutledge 2007: 911). What can be taken from this is that an energy company was considered too important to fail due to its position within UK electricity supply. This shows another important contrast between the PEPP, which so deeply influenced the practice of technocrats in the DTI and Ofgem, and other political reactions to perceived threats to energy supply.

UK energy foreign relations

Any analysis of UK foreign policy post-2001 should also be understood within the context of the 9/11 attacks and the subsequent launch of the War on Terror, particularly in that political capacity was very much focused on them at this stage. This chapter does not have the space or capacity to question in detail claims that one of the reasons for embarking on the Iraq War was because Iraq has large supplies of oil.[11] What can briefly be said is that fossil fuels seem to have coincided with UK military action on many occasions since the Second World War: Suez (route through which oil tankers travel); Iraq (large oil reserves); Afghanistan (major pipeline route); and now Libya (large oil reserves).

Like the 2002 energy review, the overall picture painted of the international context within which the UK energy markets would increasingly operate was decidedly benign. This might be seen as surprising given recent OPEC declarations, Venezuelan renationalisations, volatile energy prices and the military invasions of Afghanistan and

Iraq. However, such a benign view might be understandable from a pro-market perspective given the degree to which it was being argued that energy governance was moving, globally, in a pro-market direction. Assumptions about positive economic interdependence underpinned the idea that becoming an importer once more need not present too many difficulties (DTI 2003: 14). Freely trading international energy markets were understood to be progressing well:

> [o]il and – currently to a lesser extent – gas are internationally traded commodities. And all countries, whether import-dependent or not, have a common interest in promoting open markets and predictable prices.
>
> (DTI 2003: 78)

Furthermore, the development of the ECT, and its inclusion of two major energy exporters – Russia and Norway – was expected to provide a good degree of formal support to the process of internationalising free trade norms in practice. The UK would continue to pursue economic reform in key producing areas and, as such, liberal markets would continue to serve as the most effective method of maintaining energy security (DTI 2003: 14 and 79; FCO et al. 2004: 14). EU energy ministers had agreed an energy liberalisation package in November 2002, one that the UK was considered to have instigated, and this was seen as a major step towards the development of liquid international gas markets and a further boost to energy security (DTI 2003: 81–82; FCO et al. 2004: 13). In fact, it was observed that pro-market ideas about energy governance were by this stage firmly ensconced in Brussels (Buchan 2010: 412).

Despite the internationalisation of oil markets, however, it was still understood that the originating destination of gas exports was more important given that it was, and still is, largely traded on long-term contracts rather than 'at spot' in international markets. Although some emphasis in the 2003 White Paper was placed on supply diversity, the reality was that Norway would be providing the lion's share of UK gas, with the intention that Russia would come second (JESS 2006). Both Norway and Russia were large-scale exporters, they were relatively close to the UK and Europe, and, in the case of Norway, a large amount of transit infrastructure was already in place. It was also considered important that both Russia and Norway were, at this point, signatories to the ECT as this made them more reliable, from a pro-market perspective, than other large producers, such as the Middle East (cf. House of Commons 2002: 89).

It is also worth noting, despite regular references to the central role of markets in energy trade, that new energy-related treaties were signed with both countries. A new treaty was signed, at the time of the 2003 White Paper, with Norway (DTI 2003: 79). In June 2003, President Putin and Prime Minister Blair announced, at an energy summit in London, that they had both signed a memorandum of cooperation on the project to build the North European gas pipeline (Number 10 2003).[12] The idea was that Russian gas would reach the UK via the new pipeline system and a new interconnector between Belgium and the UK (DTI 2003: 80). Theoretically, of course, government should not need to make specific decisions about suppliers but on the strength of these treaties it appears that some 'top-down' involvement was understood to be required to secure supply deals. The decision to encourage direct supply relations with Russia seems highly ironic in hindsight and perhaps highlights the degree to which energy policy-making had been taken for granted and left with minimal dedicated capacity.

Conclusions

This chapter has emphasised an era, between 2000 and 2003, of consistency within the PEPP by painting a picture of a somewhat path-dependent, conservative UK energy policy-making process. It has been an interesting exercise to examine in detail the ways in which the PEPP remained internally consistent. For example, the way in which policy-makers, ostensibly experts in the energy field, interpreted international events and energy relations is testament to the degree to which energy security was understood to be linked to progression in the spread of market rules. What affected interpretations were not only the dominance of pro-market ideas and the degree to which they had become embedded, but also the fact that there were few experts at this time in the international relations of energy at work within policy-making circles. As such, many technocrat experts were generalists in economics but not energy, and this is arguably not surprising given the lack of specific energy mandates at the DTI or the Foreign Office.

What made consistency at almost all levels of the PEPP more surprising are the challenges mounted from the climate perspective – even within quasi-government institutions such as the RCEP and the PIU. If we consider the theoretical roles of narratives within the process of change then it is of note that climate change protagonists claimed a crisis, provided evidence of policy failure but did not manage to elicit energy policy paradigm change. This is perhaps because the type of

energy crisis being claimed – of a long-term, global nature – although credible in many political circles was not 'popular' with the British public. As such a widespread sense of energy crisis did not emerge. In addition it could be argued that the climate narrative was not successful in establishing a widespread sense of *energy* policy failure, given that responsibility for climate change still lay with DEFRA. It was, however, clearly felt that some sort of political response was required to the PIU's energy review, and the language claiming 'radical' change used in the White Paper can be seen as proof of this. The actual response, however, in the form of two new objectives did not represent a marked change in that they were vaguely worded and imprecise – in contrast to the objectives committed to later, in 2008.

The compromise strategy adopted, whether it represented an attempt to 'buy time' or to silence opposition, became increasingly higher risk. By acknowledging the new problems and by including them, no matter how vaguely, within the objectives to which energy policy is set the DTI had arguably left itself open to more credible critique should it fail to meet those targets. These types of critique would be harder to make were the environment and energy poverty not objectives of energy policy but problems for other departments, such as DEFRA, to solve. In this way the climate perspective, although it might seem to have been drowned out and effectively 'compromised' at this time, did leave a marker in place which could be revisited by critics of the PEPP at a later date.

5

The Energy Security Crisis 2004–2007: Russia and the Politicisation of Energy

Introduction

This chapter bridges the gap between the consistency of pro-market ideas and narratives in the face of various challenges, which we saw in chapter 4, and chapter 6 where the PEPP undergoes more profound alteration. This period from 2004 to 2007 can be characterised as one in which a security of supply crisis became widely perceived – that is, in public, elite and some academic circles – but not one in which the PEPP was rejected. It is argued here, however, that the security of supply crisis and the degree to which it dominated crisis debates did lead to a politicisation of energy, certainly of a momentary nature. The crisis narrative that emerged, based on geopolitical ideas about national energy dependence and vulnerability, stood in direct contrast to recent pronouncements about 'benign' international energy and positive energy interdependence in the 2003 Energy White Paper (DTI 2003).

Section 1 of this chapter starts with consideration of Russian energy reforms and restructuring. The crisis debate that ensued in response to these changes, with its emphasis on near-term supply insecurity, unreliable foreign producers and national energy dependence, was similar in tone and scale to UK oil crises debates of the 1970s. The extent to which the geopolitical version of energy crisis came to dominate, and across society, reveals the strength and legitimacy of simple security arguments, based on uncertainty and fear, in both gripping the public's imagination and lending impetus for political interest and action. This chapter argues that it was partly the nature of the energy crisis narrative itself – the publically perceived threat to UK national energy security and Russia's role in it – that resulted in energy security once more being placed on domestic and international political agendas.

Given the growing degree of political interest in energy security, a rethink of energy emerged in terms both of its socioeconomic role and of what political capacities existed in energy as a policy area. As part of the process of seeking to understand the situation better an energy review was undertaken in 2006, followed by an Energy White Paper in 2007. Policy changes contained therein reflected another reiteration of PEPP ideas about the role of competitive markets in delivering energy objectives, but also some incongruous, geopolitically informed ideas and solutions. Some changes had clearly started to emerge, and these were particularly at the levels of ideas about energy, institutions of energy governance and objectives of policy. These changes occurred concurrently with a large degree of continuity in ideas about the role of markets and competition in delivering energy objectives as well as in instruments of policy.

It can be argued that the geopolitically informed narrative of energy supply security was responsible in part for politicising energy to the extent that a crisis was widely understood to exist and that energy needed to be reassessed as a policy area. It was arguably, however, better qualified at describing the situation in evocative and tangible terms and raising political interest than it was at identifying problems within the PEPP or at providing credible, long-term solutions. This is partly because talking security about a subject tends to focus understanding on factors that are exogenous and on problems arising as a result of the actions of others but not directly related to domestic governance practices. Thus an interesting paradox emerges when considering profound, ongoing change – the dominant crisis narrative completed the job of raising political awareness that an energy problem exists but without directly challenging existing political practices.

The UK security of supply crisis: Geopolitical narratives re-emerge

If we are to proceed below with claims that Russian energy renationalisation acted as an indirect catalyst for change, particularly in that it encouraged a large degree of debate and discussion about energy, then we need to understand why. The following section will outline those elements of the Russian reform process that were perceived as most problematic within the UK. Part of the emerging understanding was that Russian 'resource nationalism', as the reforms were perceived in many Western countries, represented a reversal of progress towards established neoliberal energy norms on an international basis. Another

important factor was that this apparent about-turn was not anticipated and it was surprising and perplexing in equal measure. As such it challenged the assumptions that many in the UK and Europe had made about the success, and future direction of, international energy markets and associated energy security (cf. Interview 19). Lastly, in terms of public reaction and interest in energy, it should also be emphasised that oil prices escalated considerably over this time period from $32 per barrel at the start of 2004 to an average of $121 per barrel in 2008 (BP 2008).

The Russian Federation and energy governance change

Close inspection of the Russian Energy Strategy of 2003, or even of Putin's earlier dissertation on the Russian economy, would have revealed a change of heart on behalf of Russia's elites towards the energy sector. Both documents claimed that natural resources, being central to Russia's economic and international political recovery, should be managed by the state (cf. Putin in Balzer 2006). The more recent 2010 Energy Strategy to 2030 expresses ideas about energy's socioeconomic role:

> [t]he objective of the energy policy of Russia is to maximize the effective use of natural energy resources and the potential of the energy sector to sustain economic growth, improve the quality of life of the population and promote strengthening of foreign economic positions of the country.
>
> (Ministry of Energy of the Russian Federation 2010: 10)

Arguably, UK energy policy-makers may just have taken statements about the Russian state assuming a greater role in the energy sector as not being serious.

Beyond emerging arguments for establishing more state control over natural resources lay a further important reason for reforming the extractive industry. It had been quite widely argued that the oligarchs, who had gained oil and gas assets largely as a result of the 'loans for shares scandal' in the 1990s, were neither reinvesting profits back into this sector nor paying all taxes due to the state. Some analysis has pointed to a policy of both 'cash' and 'asset stripping' being pursued in the extractive industry in the late 1990s and early 2000s (Boussena and Locatelli 2005: 10).[1] One of Putin's early attempts to correct this situation was to call a meeting, in May 2000, with the oligarchs to outline three new rules: reinvestment of profits back into the Russian extractive industry; payment of taxes in full; and, less relevant for arguments here

but most controversially, a moratorium on oligarchs becoming involved in Russian politics (Bean 2004: 348).

When Mikhail Khodorkovsky, one of the most prominent and politically active oligarchs and CEO of Yukos, was imprisoned this came as a considerable shock to UK elites as well as to large energy corporations outside Russia (Erixon 2008: 2; cf. Interview 19). On 25 October 2003, in the run-up to the December elections, Khodorkhovsky was taken, in dramatic fashion, into custody on a charge of fraud and tax evasion. A large portion of the Yukos Corporation's stock was subsequently seized by the Russian prosecutor general's office to cover $2bn of back taxes (Brill Olcott 2004: 11).[2] A number of other state take-overs of private companies followed this initial seizure of Yukos assets, including the purchase by Gazprom, the 51% state-owned gas monopoly, of Sibneft, Russia's fifth largest company (Light 2006: 20). The share of oil output produced by majority state-owned companies consequently rose from 16% in 2003 to 43% in 2006, and the overall state share in the economy rose from 30% to 35% (Rutland 2006: 21).

Not only were some energy assets in a process of moving from private to state control but future access for IOCs was being restricted once more. Although some limits on foreign investment had only recently been lifted, by the decree of 4 November 1997, major changes were made in 2003 to production sharing agreement laws (Locatelli 2006: 1082). Production sharing agreements had been, and remain, the primary mechanism through which IOCs can access Russian oil and gas assets. These changes meant, however, that only 30% of Russian oil reserves could now be developed under the production sharing agreement regime and by 2003 28% of Russian oil was already covered by such agreements (Locatelli 2006: 1082).

There were, in addition, other operational limitations placed on IOCs during this period that made it harder to conduct business in the natural resource sector. Two major IOCs – Royal Dutch Shell and ExxonMobil – faced compulsory redeployment of large development licences (Bradshaw and Bond 2004; Locatelli 2006). IOCs felt that they were running up against, at best, a lack of transparency in the system of allocation of exploration and development licences by the federal state, and by the regions, as well as general institutional instability (Locatelli 2006: 12). It was becoming increasingly important for IOCs to have, and be able to utilise, political connections both at home and within the Kremlin (Interview 7).[3] These changes were significant given that the UK had become the largest inward investor into Russia, given the UK official line taken about the need to reduce state interference in the process

of investing and given the DTI's mandate to support British businesses (cf. Monaghan 2007).

Although Russia had exhibited many signs by this stage of what is referred to in the West as 'resource nationalism', it had still been contended among some analysts that Russia would not knowingly do anything to negatively affect supplies to Europe (Gotz 2004: 2). After all, the Soviet Union had reliably exported fossil fuels to Europe for decades prior to its break-up, despite frosty Cold War relations. As such, even given growing state control of energy assets and reregulation the view remained widespread in Europe that Russia would remain if not a 'friendly' country for investment then at least a reliable and increasingly important supplier to Europe. Commitments had already been made to build a new gas pipeline system, NordStream, running from Vyborg in northwest Russia and under the Baltic Sea to Germany where it would interconnect with other pipelines. This would tie Europe more closely to direct supply from Russia and estimates were that Europe would, by 2030, need to import more than 75% of its total energy needs (Finon and Locatelli 2008: 428).

As such the Russo-Ukrainian gas dispute of 2006, including the deliberate three-day reduction in gas throughput by Gazprom to the Ukraine, surprised and shocked many European observers and instigated a profound and widespread debate about energy, and its supply, security and future. Gazprom, now a majority state-owned company, was widely perceived to be acting on Kremlin instructions, thus showing how energy could be utilised as a weapon. Although 'no EU country needed to interrupt supplies to customers' (Stern 2006: 9), the psychological effect of this dispute was significant. A large proportion – 80% – of Russia's gas exports to Europe arrived through the Ukrainian pipeline system, but this had not been an issue prior to the dispute. It also served as a reminder that gas imports from Russia were expected to grow strongly in future and that gas, unlike oil, was still predominantly regionally traded, often on fixed, long-term contracts.[4] Gas prices did, again, escalate at this time.

It also started to become apparent, in the mid-2000s, that Russia had had a change of heart regarding the all-important ECT. Although already a signatory to the treaty, which created binding obligations covering trade, transit and investment in energy along the lines of GATT rules, Russia refused repeatedly to ratify the ECT. One of the achievements of the treaty was that, for perhaps the first time, significant oil and gas producers were to be tied into free trade energy norms. Without Russia's ratification, however, part of the importance and utility of the treaty was

voided, and Norway was to follow in refusing to ratify the treaty. To add insult to injury, attempts to apply ECT dispute settlement mechanisms during the Russia–Ukraine gas transit dispute had failed, on both sides (Pirani 2007). It was also around this time – 2007 – that Russian submarines planted a Russian flag at the bottom of the Arctic Ocean to claim a large portion of the world's biggest continental shelf wherein an estimated 25% of potential global oil and gas reserves lie (Umbach 2010: 1229).

It is by no means claimed here that Russia's actions alone prompted UK energy governance change, but that the way in which they were perceived, coloured largely by the ideational context, did indirectly and importantly lead to a considerable degree of energy politicisation both of a momentary and of more lasting nature. Russia's turn to the West had represented such an incredibly hopeful moment in the history of international, and energy, relations that this apparent about-turn was felt profoundly. Fears about Russian resource nationalism put other international events into a new light, somewhat different from perceptions evident from policy documents in 2002 and 2003. As such, even as global hydrocarbon demand was growing, which had already been acknowledged in the 2003 White Paper (DTI 2003: 14, 78–79), supplies coming from outside the OECD became increasingly perceived as 'less reliable' or 'less stable' (DTI 2006 and 2007).

The 'third age of energy security'

The third age of energy security is a reference to the re-emergence of the notion that energy supplies, at affordable prices, were perceived in the West as being potentially at risk, whilst also being mindful that this perception was by no means historically new (Leaver 2007: 92). This section analyses the return of geopolitically informed narratives within the UK's media, television, broadsheets and journals, some think-tanks and academia.[5] What is noteworthy is not just the extent to which this narrative, and associated ideas, re-emerged but that a debate about energy security started to appear in the public realm in the most loud and persistent way since the 1970s oil crises. It could be argued that the public nature of the Russia energy story, and the evocative way in which it was narrated, helped to establish the notion that energy supplies might, indeed, be under threat and that energy was in crisis.

There are a number of noteworthy aspects to the way in which Russian reforms were covered in the UK print and television media, not least the emergence of notions that energy is powerful and that Russia is to be feared. *The Economist*'s 'Special Survey: Russia' was very much focused

on Putin, energy and power.[6] One article claimed that, prior to the Yukos affair, Putin's rather more 'steely grip' on power, as opposed to Yeltsin's, was welcomed by Western investors who 'flocked back' to this now more stable, resource-rich economy (*The Economist* 2004b: 3). However, after the arrest of Khodorkhovsky and the seizure of Yukos assets, it was clear that preference for a stable Russia was being replaced by fears about Putin's power and autocratic status (*The Economist* 2004b: 3 and 5).

Articles about Russian energy appeared to base their arguments on the notion that energy is indeed a legitimate source of international political and economic influence for Russia, in direct contrast with pro-market perceptions of energy as a replaceable commodity.[7] Some directly claimed that being a major energy provider brings global influence, and that Russia was fast becoming an 'energy superpower' (cf. Wagstyl 2006: 3). Not only, therefore, was Russia capable of wielding power, but it was also suggested that it was very much willing to do so, not least in reference to Putin's assertion that Russia was, once again, a 'super derzhava' (superpower) (Robinson 2006). This narrative intensified significantly after the Russia–Ukraine gas transit dispute. Media reports claimed that Russia had 'turned off the taps' (Robinson 2006) not only in open display that it was capable of using energy to gain influence but also to exploit energy as a 'weapon' to threaten the West (Ostrovsky 2006: 5). Geopolitical notions of control over energy assets allowing for more political and economic power were reflected in articles such as that entitled 'Who controls the tap?' (Rodgers 2007). It seemed from this perspective somewhat inevitable that

> Europe woke up to the new power of Russia when Gazprom turned off the gas taps to the Ukraine and Moldova.
>
> (Robinson 2006)

Europe was, in this way, also reminded of its hydrocarbon 'dependency' status (Rodgers 2007: 5).

What springs to mind when looking back over this coverage is the degree to which these stories found popular purchase. One BBC television programme, *Have I Got News for You*, still includes in the opening titles a depiction of lights going out all over Europe as a Russian soldier, with steely grin on his face, turns off the gas pipe to Europe.[8] Around this time there were any number of cartoons depicting Russia, or President Putin, as not only in control of important energy arsenals but as willing to threaten the West with them. For example, The *Economist*'s cartoon of Putin, dressed in Italian mafia style, wielding a petrol pump

as a gun under the title 'Don't Mess with Russia' (*Economist* 2006) and another from 'The World Today' depicting Putin's bulging, muscular arm as a gas pipeline that he can turn off at will (Sherr 2009).

As seen in Chapter 4, the UK had been considering its move to being an importer of oil and gas in a relatively sanguine manner given perceptions of a 'benign' international energy context. From 2004 onwards this picture started to change significantly. Coverage of energy issues suggesting insecurity of supply was leading to the emergence of questions about the origins of supplies, about what UK capacities were and about the potential hole in the Treasury's budget (Porter 2005; CBI 2006). Phrases such as 'reliance on dubious regimes' started to enter the debate (Leake 2005). Energy's socioeconomic role starts to take on an alternative tone with references to energy as 'the lifeblood of a modern economy' (CBI 2006: 1).

Away from journals, newspapers and popular media, UK think-tanks were starting to produce analysis informed by a geopolitical take on events. In 2007 a politically prominent and influential UK think-tank, the Institute for Public Policy Reform, produced a report on the UK's *national* energy security. This acknowledged mounting fears about UK 'import dependency', and future 'supply disruption', and it also picked up on arguments that, as a result of Russian actions, energy was becoming politically more important (Bird 2007: 13). Another think-tank report suggested that Russia increasingly had the potential to achieve the same economic and cultural predominance in Eurasia that the US has in the Americas, with negative implications for European access to Caspian Basin oil and gas reserves (Hill 2004: 57–58).

In Chapter 1 we saw that immediately prior to this period, academic energy analysis had been dominated in the UK by neoliberal economics and technical approaches (CEPMLP 2006). From the mid-2000s onwards, articles about 'energy security', from a geopolitical perspective, started to become the norm once more and, according to some, to dominate analysis (Goldthau and Witte 2009). The new *Journal of Energy Security*, launched in 2008, was intended to fill the perceived gap in energy research and to provide an outlet for all the new energy security research that was starting to emerge.[9]

Much of this research has been referenced in Chapter 1, Section 2, but as a reminder of how energy in crisis was being explained from a geopolitical perspective, we can turn to this extract:

> [e]nergy has become the currency of political and economic power, the determinant of the hierarchy of nations, a new marker . . . for

> success and material advancement. Access to energy has thus emerged as the over-riding imperative of the twenty-first century.
>
> (Roberts 2004: 6)

Within such a depiction of the world, and energy's role in it, countries heavily reliant on imports would increasingly be at risk from competitive practices and from the influence of exporters, and would be prone to conflict (Klare 2008). Moreover, around this time, some academics, and other groups supporting change, started to revisit arguments about 'peak oil'. These debates, which had been prevalent in the 1970s, had not found much political traction until renewed energy security fears erupted again (Friedrichs 2011). The re-emergence of this debate, however, served to throw further fuel on the fire of popular fears about being able to access sufficient energy supplies in the future.

Also particularly noticeable about academic analysis of energy at this time is the emergence of the term 'politicisation'. Again, as with policy paradigm shift, the term is often used without any explanation of what precisely is meant by it. However, there were claims that Russian energy actions were responsible for 'repoliticising' energy in Europe (Jegen 2009: 18). One example of this argument is the claim that Russia played a role in putting energy security at the top of political agendas, in terms of both their behaviour and the way in which they designed the agenda for the St Petersburg G8 (Group of Eight) Summit of 2006 (Offerdahl 2007; Nuttall and Manz 2008). Other prominent UK analysts, and government advisors, have also argued that the notion of 'energy security' only really gained political legitimacy again from 2006 onwards (interviews 14, 15 and 16).

It also appears that the narrative of a security of supply crisis was successful precisely because it was Russia in particular, the old arch enemy, which was renationalising its energy assets. By contrast the return of Venezuela to OPEC and the renationalisation of PdVSA had not evoked such responses. The narrative of 'fear' and of Russia as threatening contained within it vital elements of credibility and legitimacy, drawing as it did upon deeply embedded Cold War perspectives. This mentality was easy to appeal to using such terminology in that it had long-standing antecedents – Russia had already been perceived at best as somewhat incomprehensible, as representing a completely different (read lower) set of morals and values (Kennedy-Pipe 1998), and sometimes as evil and threatening (Robinson 2006). Chapter 2 suggested that crisis narratives, if they are to find purchase, need to be simple and to have a degree of popular appeal, as well as an equal measure of credibility. Arguably

the notion that energy supplies might be threatened was entirely credible for UK audiences, given the large degree of existing intersubjective meaning and the long history of believing that Russia, and oil, could pose a threat.

Geopolitical narratives in 'elite' political circles

This observation brings us on to the way in which debates and narratives within political circles, particularly within parliamentary bodies and amongst policy-makers, started to shift. As time elapsed UK elite narratives moved from an emphasis on becoming a fossil-fuel importer within the context of a benign international energy environment to one focused on questions of future supplies and the extent to which they would prove problematic. It became increasingly understood that what was happening in countries like Russia, as well as in China, would from the pro-market perspective serve to challenge both the reliability and the affordability of future supplies.

UK elite narratives

A plethora of new papers, debates and policy documents about energy emerged at this time, despite the round of energy reviews and the new White Paper that had been produced immediately prior to this period.[10] The energy sector became increasingly referenced in policy and other government documents in terms of potential supply insecurity, not because sufficient supplies were not understood to exist but because they were increasingly coming from countries with a high risk of internal instability (FCO 2004; Plesch et al. 2005). Specifically it was suggested that political frameworks, particularly in Russia, might not allow new reserves to be developed properly (Havard 2004). Furthermore, it was argued that energy was becoming internationally more 'politicised' with potentially negative implications for energy prices (DTI 2007: 19). These comments imply more than a nod in the direction of geopolitical ideas of a zero-sum-game in energy trade and of negative energy dependencies over positive economic interdependence.

The UK's switch from exporter to importer of hydrocarbons is seen in a different light given new perceptions of the international context. The trend of fossil-fuel production increasingly taking place outside the OECD had been overtly noted in the 2003 White Paper but it was then more in the way of a passing comment. By 2007, however, language emphasising notions such as self-sufficiency, socioeconomic reliance on

energy and growing dependencies started to emerge (POST 2004: 1; DTI 2006c). The DTI White Paper of 2007 pointed out that

> with the UK increasingly reliant on imported energy, we need to manage the risks arising from the concentration of fossil fuel reserves in fewer and further away places, some of them in less stable parts of the world.
>
> (DTI 2007: 7)

Echoing media, academic and think-tank narratives, direct links can be found between fears of supply insecurity and Russia (cf. Ofgem 2009: 1). In particular, the 2008 Foreign Affairs Committee (FAC) report, 'Global Security: Russia', outlined the various ways in which Russia now represented a global threat, including to energy security. It broadly concluded that

> the Government . . . continue to encourage its EU partners to take a robust and united approach to dealing with Moscow, in the energy field and beyond.
>
> (FAC 2008: 14)

Aside from evidence of growing emphasis on the risks that Russia represented to energy security, this report also evidenced the growing involvement of the FCO in the analysis of Russia and energy, but also in diplomacy with Russia.[11] Increased FCO involvement might also be an expected follow-on to perceptions that energy security should be considered at a national level. What can also be understood from this document is the ways in which the pro-market paradigm, and its institutionalisation over time in the UK, caused the UK to interpret Russian actions so negatively.

This new awareness of political risks, of Russia and its relationship to the energy sector, is also evident in the House of Commons 2007 research paper on energy security and in a paper by Liam Fox, shadow defence secretary, entitled 'Over a Barrel: the Challenge of Defence and Energy Security' (Fox 2006; House of Commons 2007a). Growing political interest in energy outside the usual energy policy-making circles and attempts to research and understand it better indicates the extent to which energy was subject, once more, to political debate and deliberation. These reports take a more geopolitical tone on Russia, and energy, than the more qualified language used in the policy documents referenced above. For example, the House of Commons paper refers

directly to Russian state control of energy resources as enabling the use of energy as a tool of foreign policy, claims that 'energy policy is inextricably linked to the availability of resources' and goes on to refer at length to arguments about peak oil (House of Commons 2007a: Summary). Fox's report takes the narrative one step further by referring directly to 'resource nationalism' in Russia, to Russia's lack of 'natural warmth' towards the West and to the need to spend on defence in order to protect supplies (Fox 2006). His response is more akin, perhaps, to the kind of response envisaged within Copenhagen School concepts of securitisation – one that is, certainly in part, conflictual and militaristic.

As evidence of, and perhaps in response to, this renewed political interest energy security was included within formal forums for international negotiation. In 2005, during the October EU Summit at Hampton Court, the issue of energy security was added to the agenda. In his paper prepared for the conference, the ubiquitous Helm characterised energy as a sector that was by then becoming an issue of national security (Helm 2005b: 2). His paper specifically refers to an increasing dependence on Russia for supplies of, particularly, gas. He also highlights Russia as a source of threat to the security of the EU and, by extension, UK energy supply. Likewise, energy security was top of the agenda at the G8 Summit of 2006, and, in the same year, Tony Blair used his annual Lord Mayor's speech to highlight energy security concerns (DTI 2006c: 4). All of this indicates a formalisation of renewed political interest in energy at that time, but also an understanding that the actions of others were responsible for the problems emerging. There is very little evidence that, at this point, UK energy policy was being questioned in the light of these interpretations of material events elsewhere.

The European energy debate

The UK energy debate was both part of, and impacted by, the European energy crisis debate. The EU had, by the mid-2000s, finally been able to reach some agreement about energy market deregulation and the importance of competition and had very recently passed another directive aimed at liberalising gas markets. The UK had considered itself as having been influential within the EU on energy matters, and specifically successful in encouraging EU gas market reform (cf. DTI 2003: 10; Interview 15). In addition, UK policy documents had repeatedly emphasised the importance of multilateral as opposed to bilateral negotiating channels, particularly via the EU, in pursuing its objective of expanding liberal, transparent market rules globally (DTI 2003; FAC 2008).

The EU, however, being an amalgamation of a large number of countries, had long included a range of different ideas about energy, governance and international relations. Some, such as Germany, conducted a much more direct energy relationship with Russia than, say, the UK. The EU as a whole was expected to import rapidly increasing quantities of gas and oil directly from Russia, most of which would be traded on long-term contracts (Correlje and van der Linde 2006). Ex-Soviet states, such as Ukraine, Lithuania and Belarus, imported almost all of their hydrocarbon needs from Russia as a result of long-standing political and infrastructure arrangements (Raszewski 2012). Many of them continued to receive large discounts on their gas, a factor that underpinned worsening energy relationships between ex-Soviet Europe and Russia.

European fears about Russia's energy policy were overtly palpable at the time when Russia began the process of restructuring and reregulating its energy sector, but they were magnified intensely in the period immediately after the Russo-Ukrainian gas dispute (Light 2006: 20). Clearly supplies of gas, vital to electricity production, to the most directly dependent states might have been severely impacted by the dispute, particularly as a number of these states had little or no extra storage of reserves (Pirani et al. 2009). What ensued was an escalation of geopolitical argument, debate and posturing between the EU and Russia. EU officials started to emphasise a need to reduce dependency on Russia, partly by refocusing on EU energy production. This element of the debate was reflected in countries like the US where it was noted that media references to boosting 'energy independence', in light of growing resource nationalism elsewhere, grew eightfold between 2001 and 2006 (Bordoff et al. 2010: 212). In order to coordinate EU responses and to build solidarity the EU put considerable effort behind developing an Energy Policy for Europe. The idea was that the EU, by speaking with one voice in solidarity on the international stage, would increase its leverage over countries like Russia (see EC 2010: 4).

As part of this overall policy for Europe, the EU began to claim that it would act to reduce further dependence on Russian gas, and pipeline systems, by developing and investing directly in Caspian Basin energy and transport routes, such as the controversial Nabucco pipeline system (Monaghan 2009: 16). Russia responded with claims about expanding its exports to the increasingly energy-hungry Asian (read Chinese and Indian) markets. It also continued to extend its influence through the Caspian and Central Asian energy sectors via state-owned energy companies, thereby diverting much Caspian gas and oil via Russian transport

networks (Boussena and Locatelli 2005: 14–22). Direct EU–Russia energy relations had been further complicated in that although the EU, like the UK, had been actively pursuing the liberalisation and privatisation of the Russian energy sector, many of its own member states were in breach of EC energy directives in maintaining near monopolistic control over national gas and electricity companies (Hadfield 2007: 23).

Moreover, however, the differing perceptions of Russia and energy within Europe, often based on historical relations and dependencies, fed into already existing internal EU disagreement about energy (Barych 2007: 1). This in turn resulted in varied support for the EU's emerging plans to act as one large, importing bloc and to act in solidarity in order to counter perceived Russian energy power and threats. As such it has been argued that

> The energy policies of EU member states are not yet consolidated enough to represent a 'collective interest' of the EU and therefore have not been endogenously activated and deployed as a central foreign policy feature of the EU.
>
> (Hadfield 2007: 9)

Despite these differences, however, the sheer scale of the emerging energy security debate prompted growing political interest such that it was considered to have risen to the top of the EU political agenda. Various academics have observed the degree to which energy security, and establishing an EU energy foreign policy, which was becoming conspicuous by its absence, became a priority for the EU (cf. Hadfield 2008; McGowan 2008). In one article, Andris Pielbalgs, the then EU energy commissioner, is quoted as joking that the best thing that happened to him in his job was Gazprom's restriction of gas deliveries to Ukraine. This was because it brought to mind the vulnerability of energy supply and infrastructure, thus forcing political attention onto this area (Jegen 2009: 1).

Public and political debate and 're-thinking' energy

The escalation of the energy security debate within the UK, and Europe, arguably revealed the extent to which the UK lacked dedicated energy analysis and policy-making capacities. Much as it has been suggested that the politicisation of energy in Europe led to new impetus for reforms to energy policies (Jegen 2009: 18), so too was a process of politicisation taking place in the UK in a deliberative as well as technocratic sense. Early examples are the conferral on the secretary of state for trade

and industry of a fixed duty to report annually to parliament on energy security matters (DTI 2005a). In this way a specific political process was put in place whereby policy-makers would need to report to the UK's principal majoritarian institution on the subject of the UK's energy security. This established new links between the Energy Directorate and MPs but it also importantly implied that the DTI's Energy Directorate would need to have the capacity to do so. Strategy documents from this period also openly associate questions of security as being 'the first responsibility of government', implying a need for some sort of state response (House of Commons 2007c: 32).

