

THE GREEN BOOK

New Directions for Liberals in Government

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in Government

Edited by

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Biteback Publishing

First published in Great Britain in 2013 by
Biteback Publishing Ltd
Westminster Tower
3 Albert Embankment
London SE1 7SP

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ISBN 978-1-84954-409-3

10 9 8 7 6 5 4 3 2 1

A CIP catalogue record for this book is available from the British
Library.

Designed and typeset in Minion by Duncan Brack.
Printed and bound in Great Britain by
CPI Group (UK) Ltd, Croydon CR0 4YY.

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Foreword

Nick Clegg MP

As a philosophy, Liberalism needs constantly to re-examine itself: its assumptions, its values and their application in changing circumstances. This is even more true today, given that we are implementing many of our policies in government. This process of intellectual debate and renewal is one of the most important characteristics of the Liberal Democrats, and one which I am determined to encourage.

It therefore gives me great pleasure to contribute this Foreword to *The Green Book*. This publication follows *The Orange Book* of 2004 and *Reinventing the State* of 2007 in mapping out a vision of what Liberalism means in practice and what path the Liberal Democrats should follow.

The Green Book concentrates on environmental policy – rightly, given its ever more crucial importance to economic recovery and prosperity and to our citizens’ well-being and quality of life in both the short and the long term. It is a central component of the stronger economy and the fairer society that Liberal Democrats are striving to build.

I am proud to be the leader of a party which has championed the green cause for decades, and continues to do so in government. *The Green Book* is a welcome and provocative challenge to our thinking, and a valuable source of ideas for the future. I hope liberals everywhere will read *The Green Book* and respond to its arguments.

*Rt Hon Nick Clegg MP, Leader of the Liberal Democrats and
Deputy Prime Minister
February 2013*

Acknowledgements

This book has been in gestation for quite some time, and we acknowledge those who helped in planning in the early stages, including Joel Kenrick and Lisa Poole.

The Joseph Rowntree Reform Trust Ltd made the publication of the book possible, through a generous grant to cover publication costs. Our thanks also go to all those involved in the production of the book, including Lewis Carpenter and Iain Dale at Biteback Publishing, who have been more than patient with challenging deadlines. Jane Vaus, Steve Malone and Ben Wood provided invaluable assistance with promotion.

Most of all, though, our sincere thanks go to all the chapter authors, without whom the book would not have been possible. It should be noted that while most are Liberal Democrat party members, some are not; several provide advice also to members of other parties. All contributors have written independently, and do not necessarily endorse every proposal contained in the book.

We hope that what they have written will inspire a wide-ranging debate, both inside and outside the Liberal Democrats.

Duncan Brack, Paul Burall, Neil Stockley and Mike Tuffrey
February 2013

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Mike Tuffrey has combined his public service career with working in business to help large companies adopt strategies for sustainable growth. After qualifying as a chartered accountant with KPMG, he was director of a national charity before founding Corporate Citizenship, a management consultancy on responsible and sustainable business. In public life, he served as an inner city councillor and leader for twelve years, before spending the last decade elected to the London Assembly, where he was a member of the London Sustainable Development Commission.

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New Directions: Introduction to *The Green Book*

Duncan Brack, Paul Burall, Neil Stockley and Mike Tuffrey

This book presents the case for the Liberal Democrats to adopt a fundamentally different approach to economic and social policy – now, in government, for the coming general election, and beyond. We believe that the party must put centre stage the need to preserve the natural world on which our society and economy depends for its health, well-being and prosperity. We argue this for three reasons.

First, because low-carbon and environmental investment offers the UK a chance to create new jobs and prosperity – a route out of recession and towards a modern and competitive economy. Green technology, infrastructure and services companies now account for almost 10 per cent of UK GDP and employ almost a million people. Even throughout the depths of the recession, they have grown between 4 and 5 per cent every year. Britain's real strengths in technologies such as offshore wind and marine renewables, and in green finance, mean that the country is well placed to compete in new international markets; these sectors are expanding much faster than the sluggish global average. No other sectors are as well placed to give the economy the boost it needs in the short term and the competitive strength it needs in the long term.

Second, because environmental challenges, particularly those of climate change and finite limits on natural resources, are more serious and more urgent than most people think. There is no real chance that the world's nations will succeed in limiting temperature rise above pre-industrial levels to the 2°C that scientists say marks the boundary between dangerous and very dangerous climate change. Britain's economy and society will have to adapt, in quite radical ways; if we start now the process will be more gradual, less costly and less disruptive. To believe that the transition to a low-carbon, resource-efficient economy can be put off until the country's economic performance is stronger is not just short-sighted, it is counterproductive: all this does is store up more costs for the future and delay the recovery by ignoring a powerful instrument for economic revival.

Third, because green policies are a recognised strength of the party and, especially after a period in coalition, offer a clear distinguishing issue between Liberal Democrats and Conservatives. At the next election the party will face the challenge of showing what difference it has made to government – never an easy task, as junior coalition partners elsewhere have found. But high-profile disagreements between Liberal Democrat and Conservative ministers over a wide range of environmental issues leave little doubt about the coalition partners’ differences.

Liberal Democrats need a more radical approach to environmental policy, one that maintains our political strength as the greenest of the three main parties and provides us with distinctive policies and messages for building long-term economic prosperity. We need to stop treating ‘the environment’ as a separate issue and to stop focusing our green thinking only on energy or conservation policies, vital as they are. We need to consider economic, environmental and social policies as an integrated whole.

Our alternative vision: Green Liberalism

Most people realise that the last Labour government made serious mistakes in managing the economy; they want to support a party that spells out what it will take to get the economy on the right track in a way that is fair to all.

We believe that short-term fixes, such as blanket deregulation or ever more austerity, fail to face the reality of a global economy that has turned decisively to Britain’s disadvantage. Rising energy costs, increased raw material prices, growing competition, even fears over food security, all point to a more serious economic challenge than has yet been recognised.

We believe that there is an alternative, based on Green Liberalism. The policy ideas set out by the contributors to *The Green Book* aim to foster private investment in low-carbon infrastructure, use regulation and taxation to empower businesses, consumers and communities to behave sustainably, value natural resources, recognise that pollution damages human health, promote new business models which minimise energy and resource use, are open and constructive to international alliances, especially through the EU, and adapt to the reality of climate change while continuing to mitigate its worst effects. In short, they present an agenda for a government that puts the long-term interests of citizens at its heart.