The research paper produced for the House of Commons in 2007, referenced above, is another clear example of an attempt being made to analyse in more depth and understand better the international dynamics of energy (House of Commons 2007a). Certainly some policy-makers and analysts were noticing an escalation in direct political pressure to respond in some way to newly perceived threats. This was not well received by some policy-makers in that it was seen as direct political interference in an economic issue (interviews 2 and 15). Clearly, however, the DTI and Ofgem did feel compelled to respond, as can be seen from the production of yet another review of energy policy and the new White Paper. Changes also started to take place within the DTI and FCO at this time as new resources were allocated to energy analysis – again implying a lack of existing capacity. There emerged an ongoing joke within the DTI about a new project initiated in 2006/2007 called 'The Project Pool' which was officially designed to make staff more flexible within the department. The joke was that instead of flexibility it resulted, ultimately, in most available staff being moved into the energy division (Interview 5). The 2007 White Paper also acknowledges that energy had not up until the mid-2000s existed as a discrete area of foreign policy (DTI 2007: 8). Again, as such, it had had little dedicated capacity assigned to it.

The above overview of the geopolitical way in which energy had come to be perceived in public, European and elite circles suggests a reversion to perhaps more traditional ways of thinking. Thus in a time of shock, uncertainty and frustration it seems that the instinctive reaction was to return to ideas that had had major historical credibility. As we saw in Chapter 1, these ideas had been discussed within some circles but had neither dominated elite political circles nor been widespread within the media and public immediately prior to the mid-2000s. Whilst by no means suggestive of a profound change to the level of physical structures of governance, all of this implies at least a small degree of reversal in

deliberative depoliticisation and in capacities assigned to energy policy-making. Perhaps ironically, as it transpired, the more capacity that was given over to deliberating energy, the more it became clear that anomalies existed between objectives and outcomes of policy. It also became apparent that further political commitment would need to be made to address these anomalies. The process of rethinking energy and its governance is also understood as an important element in understanding how a short-term politicisation of energy did, ultimately, result in some longer-term institutional changes.

UK energy governance: Change

This section argues that, concurrent with energy re-entering elite political debates and being rethought, there were a number of other alterations being made relating to changing interpretations of energy and international markets. As discussed below, although most levels of the PEPP remained largely in place, there were also new policies announced which affected the PEPP level of objectives of policy. Ideas about energy had arguably already been challenged as part of the return of the geopolitical energy debate, with its greater emphasis on energy's role in, and value to, society.

Refocus objectives: Security and climate change

As a reminder, immediately prior to this period energy security, although still an objective, had been an assumed outcome of the ongoing international marketisation of energy. For example, the energy supply objective is worded such that the UK should continue to 'maintain the reliability of . . . supplies' (DTI 2003: 11). By contrast, however, by 2006 energy security had become one of the 'immense' challenges facing the UK as a nation (DTI 2006c: Introduction).

This puts a different complexion on the objectives of energy policy in that security moved to the top of the hierarchy. Peter Hall, in emphasising the role of new objectives in policy change, suggested that the hierarchy of goals was important in understanding change (Hall 1993). There had already been suggestions that energy policy was, as of the early 2000s, overcommitted in terms of objectives, and that there might be trade-offs between them. The return of security to the top of the agenda arguably had implications for which objectives might be given up in the case of a trade-off situation, and which would win out. What needs to be remembered at this point is the relationship, suggested above, between public interest in energy, security and prices and

political interest. The close relationship between the two implies that the reliability of supply might trump other commitments, except perhaps climate change (Interview 16). It has been suggested elsewhere that the EU was also becoming increasingly concerned with energy security, understood as a possibly existential threat, at this time:

> it is 'energy security' that has given the policy debate a particular immediacy and profile.
>
> (McGowan 2008: 91)

Energy objectives changed in 2007 in another way also, and the combination of these two changes would, over time, serve to bring significant pressure to bear on energy policy-makers. Tony Blair, at the 2007 EU Summit, committed the UK to a set of targets referred to as the 20-20-20 targets (Mitchell 2008: 131). Investment in renewable energy even by 2009 remained disappointing at best. This was especially so in transport, where only 2.6% of energy came from renewable sources, and in heating, where the UK was still generating 'very low levels' from renewables (DECC 2009b: 8). In order to meet the (by 2009 already reduced) renewable target of 15% of overall energy consumed, the UK would have to engineer a situation within which electricity generation from renewables would reach 30% by 2020 (DECC 2009b: 8).[12] The pressure was now starting to mount on energy policy to deliver on climate and security objectives.

It has been suggested that the EU climate targets, which incidentally were not reflected in the May 2007 White Paper, were initially agreed to without much discussion with the DTI and reportedly without the Energy Directorate's buy-in (interviews 5 and 13). The argument went that Blair had attended the EU meetings with representatives from DEFRA's climate change division as opposed to representatives from the Energy Directorate. This might be interpreted as a case of change being forced from 'the top' on the DTI's energy division and their energy policy-making practices to facilitate renewable energy. Whilst this explanation might appear credible with regard to Blair's tendencies for top-down interference in departments,[13] it is less credible with regard to his intentions regarding specific renewable energy policy. This is because it was widely rumoured that Blair may not have understood that new climate targets would imply much policy change. Specifically, at the time, many believed that he had understood the 20% renewables targets to refer only to the electricity sector, rather than across all sectors of the economy, including transport, thereby implying little change to existing policy to meet targets.

It is difficult to prove empirically the extent to which Blair had intended to force the Energy Directorate of the DTI to change its practices. It has been suggested, however, that this had been the case in other countries, with more advanced renewable energy sectors, in response to the 1970s crises (Giddens 2009). It might be sheer coincidence that firmer commitments to domestic renewable energy came about at the time of renewed interest in boosting UK energy independence to avoid imports from unreliable foreign producers.

A return to fuel mix planning

The refocus on questions of energy security and the wider deliberation of energy also allowed other problems to be revealed. The striking degree of underinvestment in energy systems, particularly in electricity and gas storage capacity, was highlighted at this time by a number of important institutions, including the Confederation of British Industry (CBI) (CBI 2006; DTI 2007). To address underinvestment, and in direct contrast to opinions expressed in the 2003 White Paper about state involvement (DTI 2003: 11 and 87), the 2007 White Paper displayed a greater preoccupation with making active decisions about the UK's energy mix – in particular, with decisions which would facilitate a greater ability to produce energy from UK sources, thereby also lowering the expected trajectory of dependence on imports. The refocus on facilitating domestic production, which would become a more central part of UK energy policy in the years to come, can be seen as government acting, rather than doing nothing, to ensure that this scenario did not arise.

Policy and consultation documents started to turn to the question of what specifically might need to be done to facilitate the production of domestic energy sources with an emphasis on nuclear, coal and renewables, primarily in the form of wind.[14] What is evident is growing political support for supplies indigenous to the UK, which had been very much de-emphasised under the PEPP given assumptions about positive economic interdependence and the growing international marketisation of energy. The official line was to maximise 'economic production from our domestic fossil fuel reserves', and this applied both to North Sea oil and gas and UK coal production (DTI 2007: 20). This is an evident about-turn from the position taken in the 2003 White Paper (see Chapter 4) where both coal and nuclear were effectively put on hold (DTI 2003).

This emerging position with regard to domestic fossil fuels would have to be made more acceptable, given climate targets, by managing the 'environmental impact' effectively. Hence an emphasis began to

emerge in policy documents on developing carbon capture and storage (CCS) in order to bring emissions from coal, and gas, down, as well as the establishment of the carbon abatement technology demonstration programme (DTI 2006c: 107 and 112; see also Bird 2007: 17).[15]

The refocus on domestic production, as already suggested, extends strongly to nuclear, especially given its status as a low carbon source of energy. Alistair Darling, then secretary of state for trade and industry, refers to the nuclear option at this time thus:

> [o]ur analysis suggests that, alongside other low carbon generating options, a new generation of nuclear power stations could make a contribution to reducing carbon emissions and reducing our reliance on imported energy.
>
> (House of Commons 2007a: 3)

Nuclear was emerging, once again, as a politically acceptable option not just because of its low-carbon credentials but arguably more importantly, because fears about energy security could now justify this otherwise unpopular and expensive choice. The 2006 Energy Review suggested that regulatory barriers to the construction of nuclear plants should be reviewed and that a new framework should be established (DTI 2006c: 113). It was also suggested that there might be some extensions to the scheduled lives of existing nuclear power plants, in recognition that new nuclear builds are a vast expense (DTI 2006c: 116). Renewed interest in facilitating nuclear and coal is reminiscent of arguments outlined in Chapter 2 that securitising a subject can allow for policy choices outside 'normal' government decisions.

Notable from the growing emphasis on the role of nuclear and coal is the relative reduction in emphasis on gas as the transition fuel. Perhaps the primary outcome of Russia's dispute with Ukraine had been to cause countries, including the UK, to rethink the degree to which they would become dependent on gas for electricity production. The desire to avoid a future wherein imports could make up 80% of the UK's gas demand is clear in the 2007 White Paper and is the reason for supporting diversity from increased future domestic production (DTI 2007: 106). By the same token, gas was to remain central to energy consumption over the medium term and new contracts were being signed for supplies of gas with countries considered as more 'reliable' than Russia – including Qatar (DTI 2005a: 2). The government had also begun lobbying Oslo in May 2007 for a new pipeline to bring another 20 billion cubic metres to mainland UK by 2012. It was understood that increased

Norwegian and Qatari supplies would give 'British politicians and diplomats room to manoeuvre the next time the Russian bear roars' (Rodgers 2007: 8). Clearly these supply relationships implied a large degree of direct state contact between the UK and Norway, and Qatar, not entirely in line with the idea that 'markets' should decide on where energy comes from.

Protectionist practices

Perceived uncertainties associated with importing from 'unstable' energy producers, and the associated desire to avoid 'import dependency', were soon augmented by a growing sense of vulnerability associated with non-EU, particularly Russian, companies' interest in purchasing UK energy providers. The House of Commons energy security paper summarises well the growing sense of vulnerability felt at the highest levels:

> liberalisation in Europe has made companies potentially vulnerable to cross-border mergers and takeovers from outside the EU, and this development seems to have taken Europe by surprise.
>
> (House of Commons 2007a: 1–2)

It is worth highlighting the association implied in this extract between liberalisation and vulnerability which, albeit fleeting, can be seen as political acknowledgement of endogenous reasons for crisis.

Although theoretically, within the confines of the PEPP, questions of who owns energy companies and who provides supplies would be for markets to decide upon, political decisions made around the time contradict this idea. In 2006 it was widely rumoured in the UK and Russian presses that Gazprom was interested in purchasing the UK's premier integrated energy company, Centrica. Most remarkable was the reported response of the UK government. In 2006 *The Financial Times* ran an article which indicated that Gazprom had been informed, in no uncertain terms, that if it went ahead with its bid for Centrica then UK legislation would be altered to prevent its success (Eaglesham 2006; see also BBC 2006).[16] Likewise, in March 2007, *The Observer* ran an article claiming that the Foreign Office had advised Centrica Energy not to buy gas from Iran, a move which, in an ironic reversal of positions, the Russians overtly referred to as politics meddling in the private energy sector (House of Commons 2007a: 2). The degree to which such political actions were 'rumoured' rather than overtly stated in policy documents,

or parliament, is evocative of the notion of secretised depoliticisation in energy policy.

Lastly, in response to increased fears about Russia's growing ability to impact, negatively, on energy markets, the UK actively supported the EU's policy of encouraging and facilitating exports from the Caspian Basin to Europe (House of Commons 2006; FAC 2008). The Caspian Basin had been growing steadily in proven and probable oil and gas reserves over the course of the 2000s, and their relative proximity to Europe signalled this region as a possible alternative supplier to Russia. This was to be achieved both via direct EU financial and diplomatic support for the Nabucco pipeline and for progressive 'integration of the energy markets of the regions into the EU market' via preferential trading agreements (BERR 2006: 29). In the 2003 White Paper the DTI had overtly explained that 'Government is not in a position to make decisions about supplies of energy' (DTI 2003: 11). Contradictions between UK, and EU, rhetoric on how to govern energy and some policies adopted around the mid-2000s were not lost on Russian commentators (Hadfield 2008).

UK energy governance: Continuity

Despite the changing hierarchies of objectives, and the advent of a number of more geopolitically informed energy strategies, there remained a large degree of continuity in energy governance practices. It is worth referring back to Hall's observations about the tendency for 'institutionalised subjects' to stretch 'the terms of the existing policy paradigm' when faced with new problems (Hall 1993: 280). As it turned out, the tendency to pave over the emerging fissures with pro-market paste did ultimately result in a growing lack of credibility in the PEPP and in policy-makers' ability to address security, and climate, problems.

Pro-market perspective and international energy policy

Policy documents around this time showed a growing awareness of potential problems associated with growing exposure to international energy markets and, as mentioned above, the 2007 White Paper included the first UK International Energy Strategy. They also, however, strongly reinforced the UK's commitment to promoting open and competitive energy markets in order to ensure security of supply (cf. JESS 2006: 4; DTI 2007: 35). As such, producer countries, including Russia, were to be encouraged and supported to liberalise and improve governance. The DTI continued to commission reports, from third-party

consultancy groups, that would set out in detail the case and conditions for liberalising energy markets (DTI 2005b; Ernst and Young 2006). The policy of internationalising liberal energy markets continued to find support from various domestic interest groups, not least among which was the CBI, which put forward its request that the government should promote open and competitive markets internationally (House of Commons 2007d).

The UK's initial policy towards Russia, immediately post-Yukos, was to communicate a strong and clear message to the Kremlin through traditional Foreign Office channels ploughing on with the same pro-market narrative. The message was that growing Russian 'resource nationalism' would result in profound disinvestment by international oil companies and investors in the Russian equity and bond markets, or, put more simply, that the 'markets' would punish Russia (interviews 1, 6 and 19). This position is similar to that reportedly taken by the US. Condoleezza Rice was quoted around this time as saying that Russian actions in respect of Yukos would have a negative effect on business investment in Russia (*The Guardian* 2005). These diplomatic endeavours took place within the context of UK–Russia relations, which had already soured considerably given Russian condemnation of the UK's decision to offer asylum to Russian oligarchs, particularly Boris Berezovsky, considered in Russia to have acted against the interests of the state (Interview 19; cf. FAC 2008).

What is remarkable about this policy line is that it shows the extent to which UK energy policy-makers appeared to believe in the role of the market in disciplining non-market behaviour.[17] This argument found little purchase with Russian counterparts but was repeated again by Alistair Darling, as secretary of state for trade and industry, during his 2007 trip to Moscow when he emphasised that 'open and liberalised markets are in our and Russia's business interests' (AFX News 2007). The assumption that 'the market' has an interest of its own, and the will to ensure that interest, can be critiqued (see Watson 2005), and it certainly did not live up to its role of 'judge and jury' during the 2004 Russian energy-restructuring process. The markets did not ultimately punish Russian resource nationalism through disinvestment on any sustained basis. IOCs, even Shell and Exxon-Mobil, which had had contracts renegotiated, continued to invest in Russian resources, much to the frustration of some policy-makers and analysts (FAC 2007; interviews 6, 7, 8, 9 and 10).[18]

The UK did start up a new bilateral forum for negotiation with Russia called the UK–Russia Energy Dialogue (interviews 1 and 6; FAC 2008: 17; cf. Monaghan 2007). Information about this dialogue, and the

associated forum, are very thin on the ground, but interviews have confirmed its existence and some details (interviews 1, 2 and 19). Representatives from the UK side were the secretary of state for trade and industry, DTI staff and members of the business community, and its principal task was to reinforce the UK message about international 'good governance' norms. It appears that UK representatives felt that, once explained more clearly, Russia might still come to its senses regarding the benefits of liberal, competitive energy governance (interviews 1 and 6). This approach also assumed that Russia would remain a 'rule taker' in this sphere, underestimating perhaps Russian intentions to negotiate on its own terms (Interview 19; see also Aalto 2007). Some academic analysts were at this time critical of UK, and EU, inability to understand Russian approaches to energy governance, and to continue a dialogue based on ideas and solutions largely opposite to Russian perspectives (Light 2006; Monaghan 2007). Again, all this might serve to underline arguments made thus far about a lack of capacity within UK energy governance institutions.

Climate change objective but consistent methods of delivery

Again, in terms of throwing old solutions against new problems, there was remarkable consistency still in the instruments being applied to meet new climate targets via energy policy. The 2007 White Paper clearly showed that there was a 'continued belief in the importance of maintaining an economic design of mechanisms of support' (Mitchell 2008: 123). As such, measures such as 'putting a price on carbon' and EU emissions trading schemes persisted as the core elements of climate policy (DTI 2007: 47). Establishing a global carbon market would, theoretically, 'ensure [that] emissions [were] reduced in the most cost-effective way' (DTI 2007: 8). The RO continued to represent the main mechanism for directly supporting renewable energy production, and it was suggested that measures should be taken to reduce uncertainty for business to enable investment in renewable technology (DTI 2007: 8–9). Taken together, this showed, again, a lack of willingness to adopt alternative solutions to meet climate targets.

Some DTI officials were reportedly (and perhaps understandably, given that they had advised against it, and given the low levels of renewable energy production at the time) shocked by the adoption of a specific renewables target as part of the 20-20-20 commitment (Interview 5; cf. Macalister 2010). This took place within the context, referenced in Chapter 4, of reluctance within the DTI to commit to a renewables strategy (Interview 14). Some reportedly believed that a politically instigated

switch to renewable energy might present a threat to energy security and could not, furthermore, prove to be cost efficient (Interview 5).

There was, furthermore, a tendency to think that targets, particularly for renewables, might not have to be specifically met in that if the target was missed, it could be made up for via 'safety valves' and/or 'compensation mechanisms' (Interview 5). So, if the understanding was that there was 'wriggle room' around targets, no profound changes would need to be made to existing policy. Indeed, the 2007 White Paper maintains the vague carbon dioxide reduction aims and the 10% renewables target but with another 'aspiration', which was to double the target by 2020 (DTI 2007: 14). It does suggest, however, that in future these targets will need to be made legal and more specific (DTI 2007: 8).

What is apparent therefore is a growing commitment to using energy policy to slow climate change, whilst maintaining faith in the market model, and specifically in the private sector, to achieve that aim but with a bit more 'direction' from government (DTI 2007: 9). Recognition that climate targets would need to be made more binding in future suggests that the degree of deliberative repoliticisation taking place was allowing policy-makers and analysts to understand to some extent what was being taken on. What might also be suggested, however, and this is expanded upon in Chapter 6, is a continuing degree of ignorance still of how large a task meeting these targets might represent. This is both in terms of the costs of nuclear and renewable electricity, and how these might impact upon energy affordability, as well in terms of the degree of underinvestment across the sector (Interview 12; see also Rutledge 2007).

Conclusions

This chapter has analysed in some detail processes of UK energy governance between 2004 and 2007, remarking on evidence of both consistency in and change to the PEPP, and how and why these may have occurred. Energy policy responses, where they departed from the PEPP, appear to have reflected crisis perceived as a security of supply crisis. It has been argued that the fast-changing political economy of energy in Russia did have an impact on the way in which energy was perceived and governed in the UK during the mid-2000s versus what had gone immediately before. It would be naive to suggest that Russia's new energy and foreign policy might have impacted UK energy policy to the degree that it did, had it not been developed at the same time as the UK was becoming an importer once more. In addition, it is argued here

that had the PEPP not been so deeply embedded politically, new Russian policy would not have been perceived as quite so 'wrong' or threatening to the UK way of doing things. This suggestion of a relationship between UK perceptions of unfolding events and political actions serves to underpin the notion that ideas can provide a link between context and conduct (Hay and Wincott 1998: 953).

It was also important, in terms of its legitimacy and effectiveness, that the emergent geopolitical narrative was able to draw on a long and strong tradition, in the UK, of both fearing and disapproving of Russia and of associating energy with political and economic power. Understandings that energy might not be ultimately replaceable but subject to fixed geographic and political structures appeared to be taking hold across public, and some political, circles. The geopolitical narrative drew on evocative language emphasising energy security specifically as a national and short-term issue. It appears that by bringing potential dangers associated with the world of energy down to these arguably more tangible levels, more people responded in a way not experienced by climate protagonists who had so long stressed a global, long-term energy and climate crisis. The success of this narrative in highlighting and explaining the crisis is indicative of the importance of popular attention in evoking political response.

The degree of policy continuity despite changing objectives and growing political interest can be explained to an extent by the degree to which ideas about the role of markets in energy governance were embedded but also by the fact that the security crisis narrative emphasised problems exogenous to the PEPP. As such the challenges being faced by the UK were understood as being externally generated, and not to do with the pro-market energy policy paradigm *per se*. According to the conceptual framework adopted here, crisis narratives should be capable of arguing that a crisis exists, and explaining that crisis convincingly, of providing evidence of failure of the existing policy paradigm, and of offering credible solutions. The energy security narrative was, as we saw above, strong on establishing crisis and politicising energy but weaker on the latter two functions.

6
Unravelling the Ties that Bind: 2008–2010

Introduction

By the late 2000s, widespread perceptions of an energy supply security crisis in the UK combined with new renewable energy targets and a continuing sense of uncertainty left a more open space for those who advocated change to be heard in political circles. Policy-makers and politicians were more aware not only that energy as a policy area was becoming problematic but also of some of the details and depth of those problems, and were actively seeking other solutions. At this time a more audible crisis narrative emerged in support of the notion that problems being experienced were not just externally generated, but were in fact endogenous to current energy governance institutions. Another notable way in which alternative crisis narratives were progressing was that climate campaigners started to draw on security concerns in order to underpin arguments for more state support for renewable energy production. This is referred to here as 'narrative appropriation'. As such an energy security–climate nexus was formed which borrowed from geopolitical and climate narratives in order to provide both reasons for change and solutions to perceived problems.

In the face of the mounting body of evidence claiming that the PEPP was not adequate to meet energy security and climate challenges, more profound changes started to occur. Chapter 5 pointed to a changing hierarchy of objectives and to some movement in political ideas about the role of energy in society, whilst this chapter will outline further changes on every level of the PEPP. What emerged first from the process of rethinking energy and its governance was the Climate Change Act 2008, which made specific and legally binding commitments to carbon dioxide emission reduction and the production of energy from

renewable sources. The act was, as is shown below, low on details in terms of how these targets might be met but the legal nature of the targets marked a significant departure from the position in 2000 where there were no formal climate change objectives for energy policy to pursue.

The second real outward manifestation that New Labour had come to consider more profound change to be necessary was the decision to create a new energy department, DECC. This department for the first time combined responsibility for analysis and decision-making for these two separate, but long argued intrinsically interlinked, policy areas. The creation of DECC is considered here to be a significant change to one of the levels of the PEPP, physical institutions. Also noteworthy is that the narrative that then emanated from DECC showed some desire to break with other levels of the PEPP, including ideas about energy governance. The PEPP was increasingly portrayed as the 'markets-only' model of energy governance whilst it was argued that strategic state intervention is now required. Alongside the emerging critique in policy-making circles of the previous model, another narrative emerged, which clearly reflected the energy security–climate narrative, with its emphasis on pursuing domestic renewable energy as a solution to both energy security and climate objectives.

What ensued after the formation of DECC was yet another series of energy and climate acts and bills – an era of yet higher output in terms of energy and climate decision-making, reflecting the process of rethinking that was initiated in the aftermath of the perceived security of supply crisis. These will be analysed in some detail below to ascertain the degree of departure from and rejection of the previous policy paradigm, at each level, as well as how changes unfolded. An assessment of changes and continuity helps us to build a picture of the new energy governance system as of the end of 2012. It suggests a politicisation of energy of a longer-lasting kind and a new direction for energy policy.

The energy security–climate nexus and narrative appropriation

As discussed at length in Chapter 2, policy paradigm shifts are understood to occur when the existing policy paradigm, including the ideas upon which it rests, is challenged, loses credibility and is rejected. Although a process of elite political rethinking was ongoing at this time and objectives had been changing, what had not been visible up until 2008 was much overt political rejection of other levels of the PEPP. This

can partly be explained by the fact that the energy security crisis focused largely on external problems, but also by suggesting that alternatives offered were not yet taken as being credible. In Chapter 4 we witnessed the rejection of climate solutions suggested in the 2002 Energy Review, and in Chapter 5 we saw that traditional security responses were also not understood as credible within policy-making circles.

The sense of uncertainty highlighted in Chapter 5 continued well into the latter part of the decade and was further heightened by the sharp escalation of prices, later referred to as the '2008 oil price shock', with crude oil hitting an unprecedented $140 per barrel (Youngs 2009: 1). Also highlighted in this section is the way in which critics of the PEPP managed to both provide mounting evidence of policy failure and offer solutions appropriate to both energy security and climate crises.

Mounting evidence of failure: Geopolitical security narratives

At around this time, geopolitically informed critics started emphasising the limited capacity of markets to provide for certain outcomes and system properties. It was argued that the insecurity of supply crisis could be traced to specific elements of the pro-market governance system and not just to changing external contexts and mounting resource nationalism.

There were a few publications which started to question specific aspects of the UK PEPP, not least the capacity of markets to deliver security objectives, but this time with the emphasis on the 'national' scale (CEPMLP 2006; Stern 2006; Kemp and Stephen 2007). The first large-scale review of energy security suggested that the UK had experienced a loss of both surplus energy and gas-storage capacities as a direct consequence of the privatisation process of the 1980s:

> [t]he widespread unease about energy security is frequently driven by concerns about the impacts of liberalisation and the market reforms of recent years. This has removed the comfort zones or cushions of excess supply, storage, etc, built up by government investment a generation ago.
>
> (CEPMLP 2006: 18)

In addition, it was noted that as privatised electricity companies had been motivated by financial returns and cost efficiency, particularly within the RPI-X pricing formula, they had not as a result been inclined to invest in the spare capacity required by the national energy system (CEPMLP 2006: 6). Some previously confirmed supporters of the

pro-market system ultimately started to suggest that liberalised markets had underdelivered on investment (Mabey and Mitchell 2010).

Such arguments about market failure in terms of investment were related to others about oil depletion rates, specifically in the UK.[1] It has been noted that the reserves of the UK Continental Shelf were depleted at a fast pace and this was attributed to the tendency of private sector oil companies to want to maximise profits on a more short-term-oriented basis, partly to please shareholders (Stern 2004; Kemp and Stephen 2007). The rapid depletion of UK assets was compared unfavourably with the management of Norwegian reserves by the state-owned StatOil. Arguments about the rate of decline of UK, and other Western, fossil fuels were related to observations about the changing geography of production versus demand whereby OECD assets were dwindling. Another narrative that re-emerged strongly at this time was the peak oil thesis which, like arguments in support of state management of energy assets, had been around for decades. The re-emergence of these narratives at this point attests to the degree to which the rethink of energy and the crisis debate was allowing arguments, previously understood as less than credible, to be heard.

The CEPMLP report further observed that energy liberalisation, and the process of devolving responsibility to the market, had resulted in the reduced capacity of the UK government to address national energy security concerns. The thinking here was that insofar as energy security can be understood as a national problem then the PEPP, having devolved so much responsibility to the private sector, had left UK state institutions with diminished will and capacity to act in energy markets (CEPMLP 2006: 18). This argument served also to highlight claims made earlier about the deskilling of government with regard to energy, which will be discussed at length in Chapter 7.

Lastly, it is worth also highlighting a new body of work, again not just within academia, concerned with the impact of financial market speculation on fossil-fuel prices. Work on speculation became increasingly pertinent as oil and gas prices spiked to previously unprecedented levels in mid-2008.[2] This debate found a central focal point in a 2008 investigation by the US Commodity Futures Trading Commission (CFTC), which had concluded that at one point speculators held 81% of the total, available oil futures contracts. This was understood as distorting the (already by this stage very tight) supply and demand fundamentals and in turn contributing to the unprecedented price of oil (Cho 2008: A01).[3] Recent work on the UK financial crisis has also highlighted the extent to which spiking oil prices were amplified by 'speculative

dynamics' within UK financial markets (Hay 2010: 11). Such evidence of market speculation and its impact on prices, and volatility, has often used by other producer and consumer states to argue against the further marketisation of energy.

Mounting evidence of failure: Climate narratives

For a decade or so climate analysts had been writing with mounting frustration about the lack of ability of many Western governments and other institutions to change policy and their tendency to always seek market-based solutions, no matter what the problem.[4] New Labour had been vocal about 'showing leadership' in climate change mitigation (Blair in DTI 2007; Brown in Cabinet Office 2008). By claiming, however, that pro-market governance was the only credible route they had left themselves open to critique in the event that climate targets were not met. As such, although the objective of a lower-carbon economy had been identified the question of *how* this might be achieved had not, for these critics of the PEPP, been adequately answered.

What is important for the ability of a crisis narrative to secure change and to mount arguments about policy failure is that by end of the decade results in terms of reducing carbon dioxide emissions were deteriorating. This is all the more significant given the recently adopted EU 20-20-20 climate change targets. The fact that the UK had been missing targets was being increasingly noticed and commented upon, and not just by climate campaigning groups – criticism also emerged from institutions associated with government. For example, the 2006 report of the Sustainable Development Commission (SDC), which reported to DEFRA, and the House of Commons Environmental Audit both observed in detail the degree to which the UK was due to miss emission reduction targets (SDC 2005; House of Commons 2007b). One report further suggested that, corrected for the outsourcing of energy-intensive industries and for coal to gas substitution, and adding back shipping and aviation, carbon consumption had risen by almost 20% between 1990 and 2005 (Helm 2010: 183). Pro-market claims that markets and competition would deliver, for example, an increase in renewable energy and greater energy efficiency also became less credible as measured by the results achieved. This was all the more ironic given the UK's regular claims to be taking leadership in climate policy.

Given the failures of the PEPP to deliver, it was increasingly credible to argue that tendencies to rely on market-oriented energy policy instruments were part of the problem (Scrase et al. 2009: 6). The House of Commons Environmental Audit states clearly that the impact, thus far,

of climate policies was well below that expected (House of Commons 2007b: 3). The UK was being compared less than favourably with some European neighbours who, having pursued very different approaches to climate policy, had achieved much greater results especially in the generation of renewable energy (Mitchell 2008: 122).[5] It was proposed that the German 'full' FiT was largely responsible for Germany's large percentage of energy generated from renewable sources (Toke and Lauber 2007). Some argued that 'Liberal Market Economies', like the UK, were less effective at climate change mitigation than 'Co-ordinated Market Economies' in that mitigating the effects of climate change 'demands a more equitable, less destructive system of political economy' (Mikler and Harrison 2012: 2). Others directly criticised policy-makers' dependence on competition as the panacea for all ills associated with energy (Scrase and Ockwell 2009: 45).

The 'Stern Report', commissioned by Gordon Brown, can be seen as some evidence that arguments about the failure of markets to deliver had started to penetrate elite political circles. This report is famous for claiming that failures to respond to climate change constituted 'market failure on the greatest scale the world has ever seen' (Stern 2006: 27). Even from a pro-market perspective, market failure provides a 'conventional' rationale for government intervention and as such it could be increasingly argued that direct government involvement was now a necessity. Albeit framed in this way, intervention would mean a correction of market functioning, of a short-term nature, rather than as any kind of recognition that markets themselves might not have the capacity to deliver in energy (Smith 2009: 61). This suggested intervention in order to return to a pro-market policy paradigm at a later date, a suggestion that will be discussed in more detail in Chapter 7.

Narrative appropriation: The energy security–climate narrative

At around this time a new narrative emerged which appropriated arguments from the geopolitical national security narrative and utilised them to underpin long-standing climate claims about the need for policy change, specifically to boost investment in renewable energy. This narrative, referred to above as the energy security–climate narrative, seems to have been more effective in providing impetus for change than either of the two previous narratives alone.

Historically, narratives emphasising the need to act in order to avoid climate change had often utilised evocative language of 'catastrophe' evoking Doomsday-type images of the world's future if we continue

with business-as-usual energy and climate politics (cf. Giddens 2009: 28). It has been observed in previous chapters that this narrative might have found more purchase amongst those with the ability to think in terms of *la longue durée* (cf. Braudel and Matthews 1982), but might be less tangible for those who view the world through more short-term, and/or culturally localised, lenses. It has been argued that climate narratives have lacked purchase in some countries, like the UK and the US, partly because climate change appears to be a distant, less tangible issue and because people lack first-hand experience of its consequences (Spence et al. 2012: 46). We have seen, by contrast, that the geopolitical energy security narrative appeared to have a greater degree of cognitive authority and tangibility in many Western countries – partly related to Russia's involvement.

Important here is that elements within climate groups strategically changed their narrative because they understood aspects of the geopolitical narrative to be capable of evoking political reaction, and change (Interview 18). Specifically, climate groups, such as non-governmental organisations, think-tanks and some academics, started to actively refer to dependency on 'unstable' foreign suppliers in terms of vulnerability and to related ideas about increasing domestic energy production.[6] One example is a report for Greenpeace entitled 'Oil and Peace Don't Mix' which overtly used geopolitical ideas about energy and conflict, and growing UK reliance on imported fossil fuels, to argue for change to UK energy policy (Greenpeace 2006).[7] Interestingly, analysts from within the 'blood for oil' school referenced in Chapter 1 had also started to use their evocative geopolitical visions of future conflict over fossil fuels to make arguments for an end to the industrial paradigm (cf. Klare 2008a).

Others started to formulate arguments linking the notion of upcoming peak oil with the need to invest heavily in renewable energy for electricity and transport, as well as further changes to energy policy (Hodge 2010). One example of the strategic application of such arguments is the UK Industry Taskforce on Peak Oil and Energy Security (ITPOES), which included amongst its members Richard Branson and Jeremy Leggett, formerly of Greenpeace (ITPOES 2008 and 2010). The *modus operandi* of this group was, and is, to provide wider publicity for the argument that the world is already facing peak oil in order to remind government, and the populace more generally, about the finite nature of fossil fuels and to promote sustainable energy transition. As the report states, '[o]ur message to government and business is clear: Act now' (ITPOES 2010: 5).

It appears as if geopolitical, security of supply narratives were held to be capable of provoking responses in a way that arguments about the need to invest in and facilitate renewable energy sources for *climate* reasons had not. This perception might be particularly evident in the UK context where, according to polls, public support for the notion that energy security represents a national security threat far outstrips interest in climate change as a threat (Niblett 2011). This framing of the problem may also have proved more popular than a climate-only framing in that it did not claim that pro-market governance was flawed *per se* but just that it did not fit with the need to meet new objectives.

This form of narrative appropriation did, however, also argue that continuing to assign responsibility to the private sector to produce these investments and relying on market instruments was already generating poor results. As discussed in Chapter 1, a number of specific changes to energy governance had already been proposed from within the climate narrative, many of which would constitute greater state intervention. Related to these arguments about institutional change, it was also proposed, again, that climate policy should be integrated more thoroughly into energy policy in practice (Greenpeace 2006; Scrase et al. 2009).

This can be characterised as an instrumental process of narrative appropriation and in this way some elements of the supply crisis become consistent with the climate crisis. It managed to encapsulate elements of geopolitical crisis narrative, giving reasons for change whilst also offering alternative solutions that challenged the PEPP.

There might, however, be some irony involved in climate campaigners, who had so often in the past been more overtly focused on the 'shared commons' and long-term issues, now using national security and domestic production needs to underpin their campaign. Questions were being raised, for example, about the degree to which the notion that energy independence was constitutive of energy security was accurate (Watson and Scott 2009: 5098). But by conflating energy security with climate change solutions, these questions remained sidelined.

There were other difficulties associated with the energy security–climate narrative, specifically for those proposing environmentally clean renewable energy. Arguments about the need for more domestic, or home-grown, energy production were just as easily utilised by those who supported the building of a new generation of nuclear plants in the UK (Wheeler 2007; interviews 13 and 14). Although defined as 'low carbon' by many climate economists, nuclear energy was not supported by environmental groups that take a more holistic view of the global commons (cf. Froggatt et al. forthcoming). Nuclear as a solution to climate issues

is just one of the areas of conflict which can arise when combining narratives, based on different historical perspectives, in such a way. As one report put it,

> those concerned with ecological stability and those concerned for geopolitics and defence are sometimes not amiable acquaintances and generally operate in different spheres.
>
> (Nuttall and Manz 2008: 1250)

Such differences can be ascribed to the different ontological positions underlying the perspectives that inform climate and geopolitical security narratives – very different values are inferred within each perspective. By utilising geopolitical arguments about energy security to further climate ends, there has arguably been ample room for policies to ensue that might not sit well with traditional climate (read ecological) understandings of the world, nuclear energy being just one example.[8]

The way in which this alternative narrative developed is significant also in a number of other ways, not least in that it is echoed in important policy documents of, and decisions made, around this time. It built on the idea, already noted by policy-makers, that domestically produced, low-carbon energy production would serve as a solution to both the security of supply and climate crises (DTI 2006c and 2007). But it also presented an interesting challenge in that it provided a further degree of urgency to the question of how this could be better achieved, given that existing policy was at the same time being shown not to be effective in providing for investment in renewables.

What was starting to emerge within crisis debates at this point was the question of *how* new energy objectives should be met. This was fast emerging as the area of contestation: Should the UK continue to follow a market model or, like various European neighbours before, pursue a more state interventionist policy?

Rethinking energy as a continuing process

As can be seen from the above section, pressure to move away from existing policy practices was mounting and, importantly, was increasingly supported by evidence of failure. For some within the DTI and Ofgem, confirmed in their pro-market views, this was still not necessarily a question of the failure of neoliberal economics but simply of doing 'something' to address mounting political pressure (Interview 15). This pressure was, of course, taking place whilst political elites were not only

more aware of energy as a national issue, reflecting public concern, but also had instigated processes of rethinking energy.

A number of changes had been taking place, reflecting the process of rethink. As mentioned in Chapter 5, more capacity had been put into the Energy Directorate of the DTI, which during 2007 changed its name to the Department for BERR. In addition, processes had been put in place whereby BERR, and DEFRA, would have to report on an annual basis to parliament on progress in terms of energy and climate security (DTI 2005a). The Research Council UK's Energy Programme is an example of the additional funding that was, by this stage, starting to go into energy research and development.[9]

As it became more widely reported that the UK was missing its targets, and as it became clear that the UK was indeed committed to specific renewables targets, it started to become apparent even within the DTI that a policy overhaul would be required (Interview 5). What had ensued, late in 2007, was a further process of structural reorganisation within BERR's energy division with the creation of a separate 'renewables' team, the Renewables Directorate. This was significant in that it showed a specific effort to address a lack of progress in terms of investment in, and production of, renewable energy in the UK. It also marked a small change in operating practices within the energy division. Previously those working on renewables within the DTI had been 'tolerated' but largely ignored, and this was partly due to the DTI's reluctance to pursue carbon-reduction targets via greater renewable sources on the understanding that this might endanger the reliability of supplies (interviews 5 and 16). In Chapter 5 it was suggested that some DTI officials had expected there to be some wriggle room in meeting the 15% renewable target (RES target). However, it was decided as 2007 progressed, and in regular contact with the Treasury, that the RES target would have to be met without 'safety valves' or compensation mechanisms (Interview 5). By late 2007 or early 2008, therefore, these changes had the effect of institutionalising the new climate targets as well as representing a more concerted effort to figure out how to reach them (interviews 5 and 15).

Likewise, at Ofgem, political pressure was being brought to bear. Higher oil and gas prices had prompted consumer responses, and these served to underline the notion that political awareness and willingness to act increases at times of public interest in energy (Interview 15). In response to this political pressure, in turn emanating from 'mounting consumer and public concern', Ofgem launched the Energy Supply Markets Probe in February 2008 (Ofgem 2008: 1). Some within Ofgem felt that some sort of response was necessary lest they should face a

greater degree of government 'interference' (Interview 15). The probe, however, was aimed at measuring the degree to which gas and electricity markets were proving to be competitive informed by the pro-market ideas assumption that low prices are linked to successful competitive pressures. This can be seen as part of the process of policy-makers asking questions about energy services due to political pressure, albeit in this instance coming up with analysis couched in the usual terms.

What was significant in terms of internal Ofgem thinking was the degree to which some staff were amazed by the level of political interference being experienced and the mounting realisation that this might indicate that things would have to change (Interview 15). Ofgem was increasingly facing specific criticism within the British media, such as this attack, taking an energy security perspective, in *The Telegraph*:

> [i]n experimenting with unproven free-market ideology, much of which defied common sense, Ofgem seemed to forget about security of energy supply and the national interest.
>
> (Warner 2009)

It was around the time of Ofgem's market probe that some pro-market personnel left Ofgem, and it has been suggested that this was because they could see more political intervention coming which was understood by them as negative *per se* (interview 15).

Outside these tentative institutional changes there was a discernable upping of the pace of energy governance change in terms of new acts of parliament. In 2008 there were three significant new pieces of legislation: the new Energy Act (HMG 2008b), emanating out of the 2007 White Paper, the Climate Change Act (HMG 2008a) and the Planning Act (HMG 2008c). The Planning Act was directed at streamlining the planning system for nationally significant infrastructure projects, including energy infrastructure, and established the new independent, but government-funded, Infrastructure Planning Commission (HMG 2008c). The act indicates a degree of understanding that *nationally* important energy infrastructure is needed but is clearly designed to better enable private sector investment in low-carbon energy. Thus it did not at this stage indicate much reversal of marketised depoliticisation, although overall political activity in energy was clearly on the increase.

The Energy Act was largely designed to update energy legislation in line with the White Paper's re-emphasis on domestic production, such that nuclear energy and gas-storage capacity could be facilitated (HMG 2008b). It both acknowledges and seeks to address arguments from those

concerned about security of supply that the UK's infrastructure was sufficient to meet neither new energy import needs nor domestic electricity demand projections. The act also made alterations to Ofgem's mandates in that contributing to a sustainable energy system was put on an equal footing with duties to meet reasonable demand, but not on a par with the principal goal of protecting the interests of consumers by maintaining competitive markets (interview 15; HMG 2008b). It did, however, allow for some strengthening of the powers of the secretary of state. This was to facilitate the provision of a financial support programme for 'renewable heat', the first of its kind, and to modify business licences such that gas and electricity distribution companies would have to install 'smart meters'.[10] Taken as a whole, however, the act seeks primarily to alter regulations in order to better allow for private sector investment to help maintain the UK's reliable energy supplies, again in recognition of the role that the private sector is expected to play in providing the vast sums of investment required for energy transition.

The Climate Change Act 2008 was a step up, however, in terms of institutional impacts of the rethink of energy (HMG 2008a). It was widely held up as being the first of its kind in that it set not only legally binding carbon dioxide reduction targets up until 2050, of at least 80%, but also a series of five-year carbon budgets to 2022:

> The Bill would put the UK's post-2010 carbon reduction targets into statute, define pathways towards these targets by setting successive five-year carbon budgets.
>
> (House of Commons 2007b: 2–3)

This was, as such, an extension of the energy objective-setting exercise which had started so tentatively in 2003. These new, legally binding targets built on the decision in 2007 to sign up to the EU 20-20-20 scheme and were clearly a significant step on from 2003, making climate a significant and real objective of energy policy at least on a par with energy security. This, in and of itself, does suggest a genuine new direction for energy policy. Although it remained to be seen *how* targets would be achieved, in that this was left somewhat open, it was overtly claimed that by setting legally binding targets, solutions might be found:

> [t]he proposed new framework should, however, exert a very powerful influence on policy-making at all levels of government.
>
> (House of Commons 2007b: 4)

The precariousness of setting ambitious but binding targets was at the same time also being highlighted. Questions, especially with regard to the credibility of climate policy, were being raised about what would happen if targets were missed (House of Commons 2007b: 52).

It was also becoming clearer that the reasoning behind this concerted drive to reduce carbon dioxide emissions was based within the potent combination of security and climate fears, which was also apparent in the energy security–climate narrative referenced above (DTI 2007; DECC 2008). One DECC presentation on the new renewables strategy, from the end of 2008, clearly states that renewables were being pursued in order to deliver carbon dioxide emission reductions but in order to provide also for a 'reduction in dependence on fossil fuel imports' (DECC 2008). The renewable strategy was furthermore being pursued in spite of the emerging realisation that this would be at a significant cost to consumers: domestic gas bills were expected to rise by 18–37% and electricity by 9–15%, barring any government subsidy or incentives (DECC 2008: slide 10).

These acts all serve as examples of policy-makers rethinking energy, starting to recognise problems and seeking to answer questions, but not yet being able to break from the past and embedded ideas about how to govern energy. They also, however, elucidate the way in which a whole new range of 'subproblems', in turn re-emphasising a sense of crisis, were starting to become apparent as an increasing amount of political capacity was put behind thinking about energy and climate issues.

Physical institutions and elite narrative changes

Up until late 2008, perhaps with the exception of the Climate Change Act, the government had increased its involvement in energy governance mainly by exerting political pressure on existing policy-making groups to find solutions. Solutions, as such, were being provided from within existing physical institutions. What became increasingly apparent as energy was being rethought, in addition to a realisation of the depth and complexity of problems being faced, was that existing institutions lacked capacity. A range of new institutions were being formed, not least the Committee on Climate Change (CCC), in order to better understand these issues and to monitor government progress in meeting security and climate objectives. The CCC's principal role was to provide an external challenge to government policy.

In Chapter 5, steps that were being taken to more regularly link policy-making communities with parliament were highlighted, and these steps

were arguably augmented by the CCC in its oversight capacity but also in that it was required to

> make annual reporting to Parliament of progress towards these targets mandatory.
>
> (House of Commons 2007b: 3)

As it turned out, the CCC took its oversight and communication roles seriously. It did provide further evidence of failure, and it served to challenge policy and to suggest much more profound policy change. The first mandated CCC report, in October 2009, observed that current electricity arrangements together with the EU ETS, the central component of existing climate policy, were unlikely to deliver decarbonisation of electricity generation. It further suggested that as the market was failing, a more forceful role for government was needed (CCC 2010). This report, and its damning of aspects of the PEPP, was given wide media coverage (cf. Warner 2009).

To the extent that the CCC, and other institutions, questioned the ability of the PEPP to meet decarbonisation goals, they offered an ongoing, quasi-government challenge to the Energy Directorate and Ofgem. There was a degree perhaps of 'institutional struggle' taking place here in an attempt to show that the PEPP was failing and needed to change (cf. Oliver and Pemberton 2004: 419). Binding targets were being offered as one solution, but others overtly recognised that binding targets could only be 'first-steps' in that policy would also have to change in order to meet them (cf. SDC 2005: 3).

Whilst policy-makers might not be too keen on an overhaul of energy policy, as had been the case with the externally generated Review of Energy in 2002, continuing to ignore 'expert' advice from bodies set up by government was proving more difficult, especially in the light of evidence of failure. Quite apart from whether civil servants followed this advice, these new institutions provided information upon which other political protagonists could mount their arguments for change, as had already seen with the RCEP 2000 report and the 2002 Energy Review.

DECC

In Chapter 3 the changing fortunes of dedicated energy ministries, or departments, were briefly discussed. During the 2000s constant changes were made in terms of which political figure would have outright responsibility for the energy portfolio and where they would sit in the hierarchy of government. Generally, however, no particular emphasis

had been placed on this role and, in 2005, the job of energy minister had been described as a 'junior backwater' position (Leake 2005). This was all about to change quite radically. Towards the end of 2008 a number of departmental and ministerial changes were made, not least amongst them the creation of DECC. Alongside the new department, the first Commons Select Committee on Energy and Climate Change was established.[11]

According to the 'Machinery of Government' paper which accompanied these changes, part of the reasoning behind the formation of DECC was to focus 'ministerial responsibility on today's challenges', which should, in turn, facilitate a unified government response (Cabinet Office 2008: 1).[12] Energy security and climate change were identified as key issues facing the UK, and DECC was specifically created to take responsibility in addressing them. This appears to have raised energy security and climate change not just up the hierarchy of energy policy objectives but also up a broader scale of UK national priorities. The new department's public service agreements and departmental strategic objectives (DSOs) reflected this mandate in that it was created to '[l]ead the global effort to avoid dangerous climate change' and to '[e]nsure the reliable supply and efficient use of clean, safe and competitively priced energy'. Interestingly, however, there remained, alongside new mandates, a DSO to contribute to BERR's DSO to deliver free and fair markets, with greater competition, for business, consumers and employees (Cabinet Office 2008: 4).

The establishment of DECC marked a significant claw back of energy's political status from a division within a department, to a department of government with representation at Cabinet Office level via the secretary of state for energy and climate change. This marked an end to the uncertainty that had surrounded what position energy should hold ministerially. It also signified the placement of energy in more direct proximity to government institutions and responsibility and, as such, some reversal in technocratic depoliticisation. DECC was the strongest sign yet that energy was being reconceptualised and was no longer just a 'commodity'. Furthermore, DECC's new mandates can be considered relevant with regard to the measurement of change due to the clear contrast that can be drawn with previous institutional mandates. The primary public service agreements and DSOs of the DTI/BERR were, and still are, focused much more on the provision of free and fair markets, particularly to support business.[13] DECC was more specialised in that it was focused on achieving energy and climate goals rather than generic support for competitive markets and businesses.

The way in which DECC was structured also, in effect, reflected one of the key climate arguments of the past decade or so. As referenced in Chapter 2, and above, many had argued for some time that energy and climate policy could not, and should not, be considered separately from one another. Although the PIU review of 2002 had suggested that a new institution should be created to take responsibility for climate, energy and transport policy, the 2003 White Paper had overtly rejected this idea (DTI 2003: 113).[14] DECC's webpage, under 'About Us', now claims that 'DECC . . . reflects the fact that climate change and energy are inextricably inter-linked' (DECC 2011a). As such it appears that an idea, emanating from climate narratives, was being embedded into the very way in which this new physical institution was constructed, perhaps suggesting a willingness and ability to listen to alternative narratives in the search to meet new objectives.

In effect, DECC was created by bringing together the energy divisions from within the DTI/BERR with DEFRA's 'international and domestic climate change policy, energy efficiency, fuel poverty, and radioactive waste teams as well as the Office of Climate Change' (Cabinet Office 2008: 3). As mentioned in Chapter 4, there had been a history of institutional struggle between the Energy Directorate and DEFRA's climate policy teams, and this had been a question not only of methodology but also, arguably, of objectives and mandates. Clearly, prior to 2007 the DTI had not had to treat decarbonisation targets as a binding objective of energy policy whilst these were integral to DEFRA. In addition, policy-makers and analysts at the DTI had worried that growing renewables as a percentage of the UK energy mix might result in reduced security of supply.

Ex-DTI civil servants now found themselves having to work together with the 'woolly', non-economic DEFRA civil servants as well as being driven by specific and binding climate objectives (Interview 5). Not only this, but more resources were assigned to the climate change teams over the energy security team – roughly 100 to 35 staff (interview 16). Some energy analysts, as had been the case with Ofgem, were fearful of increased 'political involvement' in energy policy-making, and some therefore stayed within BERR rather than moving to DECC (interview 2). The intention appears to have been not only to force some exposure to new ideas from both sides but also to attempt to reduce the level of historical interinstitutional struggle by assigning common goals and objectives.

Together these are taken as being institutional changes with a degree of profundity and staying power – a degree of politicisation of a

reasonably ongoing and lasting nature. Although the Prime Minister's Office could exercise 'near absolute' power in the reorganisation of Civil Service departments (House of Commons 2009: 3), further major departmental reorganisation would still be politically difficult in terms of both political capacity and cost. The way in which this change to the physical institutions of power was enacted hints strongly at change being directed at energy policy-making teams from government. The role of narratives and alternative ideas is, arguably, important within this process of change in that they informed some types of change pursued, as well as initially providing reasons to change.

Elite narrative changes

In terms of policy paradigm change, what has been observed thus far, as a reminder, is a change in the objectives of energy policy, with the re-emergence of security as an objective and legally binding climate objectives, underpinned by a restructuring of the physical institutions of governance. Outlined below is the emergence of a new narrative within DECC which was concentrated at the 'top' but which did not necessarily descend too far into the ranks of the new department. This overtly raised the issue, long discussed amongst geopolitical and climate analysts, of the role of state and market within energy and climate governance.

It is worth noting at this point that the end of 2008 also saw the real unfolding of the financial crisis. It has been observed, in the crisis response of Gordon Brown in particular, that there had been a change of narrative, and a growing willingness to be overt, about the notion of market failure (Hay 2010: 22).[15] Given the degree to which New Labour had managed not to challenge neoliberal economic orthodoxy up to this point, the narrative of government intervention and market failure was noteworthy:

> in a sense it is quite remarkable that it is even credible, as I think it is, to pose the question of whether the public rescue of the banking sector heralds the return to an era of Keynesian economics: a paradigm shift made in the context of crisis.
>
> (Hay 2010: 22)

This article concluded that a return to Keynesian economics did not occur as a result of the financial crisis. However, the context of wider narrative alteration made it easier, perhaps, for the new secretary of state for energy and climate change, Ed Miliband, to pose questions about the UK's energy governance structure. An early speech from Miliband

outlined his views, significant given his new role in energy, on the role of the state in energy governance. He contrasted the ideas underpinning Nigel Lawson's version of energy strategy, namely based on the notion of 'markets only', to the new framework being proposed that would be required to meet the twin goals of energy transition and energy security (Miliband 2008: 3). He claimed that Lawson's successful attempt to fundamentally challenge received doctrines about the market and the state in energy policy was now passé. It is worth noting that these ideas were not presented as being 'wrong' in and of themselves but that they were now considered unfit to meet today's challenges. This does not therefore suggest a rejection of pro-market views about energy governance *per se*.

Miliband then stated that dynamic markets on their own were no longer enough for a successful energy policy, particularly in that 'we can no longer assume that private incentives add up to the public good of decarbonisation and energy security' (Miliband 2008: 4). Again, the language is notable in that energy appears once more to be understood as being of intrinsic value to the public as opposed to a replaceable commodity. Thus a 'strategic role for government' is suggested in that it provides

> [s]trategic policy that takes action where there are market failures and provides the right incentives for the public good.
>
> (Miliband 2008: 4)

In 2009, Malcolm Wicks, twice energy minister at the DTI, produced a report which also reflected elements of alternative energy narratives. He had been requested by the Prime Minister's Office to become the new special representative of the prime minister in energy security and to compile a report on the UK's energy security. The resultant report, 'Energy Security: A National Challenge in a Changing World', was specifically designed to review implications of developments in international energy markets for the UK's future energy security (Wicks 2009). This was one of the most obvious signs thus far that government felt the need to understand more about the international energy context and also, therefore, of the ongoing process of rethink revealing areas of existing weakness.

Overall the report sounded very similar to arguments put forward within the energy security–climate narrative analysed above, and had further undertones of 'speaking security' about it. It opened with the suggestion that the 'geopolitics of energy insecurity will be a key theme

for the 21st century' underpinning this assertion with many arguments familiar from within geopolitical narratives regarding peak oil, insecure foreign suppliers and growing competition for fossil fuels (Wicks 2009: 1). Wicks's regular reference to the need to reduce import dependence and for home-grown, renewable energy as a part cure for energy insecurity, as well as to mitigate climate change, might have come directly from within the energy security–climate narrative (Wicks 2009: various). Much of it also echoed closely the idea, also outlined in the section on the energy security–climate narrative, that an insecure energy future has profound and nationally significant implications. Evocative images of energy insecurity seemed to be used in that they are understood to most effectively underpin the need for change and for increased production of home-grown energy.

> The 'Wicks Report' also observed, perhaps more controversially, that the era of heavy reliance on companies, competition and liberalisation must be reassessed.
>
> (Wicks 2009: 1)

The report did therefore suggest, in terms more overt than those of Miliband, that the current model, particularly in that it overrelies on competition and liberalisation, needed further and more radical alteration. This was an early sign of elite political recognition of questions, raised in alternative narratives, about the ability of markets to deliver energy and climate security, and it was also symptomatic of the ongoing process of rethink. Together, the way in which the 'official' energy policy narrative was emerging at this time showed momentum behind the process of change and, in addition, direction away from the previous orthodoxy that markets could be relied upon to provide secure and low-carbon energy. This may therefore suggest more open questioning of the merits of marketised depoliticisation.

Both the 'Wicks Report' and DECC's subsequent 'Response to the Wicks Report' underpin movement away from thinking about energy as replaceable and as less nationally important (DECC 2009c). Miliband specifically suggested, with reference to Malcolm Wicks, that 'energy security be seen as much as a national security issue as an economic issue' (Miliband in DECC 2009c: 1). These understandings challenge the notion that politics should not intervene in energy whilst upholding arguments put forward that energy supplies, once threatened, had grown in significance and had come to be understood as nationally important. These conceptualisations of energy and security build on

observations made in Chapter 5 about emerging changes in the PEPP level of ideas about energy.

Partly in reflection of new understandings of energy security as a national issue, yet another energy institution was formed – the cross-departmental International Energy Committee – to provide a mechanism for improved 'senior level co-ordination of international energy policy' (DECC 2009c: 31). Strengthened ministerial oversight was also to be provided, including an annual assessment of energy security issues, more signs of ongoing reversals of technocratic depoliticisation.

Governance outcomes of 'rethink' under New Labour

This section examines policy documents produced by DECC with the aim of assessing not only the degree of substantive policy change but also the degree to which alternative ideas, reflected already in Miliband and Wicks' public communications, disseminate through these documents and impact upon policy. Clearly, some of these documents directly addressed work carried out prior to the formation of DECC, but they by and large progressed policy in a direction away from the previous paradigm.

Immediately noticeable was the scale of difference in terms of output on energy and climate policy. DECC, whatever other kind of change it represented versus the PEPP, did seem to participate fully in the process of trying to understand and address the difficult questions and emerging but related subissues that climate and energy security posed. The new DECC website also represented a steep step-change in how information about UK energy policy was disseminated and, as such, marked a serious improvement in transparency and access to background research. This could be taken an outcome of the ongoing process of deliberative politicisation.

Policy documents and legislation

This period between the formation of DECC at the end of 2008 and the general election of May 2010 saw a huge quantity of new analysis, the publication of yet more policy documents and new legislation. It seemed to mark a step up in the attempt to get to grips with the question of *how* to transition to a low-carbon economy whilst maintaining secure supplies. Part of figuring out how to transition had necessitated a much greater level of commitment to deliberating energy, deliberative repoliticisation, partly through the creation of a range of new institutions and partly by actively searching for solutions. Noticeable in this ongoing

search is that certain solutions previously not deemed worth considering, such as having a 'single buyer' of electricity, started to become part of a range of possible instruments being considered (i.e. Ofgem 2010a).

In the summer of 2009 DECC produced the UK Low Carbon Transition Plan, which was the first attempt to respond to the mandate laid down by the Climate Change Act to start providing policy solutions to enable the UK to meet carbon emission reduction and renewable energy production targets (DECC 2009a).[16] The Carbon Budgets, administered by DECC, had implications for all UK government departments, and it was proposed by Miliband that DECC was being placed in a central position within this process of 'culture change' across government (Miliband 2010).

The Low Carbon Transition Plan marked an increase in the level of state financial support being offered to facilitate the production of renewable technologies, including research and development, and to improve energy efficiency. DECC announced its intention to directly fund four new demonstrations of capturing and storing emissions from coal power stations, to channel about £3.2bn to help households become more energy efficient, to roll out smart meters in every home by the end of 2020 and to provide further state investment in offshore wind (DECC 2009a: 4). In addition, it was announced that the legislation would be further amended to make Ofgem's responsibilities clear. Specifically, although competition was still recognised as a valuable mechanism for protecting consumer interests, Ofgem's mandate was further clarified such that it should in future recognise that there are other means which can be utilised to protect these interests (DECC 2009a: 4).[17]

This new plan went further in underpinning the idea that energy and climate change are interrelated, this time in that transition to a low-carbon economy had become the agreed solution for both climate change and energy security (DECC 2009a: Introduction). The report also openly admitted that there would be costs associated with this process of transition (cf. DECC 2008). This was a marked change from previous government documents which either largely ducked or underplayed the issue of rising energy costs, thereby failing to address the question of how these costs might impact upon the other, but less often mentioned, objective of tackling energy poverty.

By openly admitting that the cost of energy, and electricity, would rise, it allowed DECC to start suggesting how to address this apparent contradiction between objectives. As it stood fuel poverty, at 18.5% of households in 2008, was already dramatically on the rise (DECC 2010b: 9), something which was not going unnoticed within the media

(cf. BBC 2010). The plan recognised that government should seek to minimise the costs associated with energy transition and 'to apportion them fairly' (DECC 2009a: Introduction). It went on to propose that the impact upon 'the most vulnerable' would be mitigated through a new 'mandated social price support' and through upping the level of the Warm Front grants (DECC 2009a: 4).

Alongside the Low Carbon Transition Plan, DECC produced the first dedicated Renewable Energy Strategy, which was presented to parliament in July 2009 (DECC 2009b). Reminiscent of the geopolitical narrative which had emerged in the mid-2000s, this strategy for the first time actually specified an objective of reducing fossil fuel demand by 10%, thereby also reducing the need to import gas by 20–30% against forecasts for 2020 (DECC 2009b: 7). As such, the production of renewables was now being actively deployed not just to meet climate targets but also because home-grown energy was understood as preferable to certain imports:

> [t]urning to renewables will help the UK recover some of its energy self-sufficiency, while assuring that more of our imported energy comes from reliable sources.
>
> (DECC 2009b: 10)

This language might be taken directly from one of the political groups involved in the security–climate narrative appropriation discussed above, which had also been echoed so strongly in the 'Wicks Report'.

Renewables, however, remained deeply problematic in that as of 2009 they were still vastly underinvested – only 5.5% of electricity was generated via renewable sources, 2.6% of transport energy and in heat the UK was still generating 'very low levels' from renewables (DECC 2009b: 8). As such the EU target of 15% of *all* energy from renewables by 2020 was understood, by this stage, to be practically undeliverable. This target, as laid out in the Renewable Energy Strategy, implied that electricity generation from renewables would have to rise to 30% by 2020 (DECC 2009b: 8). This, clearly, was challenging and demanded change to existing policy, which was now more openly understood within government to be underdelivering on renewables. Again, this showed that as more capacity was put behind deliberating about energy, some of the nuance and complexities of the sector started to come to light – to an extent it was becoming 'problematised'.

As a response to these newly perceived failures the new plan sought to 'put in place mechanisms to provide financial support for renewable

electricity and heat worth around £30bn between now and 2020', largely via, yet again, amending the RO but also through the introduction of the first FiT aimed at domestic production (DECC 2009b: 8). This FiT was by no means a full, German-style, 'risk free' FiT aimed at large-scale renewable generation but it did represent at least a first step for the UK (cf. Mitchell 2008). To oversee and administer all of this, the new Office for Renewable Energy Deployment was established within DECC, which was now responsible for making sure that the UK delivered on its renewable targets (DECC 2009b: 9).

Many of the new policy suggestions put forward in the Low Carbon Transition Plan and Renewable Energy Strategy were then implemented via the Energy Bill of 2010, which received swift royal assent just ahead of the general elections of May 2010. For example, the bill put into place the mandatory social price support, the alterations to Ofgem's mandate, measures to tackle electricity market power exploitation, statutory financial support for carbon capture and sequestration development, and a commitment to yet more regular parliamentary reports on progress on energy and climate objectives (DECC 2009c).

This represented a change from the PEPP in a number of respects. Firstly, emphasis on direct state financial support and legislation, even if it fell quite far short of that seen in Germany, Sweden and other European countries, marked a departure from previous policy. The Climate Change Act 2009 impact assessment report dedicated the opening section to answering the question, in recognition of what had come before, as to why intervention in the markets was understood as necessary (DECC 2009d: 3–4).[18] What these documents also showed, in the degree of planning which had gone into ensuring growth in renewable energy generation, was that UK energy policy was no longer 'technology blind'. This contrasted openly with the 2003 and 2007 white papers which had both clearly enunciated that it was not the job of government to decide on sources of energy for the UK (DTI 2003 and 2007). It might also be suggested that, in terms of renewable energy representing home-grown energy, much emphasis was still being placed on facilitating the production of energy from other sources, including coal and nuclear (Wicks in Wintour 2008; Mitchell 2008). This reflected ideas that were dominant prior to the instigation of the PEPP about relying on nuclear, and other domestic sources, in times of perceived supply crisis.

The process of rethink and continuing uncertainty

Also interesting over this time period is that despite the plethora of policy responses to the challenge of understanding *how* and what to do

to transition to a lower-carbon future, still more research and questioning were considered necessary. This was perhaps the clearest sign of the deskilling of UK energy policy institutions that had taken place under conditions of technocratic and deliberative depoliticisation. The high level of research and deliberation did continue despite the unfolding of the credit crisis and recession, which might, under other circumstances, have provided a more than worthy distraction for political attention.

One clear example of this ongoing drive for further understanding is Project Discovery, which was an in-depth study of the various challenges now understood to face UK energy and climate governance matched with a range of options in terms of addressing them (Ofgem 2009 and 2010a). Initiated early in 2009 as a response to the changes to Ofgem's statutory duties under the Energy Act 2008, it was designed to explore 'whether current market arrangements are capable of delivering secure and sustainable energy supplies' (Ofgem 2009: 2). The consultation document was issued in October 2009, just before the new Energy Bill was presented to parliament, indicating that despite the range of new policies which were in the process of being adopted, Ofgem now felt that even more change would be required.

Project Discovery, having ultimately concluded that current market arrangements needed to change given the substantial investment requirements of £200bn over ten years, went on to consider what policy instruments might be required (Ofgem 2009). Five different routes were proposed, including, most notably, the single buyer model (Ofgem 2010a: 3). This model, whereby one single buyer would centrally buy all generated electricity, which it would then distribute, was one of the more radical solutions being suggested. For Ofgem, historically so adamant in its arguments about market energy, to openly suggest this model in a public document can perhaps also be read as a sign not only that change was understood as necessary but also that this was change of a more structural nature.[19] This realisation is, in turn, significant in the process of energy governance change in that Ofgem and its senior executives had, as discussed in Chapter 4, represented some of the stiffest opposition to any movement away from energy markets in the past.

The level of continuing active deliberation within Ofgem, DECC and the various new organisations set up to monitor, assess and advise them can partly be explained by the changing mandates, objectives and requirements to report to parliament. In contrast with energy governance under the PEPP and associated degrees of deliberative and technocratic depoliticisation, these new institutions represented a growing capacity to question and understand. This might, however, also

indicate that despite new targets, and the realisation of their urgency and tractability, new programmes deemed both credible and able were still thin on the ground. Although solutions such as the full, German-style FiT and the single buyer model had been suggested, they still represented too much of a break with current UK energy institutions (interviews 14, 15 and 16). In this way, the search for solutions continued, and this suggests a lack of faith in the more state-led model adopted by countries like Germany, Denmark and Sweden.