Aren’t the Liberal Democrats green enough already?

As Chapter 5 shows, the Liberal Democrats have a good record on the environmental agenda, in the party’s policy stance from the 1970s and in its

performance running local councils and participating in coalition governments in Scotland, Wales and the UK.

As successive NGO assessments have shown, the party's election manifestos have done a better job than those of their Conservative and Labour opponents in including environmental policies and in starting to integrate them across all policy areas. However, environmental aims have not really been built into core economic policy commitments aimed at sustainable growth; nor has the party recognised the extent to which environmental factors contribute to social inequality. At election times, green policies have not been promoted strongly nor the links explained adequately. Liberal Democrats have sometimes been complacent about the radicalism of their environmental stance and their image as the greenest of the three main parties.

More importantly, the party has suffered from problems of association, through the coalition, with an increasingly anti-green Conservative Party. The last two-and-a-half years has demonstrated just how shallow is the Tories' belief in their own environmental policy stance. If the Prime Minister believed his own commitment to lead 'the greenest government ever', he would have reined in the ever more shrill assaults his Chancellor has mounted on environmental regulation in general and on renewable energy in particular; he would not have appointed as Secretary of State for Environment, Food and Rural Affairs a known climate-sceptic, or as Energy Minister a known opponent of onshore wind farms. Those few Conservatives who do actually believe their pre-election 'vote blue, go green' mantra are increasingly the prisoner of their party's anti-wind power, anti-renewables, anti-green right-wing majority.

Against this background, the achievements of Liberal Democrat ministers in coalition have been impressive. The Green Investment Bank has been established, levels of support for renewable energy have been maintained (and in some cases increased), the railways have seen greater levels of investment than at any time since the Victorian era, future finance for renewables (to accompany electricity market reform) has been agreed, and highly ambitious climate targets for the mid-2020s have been set through the fourth carbon budget – mostly in the teeth of mounting Conservative opposition. Liberal Democrat ministers have worked through the EU and the UN to argue the case for global action on climate change and to level the playing field for Britain's new green industries.

Having said that, the party's record has in some cases been disappointing. The Department for Business, Innovation and Skills, for example, has not always championed the growing low-carbon and environmental industries,

for instance arguing against the initial proposal for the fourth carbon budget and failing to implement the coalition commitment to ‘green’ the Export Credits Guarantee Department. Nevertheless, despite the inevitable compromises of coalition, we have no doubt that, without Liberal Democrat influence, a Conservative administration would have been far less green than the coalition government is proving to be.

Facing the challenges

We do not underestimate the task facing the Liberal Democrats – and liberals in other parties – in pursuing the ambitious agenda the contributors to *The Green Book* set out. The scale of the challenge is both serious and urgent.

The centre of gravity in the world economy is moving decisively to the fast-growing and populous emerging economies such as Brazil, India and China. Their demand for energy and raw materials is rising sharply, putting upward pressure on prices despite the recession affecting the older industrialised world. Analysis by McKinsey shows that commodity prices have increased by 147 per cent in real terms over the past ten years.¹ The UK has already felt the effects in terms of higher energy costs and increased food prices, reducing its citizens’ standard of living and its businesses’ ability to compete in world markets. Severe weather incidents are interrupting the now very extended supply chains that the UK economy depends on; global warming will only exacerbate the risks and vulnerabilities. Talk of a ‘lost decade’ for the UK economy, induced by the financial crash and subsequent fiscal austerity, ignores the fundamental reality that trends in the global economy are moving decisively away from Britain. We must make our own futures; no one owes us a living.

At home, the urgent need for major new investment in energy infrastructure, to replace ageing power stations and to ‘keep the lights on’, offers a great opportunity. New generation capacity must be low-carbon and renewable if we are to guarantee energy security and independence and to meet emissions targets. At the same time, public finance is constrained, and the way in which current support for renewables and energy efficiency is raised – mainly through levies on electricity bills, a legacy of the last Labour government – means that it is easy for the right-wing press and Conservatives to equate going green with high energy costs.

Although, as Chapter 12 shows, there is currently a surplus of private-sector savings, investment in new resource-efficient technologies is often perceived to be high risk, and private investors tend to be cautious. In the Green Investment Bank the government has created the perfect opportunity

to de-risk leading-edge investments and unlock billions of pounds of private capital, but risks failing to realise the benefits through its excessively cautious approach to investment and a refusal, imposed by a rigidly orthodox and intellectually bankrupt Treasury, to signal when the Bank will be given borrowing powers – as one observer put it, ‘a bit like driving with the hand-brake on’.

As several chapters in this book demonstrate, the potential to increase energy efficiency standards provides an enormous untapped opportunity. Demand-side management measures are essential, yet the current Energy Bill looks like falling short of what is needed. The Green Deal is a good start but its take-up seems likely to be slow. The notoriously poor state of British housing constrains the use of taxation to encourage reductions in energy use, as those in fuel poverty are in no position to respond to energy price signals; what they need is not the fuel subsidies demanded by some but help with upgrading the energy performance of their homes to reduce their need for energy.

Indeed, as the environmental challenge grows, it is those on low incomes and vulnerable citizens such as children and senior citizens who will be most affected. Air pollution, for example, disproportionately damages the health of those living in inner urban areas or next to main roads, where housing tends to be cheaper. Conversely, access to open space in cities increases health and well-being. The incidence of death during heat waves rises amongst older people.

Contributing to all these challenges is a central government structure that is not well suited to delivering the necessary policies – even where the political will exists at the centre. No administration has yet succeeded in mainstreaming sustainable development – or even just ‘environmental’ – objectives across government, and in this respect the coalition is faring no better than its predecessors.

The Liberal Democrat opportunity

These are daunting challenges; but we believe that the Liberal Democrats are uniquely placed to meet them. As Chapter 6 shows, Liberalism is an intrinsically green political philosophy; the green approach comes more naturally to us than it does to either the Conservatives or Labour. Free from vested interests, we have been more open to new thinking and more prone to think for the long term. With a philosophy based on liberty, rather than the defence of sectoral interests, we are pragmatic about using government intervention – regulation, taxation or behavioural ‘nudges’ – in whatever combination works best to deliver these objectives. By putting individual consumers and

citizens at the heart of Green Liberalism, we believe that rules, incentives and the simple power of good-neighbour community instincts can achieve remarkable changes in behaviour – as, for example, the dramatic reduction in smoking has shown. Instinctively internationalist, we have been enthusiastic about pursuing European and global solutions to international environmental problems. Traditionally decentralist, we understand the value, and the necessity, of community and local authority action.