Conclusions

It is, perhaps, remarkable that there should have been two energy acts within less than two years. The speed with which DECC managed to produce these major policy documents and legislation is indicative of the degree of urgency which had started to press on government thinking about energy and climate change. Once the process of rethinking had commenced it became more apparent that the PEPP was failing whilst, at the same time, more and more detail started to emerge about how much needed to be done to progress towards fulfilling the new hierarchy of objectives. Hence the plethora of debates, discussions, policy papers, consultations, impact assessments, reports to parliament, new institutions, acts and bills which define this period. The changes that had taken place suggest a large degree of ongoing politicisation particularly of the deliberative and technocratic, if not of the marketised, kind.

In attempting to measure policy paradigm change at this point it can be concluded that shifts had occurred at every level of the PEPP and it can be claimed therefore that change of paradigmatic proportions had taken place on the measurements adopted here. In terms of ideas about the nature of energy, it is noticeable the degree to which energy was now talked about as a national policy issue, rather than as a sector of the economy or replaceable commodity. The new objectives of energy policy had by this stage, and in an extremely public way, become not only embedded within institutional mandates but, in the case of climate targets, also legally binding. A range of new physical institutions had been established, as had the requirement for these institutions to communicate and report on a regular basis to parliament. DECC had, furthermore, been established upon the idea that climate and energy policy needed to be considered together due to the extent to which they are interrelated and interdependent within the process of pursuing energy transition. Ofgem had also, by this stage, been mandated to alter its practices such that energy sustainability and security would become

priorities. As such the objectives and physical structures of governance had undergone quite significant change.

It is on the level of ideas about energy governance that evidence of change is more mixed. It is clear that by 2010 market failure in energy had been overtly recognised and it had also been accepted that a good deal more state support and guidance were going to be required in order to enable markets to supply energy in a more sustainable and secure manner. This does represent a departure, if not of a radical variety, from notions about avoiding state intervention that partly characterised the PEPP. At the same time, however, ideas about the central function of the markets in delivering energy supplies had not changed and neither had pro-market ideas about the role of competition and economic efficiency. Instead it appears that state intervention was understood as a temporary strategy and, as such, the argument appeared to be that the state had a duty to assist markets to become more sustainable in the near term but that once this was complete it should withdraw again to its proper place. Continued belief in the role of markets in energy governance may, in turn, relate back to the way in which the crisis was framed in the 2004–2006 period, with blame being placed not on pro-market governance institutions but on the statism and resource nationalism of others.

7
The Energy Security–Climate Nexus: UK and Beyond

Introduction

At the end of Chapter 6 it was concluded that the PEPP had undergone change on every level. The question that arises at this point is whether this new system was maintained following the May elections of 2010 when a new Conservative–Liberal Democrat coalition government took office. This chapter will therefore initially explore energy policy after May 2010 in order to ascertain whether or not the new system had staying power. It would clearly be of note if a Conservative-dominated government, given the party's historical attitudes to the role of markets in economic matters, were to continue to maintain an energy system underpinned by a narrative of market failure and the need for greater government intervention. And this is largely what occurred – even despite the re-emergence of the mantra of fiscal austerity. This is not to say, however, that no struggles emerged within policy-making circles; in fact DECC and the Treasury entered into a small war over financial support for renewable energy during this period.

What does seem to remain constant, however, is the mixed nature of the new energy policy system which is conceptualised here as underpinned by an energy security–climate nexus. The coalition government appeared to utilise notions of energy security even more liberally than did New Labour to underpin arguments about the need for domestically produced energy – of both a renewable and a nuclear variety. This chapter will further consider some of the implications of this very mixed form of energy governance that draws on geopolitical and climate ideas whilst maintaining a central role for markets in delivering energy. These will include a large degree of complexity, such that even those who had been closely involved with UK energy policy over a period of decades

found the emerging system harder and harder to understand. The lack of comprehension about government rules and incentives clearly had knock-on effects given the degree to which private companies were still being tasked with providing a large percentage of the vast required investments in both traditional and new technologies, as well as new infrastructures. This position of responsibility for the private sector continues to allow the big six energy companies a large degree of influence over policy-makers. Other implications of the mixed nature of the energy security–climate nexus is seen in that the various objectives of energy policy – climate, security and poverty related – appear in practice not to be complementary.

This chapter proceeds with an investigation of what this process of policy change can tell us about current, new institutionalist explanations of change. The role of narratives in this process of change stands out clearly in contrast with new institutionalist work on crisis narratives in that more than one narrative was active in explaining crisis, arguing for change and providing solutions. Close attention to explaining change and the role of narratives has allowed this book to build a contextually sensitive picture of a complex, subjective and messy process of change. Given that this book has been able to show that the energy security–climate nexus is constructed upon two different crisis narratives, this has also revealed much about the nature of the new system and why it emerged in this potentially contradictory way. The internal contradictions in turn tell us something about what to watch out for in terms of future endogenous problems of energy policy.

This chapter will lastly seek to place current UK energy policy within a broader geographic context. I started with the argument that the PEPP was significant in a number of respects, not least because the UK had so often been held up as representing a universal model of best practice in energy policy. It is therefore worth considering these various rejections of pro-market energy governance in comparison with what is happening in other countries and in the light of other arguments about economic governance.

The energy security–climate nexus in the 2010s

What is notable about energy governance under the coalition is that, despite the change of government, there was very little change in direction. This remained, however, a period of high activity in energy policy, uncertainty persisted and results in terms of meeting objectives did not markedly improve. This may partly relate to the complex and

mixed nature of energy policy, to the degree to which policy instruments were continuing to change and to the lack of policy-making capacity prior to the 2008 build-up of new institutions.

Energy governance under the coalition

The new energy governance system that was in place as the coalition took office is summarised in Table 7.1. As already argued in the conclusion to Chapter 6, this system represented a departure from the PEPP on every level identified in the framework in Chapter 2, albeit with a slightly lesser degree of change to ideas about energy governance than to other levels.

An analysis of energy governance under the coalition shows that this system displayed a large degree of staying power and, as such, it can be claimed that lasting change of paradigmatic proportions had taken place. The new objectives of energy policy had become well embedded within the energy governance system. Carbon dioxide emissions reduction targets continued to be legally binding, renewable energy targets remained embedded within the EU 20-20-20 agreement and energy security continued as an 'essential aspect of energy policy' (House of Commons 2011: 1). It might be inferred from the degree of emphasis on climate and energy security objectives in policy and strategy documents that they were being regularly privileged over energy poverty objectives.

Table 7.1 UK Energy Governance 2012

	Energy security–climate nexus
Ideas about energy	• Energy as an issue of national importance • Energy as a potential solution to climate mitigation • Home-grown energy should be supported
Ideas about energy governance	• Market failure in energy requires more state assistance to meet new objectives • Markets maintain their central role but guided by the state
Physical structures	• New department (DECC) and Ofgem mandate altered • New dedicated institutions reflecting alternative narrative • To report to parliament on an set basis
Objectives	• Legally enforcable climate objective across government • Security of supply • To eradicate energy poverty
Instruments	• Markets remain responsible for energy supply • New instruments: FiT, greater subsidies • Decisions about energy mix

For example, the 2011 Carbon Plan listed climate change and energy security as the two 'great risks' that the UK faces in the coming decades; little mention is made of energy poverty objectives (HMG 2011a: 13). In fact the objective of eradicating fuel poverty, as far as reasonably practicable, by 2016 was first mentioned in a footnote to page 38.

The idea that domestic renewable energy and energy efficiency policies would serve the purpose of meeting both climate mitigation and security objectives had also been maintained. It had become quite commonplace under the coalition government to reiterate relatively newly accepted assumptions about the positive interrelationship between climate and energy security policy. For example the foreign secretary, William Hague, spoke at the Council of Foreign Relations about the 'interconnected and inseparable' nature of the relationship between climate change and energy security (Hague 2010). Ongoing policy connections between these two areas persisted in that energy security was still being pursued via measures historically associated with climate policy – that is, energy efficiency and decarbonisation (House of Commons 2012: 4). Another consistent element of both DECC and wider coalition narratives on energy was the ongoing emphasis on avoiding fossil-fuel imports by supporting home-grown supply sources (DECC 2011c: 3). For example, 'maximising economic recovery of indigenous resources' was a stated element of the coalition government's energy security strategy (House of Commons 2012: 4). As such the mix of geopolitically and climate change informed objectives and solutions continued to run side by side, showing a large degree of staying power.

There remained also, and perhaps more controversially, a strong narrative underpinning the need for government intervention – certainly within policy documents if not in more publically oriented announcements. A number of policy and strategy documents have dedicated sections to arguing and explaining the case for more active state intervention (cf. DECC 2011d, 2012c; HMG 2011a). A speech by the Foreign Office minister, Lord Howell, to the British Institute of Energy Economics marked energy out as a matter of national security and put forward related arguments about an increased role for the state in domestic and foreign energy policy (Howell 2010). DECC now have a wide range of instruments in place for supporting transition in energy usage and supply including the Green Deal and offshore wind, CCS, onshore wind, renewable heat and warm front funding schemes. Clearly, however, the majority of DECC's annual budget, 86%, is still spent on nuclear decommissioning costs (Burke et al. 2012).

It is interesting to note, however, that the degree to which uncertainty and the process of rethinking energy governance has also continued under the coalition. The new administration has produced yet another string of documents and new legislation, including a new Carbon Plan, the 2011 and draft 2012 energy bills and the electricity market reform paper (DECC 2011c: 5; cf. HMG 2011a, 2011b). The substantial proposed reforms to the electricity market, and the debate that has surrounded them, are a clear indication of the process of applying new capacity to deliberating energy, producing a much more detailed, complex and messy picture of challenges facing energy governance. The degree of change associated with electricity market reform has led to new arguments about a significant shift away from previous reliance on market-based instruments for achieving energy policy objectives (Keay 2012). The electricity market reform document proposes new contracts for differences, capacity payments, emission performance standards and a carbon floor price to incentivise investment in low-carbon electricity generation (HMG 2012).

What also appears clear is that government, despite the large amount of new legislation, consultations and plans, still felt that more needed to be done. This may partly be because of the publication of continued evidence of government failure to meet objectives. In 2011, electricity produced from renewable sources had only reached 9.5%, leaving the percentage of renewables in the overall energy mix at a paltry 3.5% (DECC 2012a: 1). In addition, in 2010 UK greenhouse gas emissions grew by 3.1% over 2009 without much in the way of economic growth due in part to a switch back to coal (DECC 2012b). A range of media, academic and other commentators made these failures public, and these were made all the more significant with legally binding objectives in place.

Also emerging over time was a large degree of unease within the coalition about the level of state intervention and funding support being offered to facilitate low-carbon energy transition. A very public argument persisted in 2012 between George Osborne, as chancellor of the exchequer, and various DECC personnel, which came to a head over discussions about support for the wind sector. Increasingly splits became evident within DECC between the Liberal Democrat secretary and the Conservative minister of state for energy and climate change. Within the context of fiscal austerity, but also consistent with traditional Conservative ideas, Osborne argued that it was no longer possible to continue financially supporting such nascent industries at current levels. Ultimately, however, after threatening to drop onshore

wind subsidies by 10%, the Treasury did not force changes to wind-funding mechanisms, which was seen as a small victory for the Liberal Democrats (Harvey 2012).

Also remaining consistent is the strong narrative supportive of the market maintaining a central role in supplying energy, of arguing for the benefits of competition and economic efficiency even whilst pursuing greater levels of state intervention (cf. DECC 2011d: 3; HMG 2011a: 16). This relates to which framing of the crisis was ultimately accepted in elite circles – that is, that new objectives require changes but not that pro-market energy had been part of creating, for example, climate change problems in the first place. Other practices mentioned are consistent with economic arguments that market failure necessitates short-term state intervention in order to fix the problem – but not a rejection of the ability of markets to deliver in the long term. Evidence of this can be seen in a recent DECC report which states that the balance between government intervention and market incentives must be kept constantly under review (DECC 2011c: 6). More specifically, the secretary of state for energy and climate change, Ed Davey, is quoted as saying that although markets have failed and the government now needs to intervene

> [t]he reforms in the Energy Bill are specifically designed to move us away from such intervention – and blaze a trail towards competition. That is their ultimate aim.
>
> (Davey 2012)

As such, energy governance under the coalition has replicated one of the same principal inner contradictions as under New Labour – the need to intervene in order to transition energy whilst recognising that intervention is, on an ongoing basis, not the correct form of governance.[1]

Conceptualising the new energy governance system

It is notable that the new energy governance system is not being referred to here as a new energy policy paradigm. Herein lies the main problem with answering questions about policy paradigm change in this case. Given that reasonably profound changes have been identified at each level of the PEPP, and given continuity between New Labour and the coalition, it should surely be straightforward to claim a new policy paradigm. However, in characterising the new system, it must be acknowledged that it is based upon at least two different perspectives

on energy and governance whilst also maintaining an element of pro-market ideas.

Characterisations of policy paradigm shift in new institutionalist literatures have often suggested that a new paradigm would be based on *one* new and alternative theoretical paradigm whilst the energy security–climate nexus reflects what has been referred to briefly elsewhere as 'inter-paradigm' borrowing (Hay 2010: 22). The energy security–climate nexus maintained a central market function but this element of 'inter-paradigm' borrowing might be sufficiently explained by Hall's observations that a new policy paradigm may well reflect elements of the old paradigm (Hall 1993). However, the relatively equal coming together of geopolitical and climate ideas within the new governance system might perhaps preclude this system from being characterised as a policy paradigm. This suggests with regard to UK energy, perhaps rather ironically, that policy is coming to reflect a wider range of worldviews, which, in turn, suggests a departure from the single orthodoxies which have had such a large degree of influence over Western economic governance since the early 1980s – this is at least until a more sustainable and secure energy system has been built.

There are further conceptual significances of the mixed nature of the energy security–climate nexus. Some very recent studies have already concluded that there may well be tensions inherent within the use of energy policy to meet both security and climate objectives. That there might be problems associated with this compromise position between climate change and energy security objectives might not be surprising given that this arrangement has emerged as a result of cherry picking ideas from two very different sets of understanding about how the world works – environmental and geopolitical perspectives (Keay 2010; Kuzemko 2012). As one report put it,

> those concerned with ecological stability and those concerned for geopolitics and defence are sometimes not amiable acquaintances and generally operate in different spheres.
>
> (Nuttall and Manz 2008: 1250)

It may sound somewhat hypothetical to suggest that there might be a problematic clash of worldviews inherent within this compromise, but consider the range of ideas and interests involved in bringing such a compromise together. For example, although the impetus to include climate change mitigation as an objective for energy policy came from environmental groups, solutions like nuclear represent an antithesis to

most environmental thought. Current emphasis, discussed above, on home-grown and 'clean' energy has allowed many existing state–market power relationships to remain in place, not least in that it reinforced the position of the nuclear industry in the UK. The reaffirmation of nuclear as clean in a sense downplays other suggested climate pathways that had emphasised greater possibilities for renewable energy generation in achieving a low-carbon future – not least in that the overwhelming majority of DECC's budget goes to supporting nuclear electricity. Likewise, a focus on domestic energy production in order to avoid potentially problematic imports has also led to renewed political interest in and support for indigenous fossil fuels, such as coal, albeit with the hope that CCS will reduce emissions in the medium term (cf. DTI 2007). This amounts to what has been referred to as a 'hijack' of genuine concerns about energy security by those supporting particular supplies of energy, such as coal and nuclear (Keay 2011: 285).

In addition to these internal contradictions, research highlighting potential inconsistencies between the new objectives of energy policy has also started to emerge (cf. Froggatt et al. forthcoming). The PIU Energy Review of 2002 suggested that there might well be trade-offs between multiple objectives of energy policy, although this point was not taken up in the ensuing 2003 or 2007 white papers. Indeed, much recent research that seeks to predict energy pricing going forward has suggested that electricity costs may rise by an average of 60% by 2020 (House of Commons 2011: 4–5; cf. Interview 13). This could prove politically very difficult, not least in the light of, albeit somewhat downgraded, energy poverty objectives and the high degree of public sensitivity to energy prices in the UK. Analysts have bemoaned the lack of recognition of such trade-offs by energy policy-makers (Rutledge 2007: 907; Interview 13), especially given rising, not falling, fuel poverty numbers. In 2003 when the fuel poverty target became an objective of energy policy, 1.2 million households were considered fuel poor but by 2008 this had risen to 3.3 million homes (DECC 2011b). The Hill's review of UK energy poverty predicted, on current policy mix and framework, that in 2016, the date by which fuel poverty was to be eradicated, 2.9 million households would still be living in fuel poverty (Hills 2012: 7).

A further problematic, in practice, of the mixed nature of the energy security–climate nexus is the degree of complexity involved in conflating previously separate policy areas. Instruments reflecting a desire for greater government intervention are being applied whilst the government also expects the private sector to contribute the bulk of the very

serious investments that are required. One former government advisor has claimed a radical redesign of energy policy

> but without a fundamental re-think of the basic model. The Government has treated the regulator, the planning system, and the electricity industry more generally, as instruments for achieving its policy goals . . . but (this is) inconsistent with allowing markets to make investment decisions.
>
> (Keay 2011: 301–4)

This is partly because private sector companies claim that the complexity and constantly changing nature of energy policy means that it is not possible for them to make clear investment plans for the future. As such, maintaining such a central role for the markets in energy provision and investment whilst conducting a policy framework to which these companies object may well continue to prove problematic in future.

Complex processes of change

This book originally set out to both measure and explain change. The measurement of change has been facilitated by applying the framework, defined in Chapter 2, that conceptualised a policy paradigm as taking place on five different levels against which change could then be gauged. The new energy governance system is indeed very different from the PEPP but it is also complex, messy and not a little confused. It has partly been by explaining how and why change took place, whilst also bearing various socioeconomic contexts in mind, that this book has managed to create this complex, in-depth picture of the new system. It is also by explaining change that we are able also to understand *why* it is so complex.

Explaining change: Multiple narratives inform change

This book has held crisis narratives as being central to understanding processes of policy change. In Chapter 1, three central narratives were introduced and these are echoed throughout the text during periods both of relative continuity in energy policy (e.g. 2000–2003) and during periods of change. It was claimed in Chapter 2, on the basis of the work of a variety of new institutionalist scholars, that narratives perform a variety of functions within processes of change. A dominant crisis narrative performs many useful roles: it can convince wide audiences that a crisis exists, provide explanations as to why there is a crisis and

provide evidence of failure of existing policy, as well as solutions. This book has observed that a climate change narrative challenged UK energy policy in the early part of the decade but did not succeed in convincing the wider public that an energy crisis existed, nor politicians that the PEPP needed to be altered in order to deliver a lower-carbon and secure energy future. This period of analysis tended to highlight a high level of resistance to change within the PEPP, albeit with some compromises being made.

It was the geopolitically informed crisis narrative of the mid-2000s that appeared to be more broadly convincing in claiming that an energy crisis existed – more specifically that a security of supply crisis was emerging as a result of resource nationalism elsewhere. This narrative of energy was by no means new; it had dominated energy foreign policy for almost a century, but it had prior to the mid-2000s been sidelined and understood as less credible. As the crisis debate broadened, however, energy security was discussed once more in parliament and associated committees, and, as such, the debate included a range of actors and institutions not previously directly involved in discussing energy and governance. It is interesting to note the way in which the sense of crisis both required politicians to be able to answer questions on energy but also caused them to put pressure on the DTI and Ofgem to 'do something' to respond to the renewed public and political interest. This elucidates one form of political response to perceptions of crisis.

This explanation of how the geopolitical narrative engendered political interest has been augmented here through insights gained from applying the Copenhagen School concept of 'speaking security'. It appears here that speaking security, using the evocative language of imminent threat to a nationally defined space, has indeed been an integral part of why the UK public and politicians became interested in energy once more. This provides a useful link between new institutionalist ideas that crises and uncertainty can provide conditions within which paradigm change can take place and the language of security as being politically potent. As such, the claim here is that if the crisis had been understood differently then the public and political elites might also have been less interested, as had been the case with climate narratives in the early 2000s. New institutionalist concepts suggest that the dominant explanation of crisis can heavily influence the shape of the new policy paradigm. It is also claimed here that the type of dominant crisis narrative can strongly influence whether or not a crisis is indeed understood to exist as well as the degree to which a political response is understood as necessary.

It might be suggested, however, that politicisations associated with speaking security might often be temporary in nature, as suggested by the Copenhagen School (Waever 1995; Buzan et al. 1998). According to this school, a subject might become politicised in that it is understood to represent a threat and is widely discussed as such in the media and in political circles – but then it is dealt with by decisions taken behind closed doors and, as such, ultimately depoliticised. This did not, however, occur in this instance in that the initial politicisation appears to have then led to more political capacity being dedicated to energy governance in the form of personnel, new physical institutions, legislation and duties to report to parliament. As such this book claims, in line with critical security theorists, that speaking security can lead to a more politicised governing system and, in addition, provides an in-depth example of conditions under which this can happen.

Specifically, the renewed political interest as a result of perceptions of crisis is understood here as causal of the realisation that a lack of energy policy-making capacity existed in the UK. Copenhagen School concepts of securitisation would suggest that as state institutions understood as expert in matters of national security pre-exist, such as the armed forces and police, that responsibility should immediately be passed on without the need for any public deliberation. Given increased awareness of the lack of capacity of existing energy institutions to explain the crisis and respond, a different political reaction to perceptions of energy supply insecurity ensued. As it turned out, the process of rethink, a concept introduced in this book, involved a further unwinding of aspects of deliberative and technocratic depoliticisation in order to return to a position of more informed agency and capacity. What was interesting about the role of rethinking energy in this process of change was that over time it made politicians and policy-makers more aware of energy, of the lack of political capacity. It also encouraged them to seek responses by asking existing institutions for solutions (interviews 2, 5 and 15).

There is a slight paradox at work here. As we have seen, the geopolitically informed energy crisis narrative that dominated media and political debates placed the blame for crisis squarely on others and as such provided few endogenous reasons for change. Initial solutions offered were in response to this explanation of crisis and were related but did not involve a broad based departure from the PEPP. It could still be argued that the PEPP represented 'good' energy governance in contrast to resource nationalism elsewhere, which was clearly understood within policy-making and elite political circles as wrong. However, given the growing political salience of energy and emerging perceptions of a

lack of political capacity, arguably a direct outcome of earlier depoliticisations, it did over time become clear that some change was required. As such, the geopolitically informed narrative can be understood here as having acted as a partially effective crisis narrative.

By contrast, and despite earlier failings to produce significant policy change, climate narratives emerged in the latter part of the decade as more successful both in offering credible critiques of existing policy structures and in providing for Hall's 'mounting evidence of failure' (Hall 1993: 289). These narratives were able to mount this challenge specifically within the context of the crisis debate, increased political interest and questions being raised about how to respond. Although pressures for governance change may initially have been seen as coming from outside the UK, the climate narrative pointed directly towards endogenous reasons for change. Moreover, having openly insisted within previous white papers that existing PEPP instruments would be sufficient to meet objectives policy-makers had left themselves open to critique and diminished credibility if objectives were not met. The climate narrative was able by the end of the 2000s to claim greater credibility by showing that both renewable energy and carbon emissions targets were being or would be missed. Arguably, in the absence of the politicisation of energy spurred by the sensation of supply crisis and the widening of debate beyond previously limited technocratic circles, these narratives might not have found the same degree of purchase. This suggests that climate and geopolitical narratives were partially successful crisis narratives on their own but that they also provided complimentary functions within the process of change.

This brings us directly to the energy security–climate narrative that grew to prominence in the last few years of the 2000s. In Chapter 6 it was suggested that various notions from within the energy security–climate narrative had started to appear within political narratives on energy under both New Labour and coalition governments. The appropriation by climate protagonists of geopolitical ideas about the need for home-grown energy to underpin climate arguments in support of more renewable energy and energy efficiency is an example of how these narratives came together in practice (cf. Interview 18; Ochs 2008; Giddens 2009). Furthermore, given that the new energy governance system that emerged is based upon an energy security–climate nexus, the combined energy security–climate narrative is considered here as a more successful 'crisis narrative' then either the geopolitical or climate narratives on their own. Although it was active in proving policy failure to meet new objectives, however, the compromise position was such that it

did not question or undermine pro-market energy governance, so state intervention could be argued for as a temporary measure to meet new objectives.

It certainly appears that it was in combination that these two, previously separate, narratives had the greatest impact in terms of policy change in that together they fulfilled all of the criteria of a successful crisis narrative set out above and in Chapter 2. This is interesting for a number of reasons, not least because the claim that two alternative crisis narratives have informed change is a potentially significant departure from existing new institutionalist concepts that suggest that only one narrative dominates within processes of change (cf. Stone 1989; Hay 1996; Blyth 2002; Oliver and Pemberton 2004). Blyth has suggested that the dominant crisis narrative offers up a blueprint for the new policy paradigm whereas the new energy governance system is based not on a coherent blueprint but on an unplanned pick and mix between theoretical paradigms.

Observations about such inter-play between narratives also help us to understand that they can be understood as both evolving and interrelated. In that climate narratives adopted, but also importantly then adapted, elements of geopolitical narratives, this suggests, as mentioned in Chapter 1, that narratives are not static; nor can they be understood as representing clearly delineated perspectives on energy. In this way, narratives seem to have played a role similar to that suggested by new institutionalists in Chapter 2 but, again, in messier and more complex ways (cf. Oliver and Pemberton 2004).

The fact that various narratives have been drawn upon within this process of change provides us furthermore with a core explanation of *why* the new energy governance system emerged in such a hybrid and complex way. It would clearly have been expected under existing explanations of paradigm shifts that the new system would be underpinned by one distinctive or comprehensive set of ideas. It is certainly a far more complicated proposition in that two narratives, previously considered as separate and underpinned by different ontologies, informed and enabled change not least because of the degree to which some ideas are accepted whilst others are rejected.[2] As with the liberal-environmental compromise referenced in various chapters of this book, the energy security–climate narrative drew largely from those ideas that were understood to be more politically feasible, whilst rejecting others. This was neither coherently planned nor done because of the value of the chosen ideas in underpinning political solutions. It was felt that ecologically informed climate arguments had not found sufficient purchase

with UK audiences to enable change, so the emphasis became about securing change rather than implementing a coherent new system. One example of the kinds of tension inherent within these compromises is that the emphasis on home-grown energy has tended to marginalise other climate ideas about interdependencies between ecosystems and political, cultural and economic systems, and about equity within the global commons (Carter 2001: 16).

There also remains a deep tension, at least theoretically, between responding to perceptions of statist practice by others in energy governance and protectionist measures. The UK in considering Russian energy policy to be illiberal and 'wrong' was overtly supporting its position that energy liberalisation and privatisation should continue to expand within the economically interconnected world. But by refocusing on boosting independence in energy supply through supporting domestic production, the UK is itself turning to geopolitically informed methods of governance without necessarily approving of such measures. So it appears that government support for changes to domestic production capabilities is acceptable, but not a renationalisation of energy companies. These tensions within the new governance system can also help to explain some of the problems that have arisen with UK energy governance in 2012, not least the contradiction of rising energy prices as a result of support for nuclear and renewable energy and the objective of eradicating energy poverty.

Importance of contexts

It was mentioned above that the geopolitically informed security narrative was more successful than climate narratives in arguing that energy crisis existed, and in garnering public and political interest, which may tell us something about how audiences received these narratives. Implicit within this observation are assumptions about interconnections between public awareness, political interest and change, as well as notions of particular narratives working better within specific social contexts. We can return at this point to the suggestion that subjects that become politicised, from a depoliticised position, may be ones that already have broader public salience. There are links observable between elite politicians and wider society, particularly in democracies, within notions of speaking security and political response. For example, the concept of securitisation infers that the wider public matters in the processes of political change when it is suggested that governments can use public fear about an issue to justify a break with 'normal', or ongoing, political practice (Wæver 1995; Buzan et al. 1998). Sociological institutionalists have argued for a more intersubjective relationship

between the public and political possibility (Widmaier et al. 2007: 755). Hay argues that structural changes in ongoing political practices 'are generally associated . . . with highly politicized and public debates' (Hay 2001: 200; see also Hay 1996: 261).

When thinking about the success of such debates in prompting change, it has been argued that for a particular narrative to prevail it does not necessarily need to be complex or sophisticated, but that it should be cognitively convincing and normatively appealing (Hay 1999b: 100). Simple explanations can be more effective in garnering public interest, and by extension political interest, in that they can be communicated more easily and widely than complex explanations that perhaps require a more in-depth knowledge of the subject. Importantly, therefore, success in terms of raising the political profile of a subject can depend on whether a narrative can appeal to existing, or emerging, norms, values and understandings (Geddes and Guiraudon 2004: 335; Schmidt 2006: 252), and this arguably applies both to political elites and to the wider public. In this vein it has been suggested that not all subjects can be as successfully spoken about in terms of security as others (Waever 1995; Buzan et al 1998; Browning and MacDonald 2010). This book argues that the association of energy with security appears to have had a reasonably large degree of cognitive authority within the UK social context.

This may have to do with a number of factors, including the historical precedent of a century of conflictual international oil relations, historical fear and distrust of Russia, and common ideas about energy as potentially powerful. The energy security narrative, as such, can be described as cognitively convincing and able to tap in to a high degree of intersubjective meaning in the UK. Certainly ideas about Russia as threatening were heavily underpinned by historical perceptions of the Cold War that had dominated in UK, and the West, for so many decades. Interpretations of Russia as threatening and representing a way of life distinctly alien to the UK appear to have been deeply embedded within UK thinking about Russia. It could further be argued that if these actions had been taken by almost any country other than Russia, they might not, perhaps, have had the same public and political impact. As such, resource nationalism, conducted by Russia, seems to have provided strong ballast for energy supply to become an issue for national security once more. This suggests that some countries are more suggestible as 'threatening' than others.[3]

The degree of public engagement with energy as a security issue has been identified in Chapter 5 as an important factor in terms of initiating the processes of deliberative repoliticisation and of rethinking energy.

One example is the degree to which energy started to be deliberated and discussed in political circles, and outside 'expert' communities at this stage (cf. Fox 2006; House of Commons 2007a). The degree of inter-subjective meaning underpinning notions of Russia as threatening and energy supplies as valuable and/or powerful arguably assisted in connecting public awareness with political interest. If, in turn, we apply Hay's concept of politicisation as placing a subject into the realm of contingency and deliberation, then that subject – energy in this case – and the way it is governed are likely to become more open to scrutiny and question (Hay 2007: 79). This is particularly, as seen in Chapter 6, in the instance where policy becomes increasingly understood to be failing to deliver objectives.

What also emerges from this analysis is that energy security, as a subject, seems to engender certain responses within the UK context but whilst failing to question pro-market governance *per se*. This may be due to historical associations referenced above between energy, material power and conflict, as well as perceptions that energy and economic crises often appear to coincide (cf. David Steel in Ezra 1983: 196; Scrase and Ockwell 2009: 46). [4] One poll of UK 'opinion formers' undertaken in 2011 found that energy security was identified as posing as great a threat to the UK's way of life as international terrorism, just behind financial instability and ahead of climate change (Niblett 2011: 23). Another survey undertaken by an energy watchdog suggested that consumers were more likely to accept rising energy costs if they understood that the higher costs were necessary for energy security, rather than climate, reasons. These imply that a range of UK actors believe that energy supply security is something that can genuinely be threatened and that such threats are of relevance to them. It appears that the combination of energy with notions of national security do indeed speak to core perceived 'imperatives of surviving internal and external threats' and that as such it is something that is tangible to many within the UK (Scrase and Ockwell 2009: 46). As George Orwell noted in his 1945 book *Why I Write*, one of the very few instances in which the English tend to identify themselves in collective, i.e. national, rather than individual terms is at moments of perceived threat to the English way of life (Orwell 2004: 25).

Geopolitical energy security narratives are understood as being politically salient within the UK, as is further evidenced by the way in which climate narratives started to change from focusing on stories of long-term, global consequences of devastating climate change to ones based on near-term, national interests. Certainly in the UK the narrative of

national supply insecurity appears to have prompted political interest, deliberation and rethinking with an intensity that climate narratives had failed to elicit. This may be due partly to UK attitudes towards climate change: a poll undertaken by the BBC suggested that although 75% of people thought that climate change was 'a reality', only 26% believed it to be a 'man-made' event (BBC 2010). Another recent analysis suggested that in the UK people view climate change as a 'distant issue' about which they lack 'first hand experience' (Spence et al. 2012: 46). As a result, people perceive climate change as a less tangible issue than others that present themselves as pertinent in more overtly identifiable ways. These observations help to explain why it is that some subjects, as suggested in chapters 2 and 6, are understood as being more suitable to speaking security than others (cf. Browning and MacDonald 2010), but place this understanding within the social context of the UK.

The role of objectives in change

Lastly, also in terms of understanding how change can take place, it is worth highlighting the role of objectives in prompting further governance change in UK energy. It appears as if the new objectives of UK energy policy, once finally formalised, did drive change. This clearly applies to the objectives of energy security and reducing carbon dioxide emissions but not to that of energy poverty, which still appears to be somewhat sidelined. Objectives represent an instance within which ideas have, indeed, facilitated change – ideas not about how to govern but about to what end. The rerecognition of energy security as something which actively needed to be achieved, in combination with new, legally binding, climate targets, has driven a scramble for credible ideas about how these objectives can be reached. This observation might also help to explain the importance which Hall assigned to objectives in his analysis of third-order change, in that paradigm shift can only take place once objectives take place (Hall 1993).