And there are many reasons to be optimistic about the future. As we argued at the beginning of this chapter, the green economy is expanding across the globe; in 2010, for the first time, worldwide investment in renewable energy exceeded that in fossil fuels. Britain is well placed to compete in these new and expanding markets. We lead the world in installed offshore wind power, for example, and have a strong scientific and industrial research base in wave and tidal power and carbon capture and storage. CBI data shows that the UK's share of the £3.3 trillion global green market grew by 2.3 per cent in real terms in 2010–11, reaching £122 billion. Green businesses accounted for over a third of all UK growth in 2011–12.²

As several chapters in this book demonstrate, energy efficiency offers huge untapped potential: if we realised the opportunities available, business and household energy bills would fall, the need for new power stations would diminish, and emissions targets would be easier to meet – and all more cost-effectively than through any other low-carbon strategy. Digital technology and creative innovation in business can significantly reduce energy and natural resource consumption – and help consumers lower their own carbon footprints.

We understand the value of regulation and taxation in creating new markets. To choose one example, the controls imposed under the 1987 Montreal Protocol on ozone-depleting substances unleashed a wave of industrial innovation, as businesses raced to compete in the new markets for alternative substances and technologies, allowing the Protocol to achieve total phase-out of chlorofluorocarbons faster and cheaper than anyone had initially anticipated. The same is happening again in, for example, solar power, where PV panel prices fell by 58 per cent between 2008 and 2011, with further reductions predicted.³

Industries and companies everywhere are realising that rising natural resource prices need not simply be absorbed. The enormously wasteful nature of the twentieth-century industrial model, which grew on the back of cheap energy and raw materials, means there are almost limitless opportunities to cut costs by cutting waste, by operating more efficiently, and by adopting new business models. Ultimately this should lead to a

circular-economy or closed-loop model which eliminates waste through superior design of products and systems, avoids toxic chemicals and uses renewable resources: ‘cradle to cradle’ rather than ‘cradle to grave’. One report in 2012 estimated the potential savings to manufacturing industry across the EU of US\$520 billion–630 billion per year, equal to 19–23 per cent of current total input costs.⁴

The UK is well placed to lead the international race to develop the new technologies needed. Our higher education and research sectors remain among the best in the world and, despite the depletion of our manufacturing industry, we still have world-leading firms in engineering, software, aerospace, automotive, electronics, food and drink and pharmaceutical industries. New industries are growing rapidly, in low-carbon energy, industrial biotechnology, nanotechnology, digital technology and advanced materials such as composites. With support from government, a stable regulatory environment and a strong home market, these industries could help rebalance the economy away from over-reliance on financial services and so sustain high-value-adding jobs when the UK’s competitive advantage is being lost to emerging economies. This approach is more likely to underpin market confidence in the country’s ability to support the national debt – and to create taxable growth to reduce the deficit – than to rely simply on promises of yet further austerity.

Britain’s poor standard of housing and our failure to invest in renewing our urban areas – especially our great cities, where higher productivity, creativity and human interaction all enhance the potential for sustainable living – is both a major challenge and an opportunity. The Green Deal can open up the home insulation market, creating tens of thousands of new jobs spread round the country and stimulating innovation in technologies such as solid wall insulation, opening up further new jobs and export possibilities. Similarly investment in energy-efficient, lower-pollution transport – from long-distance rail to electric-vehicle infrastructure – can provide durable jobs, improved human health and an overall better quality of life.

This is the prize on offer.

New directions

The separate chapters in this book each make the case for change; they put forward proposals for the new directions that Liberal Democrats should promote in government and argue for at the next election. Chapter 3 provides a summary; here we draw together the arguments they build up collectively, in five main areas.

Modernising the economy and building long-term resilience

To secure Britain's future prosperity, we need a more robust economic model, less exposed to volatile and increasingly expensive imported raw materials and energy; a modern 'circular economy' based on zero waste and closed-loop production processes; and businesses that embrace the spur to innovation that government regulation and standard-setting can bring.

A modernised economy will play to the country's remaining industrial strengths, with investment to support the low-carbon and environmental goods and services sectors. Government should not be afraid to 'pick winners' – as canny investors have always done – and focus its support on those with the greatest potential for long-term return, such as offshore wind, with 'clean-tech' innovation leading export-focused growth. It should use a reformed Green Investment Bank, with the power to borrow, to unlock private investment and support venture capital; green bonds and green ISAs can provide additional funds. Through public procurement policy, it should use its considerable buying power in the market to boost green technologies and products.

The result will be a more resilient and innovative economy, capable of sustaining the living standards we rightly aspire to, in a world where others can also enjoy a fair share of the planet's finite resources.

Rebuilding infrastructure and regenerating communities

Unlike Norway and the Gulf states, which have used their natural resources to build up sovereign wealth funds and invest in their national infrastructure, British governments have neglected long-term investment, and funded current consumption out of borrowing. Liberal Democrats must win the argument for a new approach to economic prosperity, recognising that a warming planet threatens the economy and the country's productive capacity. The place to start is a dramatic improvement in energy efficiency and a renewal of energy infrastructure based on renewables, carbon capture and storage for gas and a significant increase in decentralised and community-based generation and new electricity interconnections with our European neighbours, including a North Sea grid.

Rebuilding infrastructure for sustainable living also includes a new commitment to land-use planning, so that our built environment shifts to the same low-energy, zero-waste, closed-loop approach as the wider economy. Far from causing a 'nimby' reaction, new developments that enhance quality of life can be encouraged through land value taxation, which captures wind-fall increases in land values for the benefit of the community. In moving to a zero-waste approach, an effective ban on landfill will spur new recovery and

energy businesses, with the Green Investment Bank mitigating some of the private sector risk.