As well as changes to the physical institutions of governance, Chapter 6 traced closely the way in which climate change goals had developed from vaguely worded targets, in 2003, to legally binding, specific objectives that included also renewable energy targets (HMG 2008a). These new objectives themselves are taken here to have facilitated other institutional changes. It was noted in Chapter 1 that one of the most prominent academics involved in the question of energy paradigm shift in the OECD, Dieter Helm, concluded that a policy paradigm shift had already taken place. This seemed based largely on the observation that the objectives of energy policy had changed from

creating liberalised and competitive energy markets to achieving climate and energy security targets (Helm 2005a and 2007a).

Although this book on the whole disagrees with Helm's conclusions, it is worth analysing the role of objectives more closely, particularly as Hall's 'third-order change' has highlighted objectives as being of primary importance in measuring paradigm change. Hall considered that goals, or objectives, direct policy and therefore third-order change could not be considered to have taken place without a new direction for policy (Hall 1993: 279). Helm likewise seemed to imply that ideas about governance would change in response to new objectives and instruments (Helm 2005a: 1). Neither, however, broke this relationship down into any particular detail.

On the evidence of Chapter 6, however, a case could be made that new objectives of energy policy, especially once understood to be 'serious', did drive further questioning of energy governance structures and a search for new solutions (see also Kuzemko 2012). As an example, we can turn to the Climate Change Act 2008 wherein for the first time specific climate targets became legally binding and budgets were set across government. Just as significant, however, was that this act articulated a specific challenge for energy policy-makers: to start finding specific policy solutions to meet the new objectives. It was suggested that the establishment of statutory targets would

> help focus on the measures necessary to deliver short, medium, and long term emissions cuts.
>
> (House of Commons 2007a: 3)

This combination of legally binding targets and the challenge to be specific about how to meet them arguably forced the hand of policy-makers and took energy governance beyond target setting exercises. The role of opposing political groups in continuing to scrutinise achievements and in pointing to evidence of policy failures was an important pressure for change, but these arguments would have been less effective had there not been new, legally binding, objectives against which to demonstrate policy failure.

The challenge of how to deliver new objectives was picked up in 2009 in the UK Low Carbon Transition Plan and the Renewable Energy Strategy, both of which recognised the need for further governance change and new instruments of policy (DECC 2009a and 2009b). It is within these that we can see a more concrete move towards direct state involvement in governance processes through legislation, financial

support mechanisms, the FiT, and more new and specific institutions, among others. As such, these solutions reflect a new degree of determination to meet objectives as well as the need to search for more effective, new instruments in order to succeed in meeting objectives. In this way objectives to which policy is set, or direction of policy, is understood here as being a specific driver of change and not just a level against which change can be measured.

How does this compare with energy governance elsewhere?

This book's Introduction made claims about the wider international relevance of UK energy policy changes. This was based on the argument not only that the UK had been one of the first countries to adopt a pro-market energy governance model but also that this new model was regularly held up as a one for other countries to follow (IEA 2006a: 9). The UK energy system was understood to be proof of the argument that pro-market energy works and the UK had, furthermore, been one of the most vocal advocates of energy marketisation on an international basis. As we saw in Chapter 4, to the extent that the UK had a separate energy foreign policy in the 1990s and early 2000s, it was based on convincing others of the benefits of energy liberalisation and offering specific advice. The UK had also considered itself as a rule setter in terms of energy governance in that it appeared to have been influential particularly with regard to recent EU liberalisation processes (DTI 1998a; FCO et al. 2004; Davies 2006). Any shift away from pro-market energy governance was understood, therefore, to be of significant relevance to energy governance practices elsewhere (cf. Buchan 2010: 418).

This section suggests not only that the UK is now less capable of being a rule setter in energy policy (cf. Interview 15) but also that the growing role of the state in UK energy governance has occurred partly as *a result of* governance changes elsewhere. Taken as a whole, therefore, energy governance around the world has been moving quite far towards greater state involvement over the course of the last decade. This is taken as significant not least in that it represents a considerable shift in state–market relations in energy with potential consequences for the future of pro-market energy governance.

International energy governance institutions and change

As observed in chapters 1 and 3, the UK PEPP was formulated and implemented within a wider context of the growing orthodoxy of neoliberal, or pro-market, ideas about economic policy within many

OECD countries and OECD-associated IGOs. At the same time the influence of multilateral institutions, such as the IMF and World Bank, dedicated to the spread of universal market-based rules, was also growing. As we saw in Chapter 2, these institutions had been successful, largely via loan conditionality, in encouraging energy sector privatisation and liberalisation across a large number of countries (cf. Oliveira and McKerron 1992).[5] The IEA has pursued a strategy of monitoring energy governance in member states and putting countries right when they strayed from 'good' (read pro-market) governance in energy. As such it could be argued that although not many countries had privatised and deregulated to the extent that the UK had, many OECD and developing countries had been attempting to move in a more liberalised and competitive *direction* (Thomas 2006: 583; Lesage et al. 2010: 6; EC 2011b: 14).

It is interesting to note that despite this new trend in governance energy had otherwise remained, certainly when compared with other trade sectors, somewhat free of international agreement and formal rule setting (McGowan 2008). As mentioned in Chapter 3, the clearest attempt to institutionalise international market rules in energy trade had been the ECT, modelled on GATT. Russia and Norway both signed the ECT, thereby creating the first formal, international energy trade agreement that included significant net exporters as well as importers of fossil fuels, but neither country ultimately ratified it. Aside from the ECT, however, those international rules that did exist tended more to reflect a history of geopolitical influence over energy relations. For example, the ECT needed to be established in addition to GATT because Article XX allocates trade exemptions to natural resource sectors (Behn and Pogoretskii 2012). The UN convention on subsea rights, allocating ownership of subsea drilling rights according to a 200-mile measurement from nationally defined boundaries, also tends to reinforce the connection between national sovereignty, geography and resources.

Arguably, the relatively limited progress in market liberal energy rule setting has now been made more complicated by recent, quite considerable increases in state involvement in energy companies, trade and markets referenced in Chapter 1. As a reminder, aside from the much-covered Russian energy policy changes, other large fossil-fuel producers, like Venezuela and Argentina as recently as 2012, have also renationalised large energy companies. China and India likewise pursue their global energy strategies, including a range of bilateral deals, via nationally owned companies. As such the majority of large energy producers and consumers now operate state-owned energy companies, albeit with

a greater or lesser degree of state involvement in their management. As a reminder, NOCs now have access to more than 85% of global oil and gas reserves (EIA 2012). *The Economist*'s 2011 special report on state capitalism, 'the Visible Hand', described the degree to which national companies have started to dominate some international markets, with energy being the most obvious example (*The Economist* 2011). Not only were six of the ten biggest 2010 global companies, listed by revenue, oil and gas companies but two of them were Chinese NOCs.[6]

It is suggested here that this a key element of a wider shift in international economic and political power balances. It has been argued that, as the West is no longer as dominant in world affairs, the window of opportunity for further underpinning energy trade through universal, market norms may have closed (Benner et al. 2010: 311). Indeed, much of what has driven the rise in concern about energy security in OECD countries is the fact that energy governance changes implemented by countries like China, Venezuela and Russia represent the antithesis to what various OECD countries and IGOs had been working hard to achieve over the past two decades. Countries like China and Russia not only can exercise considerable sovereignty in energy but also have achieved a degree of success in doing so, thereby underpinning arguments about the limits of 'post-sovereignty' (cf. Haukkala 2010). Some Chinese NOCs have access to badly needed capital, have established complex working networks of bilateral energy trade deals and thereby continue to access resources outside international exchanges.

When considering how IGOs have been responding to rising levels of direct state involvement elsewhere it is clear that the IEA and the International Energy Forum are becoming increasingly aware of the need to extend their geographic reach. Arguably, a renewal of interest in energy security and growing political commitment to climate mitigation that have taken place in these institutions have to some extent been useful in promoting new agendas of co-operation beyond existing groupings. It is now widely recognised that

> the rise of China and India . . . has important implications for the architecture of global energy regarding consumer-consumer co-operation.
>
> (Kohl 2010: 195)

The IEA has consequently actively been looking to include 'partner nations' in a more formal way and is hopeful of including at least China, if not also India, on a full membership basis in future (Kohl 2010: 207).

What remains to be seen is whether these new outreach programmes will reflect calls for international co-operation to take into account the variety of domestic contexts and political perspectives when negotiating agreements (Stanislaw 2004). Recognition of the economic and political contexts of newly emerging powers may well be the *quid pro quo* for outreach. Indeed, as already suggested above, energy is one global sector where challenges to global governance on Western market terms are most visible. For example, IEA efforts to secure the full membership of China and India may well infer some distancing from previous stances on what constitutes good governance or best practice in energy. It is difficult to imagine China subjecting itself to IEA reviews of its energy policy or signing up to IEA objectives of free and open markets and trade in energy, given China's heavy state involvement in these areas. As such, the IEA may have to recognise some of the socioeconomic contexts that make China 'nervous about relying on market forces' to deliver the vast quantities of raw materials that it will need to consume in order to grow and to maintain social stability (Beeson et al. 2011). There are even some within the IEA who are suggesting that the direct links between the IEA and the OECD should be broken.

A pro-market EU?

Alongside this trend for broadening existing institutions, there runs the somewhat contradictory tendency, as seen in UK energy governance change, for OECD countries and some regional groupings to emphasise energy independence over positive economic interdependence and co-operation. This reaction to shifting power balances in the world energy system is similar to what was seen during the 1970s oil price shocks when state support for domestic energy supply capabilities was boosted across a range of countries (Giddens 2009). The EU is an interesting example of an OECD organisation looking to boost energy independence as well as one turning to some geopolitical forms of energy governance. Direct EU involvement in pipeline diplomacy and funding, in the form of Nabucco, not only suggests a large degree of mercantilism on a regional basis but also sends very mixed messages about its commitment to allowing markets to make investment decisions. These messages do not go unheard in countries like Russia, where views about the hypocrisy of the EU's position dominate (Hadfield 2008). In turn, this does little to help along the struggling EU–Russia Energy Dialogue.

Further complexities and contradictions within the EU's energy position emerge when considering some of the methods that have been deployed in order to gain greater energy competence on the basis

that the EU's negotiating position, *vis-à-vis* Russia in particular, will be stronger if united. It now seems clear that various EU actors have strategically appealed to and utilised geopolitical ideas about energy as vital and powerful elements to underpin arguments for political change – specifically, the need for Europe to unite behind a single EU energy foreign policy (EC 2011c: 27). These narratives tend both to raise the social and political importance of energy more broadly, and at the same time to imply that European energy solidarity is as much about playing power politics with Russia, and other large producers, as it is about becoming better interconnected within Europe. The predominance of power politics in energy was precisely what OECD countries had been seeking to avoid through processes of deregulation and privatisation in energy (Mitchell et al. 2001). However, emphasis on the socioeconomic importance of energy and on threats from unstable foreign suppliers has also tended to re-enforce national security and the traditional role of individual European nation states, as opposed to multilateral institutions, in ensuring energy security (Natorski and Surralles 2008).

The EU is also an example of the battle that has emerged between notions of national sovereignty in energy and universal multilateral rules and norms, as well as between state and market roles in energy. Although the EU, through its various energy packages, as well as the Lisbon Treaty, has been both increasing its collective competences in energy as well as moving in a more market liberal direction, its control over energy policy remains partial. Many observers of EU energy policy have commented on the degree to which EU member states are happy to go along with energy liberalisation, as long as it does not impact on energy national champions (McGowan 2008; Youngs 2009; Buchan 2010). The EU is investing more than €4bn into, and is looking to 'streamline' approval procedures for, new energy infrastructures (Buchan 2010: 412–4). Even the Lisbon Treaty, which contains the first specific EU treaty provision on energy, also acknowledges national energy sovereignty. Article 194 states that collective measures to ensure the functioning of the internal market

> shall not affect a Member State's right to determine the conditions for exploiting its energy resources, its choice between different energy sources and the general structure of its energy supply.
>
> (EC 2010b: 135)

Depending on how the above is interpreted, little might be left to energy decision-makers at the EU level. What further complicates these issues,

of course, is EU climate policy. The Environment Directorate and the Climate Change Directorate are both pursuing a policy of climate policy integration into other policy areas, not least energy (DuPont and Radostina 2011). In the EU, as in the UK, an energy security–climate nexus is also driving changes in energy policy not least in that the EU is now involved in setting Europe's energy mix given the target that 20% of energy used should come from renewable sources (cf. Froggatt et al. 2012). It has therefore been observed that the energy policy shift in Europe in the latter part of the first decade of the 2000s, as in the UK, has been from liberalisation to intervention, and out of the same concerns about climate change and energy security (Buchan 2010: 414). This observation of EU policy change ties in with other analyses that claim a policy paradigm shift in energy on a broad basis (Froggatt and Levi 2009; Goldthau 2012).

Variety in energy and climate models

This last section of this chapter serves to put UK energy governance changes into one last wider context. Arguably the direction of UK energy governance change is similar to that in other countries in the world, albeit that it could be argued that growing state involvement in UK energy policy has lagged behind that of some other countries. Increasingly clear is the variety of energy governance models being operated and also the range of results being experienced under different models. Early leaders in energy and climate policy, such as Germany, Sweden and Denmark, had achieved a high rate of carbon emissions reduction as well as growth in their renewable energy production capabilities since the 1980s. This was achieved with a far greater degree of state involvement than that of the PEPP, which is why some studies have negatively compared the achievements of market liberal economies with those of co-ordinated market economies (cf. Giddens 2009; Mikler and Harrison 2012). Germany is considered a particular leader in terms of using energy policy to deliver climate change targets. It has put various institutions in place, not least the impressively capitalised KfW bank which supports new, green technologies through very low-cost loans, to support sustainable development in Germany and abroad.[7]

Elsewhere in the world, although estimates remain that the world is still warming at too great a rate to keep global warming below the EU's 2°C target, some recent progress has been made with regard, in particular, to investment in, and research and development of, new and renewable energy technologies. The Renewable Energy Policy Network estimates that at least 118 countries now have renewable energy targets

in place and more than half of these are in developing economies. Although changing from year to year, global investment in new energy technologies in 2011 was around $257bn, with the top-five countries for total investment being China, the US, Germany, Italy and India (Hoggett forthcoming).

China is one of the largest emitters of carbon dioxide and it is also pursuing a centralised energy strategy to access resources required to underpin high rates of industrial growth, but it is increasingly held up as a world leader in new energy technology innovation. China has emerged as the largest investor in the five renewable technologies that it had targeted and it had also already surpassed its 2020 wind-power target by 2010. The narrative in China is slowly shifting from one that points to the West's historical responsibility for rising carbon dioxide levels to one that emphasises the need to reduce air pollution and the possibilities, including financial, of new energy technologies. Clearly Germany, China and Denmark have very different governance models in place but all three have involved, to greater and lesser degrees, a decision that markets would not be sufficient to deliver climate mitigation and energy security. State intervention, therefore, has been a much greater part of energy and climate policy processes to support these nascent technologies, and the degree of innovation achieved runs entirely counter to neoliberal assumptions about markets supplying optimal conditions for innovation.

Conclusions

In conclusion, it can be said that the UK has undergone a shift of profound proportions from the pro-market energy policy paradigm towards a system that has been designed to meet a new set of objectives, which utilises different instruments and is governed by new political institutions. This claim is supported by the fact that the range of changes put in place by New Labour have been maintained, albeit perhaps somewhat reluctantly, under the coalition government since May 2010. What is not claimed, however, is that the new system, conceptualised here as an energy security–climate nexus, can be described as an energy policy paradigm given the mixed range of theoretical paradigms that underpin it.

This clearly makes any claim of policy paradigm shift problematic, but the identification of separate paradigms as informing new energy policy has been of great service in explaining the complex and mixed nature of the newly emerged system. By closely analysing the role of crisis

narratives within the process of change, this book has not only produced a nuanced and in-depth explanation of a process of institutional change but also helped to explain an energy policy system that might otherwise be considered incomprehensible (cf. Keay 2012). It is also claimed that policy-making decisions in relation to change were made within a perceived context of support for notions of energy security but less so for climate change mitigation. This observation highlights the importance of ideational contexts to political outcomes.

Also becoming apparent when considering UK energy policy change within the context of wider world events is that the UK has lagged behind energy and climate policy decisions made elsewhere. This book by no means claims that UK energy governance practices now represent a co-ordinated market, or indeed a state-led, type of system but it is the direction in which governance is travelling that is considered important here. Countries like Sweden and Germany long ago realised the importance of using energy policy to deliver climate objectives, and they were serious about these long before the UK. Context is, again, important given the greater degree of popular support for climate change mitigation in these countries. The point to be made, however, is that the UK has moved from a position of leading energy governance change to lagging behind. To a certain extent it has missed the boat also in terms of crucial early investment in nascent but important new technologies – something that the UK business community ought to care deeply about. Furthermore, the UK's failure to meet climate objectives via a system that preferred markets, market instruments and competition over state intervention, and the subsequent reversals observed here, send a particular message to others. This is also relevant within the context of the UK's claims to 'climate leadership' but also within the context of wider economic and political challenges to the hegemony of Western ideational leadership.

Conclusions and Possible Futures

This concluding chapter further outlines some of the implications of this analysis for the ways in which we can understand UK energy governance today. It does so principally by summarising answers to the four questions raised about UK energy governance in the book's Introduction. As already observed, the conceptual framework of analysis adopted here has ranged across new institutionalisms, but with an emphasis on ideational institutionalism, concepts of depoliticisation, as well as Copenhagen School and more critical approaches to securitisation. As such the framework has been, in Hall's words, 'borrowed from multiple schools of thought' (Hall 2010: 220). This broad conceptual framework has been adopted in order to structure the analysis in addition to answering specific questions about how, why and to what degree change has been taking place. As such, the original intention has been to provide revealing, contextual and lasting explanations.

It has been suggested that there is an inevitable tension between a requirement to develop the relatively simple models that form the substance of social science and a need to portray the world in realistic terms (Hall 2010: 219). By erring more on the side of being overt about the complexities and the messiness of the processes of change to UK energy governance, this book has perhaps been more about portraying the world in realistic terms. That is not to say, however, that no conceptual observations can be made as a result of this study. Although there are some contradictions between the different concepts within the framework, some innovative and complimentary interrelationships have also emerged which can help us to better understand this process of change, and these are identified below.

Ultimately it is the theme of ongoing internal contradiction, opportunities for further proofs of failure and uncertainty that will underpin

the final section of this chapter. One of the drivers of change highlighted over the course of the book has been the ways in which alternative narratives have challenged the PEPP. Their challenges helped to underpin public perceptions of an energy security crisis, growth in deliberation and debate about energy, and the growing awareness of failures of existing policy to provide for new objectives. Under these conditions the failures of PEPP policies to provide working solutions could be openly juxtaposed against the strong claims by policy-makers earlier in the 2000s that competition and markets would provide for secure and clean energy. Such conditions for change are, arguably, still in place within UK energy and climate governance and might provide, as discussed in more detail below, incentive for further, deeper change in the future.

Answering questions and conceptual reflections

This book set out to answer some specific questions about UK energy governance change, not just in an attempt to address inconsistent conclusions within the literature on energy paradigms and change, but also because the UK has been one of the strongest proponents of pro-market energy over time. The ongoing changes in UK energy institutions and policy-making may well have implications for the credibility of neoliberally informed economic governance as 'orthodoxy', or as an accepted logic or norm. Given the degree to which the UK has based its external relations on successful norm diffusion, these changes are likely to have specific implications for the conduct of foreign relations. Change to the PEPP would also have quite significant relevance for those countries, and regions, that had chosen to attempt a restructuring of their own energy governance systems using the UK governance system as a model, as suggested by the IEA (de Oliveira and McKerron 1992; IEAa 2006).

Of the four questions posed in the Introduction to this book, the first was about whether or not changes to UK energy governance could be described as a policy paradigm shift. The answer that has emerged is that although clear changes have been made at each level of the PEPP, the new system, in that it is not informed by one paradigm alone, cannot be described as a new policy paradigm. The clearest resistance to change has been at the level of ideas about energy governance which relates energy to neoliberal economic ideas more broadly. As such, although it has been understood that the state now needs to intervene to address market failure, such measures, which some still distrust, should be temporarily pursued until the system rebalances itself once more. These

ideas run alongside others about the necessity of boosting home-grown energy and about using energy policy to mitigate for climate change. As such, it can be argued that change of paradigmatic proportions has taken place but what appears to be emerging is a system that has moved beyond single paradigms in its, albeit perhaps not well thought through, design. Policy paradigm shifts according to some scholars are supposed to deliver certainty once more as a new set of ideas inspires confidence in the direction of change, (Blyth 2002) but it is that confidence and certainty that remains conspicuous by its absence in this instance.

The question has, however, been worth asking and it has also been important to design a system of measuring that change. Early on in the book it was decided that there needed to be a detailed description of the starting position in order to have a marker against which to measure change. The ability to measure has been considered important given the degree to which energy paradigms have tended to be underdefined within debates about change leaving it unclear as to what kind of change has occurred. Arguments that energy policy has undergone a policy paradigm shift (Helm 2005a and 2007a; Keay 2010; Goldthau 2012) as opposed to those that argue that UK energy policy remains profoundly constrained (Rutledge 2007; Mitchell 2008; Kern 2009) have been hard to assess given the lack of a precise definition of what change or stasis actually means within the terms of each analysis.

In Chapter 2, Peter Hall's concept of policy paradigms was built upon in order to develop a detailed conceptualisation of UK energy governance in 2000, characterised as a PEPP. Expanding upon Hall's separation of policy into three components (Hall 1993: 278), the PEPP was constructed as consisting of five separate but interrelated levels. Identifying these has provided the book with a more detailed and defined mechanism for measuring change as much as it has also provided a frame for conceptualising the new system. Using this framework, governance change could then be measured by analysing whether any changes were apparent in 2012 versus 2000, but also in terms of the degree of difference. As such, this mechanism of measuring change has allowed for analysis of the depth, or profundity, of change in that only a marked shift against *all* interrelated levels of the PEPP would qualify as a paradigm change. The clearly defined method of measuring paradigm change invented and applied here, accompanied by the five-level characterisation of the existing policy paradigm, can be taken as a clear contribution to the emerging literature on energy policy paradigms and change.

There have been further advantages of the way in which change has been measured here. Arguably, if this book had applied Hall's notion of third-order change (Hall 1993), with its narrower focus on objectives and instruments, it might not have been able to identify some other important aspects of change. For example, changes to the physical institutions of governance, which have had such an impact on energy policy outcomes, might not have been apparent using Hall's measurements. In addition, by including the interpretive framework within the conceptualisation of the PEPP, it has been possible to understand both change, as in ideas about energy, and also consistency, in terms of ongoing belief in ideas about the role of the market, of competition and of the need to design economically efficient policy. Arguably, if ideas about how best to govern energy had not been included then this book would have concluded that the UK does now have a new energy policy paradigm given the shifts in instruments and objectives. This might have been a more exciting conclusion but it would have missed some of the internal conflicts and ideational complexities inherent in the energy security–climate nexus.

The second question posed at the start of this book was about why profound changes were made to UK energy governance, and this was in turn related to the desire to explain change in a manner that was contextually relevant and also provided a degree of depth. This question has been answered in some detail in chapters 5 and 7, with an emphasis on the role of narratives, based on different perspectives on energy, within the processes of change. On balance it has been concluded that it was the narrative underpinned by geopolitical notions about security of supply and about the UK's vulnerability to unstable foreign suppliers that appears to have provided the largest catalyst for change. This is based on the observation that it was this narrative that successfully raised the spectre that energy might indeed be in crisis, and its ability to do so is closely related to the evocative and urgent language associated with speaking security. This was arguably directly related to how UK audiences, elite and popular, received arguments that energy could be used as a weapon and that Russia was willing and able to threaten Western consumers.

The fact that there appears to have been a large amount of political power associated with these narratives, related to the degree to which such stories were judged to be legitimate and believable in the UK, tells us something about how both energy and Russia are still perceived. Both have long been associated in the West with notions of hard power, of conflict and of potential threat, and this may be why

speaking security about energy has been taken to be so credible and as capable of convincing UK audiences that energy was in crisis. As such, this book has pointed to one instance within which notions of speaking security have helped to inform how certain crisis narratives can prevail over others at certain points in time, but also in providing certain functions within a process of change. Further positive interconnections between critical security studies and concepts of politicisation have also emerged in that this book has provided an example of a process of politicisation being instigated through speaking security. This would be counter-intuitive from a Copenhagen School perspective but supports analysis undertaken by some critical security scholars (Browning and MacDonald 2010).

What the geopolitical crisis narrative also did was open up a broader space for debate outside limited technocratic circles, for a process of political rethinking and for the realisation that existing political capacity was insufficient to respond to the crisis. This form of politicising energy might have had less of a long-term impact, however, if it weren't for the new objectives that had been set and for the degree to which climate narratives could now provide proof of failure to meet objectives. This takes us to the third question, about how change of a profound nature unfolds and to observations about how geopolitical and climate narratives combined in order to provoke deeper institutional change. Some scholars have suggested that policy paradigms can only change on a long-term basis when the battle to explain crisis and offer solutions has been won by one crisis narrative (cf. Blyth 2002). This narrative would have to win this battle and would then also have to be successfully institutionalised so that it became embedded within political thinking, practices and physical institutions (Oliver and Pemberton 2004).

By analysing in detail what ideas informed this process of change, this book has allowed for a messier and more complex version of change and of the battle between narratives to influence change. Given that in the case of UK energy governance change, one narrative did not win out within the overall process of change, this has shown that narratives can be flexible and porous. It also shows that adherence to certain sets of ideas can be compromised in the battle to influence the direction of that change. It appears that, particularly for some climate groups, it was more important that the PEPP changed after so many years of arguing that change was required. For those who have bemoaned the lack of flexibility in UK energy policy practice, as well as assumptions about the universality of singular sets of ideas, the move beyond singular paradigms might offer up some hope. However, because of

the degree to which the energy security–climate nexus is built upon a range of different paradigms, it may well contain a number of internal contradictions. Some of the contradictions between values and ontologies of geopolitical and climate perspectives were described in detail in Chapter 7.

That chapter also provided a description of the new energy governance system or energy security–climate nexus – the fourth and final question posed by this book. By investigating the process of change in detail it has been possible to explain how such a complex, contradictory system for governing energy and climate change has come into being. What seems clear from policy documents, however, is that there is little awareness of the degree to which energy policy has been based upon different ways of understanding and thinking about energy. Awareness of complexities and potential contradictions needs to come before credible attempts to try to resolve contradictions and trade-offs (cf. Froggatt et al forthcoming). There is some recognition emerging that despite much discussion about the positive interrelationships between energy and climate policy, affordability and climate change objectives might not always prove complimentary. Given the current focus on fiscal austerity more broadly it appears that the objective of eradicating fuel poverty may well be compromised away over time as prices for electricity continue to rise over the next decade, as do numbers of households measured as fuel poor. This could be done, for example, by changing how energy poverty is calculated.

Possible futures

In this concluding section it is observed that the scramble for credible methods and instruments of achieving new objectives is, arguably, still ongoing with particular reference back to the electricity market reform briefly discussed in Chapter 7. Although new objectives, instruments and institutions are in the process of becoming institutionalised, the search for legitimate solutions has at the same time been hampered by the fact that the market still holds responsibility for delivering energy and by the lack of faith in or arguably knowledge about state intervention in policymaking circles. This relates back to the degree of technocratic and deliberative depoliticisation and to lost political capacity, or deskilling, under the PEPP. It also relates to the lack of experience and precedent of state intervention in energy markets in the UK over the previous decades. Without such experiences, how does policy learning about how best to intervene in energy markets take place? Looking

in earnest to other forms of intervention adopted successfully elsewhere might provide one possible answer to that conundrum, although account would have to be taken of the different political contexts, or varieties of capitalism, within which these instruments have been used.

The degree to which current methods of governing towards achieving UK, and EU, climate and security objectives might yet fail could link energy governance change with calls for wider economic governance change (Gamble 2009; Hay 2010; Crouch 2011; Broome et al. 2012). Hay has argued that the form of inter-paradigm borrowing by the Brown government in response to the financial crisis of 2008 was undertaken out of a desire to shore up the existing paradigm (Hay 2010: 23). There has arguably been a greater degree of change away from pro-market ideas in energy governance – particularly given that new objectives alter the prescribed direction of policy and are legally binding – than there has been in other departments, not least the UK Treasury. If new climate and security objectives are not met they might, of course, ultimately be rejected but they might also, conversely, prompt further evidence of failure, a more thorough discrediting of the currently emerging compromise model and increased desire to take a risk by looking at alternative solutions. For example, those presented by environmental academics and groups which link climate degradation with current models of capitalism based on growth, individualism and materialism (cf. Meadows et al. 1972; Bernstein 2001; Carter 2007; Newell and Patterson 2010; Garner 2011).

The above sections have pointed to a number of other specific areas of tension within UK energy governance as of 2010, as well as between DECC and the UK Treasury, all of which might provide fruit for future challenges. As already briefly suggested, one area that could be interpreted as particularly problematic is the objective of addressing energy poverty, partly through financial support mechanisms, given the Treasury's position on spending particularly under the coalition government (cf. Rutledge 2007). Some UK energy strategies and legislation have sought, with limited success, to address high and growing levels of energy poverty, but questions of how affordability will relate to more expensive clean energy, including nuclear, have not been addressed directly. The social implications of this, coupled with the new era of 'fiscal austerity', have the potential to be deeply and publically discussed, particularly given the suggested correlation between public interest in energy and high prices. This may prove to be of potentially strong political potency given the degree to which the coalition continues to plan further welfare cuts.

Comparisons have been drawn in previous chapters between this examination of energy governance change and the paradigm shift observed in UK macroeconomic policy in the 1980s, largely to highlight differences between the processes of change (cf. Hall 1993; Hay various; Blyth 2002; Oliver and Pemberton 2004). It is worth noting one point of difference in particular, and that is that they occurred in response to different formulations of crisis. The dominant explanation of the 1970s crises, as a failure of the state to manage the UK economy, references a very broad area of economic governance (cf. Hay 1996). The related solution that the state should withdraw from active intervention in economic management, on a relative as well as an absolute basis, affected a great many policy areas, including energy and transport (cf. Hay various; Blyth 2002). A widely perceived energy crisis offers what could be interpreted as a more limited critique targeted at the way in which only one, albeit very important, sector of the economy is governed. The dominant explanation adopted in elite political circles has been focused on energy- and climate-specific problems as largely separate from the overall economic policy paradigm. Albeit there are other, environmentally informed, explanations that link the energy-climate crisis with economic governance problems.

Lack of availability of or, perhaps more importantly, faith in alternative frameworks of governance have also been identified in some recent IPE literature on the 2007/8 banking crisis. Observations have been made that the severe financial and economic crises of 2008–2010 did not result in a paradigm shift partly because of the perceived absence of credible ideas about alternatives to existing arrangements or about how the economy should be ordered (Gamble 2009: 457; Watson 2009a and 2009b; Hay 2010: 3).[1] There appears to be growing discontent with the ability of Anglo-liberal growth models to deliver, both within the wider economy and in energy-climate governance, but little faith in available alternative frameworks for governance (cf. Gamble 2009; Hay 2010; Crouch 2011). Evidence of such observations has been provided in this book given the degree to which policy-makers have been reluctant to reject the central role of the market in delivering energy products and services to UK consumers, and to which they are designing interventions to be of a temporary nature.

This may also in turn relate to processes of policy-learning (cf. Hall 1993) whereby large political, policy-making and consultancy communities still believe more state-oriented systems of governance, such a Keynesianism, not to have worked in the UK in the past. A lack of willingness to embrace a more radically different set of solutions, such as

those contained within environmental arguments about how to build sustainable systems, might also be partly connected with the lack of ability to break with pro-market ideas in which many political elites across UK political parties still appear to have a large degree of faith. Certainly, within energy policy circles, it has remained commonplace to suggest that the low energy prices and secure system of supply of the 1990s were products specifically of the pro-market energy governance system that was then in place (cf. DECC 2011d: 3; HMG 2011a: 16).

This book has argued in a number of places, particularly in Chapter 2, that energy and economic governance processes have been deeply interrelated under both Keynesian and neoliberal economic inspired systems. This interrelationship seems to have worked such that the flow of ideas has been largely unidirectional – ideas about economic governance have tended to influence decisions made about energy, and not vice versa. This chapter will end, however, with some questions about the ability of ideas about climate governance to impact back on ideas about economic governance. To the extent that the Climate Change Act 2008 has already had implications across government departments, might continued requirements to change to meet climate targets whilst maintaining energy security, not have further implications for the way we live and, specifically, for the ultimate target of economic growth? If we return to Chapter 1, we can see that this argument has for some time been put forward within environmental communities but with little success. If current governance systems continue to fail, if we emerge as one climate analyst has suggested into a situation of 'post-normal science' where 'facts are uncertain, values in dispute, stakes high and decisions urgent', then this might suggest that the real challenge and change is yet to come (Ravetz in Friedrichs 2011: 2).