More powers for local government are essential, with new duties for councils to promote health and well-being and develop their local economies sustainably. Since economic development is best supported at regional level, local enterprise partnerships must grow into a more strategic role without recreating the wasteful bureaucracy of the worst of the old regional development agencies. ‘Total place budgeting’ should be used to ensure that public money from procurement contracts and welfare transfers stays in the locality. Central and local government should agree measures of success based on new sustainability indicators, with a requirement to report regularly and engage with citizens locally.

Putting citizens and consumers at the heart of Green Liberalism

Protecting the natural environment and building a resilient economy and a fairer society will not happen unless individuals as citizens, consumers and voters are enabled to commit to changes in their own lifestyles.

The Green Book’s contributors propose many different ways in which to empower consumers. Many focus on demand reduction in energy and resource consumption. An improved Green Deal can reduce energy bills and combat fuel poverty. Digital interventions, such as smart meters and ultimately a smart grid, can also play a role; indeed, the potential for information technology, digital and web media to open up access to information, empower individuals and inspire them to change remains largely untapped.

Product and service labelling with embedded carbon and full lifetime use costs can help inform consumers; steadily increasing product standards, for example for energy efficiency, can improve performance and spur innovation. A levy on advertising (similar to the existing 0.1 per cent ASA financing mechanism) can create a fund that will harness the creative power of the media to encourage sustainable living.

Explaining environmental damage in terms of its impacts on human health can help unlock engagement, with the costs of environmental protection seen in terms of ill-health prevention. A strong signal of the change in direction should be provided by the government giving the same weight to the new well-being indicators as it currently does to GDP.

Combating market failure and taxing pollution

Liberals recognise the creative power of the market economy in deploying resources efficiently in response to price signals. But markets are not good

at factoring in costs to public welfare, such as the consequences of damaging the natural environment. So Green Liberals reject the false choice between free markets and regulation. The contributors to this book argue that a sustainable market economy requires government intervention through setting standards, and providing fiscal signals to promote behaviour that protects the environment as well as extending producer liability.

This includes a new approach to regulation, sweeping away anti-green rules that damage the economy (a ‘green tape challenge’) while progressively tightening product and service energy efficiency standards, with an independent scrutiny agency charged with achieving sustainability outcomes, based on the Dutch model. It also includes extending the ‘polluter pays’ principle to establish legal liability for long-term health damage caused by products in their manufacture, use and end-of-life treatment, learning lessons from America.

On taxation, contributors argue for a gradual move to selective carbon taxes, with protection, for example for the fuel-poor or rural drivers, as a step towards a more realistic valuation of energy and natural resources. Green tax instruments can cut harmful emissions from cars, with road user pricing and a radical change to vehicle excise duty, and encourage maximum fuel efficiency from buses, trains and aeroplanes. Revenue raised from taxing pollution and wasteful activities can be used to reduce personal taxation and fund equitable outcomes, such as subsidies for insulation for fuel-poor households, helping to sustain public support.

Reforming national government and making the best use of international alliances

No government has successfully integrated environmental objectives across the Whitehall machine and overcome short-term siloed decision-making. *The Green Book’s* contributors argue that Green Liberalism requires four changes to the way in which Britain is governed.

First is the creation of a single government department to champion sustainable development. As well as providing coherent leadership, a large new department will help counterbalance the overweening influence of the Treasury.

The second change is to integrate likely long-term environmental costs into all major government decisions, including assessments of the impacts on health and social care costs, with scrutiny of decision-making inside and outside government.

The third change is a fundamental rebalancing of power and responsibility to local, regional and devolved government.

The final element is a positive and engaged approach to international relations, especially with Britain's European partners. Green Liberalism recognises the integrated nature of the global economy and the fact that environmental damage from pollution and greenhouse gas emissions is no respecter of national boundaries. More, not less, international cooperation is essential.

About this book

The Green Book does not pretend to cover every area of policy important to a new approach of Green Liberalism. Our focus primarily on the green economy, policies for reducing carbon emissions, local and community solutions and international politics reflect both topical priorities in public debate and the interests and enthusiasms of individual authors.

Our purpose is to stimulate debate, to demonstrate the compelling case for Green Liberalism and to persuade the party to take these issues more seriously. Whether or not you are a Liberal Democrat, we hope you will join the discussion by commenting on our website (www.green-book.org.uk), by participating in events we organise and by blogging, tweeting and retweeting your own and others' ideas. We hope to use the website to develop ideas for other areas of policy and to develop priorities for the party's election manifestos.

Given the scale of challenges facing our country and our planet, it would be easy to be pessimistic. But we remain optimists, inspired by the passion and commitment of colleagues in and around the party to build a prosperous, just and sustainable future for all. Please join the debate.

Notes

- 1 McKinsey & Co, *The Resource Revolution* (2011).
- 2 Confederation of British Industry, *The Colour of Growth: Maximising the Potential of Green Business* (2012).
- 3 Bloomberg New Energy Finance Solar Value Chain Index (17 June 2011).
- 4 Ellen MacArthur Foundation, *Towards the Circular Economy: Economic and Business Rationale for an Accelerated Transition* (January 2012).

Green Story Time for the Liberal Democrats

Neil Stockley

Environmental policy has long been a key priority for the Liberal Democrats. Since 1992, every Liberal Democrat general election manifesto has featured prominent green themes. The party has made ground-breaking commitments, including tougher national targets for reducing pollution, a shift in taxation from income and employment to pollution and resource use, and setting Britain on a path to be 'zero carbon' by 2050. However, these policies have not persuaded large numbers of voters to support the party. Nor have they played a significant role in its electoral successes. Indeed, green policies have barely featured in its campaign strategies and messages at all.

There is no evidence to suggest that the party's environmental commitments, either individually or in total, have pushed voters away. In public opinion polls, green issues are the only policy area on which the party's rating as the best of the three main parties has consistently been in double figures since the mid-1990s; in fact the Liberal Democrats have often been rated as the leading party on the environment or climate change.¹ Some long-standing Liberal Democrat environmental policies enjoy overwhelming public support. In October 2012, a YouGov survey commissioned by *The Sunday Times* showed that 72 per cent of the public think the UK should be looking to use more solar power, while 55 per cent think it should be trying to use more wind power. In contrast, just 17 per cent of people want to see more coal or gas-fired power plants.

Even so, one of the positive attributes of the party's brand has not yielded the Liberal Democrats any obvious electoral benefits. This is no longer simply a question of a political asset not delivering its full electoral potential. Since entering government in 2010, Liberal Democrats have been forced onto the defensive over, for example, the extent to which climate change policies are responsible for rises in consumer energy bills and the construction of more onshore and offshore wind farms. The party needs to gain public support

for its environmental commitments in different, more challenging circumstances, co-governing in the age of austerity. The political challenges are sure to become more pressing. As Chapter 3 shows, the environmental crisis is deepening and the news about the magnitude and impacts of climate changes becomes grimmer every year. The complex challenges will surely require more robust and ambitious policy responses, for which the party, and any government it may become part of in future, will need a clear electoral mandate.

The main reason the Liberal Democrats' green themes have not translated into votes is straightforward enough: the environment has not historically been a priority for most voters, including those in the party's target constituencies.² Even so, the party could gain more public support for its environmental policies by addressing a long-term fundamental weakness in its approach to communications and marketing. In successive policy papers, speeches and election manifestos, the Liberal Democrats have provided a substantial amount of analysis to support their environmental and climate change policies. However, as in most areas, they have not accompanied the analysis with a compelling narrative that makes their environmental policies more relevant and attractive to voters.

What is a political narrative?

First and foremost, a political narrative is a *story*, with a setting, characters (usually a hero and a villain) and, crucially, some kind of unanticipated event.³ Drew Westen, professor of psychology at Emory University and author of *The Political Brain*, stresses that the story 'should be coherent, requiring few leaps of inference or imagination to make its plot line move forward or the intentions of the central actors clear'.⁴

The screenwriter Robert McKee emphasises the need for the events in the story to portray a drama, or conflict, in which a protagonist is faced with a problem, obstacle or antagonist that he or she must overcome. 'As a storyteller, you want to position the problems in the foreground and then show how you've overcome them. When you tell the story of your struggles against real antagonists, your audience sees you as an exciting, dynamic person.'⁵ Not every story needs a challenge or quest, but some sort of solution or transformation, effected by identifiable, authentic characters is especially relevant to politics.

A narrative should provide listeners with an easily comprehended account of the past and enable them to make sense of the present. But it can also enable large groups of people to project in their own minds a vision of the future, by showing them how it could look and feel. In his seminal book,

Leading Minds, Howard Gardner studies several successful leaders in history from a range of fields. He concludes:

A leader must have a central story or message. The story is more likely to be effective in a large and heterogeneous group if it can speak directly to the untutored mind – the mind that develops naturally in the early lives of children without the need for formal tutelage. Stories ought to address the sense of individual and group identity, the ‘we’ and the ‘they’ thought that sense may actually be expanded or restricted by the story. They should not only provide background, but should help group members to frame future options.⁶

Both Westen and Gardner are clear that a compelling political story must be moving and emotionally evocative. In politics, the emotions used will usually be hope, fear and the offer of a sense of reassurance; a successful ‘policy’ or ‘vision’ story will usually explain in human, personal terms how peoples’ lives will be improved. This will almost always involve, but not be limited to, a strong appeal to listeners’ desire for financial security and their longer-term personal aspirations.

Westen argues that narratives need central elements that are easily visualised or pictured to maximise their memorability and emotional impact.⁷ For his part, Gardner stresses the need for narratives to invoke existing values, symbols and archetypes:

Leaders benefit from the ability to build on stories that are already known – for example, those drawn from religion or history or those that have already been circulated within an institution – and to synthesise them in new ways, as Martin Luther King Jr was able to do.⁸

The narrative concept should not be a difficult one. As Westen reminds us:

The stories our leaders tell us matter, probably almost as much as the stories our parents tell us as children, because they orient us to what is, what could be, and what should be; to the world views they hold and to the values they hold sacred. Our brains evolved to ‘expect’ stories with a particular structure, with protagonists and villains, a hill to be climbed or a battle to be fought. Our species existed for more than 100,000 years before the earliest signs of literacy, and another 5,000 years would pass before the majority of humans would know how to read and write.

Stories were the primary way our ancestors transmitted knowledge and values. Today we seek movies, novels and ‘news stories’ that put the events of the day in a form that our brains evolved to find compelling and memorable. Children crave bedtime stories; the holy books of the three great monotheistic religions are written in parables; and as research in cognitive science has shown, lawyers whose closing arguments tell a story win jury trials against their legal adversaries who just lay out ‘the facts of the case’.⁹

One of the most successful storytellers in recent British political history was Margaret Thatcher. She persuaded her electorate to accept a major programme of economic and social change. She provided the public with an accessible account of the country’s economic decline after World War II, by arguing that it was due to declining respect for institutions and traditional values, runaway state expenditure and out-of-control trade unions. In promising to make Britain great again, Thatcher offered her compatriots a sense of hope. By exhorting the British people to be proud of their country, its achievements and potential, she appealed to their deepest held values. Her promises to make sure that individual effort, thrift and success were rewarded both framed her vision in terms of established values and, with the British Gas and British Telecom privatisations and council house sales, explained the financial benefits that people would gain.

Thatcher was very clear that the British people had enemies abroad: the Soviet Union (at least until Gorbachev came along), the Argentinian generals who invaded the Falkland Islands and, as her premiership progressed, the bureaucrats, socialists and integrationists supposedly rampant in the European Community. There were enemies at home too: the trade union leaders who had brought the country to its knees in the 1970s, the Tory ‘wets’, Arthur Scargill and the miners. In promising to reverse the decline and confront the various villains, she created a sense of conflict, of drama, becoming the hero of the story.

A comparable Liberal Democrat narrative, let alone one that deals with environmental issues, is much harder to identify. At times, in this area as much as any other, the party has sometimes come close to offering what Westen scathingly refers to as a ‘rational-utility laundry list’.¹⁰ We need, then, to consider what a compelling Liberal Democrat narrative on the environment might look like.

Green growth and the green economy

Too often, debates about narratives and other political marketing concepts get bogged down in questions of ideological definition (‘what is modern

liberal democracy?) or attempts to describe quickly overarching policy themes and frameworks ('constitutional reform'). The latter are not, in themselves, political narratives but when based on sound analysis they can provide crucial elements of the story – for instance, the basis of the account or explanation, or the vision that drives the party's (that is, the hero's) intentions and actions.

One of the Liberal Democrats' guiding principles is environmental sustainability – defined in the 1987 Brundtland Report as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'. There is little argument, however, that paying costs and acknowledging limits cannot be the basis for a political message when the vast majority of voters desire greater economic growth and the material security and job opportunities that it yields. The 'politics of gain' must be more attractive than the 'politics of pain'.