Appendix: List of Interviews

1. BERR, January 2008
2. BERR, December 2008
3. FCO, January 2008
4. FCO, Analyst, August 2010
5. DECC, September 2010
6. FCO Moscow, September 2008
7. Former energy advisor to President Putin, September 2008
8. Wintershall, Moscow, head of representation, September 2008
9. Deloitte, Moscow, managing partner, September 2008
10. Standard Chartered, Moscow, managing partner, September 2008
11. CERA, founder and consultant, December 2007
12. OXERA, principal, August 2010
13. Member of 2002 PIU energy review team, September 2010
14. Member of 2002 PIU energy review team, February 2011
15. Ofgem, January 2011
16. DECC, January 2011
17. Qatar National Oil and Gas, head of international marketing, December 2009
18. Worldwatch, director, Energy and Climate Program, May 2011
19. FCO, former analyst, August 2011
20. Former head of policy planning at 10 Downing Street and senior policy adviser

Notes

Introduction: Orthodoxies, Challenges and Change

1. In addition, there have been, since the inception of the European Coal and Steel Community in 1951, a number of attempts to develop a co-ordinated approach to the handling of energy supply within Europe, such as the Common Energy Policy (CEP); none of these have proven particularly effective or conclusive (McGowan 2008: 93).
2. Although there is a tradition of IPE research into subfields, such as the environment, energy as a subject is strongly under-represented. Only a small number of, albeit high-profile, academics working within, and in some instances to establish, IPE have extended their research to questions of energy and its governance (Keohane 1984; Strange 1988; Bromley 1991). Some IPE textbooks have explicitly dealt with energy issues, but in the limited context of oil crises, oil cartels, and associated questions of conflict and power (Gill and Law 1988; Stubbs and Underhill 1994; Spero and Hart 1997).
3. This is an EU package that builds on the Kyoto protocol and was endorsed by EU leaders. The targets are to reduce greenhouse gas emissions by 20% over 1990 levels, to consume 20% of energy from renewable sources and to reduce primary energy use by 20% – all by the year 2020. These targets became legally binding in January 2009 when the 'climate and energy package was approved by the European Parliament (see http://ec.europa.eu/clima/policies/package/index_en.htm).

1 Perspectives on Energy, Governance and Profound Change

1. Examples often given are the ineffectiveness of the European Coal and Steel Community treaty and the failure of the CEP to reach final conclusions (Strange 1988: 192; McGowan 2008: 93).
2. For an example of this kind of approach to environmentalism, see Anderson, Terry and Leal, Donald (1991) *Free Market Environmentalism*. Boulder, San Francisco: Pacific Research Institute for Public Policy.
3. The Enron crisis here refers to the financial irregularities and collapse of Enron, one of the first companies to successfully capitalise on new trends for trading energy securities and speculating on prices. The California crisis refers to the blackouts in California in 2000 and 2001, caused partly by market manipulation.
4. Early references to the problem of low transparency in international oil markets can be found in a 1979 study concluding that models predicting global oil reserves could only ever be approximate given a general lack of information (Dasgupta and Heal 1979). This conclusion is similar to that reached by Susan

Strange who claimed that economists were wary of applying theory to energy due to the high susceptibility of energy markets to political forces (Strange 1988: 194).
5. The sense of threat to supply security was further underpinned, in a post 9/11 world, by fears of al-Qaeda attacks on energy infrastructure and transport systems (Baghat 2006; Yergin 2006).
6. This observation is similar to that made by Flinders and Buller on depoliticisation: 'scholars who have employed the concept as a central element of their work . . . write with a fluidity and verve that clearly denotes some kind of shared understanding . . . but yet never seeks to explicate the core essence of the term' (Flinders and Buller 2006: 295).
7. Changes suggested include government targeting of particular technologies and policies that intervene directly in the market, such as priority access for renewable, not just 'clean', technologies to generation (Mitchell 2008: 211–213).
8. Jegen specifically suggests that Russia's actions around the mid-2000s were responsible for 're-politicising' energy in Europe (Jegen 2009: 18), an idea to which we will return in Chapter 5.

2 Conceptualising Change and the PEPP

1. For in-depth explorations of the role of ideas as independent variables in political analysis, see both Mark Blyth and Sheri Berman, who include excellent accounts in the opening chapters of their books, respectively, *Great Transformations* and *The Social Democratic Moment: Ideas and Politics in the Making of Interwar Europe* (Berman 1998; Blyth 2002; see also Jacobsen 1995).
2. Policy-makers may, however, be all too aware of other constraints, such as a lack of political will to engage in certain policies, or a lack of public financing sufficient to commit to the required departmental resources.
3. It may be worth referencing the distinction made in the 'social movement' literature between 'strategic framing', as political actors framing their discourse in a certain way so as to promote the solutions that they propose, and 'ideology', which implies more belief and less strategic use of language (Zald 1996 in Geddes and Guiraudon 2004: 335).
4. This is a reference to depoliticisation 'type 1'. Hay also presented a 'type 2', which involves further movement into the 'private' sphere, but this type will not be utilised here (Hay 2007: 85).
5. This is similar in many respects to Flinders and Buller's 'institutional' depoliticisation, but emphasises the degree to which this works for subjects that are considered 'technical' and therefore not suitable to those not 'expert' (Flinders and Buller 2006).
6. This reflects some early IPE analysis which suggested that the 'objectives' and 'organisation' of policy are important aspects of the political process (Strange 1988: 16).
7. The negative impacts of shock therapy, particularly on Russia, are well documented in Chapter 5 of *Globalization and its Discontents* by Nobel Prize economist Joseph Stiglitz (2002). See also Challies and Murray for an analysis of the effects of shock therapy in Chile (2008).

8. As already pointed out, this implies both that there is such a thing as 'normal' politics and that there is a rather fixed notion of what 'normal' politics is (McDonald 2008). This is taken here to be problematic in that 'normal' energy politics of 1980s and 1990s in the UK was very different from what it was understood to be in the 1950s, 1960s and 1970s.
9. 'Secretised' is a fourth way in which we can understand depoliticisation which, although it was arguably part of how energy was governed under the PEPP, was by no means specific to it. As such it is not referred to as often over the course of this book as the other three: 'marketised', 'deliberative' and 'technocratic'.
10. The notion of running out of energy is a popular one, inspiring terror, which has underpinned much popular fiction and some movies. For examples, see movies such as *Mad Max II*; *Americathon*; books such as Alex Scarrow's *Last Light* and Robert Charles Wilson's *Julian Comstock: A Story of 22nd Century America*; and the video game *Frontlines: Fuel of War*.

3 Historical Context, Ideas and Political Practice

1. The Ministry of Fuel and Power was renamed the Ministry of Power in 1957.
2. The rule of thumb was that growth in gross domestic product of 3% would require growth in electricity demand of around 7% (Helm 2005a: 3). The recognition of overt relationships between economic growth and the need for ample supplies, at affordable prices, has in large part been an influencing factor in Chinese economic and foreign policy during the 2000s.
3. The Central Electricity Board was initially set up under the Electricity (Supply) Act 1929 in order to standardise the nation's electricity supply.
4. In 1939, UK companies still accounted for around half of oil production outside the US and the Soviet Union (Painter 1993).
5. The 'Seven Sisters' are the oil companies which dominated international trade in oil for a substantial part of the 20th century. They included five US and two UK companies. Although the US companies were privately owned and managed, they received considerable quantities of state support in terms of tax breaks, diplomatic support and, where deemed necessary, military support in order to maintain access to oil at acceptable prices (Yergin 2001; Painter 2002).
6. The manufacturing industry was using 25% less energy in 1982 compared with 1970 (Lehman and Hough 1983: 267).
7. The nuclear sector had proved much harder to privatise given the age of the infrastructure and very high costs associated with replacing aging stock (Thomas 2006: 590; cf. Mitchell 2000).
8. See Chapter 5 for more detail on the deskilling of the UK state in energy (Interview 12). This also ties in well with Hay's conjecture that depoliticisation might result in the loss of policy-making capacity (Hay 2007: 83).

4 The PEPP 2000–2003: Resistance to Change

1. The energy establishment is taken here to be those in Ofgem and the DTI directly involved in energy analysis and policy-making, as well as those

third parties, such as Ernst & Young, that were chosen to provide extra analysis and advice.
2. For commentary on Labour's continuing understanding of the 'importance' of appealing to the middle-class vote, see http://www.guardian.co.uk/politics/2011/may/21/ed-miliband-labour-middle-classes.
3. 'Green' environmentalists argued, on the other hand, that economic growth and environmentally sustainable development are not positively interrelated in that environmental protection should mean constraints on economic activity (Jacobs 1991: 59).
4. This is another example of New Labour's understanding that in order to get policy through they would need to design it such that key corporations would be able to accept it. For more detail on this, see Kern 2009: 147–149.
5. The DETR had been the Department of the Environment, and was merged with the Ministry of Agriculture, Fisheries and Food in 2001 to become DEFRA.
6. The play *Enron* on New York's Broadway and London's West End is lasting testimony to the popularity of this scandal, and the ways in which portrayals of white-collar crime have broad appeal.
7. The RCEP was 'independent' but funded by DEFRA.
8. This represents a rather different view from that of Ian Rutledge whose analysis of the PIU report suggested that it was an entirely pro-PEPP exercise (Rutledge 2007: 910).
9. The 'fuel poor' were defined as those needing to spend more than 10% of their income to heat their homes.
10. As it has transpired, DECC has reported that, in 2009, 5.5 million households are still living in fuel poverty – a marked increase from 3.0 million as of 2003 when the fuel poverty objective was added as a commitment for energy policy (DECC 2011).
11. See, for example, Rutledge (2007: 912); Greenpeace (2006); Kaldor et al. (2007).
12. It has been suggested that Blair had been very keen to be seen to be quickly developing a relationship with the new Russian president, Putin. Blair was one of the first foreign dignitaries to visit Moscow, and London had been one of Putin's first official visits (Interview 19).

5 The Energy Security Crisis 2004–2007: Russia and the Politicisation of Energy

1. Lack of reinvestment was considered extremely important given the huge estimates of investment required. In 2003 the Russian government predicted that $230–240bn would be required in the oil industry alone between 2000 and 2020, whilst the IEA estimated requirements of $328bn to 2030 in the same sector (Locatelli 2006: 1076).
2. Less than two months after Khodorkhovsky's very public arrest, the Putin administration won another general election with a comfortable margin. This attests arguably both to the unpopularity of oligarchs and to the popularity and degree of acceptability of relatively 'statist' ideas when it comes to energy in Russia.

3. A House of Commons report on energy security, quoted at more length below, also confirmed that 'political considerations have entered British energy companies' commercial relationships abroad' (House of Commons 2007a: 2).
4. Analyses of the Russia–Ukraine gas transit relationship suggest that it was far more complex than the story portrayed in the UK media. In addition, again in contrast with many UK reports, 'blame' for the dispute can be assigned as much to the Ukrainian as to the Russian companies involved (Stern 2006; Pirani et al. 2009).
5. The emphasis here on various media outlets as illustrative of the changing energy narrative recognises arguments about the role of the media as a whole in getting issues onto the political agenda (Grant 2000: 125), but also arguments that the media can often reflect popular public ideas.
6. There were a number of 'special' reports and surveys on Russia, and energy, during this period. See also *The Financial Times*' special report on 'Russia' of 21 April 2006 and *New Statesman*'s special on 'Energy' of July 2007.
7. See in particular Robinson (2006); Simpson (2006); Wagstyl (2006); Ostrovsky (2006); Kendall (2007); Powell (2008).
8. See http://www.bbc.co.uk/iplayer/episode/b00wbw6y/Have_I_Got_News_for_You_Series_40_Episode_7/.
9. See http://www.ensec.org/.
10. See in particular Havard (2004); Ofgem (2004); DTI (2005a, 2005b, 2006a, 2006b and 2006c); JESS (2006).
11. It was around this time, in 2006, that the UK–Russia Energy Dialogue was established.
12. The UK's renewable target had to be reduced to 15% before the EU 20-20-20 targets became binding early in 2009.
13. In an interview with a former senior policy advisor to 10 Downing Street it was suggested that Tony Blair was partial to top-down governance. It was also suggested that because David Miliband, a key Blair ally, was at DEFRA at the time, this might have been why that department had more influence (Interview 20).
14. This is reminiscent of the mid-1970s when UK nuclear energy received a boost in response to the first oil shock, as well as domestic production of oil and gas from the North Sea.
15. It is worth noting that even the strongest supporters of CCS considered it to be many years away from viability (*The Economist* 2008: 38).
16. Protection against foreign purchases of energy assets was not new in the West. See successful attempts to protect US energy assets from Chinese purchases (Stanislaw 2006).
17. This negotiating position was supposed to be underpinned by the fact that the UK had become the largest single foreign investor in Russia (Lee 2007), largely via BP-TNK. Conversely, Russia is reported to have been of the opinion that the UK would not risk endangering political relations with Russia for fear of having a negative impact on BP's business in Russia.
18. Many industry participants consider Russia to be one of the better countries to invest in energy and the FAC report of 2008 also recognises this (FAC 2008). See also a recent article in *The Economist* about Exxon-Mobil's considerable new investments in the Russian energy sector, which argues that

as long as a country sits on large reserves of energy, companies will always want to do business: http://www.economist.com/node/21528304.

6 Unravelling the Ties that Bind: 2008–2010

1. The depletion rate is the rate at which oil (and gas) is recovered from the ground. Historically, Western oil companies have tended to deplete at much faster rates than those based in the Middle East.
2. See, for example, Cho (2008); Sornette et al. (2009); Davidson (2009).
3. The CFTC investigation contributed to the US Energy Markets Emergency Act (2008).
4. See, for example, Carter (2001); Foxon et al. (2005); Toke and Lauber (2007); Mitchell (2008); Scrase et al. (2009).
5. It was argued that the German 'full' FiT was largely responsible for Germany's large proportion of energy generated from renewable sources (Mitchell 2008; Toke and Lauber 2007).
6. See, for example, interview 18; Plesch et al. (2005); Roberts (2004); Greenpeace (2006); Bird (2007); Ochs (2008); Giddens (2009).
7. The report also made specific claims about the Iraq War being about access to oil for Western companies and about the destabilising effect that this war had on the world (Greenpeace 2006: 5).
8. Such a notion ties in with those who have criticised the use of securitising language in respect of climate change specifically in that it might shift the issue into the realm of national security and zero-sum political conceptions (cf. Barnett 2001; Dalby 2009; Deudney 2006).
9. The programme invested £530m in research and skills to 'pioneer a low carbon future', on top of £360m invested during the previous five years. This was mainly public money but with top-ups from industry. The UK Energy Research Council was set up as part of this spending, which provided a range of information about the progress of renewable energy in the UK, peak oil, target hitting and other subjects. See http://www.rcukenergy.org.uk/home/research-councils-energy-program.html.
10. Smart metres are designed to improve energy efficiency by allowing users to monitor their electricity usage. Modified smart meters could also allow distributors to switch supply off, for a second or so at a time, during lowest demand times.
11. See http://www.parliament.uk/business/committees/committees-a-z/commons-select/energy-and-climate-change-committee/role/
12. The Machinery of Government Act also included the creation of the National Economic Council, to 'co-ordinate economic policy across government' (Cabinet Office 2008: 1). There had been some parliamentary opposition to this departmental restructuring by the prime minister – questions were raised about whether he 'should continue to exercise near-absolute power to reorganise the Civil Service Departments' (House of Commons 2008: 3).
13. Although, to complicate matters, it should be noted that BERR has since been restructured and has become the Department for Business Innovation and Skills.

14. This is because of the claim that government needed 'to concentrate [its] energies on following through the commitments we have made, not on creating new machinery' (DTI 2003: 113).
15. It is worth noting, briefly, other interpretations of Brown's political thought. McLean and others have suggested that 'market failure' was always there in Brown's thinking, despite the narrative about being the 'Iron Chancellor' (cf. McLean 2006).
16. Although the economic fallout from the banking crisis was by this stage also facilitating carbon dioxide emission cuts, of 18% in 2009 on 2008 levels (DECC 2009a: 4).
17. This mandate change is refined again in the Energy Act 2010: 'Ofgem should consider whether there are alternatives (to competition) or additional measures that might better protect consumer interests before taking action' (DECC 2010: 1).
18. This report contained ideas not dissimilar to some of the arguments put forward in the PIU report back in 2002.
19. Albeit one senior Ofgem staff member suggested that the 'more extreme' suggestion of single buyer had been included in the spirit of making it look like all options had been considered (Interview 15).

7 The Energy Security–Climate Nexus UK and Beyond

1. This view of temporary intervention is in line with that expressed in the 'Stern Report' of 2007. As has been suggested elsewhere, 'Market failures provide a conventional rationale for government "intervention" (which framed in this way, usually means some correction to market functioning rather than questioning whether market "success" is a realistic proposition)' (Smith 2009: 61).
2. A recent paper by Eric Helleiner suggests that the variety of narratives opposing economic liberalism raises the level of difficulty in answering the question of what will replace it (Helleiner 2004: 685), albeit this assumes that one, coherent paradigm will replace the existing one.
3. This raises an interesting question about the degree to which speaking security represented a specific political intervention in order to excuse certain policy responses, and to which it represents a reflection of genuine beliefs that Russia could pose a threat to valuable supplies of energy.
4. A series of high-profile IPE analysts, Robert Keohane, Susan Strange and Simon Bromley, have also suggested that energy has specific properties, related to power, which mark it out from other subject areas (Keohane 1984; Strange 1988; Bromley 1991).
5. Research by Michael Keating highlights the limits of neoliberal best practice in energy, both in terms of benefits for those countries adopting pro-market energy systems, with an emphasis on Uganda, and in terms of the degree to which reforms really represented stated best practice (Keating 2006 and 2012).
6. Of the Fortune 500 list of 2011 top world companies measured by profits, again, six are natural resource companies, with Gazprom amassing the greatest profits at $44.4bn.

7. The KfW runs with a motto of *Bank aus Vorantwortung*, which, roughly translated, means 'banking out of responsibility'.

Conclusions and Possible Futures

1. In fact, Hay sees 'pathology without crisis' specifically in that his understanding of crisis infers successful change.

Bibliography

Aalto, Pami (ed.) (2007) *The EU-Russia Energy Dialogue – Securing Europe's Future Energy Supplies?* London: Ashgate.

Adler, Emmanuel and Haas, Peter M. (1992) 'Conclusion: Epistemic Communities, World Order, and the Creation of a Reflective Research Program' *International Organization* 46, 1, 367–390.

AFX News (2007) 'UK, Russia to Sign up to New Deal on Energy Forum During Darling Trip to Moscow', *ABC Money*. Available at: http://www.abcmoney.co.uk/news/07200719067.htm (last accessed 22 November. 2010).

Baghat, Gawdat (2006) 'Europe's Energy Security: Challenges and Opportunities', *International Affairs* 82, 5, pp. 961–975.

Balzer, Harley (2006) 'Vladimir Putin's Academic Writings and Russian Natural Resource Policy', *Problems of Post Communism* January/February 2006, pp. 48–54.

Barnett, Jon (2001) *The Meaning of Environmental Security: Ecological Politics and Policy in the New Security Era*. London: Zed Books.

Barych, Katinka (2007) 'Three questions that Europe must ask about Russia', A Briefing Note for the *Centre for European Reform*.

Bean, Bruce W. (2004) 'Yukos and Khodorovsky: An Unfolding Drama' in Daniel McCarthy; Sheila Puffer and Stanislav Shekshnia (eds.) *Corporate Governance in Russia*. Cheltenham UK: Edward Elgar.

Beeson, M., Soko, M. and Yong, W. (2011) 'Resource Politics and Diplomacy Beyond the European Union: China, Australia and South Africa', *A GREEN Working Paper, No. 5*.

Behn, D. and Pogoretskyy, V. (2012) 'Tensions between the Liberalist and Statist Approaches to Energy Trade: The Case of Gas Dual Pricing' in C. Kuzemko; A. Belyi; A. Goldthau and M. Keating (eds.) *Dynamics of Energy Governance in Europe and Russia*. London: Palgrave Macmillan.

Belyi, Andrei and Kuzemko, Caroline (2007) 'Conflict of Values over the Regulation of Gas Markets: A View of Russo-British Relations', Defence Academy of Great Britain, Available at: www.ndc.nato.int/research/series.php?icode=9

Benner, Thorsten; Soares de Oliveira, Ricardo; Kalinke, Frederic (2010) 'The Good/Bad Nexus in Global Energy Governance', in Andreas Goldthau and Jan Martin Witte (eds.) *Global Energy Governance: The New Rules of the Game*. Washington DC: Brookings Institution Press.

Berman, Sheri (1998) *The Social Democratic Moment: Ideas and Politics in the Making of Interwar Europe*. Harvard: Harvard University Press.

Bernstein, Steven (2001) *The Compromise of Liberal Environmentalism*. New York: Columbia University Press.

Bielecki, J. (2002) 'Energy Security: Is the Wolf at the Door?' *The Quarterly Review of Economics and Finance* 42, pp. 235–250.

Bird, Jenny (2007) *Energy Security in the UK*. London: Institute for Public Policy Research. Available at: http://www.ippr.org.uk/publicationsand

reports/publications.asp?title= energy+security+in+the+uk&author=jenny+bird&pubdate=&policyarea=&search=search (last accessed October 2008).
Blackhurst, Bob (2004) 'Can We Wait for Renewables?' *Foreign Policy Centre*. Available at: http://fpc.org.uk/articles/264 (last accessed 19 October 2010).
Blair, Tony (2010) *A Journey*. London: Hutchinson.
Blyth, Mark (2007) 'Powering, Puzzling or Persuading? The Mechanisms of Building Institutional Orders', *International Studies Quarterly* 51, pp. 761–777.
Blyth, Mark (2003) 'Structures do not Come with an Instruction Sheet: Interests, Ideas and Progress in Political Science', *Perspectives on Politics* 1, 4, pp. 695–706.
Blyth, Mark (2002) *Great Transformations: Economic Ideas and Institutional Change in the Twentieth Century*. New York: Cambridge University Press.
Blyth, William (2010) 'How Do Emerging Carbon Markets Influence Energy Sector Investments?' in Andreas Goldthau and Jan Martin Witte (eds.) *Global Energy Governance: The New Rules of the Game*. Berlin and Washington: GPPI and Brookings Institute.
Bohi, D. R. and Toman, M.A. (1996) *The Economics of Energy Security*. Massachusetts: Kluwer Academic Publishers.
Bordoff, J., Deshpande, M. and Noel, P. (2011) 'Understanding the Interaction between Energy Security and Climate Change Policy', in C. Pascual and J. Elkind (eds.) *Energy Security: Economics, Politics, Strategies and Implications*. Washington DC: The Brookings Institute.
Borenstein, Severin (2002) 'The Trouble with Electricity Markets: Understanding California's Restructuring Disaster', *Journal of Economic Perspectives* 16, 1, pp. 191–211.
Borenstein, Severin and Bushnell, James (2000) 'Electricity Restructuring: Deregulation or Reregulation?' *Regulation* 23, 2, pp. 46–52.
Boussena, S. and Locatelli, C. (2005) 'Towards a More Coherent Oil Policy in Russia?' *Opec Review* XXIX, 2, June, pp. 85–105.
Bradshaw, Michael and Bond, Andrew (2004) 'Crisis Amid Plenty Revisited: Comments of the Problematic Potential of Russian Oil', *Eurasian Geography and Economics* 45, 5, pp. 352–358.
Bordoff, J.; Deshpande, M. and Noel, P. (2011) 'Understanding the Interaction between Energy Security and Climate Change Policy', in C. Pascual and J. Elkind (eds.) *Energy Security: Economics, Politics, Strategies and Implications*. Washington DC: The Brookings Institute, pp. 209–248.
Borenstein, Severin and Bushnell, James (2000) 'Electricity Restructuring: Deregulation or Reregulation?' *Regulation* 23, 2, pp. 46–52.
Braudel, Fernand and Matthews, Sarah (1982) *On History*. Chicago: The University of Chicago Press.
Brill Olcott, Martha (2004) 'The Energy Dimension in Russian Global Strategy: Vladimir Putin and the Geopolitics of Oil', Paper for the *James Baker Institute for Public Policy,* Rice University.
BBC (2010) 'Climate Scepticism on the Rise', *BBC News Website*, 7th February, 2010. Available at: http://news.bbc.co.uk/1/hi/8500443.stm (last accessed 6 May 2011).
BBC (2009) 'Fuel Poverty Continues to Rise', Available at: http://news.bbc.co.uk/1/hi/business/8317020.stm (last accessed 4 February 2011).
BBC (2008) 'Energy Hungry Europe warms to Norway'. Available at: http://news.bbc.co.uk/1/hi/world/europe/7588746.stm (last accessed 9 February 2009).

BBC (2006) 'Putin Criticises West of Energy', *BBC News*. Available at: http://news.bbc.co.uk/1/hi/business/4950624.stm (last accessed September 2011).

BERR (Department for Business, Enterprise and Regulatory Reform) (2008) *Autumn Performance Report 2008*. London: BERR.

BERR (2006) *UK Response to the Commission Green Paper: A European Strategy for Sustainable, Competitive and Secure Energy*. London: The Department for Business, Enterprise, and Regulatory Reform (BERR). Available at: www.berr.gov.uk/files/file31659.pdf# (last accessed November 2010).

BP (2008) 'BP Quarterly Data 2004 to 2008'. Available at: http://www.investis.com/bp_acc_ia/quarterly2008Q4/htdocs/reports/report_18.html (last accessed 2 August 2011).

Bromley, Simon (2006) 'Blood for Oil?' *New Political Economy,* 11, pp. 419–433.

Bromley, Simon (1991) *American Hegemony and World Oil: The Industry, the State System and the World Economy*. Oxford: Polity Press.

Broome, André; Clegg, Liam and Rethel, Lena (2012) 'Global Governance and the Politics of Crisis', *Global Society* 26, 1, January 2012.

Browning, Christopher S. and McDonald, Matt (2010) 'The Future of Critical Security Studies: CSS, Ethics and Pathways for Future Research', Paper for the *SGIR 7th Pan-European International Relations Conference*, Stockholm, September 2010. Available at: http://stockholm.sgir.eu/ (last accessed 5 October 2010).

Buchan, David (2010) 'From Liberalisation to Intervention: Europe, the UK, and the Changing Agenda', in Ian Rutledge and Philip Wright (eds.) *UK Energy Policy and the End of Market Fundamentalism*. Oxford: Oxford Institute for Energy Studies.

Buller, Jim and Flinders, Matthew (2005) 'The Domestic Origins of Depoliticisation in the Area of British Economic Policy', *British Journal of Politics and International Relations* 7, pp. 526–543.

Burke, Tom; Juniper, Tony; Porritt, Jonathon and Secrett, Charles (2012) *Subsidising the Nuclear Industry*: *A Briefing for the Government*. Available at: http://www.jonathonporritt.com/sites/default/files/users/BRIEFING%201%20subsidising_nuclear_26March%202012.pdf (last accessed February 2013).

Burnham, Peter (2001) 'New Labour and the Politics of Depoliticisation', *British Journal of Politics and International Relations* 3, 2, pp. 127–149.

Buzan, Barry; Waever, Ole and de Wilde, Jaap (1998) *Security: A New Framework for Analysis*. Colorado: Lynne Rienner Publications.

Cabinet Office (2008) *Machinery of Government. Business, Climate Change, Energy and Environment*. London: Cabinet Office. Available at: http://www.docstoc.com/docs/39316413/MACHINERY-OF-GOVERNMENT (last accessed September 2011).

Campbell, David (2005) 'The Biopolitics of Security: Oil, Empire and the Sports Utility Vehicle', *American Quarterly* 57, 3, pp. 943–972.

Campbell, John L. (2004) *Institutional Change and Globalization*. Princeton and Oxford: Princeton University Press.

Campbell, John L. (1998) 'Institutional Analysis and the Role of Ideas in Political Economy', *Theory and Society* 27, 3, pp. 377–409.

Carbon Trust (2006) *Policy Frameworks for Renewables: An Analysis of Policy Frameworks to Drive Future Investment in Near or Long Term Power in the UK*. London: The Carbon Trust. Available at: http://www.carbontrust.co.uk/Publications/pages/publicationdetail.aspx?id=CTC610&respos=0&q=CTC

610&o=Rank&od=asc&pn=0&ps=10&w=True (last accessed 7 March 2011).
Carter, Neil (2007) *The Politics of the Environment: Ideas, Activism, Policy: Second Edition*. Cambridge: Cambridge University Press.
Carter, Neil (2001) *The Politics of the Environment: Ideas, Activism, Policy*. Cambridge: Cambridge University Press.
CCC (Committee on Climate Change) (2010) *The Fourth Carbon Budget: Reducing Emissions Through 2020*. London: Committee on Climate Change.
CEPMLP (Centre for Energy, Petroleum and Mineral Law and Policy) (2006) 'Security of International Oil and Gas: Challenges and Research Priorities', *A Project for the Economic and Social Research Council* by CEPMLP, University of Dundee. Available at: http://www.dundee.ac.uk/cepmlp/Research/ESRC%20CEPMLP%20FinalReport.pdf (last accessed September 2011).
Challies, Edward R. T. and Murray, Warwick E. (2008) 'Towards Post-neoliberalism? The Comparative Politico-Onomic Transition of New Zealand and Chile.' *Asia Pacific Viewpoint*, 49, 2, pp. 228–243.
Chen, Matthew E. and Jaffe, Any Myers (2002) 'Energy Security: Meeting the Growing Challenge of National Oil Companies', *The Whitehead Journal of Diplomacy and International Relations*, Summer/Fall 2007, pp. 9–21.
Cherp, Aleh and Jewell, Jessica (2011) 'The Three Perspectives on Energy Security: Intellectual History, Disciplinary Roots and the Potential for Integration', *Current Opinion on Environment and Sustainability* 3, pp. 1–11.
Chesshire, John (1986) 'An Energy-Efficient Future: A Strategy for the UK', *Energy Policy*, October 1986.
Cho, David (2008) 'A Few Speculators Dominate Vast Market for Oil Trading', *The Washington Post*, Thursday, 21 August 2008. Available at: http://www.washingtonpost.com/wp-dyn/content/article/2008/08/20/AR2008082003898.html (last accessed August 2011).
Chwieroth, Jeffrey M. (2010) 'How do Crises Lead to Change? Liberalizing Capital Controls in the Early Years of New Order Indonesia', *World Politics* 62, 3, pp. 496–527.
Chwieroth, Jeffry M. (2007) 'Testing and Measuring the Role of Ideas: The Case of Neoliberalism in the International Monetary Fund', *International Studies Quarterly* 51, pp. 5–30.
Cipolla, Carlo M. (1962) *The Economic History of World Population*. Harmondsworth, UK; Baltimore, USA; Ringwood, Australia: Penguin Books.
Ciuta, Felix (2010) 'Conceptual Notes on Energy Security: Total or Banal Security?' *Security Dialogue* 41, 2, pp. 123–144.
Clarke, Duncan (2007) *Empires of Oil: Corporate Oil in Barbarian Worlds*. London: Profile Books Ltd.
Coates, David and Hay, Colin (2001) 'The Internal and External Face of New Labour's Political Economy', *Government and Opposition* 36, 4, pp. 447–471.
CBI (Confederation of British Industry) (2006) 'Powering the Future: Enabling the UK Energy Market to Deliver', *Energy Brief November 2005*. London: Confederation of British Industry.
Considine, Jennifer and Kerr, William (2002) *The Russian Oil Economy*. Cheltenham, UK: Edward Elgar.
Cooper, Ken (1987) 'Conference Reports: A UK Energy Policy – The Ghost at the Feast', *Energy Policy*, April 2007, pp. 169–170.