In the mid 2000s, the Liberal Democrats identified climate change as one of their top policy priorities, and focused their efforts in environmental policy-making and communications accordingly. Efforts to frame policies and issues in terms of the deleterious impacts of climate change open up some vexing questions. The British public has accepted for some years that climate change is happening, that it is a result of human actions, and that more effective action is needed to counter it. Studies of public opinion consistently show that only a small minority outright reject the notion of human-made climate change.

But climate change is not a top concern for most people,¹¹ and there is no public consensus as to what the country should do about it, particularly when it comes to strategic policy measures.¹² There is some evidence that 'horror stories' about the disasters that could result from a changing climate (which, it must be said, Liberal Democrats have generally avoided telling in recent years) may overwhelm many people and cause them to disengage from the issue.¹³

The global financial crisis and world recession that began in 2007–08 has had a profound impact on public debate about the environment and climate change, shifting attention to more immediate concerns, like jobs, living standards and incomes. In January 2007, Ipsos MORI found that 19 per cent of voters saw the environment as a priority issue facing Britain. By the end of 2008, just 6 per cent held the same view, a figure that had declined to just 4 per cent by spring 2012. By contrast, the proportion seeing the economy as a priority issue went from 14 per cent in January 2007 to 66 per cent at the end of 2008 and remains, by some way, the public's top priority.¹⁴

It is against the backdrop of the global economic downturn that the case for ‘green growth’ has come to prominence in public debate.¹⁵ This is discussed extensively elsewhere in this book; a convenient short description is provided by the OECD, which says that green growth is ‘about fostering economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies’.¹⁶ Michael Jacobs is clear that green growth is ‘a level of environmental protection which is not being met by current or “business as usual” patterns of growth. It is this in turn which gives the concept its political traction.’¹⁷ Its sister concept, the ‘green economy’, is defined by UNEP as one that ‘results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities’.¹⁸ Both green growth and the green economy embrace the principle of growth being compatible with environmental protection.¹⁹

This fits well with Liberal Democrat thinking, aiming at both environmental sustainability and enhanced economic prosperity – the creation of wealth and a better standard of living. Green growth not only insists that the two are perfectly compatible but assumes that protecting the environment can be a positive driving force of higher economic output and rising living standards.

With robust policy frameworks, the twin concepts of green growth and the green economy marry sound policy with good politics. In the UK, green sectors have outperformed the wider economy since the economic downturn began and now account for almost a million jobs. The British share of the global low-carbon environmental goods and services market was estimated to be more than £122 billion in 2010–11 – the sixth largest in the world, and growing at around five per cent a year, generating a trade surplus of £5 billion. The UK is the largest single market for offshore wind in the world, and currently leads the world in marine energy devices and installation development, leaving it well placed to compete in an expanding global market.

Green growth and the green economy also enable Liberal Democrats to reframe their environmental policy agenda around the drive for resource efficiency, which will enable businesses to be less reliant on imported supplies of energy, less exposed to volatile prices and political risks; in other words, to give the UK greater energy security and a more resilient economy. They offer an opportunity to shift the political discourse about the environment and climate change away from the negative frames of burden-sharing, melting ice caps and endangered species and on to propositions that are more attractive and relevant to voters, such as job growth and how to build a more

modern and dynamic economy. These are voters' main concerns, and the very areas where the Liberal Democrats have long struggled for clear definition, supported by a strong narrative.

The public may well be receptive to such a story. In November 2012, a YouGov survey found that 54 per cent of the public agreed 'we can save the planet and the economy both at the same time by investing in green technologies'. And, as Jacobs has argued, the huge expansion over the last two decades of environmental industry sectors means that there are now many influential businesses with a direct commercial interest in strengthening environmental policy. With a strong basis in mainstream economic thinking, the concepts of green growth and the green economy could provide the basis for a broad and powerful political coalition in support of the party's environmental commitments.²⁰

Liberal Democrats and green growth

It is hardly surprising, then, that Liberal Democrats have started to use both 'green growth' and the 'green economy' as communications themes. But the party has advocated in succession two different versions of green growth. The 2010 election manifesto promised a 'green stimulus plan', comprising £3.1 billion of public spending that, the party promised, would 'create 100,000 jobs and be a first step towards our target for a zero-carbon Britain by 2050'.

Since they joined the coalition government with the Conservatives, the Liberal Democrats have pursued a green growth strategy based on correcting market and policy failures preventing natural resources being used efficiently and pollution made more expensive. This switch, from 'green Keynesianism' to a focus on addressing market failures, is very much in line with similar strategies that other developed economies are pursuing.²¹ The main tools are the policies being pursued at the Department of Energy and Climate Change under Chris Huhne and Ed Davey, aimed at meeting the UK's legally binding targets to reduce greenhouse gas emissions. Vince Cable's Department for Business, Innovation and Skills has also played an important part.

Key policies include the Green Deal, which aims to overcome barriers to improving the energy efficiency of the UK's building stock, most notably the expense to households and businesses; electricity market reforms, intended to give energy companies stronger incentives to invest in low-carbon generation capacity and improved energy efficiency on the part of consumers; the Green Investment Bank, established to mobilise finance at scale from institutional investors, whose attitude to risk discourages them from investing in low-carbon infrastructure; measures to foster low-carbon innovation, which

the market is sometimes slow to pursue; support and incentives for renewable electricity and heat technologies; and the development of an external carbon price across different sources of emissions, using market-based instruments.

Liberal Democrats have started to frame their green growth (and climate change mitigation) policies as ways to deliver new jobs, expand economic opportunities for UK plc, enhance energy independence, create greater economic security and price stability, and lower greenhouse gas emissions. Ed Davey has, for example, described the electricity market reforms as an essential element of ‘the green growth opportunity’ and claimed that they will ‘support our economic recovery, resulting in thousands of new jobs in every nation and region of the UK’ and ‘enable us to keep the lights on and to keep bills affordable for consumers whilst leading to a significant decarbonisation of the power sector in order to meet our climate targets’.²² Nick Clegg has delivered very similar messages.²³

Towards a new economic and environmental narrative

We can see, then, the first steps towards a ‘green growth’ narrative, with a discussion of the benefits and how Liberal Democrat policies will bring them about. But the story should be deepened and used more widely. The hero is clearly the party itself – or, more likely, Nick Clegg and Ed Davey. The unanticipated event (for most) is the world economic downturn, and the problem or challenge is the continuous shocks that worsen the economic and environmental crisis. They should be framed in terms of the damage or harm they are doing, or will do, every day, to identifiable people, communities and businesses.

The stories around individual policies should be as simple and straightforward as possible, relying less on process and more on outcomes, particularly the creation of new jobs. In this respect, the Green Deal and the Green Investment Bank (once it has full borrowing powers) are easier to explain than electricity market reform.

The quest for a green economy can be based on existing stories and archetypes. Margaret Thatcher, like Winston Churchill before her, appealed to the British people’s sense of themselves as a strong island nation, taking on external adversaries. Liberal Democrats can tell a similar story (without the military angle), by showing how ‘going green’ can make Britain more competitive, a winner in the global economic race, at the forefront of the global green economic revolution.

Another less familiar but still powerful archetype, used most effectively by Churchill during World War II, is of the strong community, united in a

common purpose. Business must be a key protagonist in the green economy, developing new, efficient products, processes and services, building new opportunities in export markets and creating new jobs. The mantra ‘we’re all in this together’ has lost its sheen, but ‘we can all win’ may yet prove to be an attractive proposition.

But it is consumers who must be at the heart of the green economy narrative, both as economic actors, creating the demand for new innovations and approaches, and as voters. Rising energy bills will be addressed by Ed Davey’s tariff reforms and measures to increase retail market competition. His moves to promote collective purchasing of energy will also become a key part of the story as will, in the future, the decentralisation of electricity generation.

Consumers will have new opportunities to control their energy consumption, with the roll-out of smart meters. We should develop new policies, including improving product standards, to promote the take-up of smart appliances and technologies, as they become more cost-competitive. The Green Deal will enable people to insulate their homes at no upfront cost; in the second half of this decade, programmes could also be introduced to improve the energy efficiency of dwellings on a street-by-street or neighbourhood basis.

Consumers need more powerful incentives to use energy efficiently. The use of more transparent tariffs are an obvious start, but Liberal Democrats’ medium-term objective should be the creation of a new market for energy savings, in which new and existing companies compete with each other to enable domestic, residential and industrial consumers to conserve electricity and reduce their power bills.

So, where’s the drama; who are the antagonists? Like all major programmes of change, the move to a green economy will have its critics and opponents, usually the representatives of old, vested interests. Parts of the right-wing media are already running a counter-story, that the government’s energy and climate change (that is, green growth) strategies will force up consumer power bills. And another familiar set of antagonists is also apparent: the ‘brown wing’ of the Conservative Party, represented most obviously by the Chancellor, George Osborne, who has framed environmental regulation and policies to promote renewable energy as an economic cost and championed a significant role for unabated gas in the UK’s future energy mix, regardless of the implications for legally binding targets to reduce greenhouse gas emissions.

Osborne and his colleagues have a narrative of their own: just as policies to promote renewable energy impose high costs on consumers and

businesses, so gas prices will fall, and the UK economy and consumers would benefit from lower energy bills.

Liberal Democrats will have to confront these claims head on. The Committee on Climate Change has estimated that with current policies, average dual-fuel bills will increase in real terms by £40 from 2011 to 2015, and will be around £100 higher in 2020, due to support for investment in low-carbon generation technologies, including the costs of the required investments in the electricity grid; the £100 figure in 2020 comprises £75 of direct support and £25 of support via increases in the carbon price. Achieving a largely decarbonised power sector by 2030 will require further increases in the average annual bill of around £25 per household through the 2020s, with probable reductions thereafter.²⁴

The pro-consumer policies described above, such as the Green Deal and changes in energy companies' tariffs, will help to address the counter-stories. So will explaining the uncertainties and exposing the trade-offs involved in keeping the lights on and meeting the UK's statutory target to cut emissions by 80 per cent by 2050. The Department of Energy and Climate Change's modelling shows that a balanced electricity generation mix in 2050, with 33 GW of nuclear, 45 GW of renewables and 29 GW of fossil fuels with carbon capture and storage is marginally cheaper than 'doing nothing'. Moreover, the costs of renewable energy are being driven down.

These arguments are appeals to reason, but the public will finally be won over by which vision – which story – of the future they find more attractive and plausible. Liberal Democrats can ask whether people want a future in which the UK is more reliant on imported supplies of gas, the price of which is uncertain and volatile, and which the International Energy Agency foresees rising to 2030, as demand pressures outweigh supplies – or one in which the UK has a diverse range of secure energy supplies? A future in which we allow green investment to go to countries like China, Korea or Germany, with Britain left behind, in the economic slow lane – or one in which we are big winners from the global market for environmental goods and services, already worth around £3 trillion and growing to more than £4 trillion by 2015? One in which we isolate ourselves from the EU, one of the world's strongest economic blocs – or one in which we use the institutions at our disposal and take the lead in arguing for a greener world economy?

The Liberal Democrat narrative should have a moral dimension too. While economic considerations, both for the country and individuals, can make the green growth story especially powerful, there is considerable evidence that most people adhere to a range of values, including pro-environmental

and altruistic beliefs and behaviours. For some, such internal standards are stronger than material values; the environmental narrative should speak to those too.²⁵ Drew Westen is clear that ‘a clear moral’ is one defining feature of a compelling political story.²⁶ The Liberal Democrats’ story can be about doing the right thing by other people, looking after our environmental infrastructure, or saving the planet for future generations to enjoy. Another important moral dimension is about ensuring that people on low incomes, suffering from fuel poverty, are better off.

Similarly, the party’s narrative cannot be based solely on ‘economic’ benefits or financial gains to consumers from one policy or set of policies. The green growth strategy is tied closely to the UK’s efforts to reduce greenhouse gas emissions, and will entail a whole sequence of policy initiatives aimed at delivering major change in energy and transport systems, across the domestic, commercial, industrial and public sectors and requiring major changes in business, personal and consumer behaviour. The available scientific evidence suggests that the changes needed will become more substantial and demanding. Any environmental narrative will need to enable the public to link the programmes and initiatives together as part of a bigger, longer-term story. Over time, this will surely require new efforts to engage the public on the issue of climate change and its impacts.