Correlje, Aad and van der Linde, Coby (2006) 'Energy Supply Security and Geopolitics: A European Perspective', *Energy Policy* 34, pp. 532–543.
Cox, Robert (1981) 'Social Forces, States and World Orders: Beyond International Relations Theory', *Journal of International Studies* 10, 2, pp. 204–254.
Crouch, Colin (2011) *The Strange Non-death of Neoliberalism*. Cambridge, UK; Malden, MA: Polity Press.
Dalby, Simon (2009) *Security and Environmental Change*. Cambridge, UK; Malden, MA: Polity.
Dasgupta, P. S. and Heal, G. M. (1979) *Economic Theory and Exhaustible Resources*. Welwyn, Cambridge: Cambridge University Press.
Davey, Ed. (2012) 'Edward Davey Politics Home Article: Keeping the Lights on and the Air Clean', *Politics Home*, 12th September 2012. Available at: http://www.decc.gov.uk/en/content/cms/news/ed_ph/ed_ph.aspx.
Davidson, Paul (2009) 'Crude Oil Prices: Market Fundamentals or Speculation?', *Challenge* 51, 4, pp. 110–118.
Davies, P. A. (1996) 'The UK Energy Experience: A Model or a Warning?' in G. MacKerron and P. Pearson (eds.) *The UK Energy Experience: A Model or a Warning?* London: Imperial College Press.
de Oliveira, Adilson and MacKerron, Gordon (1992) 'Is the World Bank Approach to Structural Reform Supported by Experience of Electricity Privatization in the UK?', *Energy Policy* February 1992, pp. 153–162.
DECC (2012a) 'UK Energy Statistics', a Statistical Press Release Issued by the *Department of Energy and Climate Change*. London: National Statistics.
DECC (2012b) 'Statistical Release: 2010 UK Greenhouse Gas Emissions, Final Figures'. A Statistical Release on 7th February 2012 Issued by the *Department of Energy and Climate Change*. London: National Statistics.
DECC (2012c) *The Energy Efficiency Strategy: The Energy Efficiency Opportunity in the UK*. London: Department of Energy and Climate Change.
DECC (2011a) 'About us', DECC Website: Available at: http://www.decc.gov.uk/en/content/cms/about/about.aspx (last accessed 15 March 2011).
DECC (2011b) *Annual Report on Fuel Poverty Statistics 2011*. London: Department of Energy and Climate Change. Available at: http://www.decc.gov.uk/assets/decc/Statistics/fuelpoverty/2203-pn062.pdf (last accessed 1 September 2011).
DECC (2011c) *Electricity Market Reform: A Consultation Document*. London: TSO.
DECC (2011d) *Planning our Electric Future: A White Paper for Secure, Affordable and Low-Carbon Electricity*. London: HMSO.
DECC (2010a) *Energy Bill Factsheets: Ofgem's Principal Objective*. London: Department of Energy and Climate Change.
DECC (2010b) *Annual Report on Fuel Poverty Statistics 2010*. London: Department of Energy and Climate Change.
DECC (2009a) *The Low Carbon Transition Plan: National Strategy for Climate and Energy*. London: TSO.
DECC (2009b) *The UK Renewable Energy Strategy*. London: HMSO.
DECC (2009c) *Government Response to Malcolm Wicks's Review of International Energy Security, 'Energy Security: A National Challenge in a Changing World'*. London: Department of Energy and Climate Change.
DECC (2009d) *Climate Change Act: The Final Implementation Assessment*. London: Department for Energy and Climate Change. Available at: http://www.decc.

gov.uk/en/content/cms/legislation/cc_act_08/cc_act_08.aspx (last accessed 1 September 2011).
DECC (2008) 'UK Renewable Energy Strategy: Viable and Deliverable?' Presentation at the *British Energy Association*, November 2008.
Department of the Environment (1990) *This Common Inheritance*. CM1200. London: HMSO.
Department of the Environment (1988) *Our Common Future: A Perspective by the United Kingdom on the Report of the World Commission on Environment and Development*. London: HMSO.
DEFRA (2006) *Climate Change: the UK Programme 2006*. London: The Department of the Environment and Rural Affairs. Available at: http://www.decc.gov.uk/en/content/cms/what_we_do/change_energy/tackling_clima/programme/programme.aspx (last accessed August 2010).
DETR (2000) *Climate Change: The UK Programme 2000*. CM4913. London: TSO.
DOE (Department of Energy) (1982) 'Speech on Energy Policy – Energy Paper Number 51'. London: HMSO.
DOE (Department of Energy) (1978) *Consultation on Energy Policy*. London: HMSO.
DTI (2007) *Meeting the Energy Challenge: An Energy White Paper*. London: TSO. Available at: http://www.official-documents.gov.uk/document/cm68/6887/6887.asp (last accessed 1 September 2011).
DTI (2006a) *Secretary of State's Second Report to Parliament on Security of Gas and Electricity Supply in Great Britain*. London: TSO.
DTI (2006b) *The Effectiveness of Current Gas Security of Supply Arrangements: a Consultation*. London: The National Archives. Available at: http://webarchive.nationalarchives.gov.uk/+/http://www.dti.gov.uk/consultations/page34643.html (last accessed 11 November 2010).
DTI (2006c) *The Energy Challenge Energy Review Report 2006*. London: TSO.
DTI (2005a) *Secretary of State's First Report to Parliament on Security of Gas and Electricity Supply in Great Britain*. London: TSO.
DTI (2005b) 'Conditions for a Truly Competitive Gas Markets in the EU', Report prepared for the DTI by *Energy Markets Limited*, Middlesex. Available at: http://webarchive.nationalarchives.gov.uk/+/http://www.berr.gov.uk/whatwedo/energy/markets/liberalisation/page28403.html (last accessed 5 October 2010).
DTI (2003) *Energy White Paper: Our Energy Future – Creating a Low Carbon Economy*. London: HMSO.
DTI (2001) *Social, Environmental and Security of Supply Policies in a Competitive Energy Market: A Review of Delivery Mechanisms in the United Kingdom*. London: Department of Trade and Industry.
DTI (2000a) *Energy Paper 68*. London: Department of Trade and Industry.
DTI (2000b) 'New and Renewable Energy: Prospects for the 21st Century: The Renewables Obligation Preliminary Consultation'. *BERR*. Available at: www.berr.gov.uk/files/file21097.pdf (last accessed 20 January 2011).
DTI (2000c) *The Energy Report, Vol. 4*. London: Department of Trade and Industry.
DTI (1998a) *Our Competitive Future: Building the Knowledge Driven Economy*. London: The National Archives. Available at: http://webarchive.nationalarchives.gov.uk/+/http://www.dti.gov.uk/comp/competitive/wh_ch4_1.htm (last accessed July 2011).

DTI (1998b) *Conclusions of the Review of Energy Sources for Power Generation*, Cm 4071. London: TSO.
DTI (1999) *New and Renewable Energy – Prospects for the 21st Century*. London: TSO.
DTI (1997) *The Energy Report, Vol. 1: Shaping Change*. London: Department of Trade and Industry.
Deudney, Daniel (2006) 'Security' in Andrew Dobson and Robyn Eckersley (eds.) *Political Theory and the Ecological Challenge*. Cambridge: Cambridge University Press.
Dickel, Ralf (2010) 'Trade and Investment in Global Energy: A Policy Perspective' in Andreas Goldthau and Jan Martin Witte (eds.) *Global Energy Governance: The New Rules of the Game*. Berlin and Washington: GPPI and Brookings Institute.
Dryzek, John (2005) *The Politics of the Earth: Environmental Discourses*. 2nd edn. Oxford: Oxford University Press.
Dupont, Claire and Primova, Radostina (2011) 'Combating Complexity: The Integration of EU Climate and Energy Policies' in Jale Tosun and Israel Solorio (eds.) *Energy and Environment in Europe: Assessing a Complex Relationship, European Integration online Papers (EIoP)*, Special Mini-Issue 1, Vol. 15, Article 8.
Dutton, Kevin (2010) *Flipnosis: The Art of Split-Second Persuasion*. London: William Heinemann.
Eaglesham, Jean (2006) 'Proposal to Block Gazprom Generates Unease', *Financial Times*, 18 April 2006.
The Economist (2011) 'The Visible Hand', a Special Report on State Capitalism, *The Economist*, 21 January 2011.
The Economist (2008) 'Green and Black', *The Economist*, 5 April 2008.
The Economist (2006) 'Don't Mess with Russia', *The Economist*, 15 to 22 December 2006.
The Economist (2004a) 'Putting up with Putin: How to Live with a Russia That Is not a Liberal Democracy', *The Economist*, 22 May 2004.
The Economist (2004b) 'Having it both Ways', *The Economist*, 22 May 2004.
The Economist (2003) 'Electricity in Other Countries. Could it Happen to Us?' *The Economist*, 21 August 2003. Available at: http://www.economist.com/node/2003561 (last accessed 8 September 2011).
Eden, R.; Posner, M.; Bending, R.; Crouch, E. and Stanislaw, J. (1981) *Energy Economics*. Cambridge: Cambridge University Press.
Egenhofer, Christian and Legge, Thomas (2001) 'Security of Energy Supply: A Question for Policy or the Markets?' *Report of a CEPS Working Party*. Brussels: Centre for European Public Policy.
EIA (2012) *Energy Brief: Who are the Major Players Supplying the World Oil Market?* Washington, DC: EIA. Available at: http://www.eia.gov/energy_in_brief/world_oil_market.cfm (last accessed 30 August 2012).
Epstein, C (2010) 'Moby Dick or Moby Doll? Discourse or the Social Construction of All the Way Down', in R Abdelal, M Blyth and C Parsons (eds.) *Constructing the Global Economy*. Cornell: Cornell University Press.
Erixon, Fredriks (2008) *Europe's Energy Dependency on Russia's Commercial Assertiveness*. Brussels: European Centre for International Political Economy.
Ernst and Young (2006) 'The Case for Liberalisation' a Department of Trade and Industry (DTI) Research Project. Available at: http://webarchive.

nationalarchives.gov.uk/+/http://www.berr.gov.uk/whatwedo/energy/markets/liberalisation/page28403.html (last accessed 5 October 2010).

EC (European Commission) (2011a) 'Security of Energy Supply in Europe: Continuous Adaptation', *The European Files*, May–June 2011, no. 22. Available at: http://ec.europa.eu/energy/publications/doc/20110601_the_european_files_en.pdf (last accessed 1 September 2011).

EC (2011b) 'On Security of Energy Supply and International Cooperation – "The EU Energy Policy: Engaging with Partners beyond Our Borders" '. *A Communication from the Commission to the European Parliament, The Council, The European Economic and Social Committee and the Committee of the Regions*. Brussels: European Commission.

EC (2010a) Communication from the Commission. A Roadmap for moving to a competitive low carbon economy in 2050. *COM (2010) 639*. Brussels: European Commission.

EC (2010b) 'Consolidated Version of the Treaty on the Functioning of the European Union', *Official Journal of the European Union* 30.3.2010.

EC (2007) 'An Energy Policy for Europe', a Communication from the Commission to the European Council and the European Parliament. Available at: http://ec.europa.eu/energy/energy_policy/doc/01_energy_policy_for_europe_en.pdf (last accessed July 2011).

EC (2006) *Green Paper – A European Strategy for Sustainable, Competitive and Secure Energy*. Brussells: European Commission. Available at: http://ec.europa.eu/energy/strategies/2006/2006_03_green_paper_energy_en.htm (last accessed September 2011).

Ezra, Derek (1983) *The Energy Debate*. Croydon: Ben Technical.

Fells, Ian (2001) *UK Energy Policy: Some Paradoxes and Anomalies*. Newcastle-upon-Tyne: Fells Associates. Available at: http://fellsassociates.awardspace.com/site/LinkedDocuments/Energy%20Policy%20Paradoxes%2010-1-00.pdf (last accessed 6 September 2011).

Fells, Ian and Lucas, Nigel (1992) 'UK Energy Policy Post Privatization', *Energy Policy*, May 1992, pp. 386–389.

Fine, Ben (1990) *The Coal Question: Political Economy and Industrial Change from the Nineteenth Century to the Present Day*. London: Routledge.

Finon, Dominique and Locatelli, Catherine (2008) 'Russian and European Gas and Interdependence: Could Contractual Trade Channel Geopolitics?' *Energy Policy* 36, 1, pp. 423–442.

Flinders, Matthew and Buller, Jim (2006) 'Depoliticisation: Principles, Tactics and Tools', *British Politics* 1, pp. 293–318.

Floyd, Rita (2007) 'Towards a Consequentialist Evaluation of Security: Bringing Together the Copenhagen and the Welsh Schools of Security Studies', *Review of International Studies* 33, pp. 327–350.

FAC (Foreign Affairs Committee) (2008) 'Global Security: Russia', *Second from the Foreign Affairs Committee, Session 2007–08*. London: HMSO. Available at: www.fco.gov.uk/Files/kfile/FACReportRussia07-08Response.pdf-273k (last accessed July 2011).

FCO; DTI; DEFRA; SEPN (2004) *UK International Priorities: The Energy Strategy*. London: The Foreign and Commonwealth Office.

Forman, Nigel (MP) (1977) *Towards a More Conservative Energy Policy*. London: Conservative Political Centre.

Fouquet, Roget (2008) *Heat, Power and Light: Revolutions in Energy Services*. Cheltenham: Edward Elgar Publishing.

Fox, Liam (2006) *Over a Barrel: The Challenge of Defense and Energy Security*. The Westminster Energy Forum, Available at: http://www.westminsterenergy.org/pdf/Over_A_Barrel_-_The_challenge_of_defence_and_energy_security.pdf (last accessed July 2011).

Foxon, T.; Pearson, P.; Makuch, Z.; Mata, M. (2005) 'Transforming Policy Processes to Promote Sustainable Innovation: Some Guiding Principles', *A Report for Policy Makers*. London: Imperial College.

Friedrichs, David (2004) 'Paradigmatic White Collar Crime Cases for the New Century', *Critical Criminology* 12, p. 113.

Friedrichs, Jorg (2011) 'Peak Energy and Climate Change: The Double Bind of Post-Normal Science', *Futures* 43, pp. 1–9.

Froggatt, Anthony; Kuzemko, Caroline and Rouhaud, Estelle (forthcoming) 'The Energy Security–Climate Nexus and the Environment', in Catherine Mitchell; Jim Watson and Mike Bradshaw (eds.) *Energy Security in a Multipolar World*. Basingstoke and London: Palgrave MacMillan.

Froggatt, Anthony and Levi, Michael A. (2009) 'Climate and Energy Security Policies and Measures: Synergies and Conflicts', *International Affairs*, 85, 6, pp. 11–29.

Fukuyama, Francis (1992) *The End of History and the Last Man*. London: Hamish Hamilton.

Gamble, Andrew (2009) 'British Politics and Financial Crisis', *British Politics* 4, 4, pp. 450–62.

Garner, Robert (2011) *Environmental Politics: The Age of Climate Change*. Hampshire and New York: Palgrave Macmillan.

Gault, John (2004) 'EU Energy Security and the Periphery' in Roland Danreuther (ed.) *European Union Foreign and Security Policy: Towards a Neighbourhood Strategy*. London: Routledge.

Geddes, Andrew and Guiraudon, Virginie (2004) 'Britain, France, and EU Anti-Discrimination Policy: The Emergence of an EU Policy Paradigm', *West European Politics* 27, 2, pp. 334–353.

Giddens, Anthony (2009) *The Politics of Climate Change*. Cambridge: Polity Press.

Gill, S. and Law, D. (1988) *The Global Political Economy: Perspectives, Problems and Policies*. Baltimore: Johns Hopkins University Press.

Gilpin, R. (1987) *The Political Economy of International Relations*. Princeton: Princeton University Press.

G8 (Global Eight) (2006) 'Definition of Global Energy Security', for the G8 Summit 2006, St Petersburg. Available at: http://en.g8russia.ru/docs/11.html (last accessed 1 September 2011).

Goldthau, Andreas (2012) 'From the State to the Market and Back: Policy Implications of Changing Energy Paradigms', *Global Policy* 3, 2, May 2012, pp. 198–210.

Goldthau, Andreas (2011) 'The Public Policy Dimension of Energy Security', in Benjamin K. Sovacool (ed.) *The Routledge Handbook of Energy Security*. Abingdon and New York: Routledge.

Goldthau, Andreas (2010) 'Energy Diplomacy in Trade and Investment of Oil and Gas', in Andreas Goldthau and Jan Martin Witte (eds.) *Global Energy Governance: The New Rules of the Game*. Berlin: Global Public Policy Institute.

Goldthau, Andreas and Witte, Jan Martin (2009) 'Back to the Future or Forward to the Past? Strengthening Markets and Rules for Effective Global Energy Governance', *International Affairs* 85, 2, pp. 373–390.

Gonzalez, Pablo Rafael (2006) *Running Out: How Global Shortages Change the Economic Paradigm*. New York: Algora Publishing.

Gotz, Roland (2004) ' "Silence for Gas"? Germany's Dependence on Russian Energy', Stiftung Wissenshaft und Politik: *SWP Comments* 27.

Graham, Andrew (1997) 'The UK 1979–95: Myths and Realities of Conservative Capitalism', in Colin Crouch and Wolfgang Streeck (eds.) *Political Economy of Modern Capitalism*. London and Dehli: SAGE Publications.

Grant, Wyn (2000) *Pressure Groups and British Politics*. Hampshire: Macmillan Press Ltd; New York: St Martin's Press, Inc.

Grant, Wyn; Matthews, Duncan and Newell, Peter (2000) *The Effectiveness of European Union Environmental Policy*. London and New York: Macmillan Press Ltd.

Green Fiscal Commission (2009) 'Doing What it Takes to Reduce Carbon Emissions: The Case for Green Fiscal Reform', *Briefing Paper Four*. London: Green Fiscal Commission.

Greenaway, John (1998) 'Policy Learning and the Drink Question in Britain 1850–1950', *Political Studies* XLVI, pp. 903–918.

Greener, Ian (2002) 'Understanding NHS Reform: The Policy-Transfer, Social Learning, and Path-Dependency Perspectives', *Governance: An International Journal of Policy, Administration, and Institutions* 15, 2, pp. 161–183.

Greenpeace (2006) *Oil and Peace Don't Mix*. London: GreenPeace. Available at: www.greenpeace.org.uk (last accessed May 2011).

The Guardian (2005) 'Russian Tycoon Jailed for Nine Years', *The Guardian*, Tuesday 31 May 2005.

Hadfield, Amelia (2008) 'Energy and Foreign Policy: EU-Russia Energy Dynamics', in Steve Smith, Amelia Hadfield and Tim Dunne (eds.) *Foreign Policy: Theories, Actors, Cases*. Oxford: Oxford University Press.

Hadfield, Amelia (2007) Superpower Ambitions vs. Hyper-dependence: EU-Russia and US Energy Policy. In *International Studies Association 48th Annual Convention*. Chicago.

Hague, William (2010) 'The Diplomacy of Climate Change', A Speech made to the Council on Foreign Relations in New York. Available on the *Foreign and Commonwealth Office* website: http://www.fco.gov.uk/en/news/latest-news/?view= Speech&id= 22924054 (last accessed 26 September 2012).

Hall, Peter (2010) 'Historical Institutionalism in Rationalist and Sociological Perspective', in James Mahoney and Kathleen Thelen (eds.) *Explaining Institutional Change: Ambiguity, Agency and Power*. Cambridge: Cambridge University Press.

Hall, Peter (1993) 'Policy Paradigms, Social Learning, and the State: The Case of Economic Policymaking in Britain', *Comparative Politics* 25, 3, pp. 275–296.

Hall, Peter A. (1989) *The Political Power of Economic Ideas: Keynesianism Across Nations*. Princeton: Princeton University Press.

Hall, Peter A. (1986) *Governing the Economy: The Politics of State Intervention in Britain and France*. Cambridge: Polity Press.

Hall, Peter A. and Taylor, Rosemary C. R. (1996) 'Political Science and the Three New Institutionalisms', *Political Science* 44, pp. 936–957.

Hartshorn, Jack (1966) *A Fuel Policy for Great Britain*. London: A PEP Report.

Havard (2004) 'Gas Storage – the DTI perspective', the Department of Trade and Industry, Energy Markets Unit, *Presentation to the Geological Society*, 19 October 2004.

Harvey, Fiona (2012) 'Victory for Lib Dems over Onshore Wind Subsidies Row', *The Guardian*, Tuesday 24 July 2012. Available at: http://www.guardian.co.uk/environment/2012/jul/24/victory-libdems-onshore-wind-subsidies?INTCMP=SRCH.

Haukkala, Hiski (2010) *The EU-Russia Strategic Partnership: The Limits of Post-Sovereignty in International Relations*. London and New York: Routledge.

Hay, Colin (2010) 'Pathology Without Crisis? The Strange Demise of the Anglo-Liberal Growth Model', *Government and Opposition* 46, 1, pp. 1–31.

Hay, Colin (2009) 'The Winter of Discontent after Thirty Years', *Political Quarterly* 80, 4, pp. 545–561.

Hay, Colin (2007) *Why We Hate Politics*. Cambridge; Malden SA: Polity Press.

Hay, Colin (2002) *Political Analysis: A Critical Introduction*. Basingstoke: Palgrave Macmillan.

Hay, Colin (2001) 'The "Crisis" of Keynesianism and the Rise of Neoliberalism in Britain: An Ideational Institutionalist Approach', in John L. Campbell and Ove K. Pedersen (eds.) *The Rise of Neoliberalism and Institutional Analysis*. Princeton: Princeton University Press.

Hay, Colin (1999a) *The Political Economy of New Labour: Labouring under False Pretences?* Manchester: Manchester University Press.

Hay, Colin (1999b) 'Crisis and Political Development in Postwar Britain' in David Marsh et al. (eds.) *Postwar British Politics in Perspective*. Cambridge: Policy Press.

Hay, Colin (1999c) 'Continuity and Discontinuity in British Political Development', in David Marsh et al. (eds.) *Postwar British Politics in Perspective*. Cambridge: Policy Press.

Hay, Colin (1996) 'Narrating Crisis: The Discursive Construction of the Winter of Discontent', *Sociology* 30, 2, pp. 253–277.

Hay, Colin and Marsh, David (1999) 'Conclusion: Analysing and Explaining Postwar British Political Development', in David Marsh et al. (eds.) *Postwar British Politics in Perspective*. Cambridge: Policy Press.

Hay, Colin and Wincott, Daniel (1998) 'Structure, Agency and Historical Institutionalism', *Political Studies* XLVI, pp. 951–957.

Hayes, Mark H. and Victor, David G. (2006) 'Politics, Markets, and the Shift to Gas: Insights from the Seven Historical Cases', in David G. Victor, Amy M. Jaffe and Mark H. Hayes (eds.) *Natural Gas and Geopolitics: From 1970 to 2040*. Cambridge: Cambridge University Press.

Heinberg, Richard (2003) *The Party's Over*. Gabriola Island, British Columbia: New Society Publishers.

Held, David (2006) 'Reframing Global Governance: Apocalypse Soon or Reform!', *New Political Economy* 11, 2, pp. 157–177.

Helleiner, Eric (2004) 'Economic Liberalism and Its Critics: The Past as Prologue?' *Review of International Political Economy* 10, 4, pp. 685–696.

Helm, Dieter (2010) 'Government Failure, Rent-Seeking, and Capture: The Design of Climate Change Policy', *Oxford Review of Economic Policy* 26, 2, pp. 182–196.

Helm, Dieter (2007) 'The New Energy Paradigm', in Dieter Helm (ed.) *The New Energy Paradigm*. Oxford: Oxford University Press.

Helm, Dieter (2005a) 'The Assessment: The New Energy Paradigm', *Oxford Review of Economic Policy* 21, 1, pp. 1–18.
Helm, Dieter (2005b) *Securing Supplies and Meeting the Challenges of Climate Change*. A discussion paper for the 2005 Meeting of EU Heads of State at Hampton Court. Available at: http://www.offnews.info/downloads/european_energy.pdf (last accessed 27 March 2013).
Helm, Dieter (2005c) 'Climate Change and Energy Policy', in Dieter Helm (ed.) *Climate Change and Policy*. Oxford: Oxford University Press.
Helm, Dieter (2003) *Energy, the State and the Market*. Oxford: Oxford University Press.
Helm, Dieter (1986) 'The Assessment: The Economic Borders of the State', *Oxford Review of Economic Policy* 2, 2, pp. i–xxiv.
Helm, D. R.; Kay, J. and Thompson, D. (1989) *The Market for Energy*. Oxford: Clarendon Press.
HMG (Her Majesty's Government) (2012) *Draft Energy Bill*. May 2012. London: The Stationary Office Limited.
HMG (2011a) *The Carbon Plan*. Available at: http://www.decc.gov.uk/en/content/cms/tackling/carbon_plan/carbon_plan.aspx (last accessed 17 August 2011).
HMG (2011b) *The 2010–11 Energy Bill*. Available at: http://www.decc.gov.uk/en/content/cms/legislation/energy_bill/energy_bill.aspx (last accessed 17 August 2011).
HMG (2008a) *The 2008 Climate Change Act*. London: HMSO. Available at: http://www.legislation.gov.uk/ukpga/2008/27/contents (last accessed 15 March 2011).
HMG (2008b) *The Energy Act*. London: HMSO. Available at: http://www.legislation.gov.uk/ukpga/2008/32/contents (last accessed 16 March 2011).
HMG (2008c) *Planning Act 2008*. London: HMSO. Available at: http://www.legislation.gov.uk/ukpga/2008/29/contents (last accessed September 2011).
HMG (2004) *Energy Act 2004*. London: The National Archives. Available at: http://www.legislation.gov.uk/ukpga/2004/20/contents (last accessed 1 September 2011).
HMG (1989) *The Electricity Act*. London: HMSO.
HMG (1986) *The Gas Act*. London: HMSO.
HMG (1983) *The Energy Act*. London: HMSO.
HMG (1982) *Oil and Gas (Enterprise) Act*. London: HMSO.
Hill, Fiona (2004) 'Energy Empire: Oil, Gas and Russia's Revival', *Foreign Policy Centre*, September 2004. Available at: http://fpc.org.uk/fsblob/307.pdf (last accessed September 2011).
Hills, John (2012) *Getting the Measure of Fuel Poverty. Final Report of the Fuel Poverty Review*. London: Department for Energy and Climate Change.
Hodge, Peta (2010) 'Business Leaders Call for Urgent Action on Green Transport to Counter Oil Crunch', *Greenwise* 10th February 2010. Available at: http://www.greenwisebusiness.co.uk/news/business-leaders-call-for-urgent-action-on-green-transport-to-counter-oil-crunch-1136.aspx (accessed 4 August 2011).
Hogan, William W. (2003) 'Foreword', in Carlos Rufin's *The Political Economy of Institutional Change in the Electricity Supply Industry*. Cheltenham, UK and Northampton, USA: Edward Elgar.

Hoggett, Richard (forthcoming) 'Supply Chains and Energy Security', in Catherine Mitchell; Jim Watson and Mike Bradshaw (eds.) *Energy Security in a Multipolar World*. Basingstoke and London: Palgrave MacMillan.

Homer-Dixon, T. (2009) *Carbon Shift: How the Twin Crises of Oil Depletion and Climate Change Will Define the Future*. New York: Random House.

Hope, Chris; Jones, Matthew and Owens, Susan (1987) 'New Directions for UK Energy Policy?' *Energy Policy* February 1987, pp. 5–6.

House of Commons (2012) *The UK's Energy Supply: Security or Independence? Government Response to the Committee's Eighth Report of Session 2010–12*. London: The Stationery Office Limited.

House of Commons (2011) 'UK Energy Supply: Security or Independence?', A Report of the House of Commons Select Committee on Energy and Climate Change. Available at: http://www.parliament.uk/business/committees/committees-a-z/commons-select/energy-and-climate-change-committee/publications1/ (accessed 26 Sepetember 2012).

House of Commons (2009) 'Further Report on Machinery of Government Changes', UK Parliament. Available at: http://www.parliament.uk/business/committees/committees-a-z/commons-select/public-administration-select-committee/inquiries/former-inquiries/machinery-of-government/ (last accessed 17 March 2011).

House of Commons (2008) 'Machinery of Government Changes: Further Report', *A House of Commons Public Administration Select Committee Report*. Available at: http://www.publications.parliament.uk/pa/cm200708/cmselect/cmpubadm/514/514.pdf (last accessed 10 August 2011).

House of Commons (2007a) *Energy Security: Research Paper 07/42*. London: House of Commons Library.

House of Commons (2007b) 'Beyond Stern: From the Climate Change Programme Review to the Draft Climate Change Bill', *A Report by the House of Commons Environmental Audit Committee*. London: TSO.

House of Commons (2007c) 'The Governance of Britain', *Presented to Parliament by the Secretary of State for Justice and Lord Chancellor* by Command of Her Majesty July 2007. London: HMSO. Available at: www.official-documents.gov.uk/document/cm71/7170/7170.pdf (last accessed 17 March 2011).

House of Commons (2007d) *Evidence Submitted by the Confederation of British Industry to the Foreign Affairs Select Committee*. London: TSO. Available at: http://www.parliament.the-stationery-office.co.uk/pa/cm200708/cmselect/cmfaff/51/51we17.htm (last accessed 19 October 2008).

House of Commons (2006) *UK response to the Commission Green Paper: A European Strategy for Sustainable, Competitive and Secure Energy*. London: House of Commons.

House of Commons (2003) 'Energy White Paper – Empowering Change?' *Eighth Report of Session 2002–3 of the House of Commons Environmental Audit Committee*. London: TSO.

House of Lords (2006) 'The Commission's Green Paper, "A European Strategy for Sustainable, Competitive and Secure Energy". Report with Evidence', *House of Lords*, 25 July 2006. London: The Stationary Office.

House of Lords (2002) 'EU Russia Relations', *House of Lords Select Committee on the European Union, 3rd Report*. Available at: http://www.publications.parliament.

uk/pa/ld200203/ldselect/ldeucom/29/2908.htm#part7 (last accessed 10 November 2010).

Howell, Lord (2010) 'Energy in a low carbon economy: New roles for Governments and markets', a speech to the *British Institute of Energy Economics 8th Academic Conference*, 22 September 2010. Available at: http://www.fco.gov.uk/en/news/latest-news/?view=Speech&id=22896761 (last accessed 26 September 2012).

IEA (International Energy Agency) (2007) *Energy Policies of IEA Countries. The United Kingdom 2006 Review*. Paris: IEA.

IEA (2006a) *Report on UK Energy*. Available at: http://www.iea.org/Textbase/publications (last accessed November 2009).

IEA (2006b) 'World Energy Outlook 2006', *International Energy Agency*. Available at: http://www.iea.org/publications/free_all.asp (accessed 10 November 2010).

IEA (1998) *Energy Policies of IEA Countries: The United Kingdom 1998 Review*. Paris: OECD/IEA.

ITPOES (2010) 'The Oil Crunch: A Wake-up Call for the UK Economy', *Second report of the UK Industry Taskforce on Peak Oil & Energy Security*. London: ITPOES. Available at: www.peakoiltaskforce.net.

ITPOES (2008) 'The Oil Crunch: Securing the UK's energy future', *First report of the UK Industry Taskforce on Peak Oil and Energy Security*. London: ITPOES.

Jacobs, Michael (1991) *The Green Economy: Environment, Sustainable Development and the Politics of the Future*. London and Colorado: Pluto Press.

Jacobsen, John Kurt (1995) 'Much Ado About Ideas: The Cognitive Factor in Economic Policy', *World Politics* 47, 2, pp. 283–310.

Jaffe, Amy M.; Hayes, Mark H. and Victor, David G. (2006) 'Conclusions', in David G Victor, Amy M Jaffe and Mark H Hayes (eds.) *Natural Gas and Geopolitics: From 1970 to 2040*. Cambridge: Cambridge University Press.

James A. Baker III Institute for Public Policy (2001) 'Strategic Energy Policy Challenges for the 21st Century', Report of an Independent Task Force, Houston: James A. Baker III Institute for Public Policy, Rice University, and the Council on Foreign Relations.

Jegen, Maya (2009) 'Framing Energy Security: The Case of the European Union', Conference Paper for *the ISA Convention 2009*, New York.

JESS (Joint Energy Security of Supply Working Group) (2006) 'Long-Term Security of Energy Supply', a DTI Report. London: DTI. Available at: www.dti.gov.uk/energy/energy-reliability/index.html (last accessed November 2009).

JESS (2002) *Joint Energy Security of Supply Working Group (JESS): First Report, June 2002*. London: DTI and Ofgem.

Jha, A. (2009) 'UK 'will struggle' to meet 2020 renewables goal', *The Guardian*, 30 April 2009.

Kaldor, Mary; Karl, Terry Lynn and Said, Yahia (2007) *Oil Wars*. London and Ann Arbour: Pluto Press.

Karki, Shankar; Mann, Michael and Salehfar, Hossein (2005) 'Energy and the Environment in the ASEAN: Challenges and Opportunities', *Energy Policy* 33, 4, pp. 499–509.

Katzenstein, Peter (1978) 'Conclusion: Domestic Structures and Strategies of Foreign Economic Policy', in Peter Katzenstein (ed.) *Between Power and Plenty: Foreign Economic Policies of Advanced Industrial States*. Wisconsin: The University of Wisconsin Press.

Kaufmann, R. K. and Ullman, B. (2009) 'Oil Prices, Speculation and Fundamentals: Interpreting Causal Relations Among Spot and Futures Prices', *Energy Economics* 31, pp. 550–558.

Keating, Michael (2012) 'Re-thinking EU Energy Security: The Utility of Global Best Practices for Successful Transnational Energy Governance', in Caroline Kuzemko; Andrei Belyi; Andreas Goldthau and Keating, Michael (eds.) *Dynamics of Energy Governance in Europe and Russia*. London: Palgrave Macmillan.

Keating, Michael (2006) Global Best Practice(s) And Electricity Sector Reform in Uganda, *CSGR Working Paper Series Paper No. 192/06*, January 2006.

Keay, Malcolm (2012) 'Death by a Thousand Regulations: The New Energy Bill', *Oxford Energy Comment May 2012*. Oxford: The Oxford Institute for Energy Studies.

Keay, Malcolm (2010) 'Can the Market Deliver Security and Environmental Protection in Electricity Generation?', in Ian Rutledge and Philip White (eds.) *UK Energy Policy and the End of Market Fundamentalism*. Oxford: Oxford Institute for Energy Studies.

Keegan, William (1985) *Britain Without Oil*. Harmondsworth and New York: Penguin Books Ltd and Viking Penguin Inc.

Kemp, Alexander G. and Stephen, Linda (2007) 'UK Oil and Gas Depletion Policy with Growing Import Dependence', in David Helm (ed.) *The New Energy Paradigm*. Oxford: Oxford University Press.

Kendall, Bridget (2007) 'Russia: The Beggar Becomes the Belligerent', *New Statesman*, 11 June 2007.

Kennedy-Pipe, Caroline (1998) *Russia and the World 1917–1991*. London: Arnold.

Keohane, Robert (2009) 'The Old IPE and the New', *Review of International Political Economy* 16, 1, pp. 34–46.

Keohane, Robert (1984) *After Hegemony: Cooperation and Discord in the World Political Economy*. Princeton: Princeton University Press (2005 edition).

Kern, Florian (2009) 'The Politics of Governing 'System Innovations' Towards Sustainable Electricity Systems'. A thesis submitted in September 2009 to the *Science and Technology Policy Research department of the University of Sussex*. Available at: http://eprints.sussex.ac.uk/2362/01/Kern%2C_Florian.pdf (last accessed 10 June 2011).

Keynes, John Maynard (1997) *The General Theory of Employment, Interest, and Money*. New York: Prometheus Books.

Klare, Michael (2008a) *Rising Powers, Shrinking Planet: How Scarce Energy is Creating a New World Order*. Oxford: Oneworld Publications.

Klare, Michael T. (2008b) 'Petroleum Anxiety and the Militarization of Energy Security'. Paper presented at the *International Studies Association (ISA) Conference* 2008, San Francisco.

Klare, Michael T. (2001) *Resource Wars: the New Landscape of Global Conflict*. New York: Metropolitan Books.

Klein, Naomi (2008) *The Shock Doctrine: The Rise of Disaster Capitalism*. London: Penguin Group.

Kohl, W. L. (2010) 'Consumer Country Energy Cooperation', in A. Goldthau and J.M. Witte (eds.) *Global Energy Governance: the New Rules of the Game* Washington DC: Brookings Institution Press, pp. 195–220.

Kuhn, Thomas (1962) *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.

Kuzemko, Caroline (2012) 'Energy Policy in Transition: Sustainability with Security', in Caroline Kuzemko; Andrei Belyi; Andreas Goldthau and Michael Keating (eds.) *Dynamics of Energy Governance in Europe and Russia*. London: Palgrave Macmillan.

Labour Party (1997) *Labour Party Manifesto: New Labour because Britain Deserves Better*. Available at: http://www.labour-party.org.uk/manifestos/1997/1997-labour-manifesto.shtml (last accessed 27 March 2013).

Lang, Karl; Lang, Philipp; Bauer, Christian; Duranton, Christophe; Wieder, Thomas; Huber, Stephan and Lang, Florian (2005) 'Mechanisms of Suicidal Erythrocyte Death', *Cellular Physiology and Biochemistry* 15, 5, pp. 195–202.

Larsen, Christian and Andersen, Jorgen (2009) 'How New Economic Ideas Changed the Danish Welfare State: The Case of Neoliberal Ideas and Highly Organized Social Democratic Interests', *Governance: An International Journal of Policy, Administration, and Institutions* 22, 2, pp. 239–261.

Lawson, Nigel (1989) *Energy Policy: the Text of a Speech Given in 1982*. Oxford: Clarendon Press.

Lawson, Nigel (1980) *The New Conservatism*. London: Centre for Policy Studies.

Leake, Jonathan (2005) 'Interview – Malcolm Wicks', *New Statesman*, 3rd October 2005. Available at: http://www.newstatesman.com/200510030059 (last accessed 4 August 2011).

Leaver, R.L. (2007) 'Australia and Asia-Pacific Energy Security: The Rhymes of History', in Michael Wesley (ed.) *Energy Security in Asia*. Oxon, UK: Routledge, pp. 91–111.

Lee, Donna (2004) 'The Growing Influence of Business in U.K. Diplomacy' *International Studies Perspectives* 5, 50–54.

Lee, Julian (2007) 'The UK-Russia Energy Relationship', in Andrew Monaghan (ed.) *The UK and Russia: A Troubled Relationship Part 1* for the Conflict Studies Research Centre. Available at: www.da.mod.uk/colleges/arag/document…/russian/07(17)AM.pdf (last accessed 27 March 2013).

Leggett, Jeremy (2005) *Half Gone: Oil, Gas, Hot Air and the Global Energy Crisis*. Portobello Books, London.

Lehman, P. J. and Hough, D. W. (1983) 'Communications on Energy: UK Energy 1970–2000: Facts and Fantasies', *Energy Policy*, September 1983, pp. 267.

Lesage, Dries; Van de Graaf, Thijs and Westphal, Kirsten (2010) *Global Energy Governance in a Mutipolar World*. Surrey, England; Burlington, USA.

Light, Margot (2006) 'Russia's Political Engagement with the EU', in Roy Allison, Margot Light and Alex White (eds.) *Putin's Russia and the Enlarged Europe*. Oxford: Blackwell Publishing.

Littlechild, Stephen (1981) 'Ten Steps to Denationalisation', *Journal of Economic Affairs* 2, 1, pp. 11–19.

Littlechild, S. C. and Vaidya, K. G. (1982) *Energy Strategies for the UK*. London: George, Allen and Unwin.

Locatelli, Catherine (2006) 'The Russian Oil Industry between Public and Private Governance: Obstacles to International Oil Companies' Investment Strategies', *Energy Policy* 34, 2006, pp. 1075–1085.

Lockwood, Matthew (2010) 'A Tale of Two Milibands: From Environmental Citizenship to the Politics of the Common Good', *The Political Quarterly* 81, 4, pp. 545–553.

Lucas, Edward (2009) *The New Cold War: How the Kremlin Menaces Both Russia and the West*. London: Bloomsbury Publishing.

Lucas, Nigel (1985) *Western European Energy Policies: A Comparative Study of the Influence of Institutional Infrastructure on Technical Change*. Oxford: Clarendon Press.

Luft, Gal and Korin, Anne (2009) 'Realism and Idealism in the Energy Security Debate', in Gal Luft and Anne Korin (eds.) *Energy Security Challenges for the 21st Century*. Santa Barbara, California; Denver, Colarado; Oxford, England: Praeger Security International.

Mabey, Nick and Mitchell, John (2010) 'Investing for an Uncertain Future: Priorities for UK Energy and Climate Security', A *Chatham House Briefing Paper*. London: Chatham House.

Macalister, Terry (2010) 'Britain's Energy Policy Goes back to the Future', *The Guardian*, Wednesday 3 February 2010.

Mahoney, James (2000) 'Path Dependence in Historical Sociology', *Theory and Society* 29, pp. 507–548.

Mahoney, James and Thelen, Kathleen (2010) *Explaining Institutional Change: Ambiguity, Agency, and Power*. Cambridge: Cambridge University Press.

Marsh, David (1999) 'Introduction: Explaining Change in the Postwar Period', in David Marsh et al. (eds.) *Postwar British Politics in Perspective*. Cambridge: Policy Press.

McDonald, Matt (2008) 'Securitization and the Construction of Society', *European Journal of International Relations* 14, 4, pp. 563–587.

McGowan, Francis (2008) 'Can the European Union's Market Liberalism Ensure Energy Security in a Time of 'Economic Nationalism'?' *Journal of Contemporary European Research* 4, 2, pp. 90–106.

McLean, Bethany and Elkind, Peter (2003) *The Smartest Guys in the Room: The Amazing Rise and Scandalous Fall of Enron*. London: Penguin Books.

McLean, Iain (2006) *Adam Smith, Radical and Egalitarian: An Interpretation for the 21st Century*. Edinburgh: Edinburgh University Press.

McNamara, Kathleen (1998) *The Currency of Ideas: Monetary Politics in the European Union*. New York: Ithaca; London: Cornell University Press.

Meadows, D. H.; Meadows, D. L.; Randers, J. and Behrens, W. W. III (1972) *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*. London: Earth Island.

Mikler, John and Harrison, Neil E. (2011) 'Varieties of Capitalism and Technological Innovation for Climate Change Mitigation', *New Political Economy*. doi: 10.1080/13563467.2011.552106.

Miliband, Ed. (2010) 'Building a Low Carbon Economy: the UK's Contribution to Tackling Climate Change'. Excerpt from a *Speech to the Climate Change Commission*. Available at: http://www.theccc.org.uk/audio-and-video/video (last accessed 1 September 2011).

Miliband, Ed. (2008) 'The Rise and Fall and Rise Again of a Department of Energy', Speech given at Imperial College, London, on 9th December 2008. Available at: www.decc.gov.uk/…/1_20090408161742_e_@@_milibandspeechimperial091208.pdf (last accessed 5 October 2010).

Ministry of Energy of the Russian Federation (2010) *Energy Strategy of Russia: for the Period up to 2030*. Moscow: Institute of Energy Strategy.

Ministry of Energy of the Russian Federation (2003) *The Summary of the Energy Strategy of Russia for the Period up to 2020*. Moscow: Ministry of Energy of the Russian Federation.

Mitchell, Catherine (2008) *The Political Economy of Sustainable Energy*. Basingstoke and New York: Palgrave Macmillan.
Mitchell, Catherine (2004) 'Energy Policy for a Sustainable Future', *Energy Policy* 32, 17, pp. 1887–1889.
Mitchell, Catherine (2000) 'The England and Wales Non-Fossil Fuel Obligation: History and Lessons', *Annual Review of Energy and Environment* 2000, pp. 285–312.
Mitchell, C.; Bauknecht, D. and Connor, P. M. (2006) 'Effectiveness Through Risk Reduction: A Comparison of the Renewable Obligation in England and Wales and the Feed-in System in Germany', *Energy Policy* 34, 3, pp. 297–305.
Mitchell, Catherine and Conner, Peter (2004) 'Renewable Energy Policy in the UK 1990–2003', *Energy Policy* 32, 17, pp. 1935–1947.
Mitchell, John (2002) 'Renewing Energy Security', *RIIA Working Paper*, London: Royal Institute of International Affairs. Available at: http://www.chathamhouse.org/publications/papers/view/107550 (last accessed 30 August 2011).
Mitchell, John (ed.) (1998) *Companies in a World of Conflict: NGOs, Sanctions, and Corporate Responsibility*. London: Earthscan.
Mitchell, J.; Morita N.; Selley, N. and Stern, J. (2001) *The New Economy of Oil: Impacts on Business, Geopolitics and Society*. London: Royal Institute for International Affairs.
Mommer, B. (2000) *The Governance of International Oil: The Changing Rules of the Game*. Oxford: Oxford Institute for Energy Studies, WPM 26.
Monaghan, Andrew (2009) 'Challenges and Opportunities for an EU Foreign Energy Policy', *A Briefing Paper for the European Parliament's Committee on Foreign Affairs*. Brussels: European Parliament.
Monaghan, Andrew (2007) 'The United Kingdom and Russia: a Divergent Relationship?' in Andrew Monaghan (ed.) *The UK and Russia: A Troubled Relationship Part I*. Conflict Studies Research Centre, Defense Academy of the United Kingdom.
Moran, M. (2003) *The British Regulatory State*. Oxford: Oxford University Press.
Mügge, Daniel (2011) 'From Pragmatism to Dogmatism: European Union Governance, Policy Paradigms and Financial Meltdown', *New Political Economy* 16, 2, pp. 185–206.
Myers-Jaffe, Amy (2005) 'The Outlook for Future Oil Supply from the Middle East and Price Implications', speech, Tokyo, July 2005, *James Baker III Institute for Public Policy*, Rice University.
Myers-Jaffe, Amy and Soligo, Ronald (2010) 'State-Backed Financing in Oil and Gas Projects', in Andreas Goldthau and Jan Martin Witte (eds.) *Global Energy Governance: The New Rules of the Game*. Washington, DC: Brookings Institution Press.
Natorski, Michal and Surralles, Anna Herranz (2008) 'Securitizing Moves to Nowhere? The Framing of the European Union Energy Policy', *Journal of Contemporary European Research* 4, 2, pp. 71–89.
Newell, Peter (2008) 'The Political Economy of Global Environmental Governance' *Review of International Studies* 34, 3, pp. 507–530.
Niblett, Robin (2011) *The Chatham House YouGov Survey 2011*. London: Chatham House. Available at: http://www.chathamhouse.org/publications/papers/view/176813 (last accessed 9 August 2011).

Noel, Pierre and Pollitt, Michael (2010) 'Don't Lose Power', *Parliamentary Brief Online*, Friday 23 July 2010.

Number 10 (2003) 'Press Conference with the Prime Minister and President Putin of Russia', Notes on the Press Conference for Number10.gov.uk. Available at: http://www.number10.gov.uk/Page4039 (last accessed April 2010).

Nuttall, William and Manz, Devon (2008) 'A New Energy Security Paradigm for the Twenty-First Century', *Technological Forecasting & Social Change* 75, pp. 1247–1259.

Ochs, Alexander (2008) 'Overcoming the Lethargy: Climate Change, Energy Security, and the Case for a Third Industrial Revolution', *AICGS Policy Report 34*. Baltimore: The American Institute for Contemporary German Studies.

O'Hanlon, Michael (2010) 'How Much Does the United States Spend Protecting Persian Gulf Oil?', in Carlos Pascual and Jonthan Elkind (eds.) *Energy Security: Economics, Politics, Strategies and Implications*. Washington, DC: Brookings Institution Press.

Offerdahl, Kristine (2007) 'European Energy Security: Oil and Gas Supplies from the Russian Arctic: Powerful Actors and Diverging Interests', Paper for the *International Studies Association 48th Annual Convention*, Chicago.

Ofgem (2010a) 'Project Discovery: Options for Delivering Secure and Sustainable Energy Supplies', *An Ofgem Consultation Document*. London: Ofgem. Available at: http://www.ofgem.gov.uk/markets/whlmkts/discovery/Pages/ProjectDiscovery.aspx (last accessed 1 September 2011).

Ofgem (2010b) 'Action needed to Ensure Britain's Energy Supplies Remain Secure', *Ofgem Press Release*, 3 February 2010.

Ofgem (2009) 'Project Discovery: Energy Market Scenarios', *An Ofgem Consultation Document*. London: Ofgem.

Ofgem (2008) *Energy Supply Markets Probe – Call for Evidence*. London: The Office of Gas and Electricity Markets. Available at: www.ofgem.gov.uk.

Ofgem (2006) *Sustainable Development Report 2006*. London: Ofgem. Available at: www.ofgem.gov.uk/Sustainability/Pages/Sustain.aspx (last accessed 7 September 2011).

Ofgem (2004) *Environmental Action Plan. Annual Review 2003/4*. Office of the Gas and Electricity Markets.

Oliver, Michael and Pemberton, Hugh (2004) 'Learning and Change in 20th-Century British Economic Policy' *Governance: An International Journal of Policy, Administration, and Institutions* 17, 3, pp. 415–441.

Orwell, George (2004) *Why I Write*. London: Penguin Publishing.

Ostrovsky, Arkady (2006) 'Oil and Gas Bring Influence', *Financial Times Special Report on Russia*, Friday April 21, 2006, p. 5.

Painter, David (2002) 'Oil', in Alexander DeConde, Fredrik Logevall, and Richard Dean Burns (eds.) *Encyclopaedia of American Foreign Policy*, 2nd ed. New York: Charles Scribner's Sons.

Painter, David (1997) 'Oil' *Encyclopaedia of American Foreign Policy* 2, 3, pp. 1–20.

Painter, David (1993) 'Oil and World Power' *Diplomatic History* 19, 3, pp. 525–548.

Parra, Francisco (2004) *Oil Politics: a Modern History of Petroleum*. London and New York: I. B. Taurus & Co. (2010 edition).

Paskal, Cleo (2009) 'UK National Security and Environmental Change', *A Policy Brief for the IPPR Commission on National Security for the 21st Century*. London: Institute for Public Policy Research.

Paterson, Matthew; Humphreys, David and Pettiford, Lloyd (2003) 'Understanding Global Environmental Governance: From Interstate Regimes to Counter-Hegemonic Struggles' *Global Environmental Politics*, 3, 2, pp. 1–10.

Pirani, Simon (2007) 'Ukraine's Gas Sector', a paper for the *Oxford Institute for Energy Studies*. Oxford: Oxford Institute for Energy Studies.

Pirani, Simon; Stern, Jonathan and Yafimava, Katja (2009) 'The Russo-Ukrainian Gas Dispute of January 2009: A Comprehensive Assessment', *Oxford Institute for Energy Studies*, February 2009, NG27.

PIU (2002) *The Energy Review*. A Performance and Innovation Unit Report. London: Cabinet Office. Available at: http://www.gci.org.uk/Documents/TheEnergyReview.pdf (last accessed 1 September 2011).

Plesch, Dan; Austin, Greg and Grant, Fiona (2005) 'Britain's Energy Future: Securing the 'Home Front'. Paper for the *Foreign Policy Centre*. Available at: http://fpc.org.uk/articles/ (last accessed November 2009).

Porter (2005) 'Is UK Oil Output Running on Empty?', *BBC Online*. Available at: http://news.bbc.co.uk/1/hi/business/4402448.stm (last accessed January 2011).

POST (Parliamentary Office of Science and Technology) (2004) *The Future of UK Energy Supplies*, Postnote, October 2004, Number 230.

Powell, Bill (2008) 'Just How Scary is Russia?', *Fortune*, 15 September 2008.

Ragwitz, Mario; Resch, Gustav; Faber, Thomas and Huber, Claus (2005) 'Monitoring and Evaluation of Policy Instruments to Support Renewable Electricity in EU Member States', a research project funded by the *German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety*. Available at: http://www.bmu.de/english/renewable_energy/downloads/doc/36432.php (last accessed 1 September 2011).

Raszewski, Slawomir (2012) 'Security and the Economics of Energy in Eastern Europe', in Caroline Kuzemko; Andrei Belyi; Andreas Goldthau and Michael Keating (eds.) *Dynamics of Energy Governance in Europe and Russia*. London: Palgrave Macmillan.

Rayner, Steve (2009) 'Trust and the Transformation of Energy Systems', *Energy Policy* 38, 6, pp. 2617–2623.

Reihing, A. (2007) 'Energy Security Depends on Where you Live', *Policy Innovations*, Carnegie Council.

Roberts, Alisdair (2010) *The Logic of Discipline: Global Capitalism and the Architecture of Government*. Oxford: Oxford University Press.

Roberts, Paul (2004) *The End of Oil: The Decline of the Petroleum Economy and the Rise of a New Energy Order*. London: Bloomsbury Publishing Plc.

Robinson, Anthony (2006) 'Russia's Pipeline Politics', *Prospect*, 22nd July 2006. Available at: http://www.prospectmagazine.co.uk/2006/07/russiaspipelinepolitics/ (last accessed 11 November 2010).

Robinson, C (1981) 'The Errors of North Sea Policy', *Lloyds Bank Review*, July, no. 141.

Robinson, C. and Marshall, E (1981) 'What Future for British Coal? Optimism or Realism on the Prospects to the Year 2000', *Hobart Paper 89*. London: Institute of Economic Affairs.

Rodgers, Paul (2007) 'Gas: Who Controls the Tap?', *New Statesman*, 2 July 2007, pp. 4–8.

Rodriguez, Frank (1987) 'UK Government Control and the Electricity Supply Industry since 1980', *Energy Policy*, October 1987.

Rogers-Hayden et al. (2011) 'Energy Security' and 'Climate Change': Constructing UK Energy Discursive Realities', *Global Environmental Change* 21, 1 February 2011.

Romanova, Tatiana (2008) 'The Russian Perspective on the Energy Dialogue', *Journal of Contemporary European Studies* 16, 2, pp. 219–230.

Rosenau, James N. and Czempiel, Ernst-Otto (1992) *Governance Without Government: Order and Change in World Politics*. Cambridge: Cambridge University Press.

RAE (Royal Academy of Engineering) (2002) *An Engineering Appraisal of the Policy and Innovation Unity's Energy Review*. London: Royal Academy of Engineering.

RCEP (2000) 'Energy – the Changing Climate', *The Twenty-Second Report of the Royal Commission on Environmental Pollution*. London: HMSO.

Ruggie, John Gerard (1982) 'International Regimes, Transactions, and Change: Embedded Liberalism in the Postwar Economic Order' *International Organization* 36, 2, pp. 379–415.

Runciman, W.G. (1969) *Social Science and Political Theory*. Cambridge: Cambridge University Press.

Russell, James (2008) 'Militarization of Energy Security', a paper for the *International Studies Association Annual Conference*, San Francisco.

Rutland, Peter (2006) 'Oil and Politics in Russia', Paper prepared for the *American Political Science Association* annual convention, Philadelphia 2006. An Oxera Agenda paper accessed at: http://www.oxera.com/main.aspx?id=8643.

Rutledge, Ian (2010) 'UK Energy Policy and Market Fundamentalism: A Historical Overview', in Ian Rutledge and Philip Wright (eds.) *UK Energy Policy and the End of Market Fundamentalism*. Oxford: Oxford Institute for Energy Studies.

Rutledge, Ian (2007) 'New Labour, Energy Policy and "Competitive Markets"' *Cambridge Journal of Economics* 31, pp. 901.

Rutledge, Ian (2005) 'US Appears to Have Fought War for Oil and Lost It' *The Financial Times*, April 11 2005. Available at: http://www.ft.com/cms/s/0/a0bb7970-aa25-11d9-aa38-00000e2511c8.html#axzz1XLnqKVd5 (last accessed 8 September 2011).

Rutledge, Ian and Wright, Philip (2010) 'The Content and Delivery of Future UK Energy Policy' in Ian Rutledge and Philip Wright (eds.) *UK Energy Policy and the End of Market Fundamentalism*. Oxford: Oxford Institute for Energy Studies.

Scherr, James (2009) 'Europe, Russia, Ukraine and Energy: Final Warning' *The World Today*, 65, 2.

Schmidt, V. A. (2008) 'Discursive Institutionalism: The Explanatory Power of Ideas and Discourse' *Annual Review of Political Science* 11, 1, pp. 303–326.

Schmidt, V. A. (2006) *Democracy in Europe: The EU and National Polities*. Oxford: Oxford University Press.

Schmidt, V.A. (2001) 'The Politics of Economic Adjustment in France and Britain: When Does Discourse Matter?' *New Political Economy* 8, 1, pp. 127–146.

Schmidt, V.A. and Radaelli, C. M. (2004) 'Policy Change and Discourse in Europe: Conceptual and Methodological Issues' *West European Politics*, 27, 2, pp. 183–210.

Scrase, Ivan; Wang, Tao; MacKerron, Gordon; McGowan, Francis and Sorrell, Steve (2009) 'Introduction: Climate Policy is Energy Policy, in Ivan Scrase and Gordon MacKerron (eds.) *Energy for the Future: A New Agenda*. Basingstoke: Palgrave Macmillan.

Scrase, Ivan and Ockwell (2009) 'Energy Issues: Framing and Policy Change', in Ivan Scrase and Gordon MacKerron (eds.) *Energy for the Future: A New Agenda*. Basingstoke: Palgrave Macmillan.

Sentence, Andrew (2009) 'Energy and Environmental Challenges in the New Global Economy', A speech by Andrew Sentence, Member of the Monetary Policy Committee, Bank of England at the *British Institute of Energy Economics' Sustainable Energy Seminar*, 21 September 2009.

Sherr, James (2009) 'Europe, Russia, Ukraine and Energy', *The World Today,* February 2009.

Simmons, Matthew R. (2005) *Twilight in the Desert: The Coming Saudi Oil Shock and the World Economy*. London: John Wiley.

Simpson, Emma (2006) 'Russia Wields the Energy Weapon', *BBC News Channel*, 14 February 2006. Available at: http://news.bbc.co.uk/1/hi/world/europe/4708256.stm (last accessed 18 March 2011).

Smith, Adrian (2009) 'Energy Governance: The Challenges of Sustainability', in Ivan Scrase and Gordon MacKerron (eds.) *Energy for the Future*. Basingstoke and New York: Palgrave Macmillan.

Smith, Rebecca and Emshwiller, John (2003) *24 Days: How two Wall Street Journal Reporters Uncovered the Lies that Destroyed Faith in Corporate America*. New York: Harper Collins.

Smith, Steve (1987) 'Paradigm Dominance in International Relations: The Development of International Relations as a Social Science', *Millennium: Journal of International Studies* 16, pp. 189–206.

Sornette, D.; Woodward, R. and Zhan, W-X (2009) 'The 2006–2008 Oil Bubble: Evidence of Speculation and Prediction' *Physica A: Statistical Mechanics and its Application* 388, 8, pp. 1571–6.

Spence, A.; Poortinga, W.; Butler, C. and Pidgeon, N. F. (2012) 'Perceptions of Climate Change and Willingness to Save Energy Related to Flood Experience', *Nature Climate Change*, 1, April 2011.

Spero, J. E. and Hart, J. A. (1997). *The Politics of International Economic Relations*. 5th ed. Routledge.

Stanislaw, Joseph (2006) *Energy in Flux: the 21st Century's Greatest Challenge*. Switzerland: Deloitte Touche Tohmatsu.

Stanislaw, Joseph (2004) 'Energy Competition or Co-operation: Shifting the Paradigm', *Economic Perspectives* 9, 2, pp. 17–20.

Stern, Jonathan (2006) 'Home Fires Burning'. *Parliamentary Brief*, April 2006.

Stern, Jonathan (2004) 'UK Gas security: Time to Get Serious', *Energy Policy* 32 (2004), pp. 1967–1979.

Stern, Jonathan (1987) 'UK Energy Issues 1987–92', *Energy Policy*, December 1987, pp. 498–502.

Stern, N. (2006) 'Stern Review on the Economics of Climate Change', *HM Treasury*, London.

Stevens, Paul (2008) 'The Coming Oil Supply Crunch', a Report for *Chatham House*. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/43206/1796-chatham-house-coming-oil-supply-crunch.pdf (last accessed on 27 March 2013).

Stiglitz, Joseph (2002) *Globalization and its Discontents*. London and New York: The Penguin Press.

Stone, Deborah A. (1989) 'Causal Stories and the Formation of Policy Agendas', *Political Science Quarterly* 104, 2, pp. 281–300.

Strange, Susan (1988) *States and Markets*. London: Pinter.

Streeck, Wolfgang and Thelen, Kathleen (2005) *Beyond Continuity: Institutional Change in Advanced Political Economies*. Oxford: Oxford University Press.

SDC (Sustainable Development Commission) (2005) *Climate Change Programme Review*, The Submission of the Sustainable Development Commission to MM Government, May 2005. London: Sustainable Development Commission.

Stubbs, Richard and Geoffrey R.D. Underhill (1994). *Political Economy and the Changing Global Order.* Oxford University Press.

Thatcher, Margaret (1995) *The Downing Street Years*. London: Harper Collins.

Thomas, Steve (2006) 'The British Model in Britain: Failing Slowly', *Energy Policy* 34, pp. 583–600.

Tickner, Ann (1993) 'States and Markets: An Ecofeminist Perspective on International Political Economy', *International Political Science Review* 14, 1, pp. 59–69.

The Times (2006) 'A Deal Is a Deal: Russia Threatens the West at its Peril', *The Times*, Friday, 22 September 2006.

Timmins, Graham (2006) 'Bilateral Relations in the Russia-EU Partnership: the British View' in Hanna Smith (ed.) *The Two-level Game: Russia's Relations with Great Britain, Finland and the European Union*. Helsinki: Kikimora Publications.

Timney, Mary M. (2004) *Power for the People: Protecting States' Energy Policy Interests in an Era of Deregulation*. New York: M.E. Sharpe.

Toke D. and Lauber, V. (2007) 'Anglo-Saxon and German Approaches to Neoliberalism and Environmental Policy: The Case of Financing Renewable Energy', *Geoforum* 38, 4, pp. 677–687.

Toke, David and Oliver, David (2003) *The Green Party's Alternative Energy Review*. London: Spencer Fitz-Gibbon.

Tretault, Mary Ann (2009) 'La Longue Duree and Energy Security in the Gulf', *British Journal of Middle Eastern Studies* 36, 3, pp. 375–393.

Tutton, Tim (2009) 'The (Potentially) Topsy-Turvey World of Energy Regulation: RPI-X@20 and Project Discovery' *OXERA, an Oxera Agenda piece*. Available at: www.oxera.com (last accessed 23 December 2010).

Umbach, Frank (2010) 'Global Energy Security and the Implications for the EU', *Energy Policy* 38, pp. 1229–1340.

van der Horst, Dan (2005) 'UK Biomass Energy Since 1990: The Mismatch between Project Types and Policy Objectives', *Energy Policy* 33 (2005) pp. 705–716.

Venn, Fiona (1986) *Oil Diplomacy in the Twentieth Century*. Basingstoke: Macmillan Education Ltd.

Vogler, John (2000) *The Global Commons: Environmental and Technological Governance*. Chichester: John Wiley & Sons.

Wæver, Ole (1995) 'Securitization and Desecuritization' in Ronnie D. Lipschutz (ed.) *On Security*. New York: Columbia University Press.

Wagstyl, Stefan (2006) 'The Country may Look Strong but…', *Financial Times*, 21 April 2006.

Walker, P. (1991) *Staying Power*. London: Bloomsbury.

Warner, Jeremy (2009) 'Britain's Energy Gap is Down to Ministers, Not Markets', *The Daily Telegraph*, 12th October 2009. Accessible at: http://www.telegraph.co.uk/finance/comment/jeremy-warner/6310141/Britains-energy-gap-is-down-to-ministers-not-market-failure.html (last accessed 16 March 2011).

Watson, Jim (2010) 'UK Gas Security: Threats and Mitigation Strategies', *A Report Commissioned by Greenpeace UK*. Brighton: SPRU, University of Sussex.

Watson, Jim and Scott, Alistair (2009) 'New Nuclear Power in the UK: A Strategy for Energy Security?' *Energy Policy* 37, 12, pp. 5092–5104.

Watson, Matthew (2009) 'Headlong into the Polanyian Dilemma: The Impact of Middle-Class Moral Panic on the British Government's Response to the Sub-prime Crisis', *The British Journal of Politics and International Relations* 11, pp. 422–437.

Watson, Matthew (2008) 'Euphoria, Risk and Corporate Scandal: Enron and the Commercial Corruption of Expertise within Financialised Capitalism', *CSGR Working Paper 255/08*, November 2008.

Watson, Matthew (2005) *Foundations of International Political Economy*. Basingstoke and New York: Palgrave Macmillan.

Watson, Matthew (2002) 'Sand in the Wheels, or Oiling the Wheels, of International Finance? New Labour's Appeal to a New Bretton Woods', *British Journal of Politics and International Relations* 4, 2, pp. 193–221.

Webb, Michael G. (1985) 'Energy Policy and the Privatization of the UK Energy Industries', *Energy Policy,* February 1985, pp. 27–36.

West, J.; Bailey, I. and Winter, M. (2010) 'Renewable Energy Policy and Public Perceptions of Renewable Energy: A Cultural Theory Approach', *Energy Policy* 38, pp. 5739–5748.

Weyman-Jones, Tom (1997) Review of The UK Energy Experience: A Model or a Warning?', *Energy Policy* 25, 10, pp. 899–900.

Wheeler, Brian (2007) 'Labour and the nuclear lobby', *BBC News* Wednesday, 23 May, 2007. Available at: http://news.bbc.co.uk/1/hi/uk_politics/5149676.stm (last accessed September 2011).

White, A. (2009) 'Is our Power Market Fit for Purpose?' *Energy and Utility Forum, Athenaeum Club*, London. Available at: http://www.energyandutilityforum.org.uk/downloads/notes-from-ytilitu-031109.pdf.

Wicks, Malcolm (2009) *Energy Security: A National Challenge in a Changing World*. London: Department of Energy and Climate Change.

Widmaier, Wesley (2005) 'The Meaning of an Inflation Crisis: Steel, Enron, and Macroeconomic Policy', *Journal of Post Keynesian Economics* 27, 4, p. 555.

Widmaier, Wesley; Blyth, Mark and Seabrooke, Leonard (2007) 'Exogenous Shocks or Endogenous Constructions? The Meanings of Wars and Crises', *International Studies Quarterly* 51, pp. 747–759.

Williams, Michael C. (2003) 'Words, Images, Enemies: Securitization and International Politics', *International Studies Quarterly* 47, pp. 511–531.

Williams, Paul (2005) *British Foreign Policy Under New Labour, 1997–2005*. Basingstoke and New York: Palgrave Macmillan.

Wilson, Carter (2000) 'Policy Regimes and Policy Change', *Journal of Public Policy* 20, 3, pp. 247–274.

Wilson, Isiah III (2008) 'The Arc of Instability and Energy Predation', paper presented at the *International Studies Association (ISA) Conference 2008*, San Francisco.

Wintour, Patrick (2008) 'Wicks: All Is Lost on Global Warming Without Clean Coal', *The Guardian*, Friday 8 August 2008. Available at: http://www.guardian.co.uk/environment/2008/aug/08/carboncapturestorage.fossilfuels (last accessed September 2011).

Wood, Matthew (2011) 'Shifting Paradigms?: Mapping Policy Change in the Wake of the Financial Crisis', *Paper Presented at the ECPR General Conference*, Reykjavik, 24–28 August 2011.

WWF (World Wildlife Fund) (2010) ''E' Rating on Climate Policies shows UK Must do Better to Decarbonise by 2050, *WWF* 23 November 2010. Available at: http://www.wwf.org.uk/what_we_do/press_centre/?4399/E-rating-on-climate-policies-shows-UK-must-do-better-to-decarbonise-by-2050 (last accessed September 2009).

WWF/Greenpeace (2006) 'Energy Review Update Issue 1', *Greenpeace*. Available at: http://www.greenpeace.org.uk/media/reports (last accessed 22 November 2010).

Wrigley, E. A. (2010) *Energy and the English Industrial Revolution*. Cambridge: Cambridge University Press.

Yamani, Zaki and Ahmad, Shaikh (1981) 'The Impact of Oil on International Politics', in Mohammad W. Khouja (ed.) *The Challenge of Energy: Policies in the Making*. Harlow: Longman Group Limited.

Yee, A. S. (1996) 'The Causal Effects of Ideas on Policy', *International Organisation* 50, 1, p. 69.

Yergin, Daniel (2007) 'The Fundamentals of Energy Security', a *Testimonial before the U.S. House of Representatives Committee on Foreign Policy*, Washington DC. Available at: http://foreignaffairs.house.gov/110/yer032207.htm (last accessed August 2010).

Yergin, Daniel (2006) 'Ensuring Energy Security', *Foreign Affairs,* 85, 2, p. 69.

Yergin, Daniel (1998a) 'Foreword', in John Mitchell (ed.) *Companies in a World of Conflict: NGOs, Sanctions, and Corporate Responsibility*. London: Earthscan.

Yergin, Daniel (1998b) 'Energy Security in the 1990s', *Foreign Affairs*, 67, 1, pp. 110–132.

Yergin, Daniel (1991) *The Prize: The Epic Quest for Oil, Money and Power*. New York: Free Press.

Yergin, Daniel and Stanislaw, Joseph (1998) *The Commanding Heights: The Battle for the World Economy*. London: Simon and Schuster.

Youngs, Richard (2009) *Energy Security: Europe's New Foreign Policy Challenge*. Abingdon and New York: Routledge.

Zimmerman, William (2002) *The Russian People and Foreign Policy: Russian Elite and Mass Perspectives, 1993–2000*. Princeton: Princeton University Press.

Index