Conclusion

Environment policy is one of the positive attributes of the Liberal Democrats’ brand, and a cause dear to many members’ hearts, but it has not yielded the party any obvious electoral benefits. This needs to be addressed if the party is to make the best of one of its major political assets, and win public support for measures that it is taking forward in government now, or that it may have the opportunity to implement in future.

Green policies are not a priority for most voters who, now more than ever, are much more concerned with the economy and jobs. Liberal Democrats can make their environmental commitments more relevant to voters, and find new definition in the economic debate, by developing a new narrative – a political story – based on green growth and the green economy. The policies that the party is pursuing in government (particularly at DECC) leave it well positioned to further develop such a narrative. But it will need to deploy all the elements of a compelling narrative and keep the benefits to consumers at the heart of the story. Given that the policies are rooted in measures to mitigate climate change, the green growth narrative is vulnerable to counter-stories based on the costs to consumers. These claims can be countered,

but the green growth narrative will need to have a moral dimension and to engage with the difficult issues around climate change.

If it is to ultimately prevail, however, the Liberal Democrats' new narrative must give people an easily visualised picture of what the 'new' (not necessarily 'green') economy will look like, showing what kinds of new opportunities there will be to work and to prosper, how businesses will be healthier, how consumers will be better off financially and gain more power in the market place and above all, how peoples' lives will be better.

Notes

- 1 See Ipsos MORI, 'Best party on key issues: environment' at <http://www.ipsos-mori.com/researchpublications/researcharchive/>; and Populus Limited, conference poll, September 2006, September 2007, September 2008, September 2009, at populus.co.uk/Poll.
- 2 <http://www.ipsos-mori.com/researchspecialisms/socialresearch/specareas/politics/trends.aspx>
- 3 See Drew Westen, *The Political Brain: The Role of Emotion in Deciding the Fate of the Nation* (Public Affairs, 2007), pp. 146–51.
- 4 Westen, *The Political Brain*, p. 147.
- 5 Bronwyn Fryer, "Storytelling that Moves People: A Conversation with Storytelling Coach Robert McKee", *Harvard Business Review* (June 2003), p. 7.
- 6 Howard Gardner, *Leading Minds: An Anatomy of Leadership* (Harper Collins, 1997), p. 290.
- 7 Westen *The Political Brain*, p. 147.
- 8 Gardner, *Leading Minds*, p. 291.
- 9 Drew Westen, 'What Happened to Obama?' *New York Times*, 7 August 2011.
- 10 Westen, *The Political Brain*, p. 149.
- 11 See A. Spence et al., *Public Perceptions of Climate Change and Energy Futures in Britain: Summary Findings of a Survey Conducted in January–March 2010* (Cardiff School of Psychology, 2010); W. Poortinga et al., 'Uncertain climate: an investigation into public scepticism about anthropogenic climate change', *Global Environmental Change: Human and Policy Dimensions* (2011); and Lorraine Whitmarsh, 'Scepticism and uncertainty about climate change: dimensions, determinants and change over time', *Global Environmental Change: Human and Policy Dimensions* (2011).
- 12 Matthew Lockwood and Andrew Pendleton, *Engagement and Political Space for Policies on Climate Change* (IPPR, 2008).
- 13 See M. Feinberg and R. Willer, 'Apocalypse soon? Dire messages reduce belief in global warming by contradicting just-world beliefs', *Psychological Science* (January 2011).

- 14 See <http://www.ipsos-mori.com/researchspecialisms/socialresearch/specareas/politics/trends.aspx>
- 15 Michael Jacobs, *Green Growth: Economic Theory and Political Discourse* (Grantham Research Institute on Climate Change and the Environment, October 2012) provides an invaluable survey of the issues and arguments.
- 16 OECD, *Towards Green Growth* (2011), p. 18.
- 17 Jacobs, *Green Growth*, p. 5.
- 18 UNEP, *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication* (2011), p. 16.
- 19 Jacobs, *Green Growth*, p. 5.
- 20 *Ibid.*, p. 18.
- 21 *Ibid.*, pp. 12–13.
- 22 Rt Hon Ed Davey MP, Speech at Liberal Democrat conference, 23 September 2012.
- 23 Rt Hon Nick Clegg MP, Speech on Green Growth, 11 April 2012.
- 24 Committee on Climate Change, *Energy prices and bills – impact of meeting carbon budgets* (2012).
- 25 Adam Corner, a research associate at Cardiff University, has written extensively on this. See www.guardian.co.uk/profile/adam-corner and www.talkingclimate.org
- 26 Westen, *The Political Brain*, p. 147.

Policy Proposals: Chapter Summaries

Ch 7: Setting standards: environmental regulation as if human health mattered (Mike Tuffrey)

Too often regulation is seen as a burden but – done right – it can be a spur to innovation and enterprise, creating a level playing field where companies and individuals invest for long-term prosperity without being undercut by competitors and freeloaders. The evidence is now clear that more regulation is needed to prevent growing environmental damage.

This chapter draws from experience of successful regulation to show how intervention can be done well. It proposes a new approach based on setting the required standards, with more flexibility about the means of achieving them and with independent scrutiny and citizen involvement. A ‘bonfire of regulations’ that hinder environmental action is also called for.

Liberals in government will need to be more interventionist than their forebears, using regulations and pricing mechanisms to account for the cost to future generations of environmental damage. And if environmental damage is more clearly understood in terms of its impact on human health, voters will embrace measures to protect the environment and enhance the quality of life today. They will reward a party that seeks to do the right thing for the future – economically realistic, socially fair and environmentally prudent.

Ch 8: Green taxes (Stephen Williams MP)

Carbon emissions can be cut through educating businesses and consumers about the environmental impact of their actions. This chapter proposes achieving this by introducing a carbon tax and road user pricing –

- A transparent and consistent tax on carbon emissions would price in the environmental impact of individuals and businesses’ actions and simplify the current plethora of charges on electricity prices.
- The tax would be levied at the point of combustion, in the case of electricity generation and large industrial users; and the point of processing

and distribution, in the case of natural gas and other products which are consumed directly by individuals and businesses.

- The government would use the revenue from the tax to target support at the poorest households to cushion them from the effects of higher energy prices resulting from the tax.
- Road user pricing should replace road fuel duty and vehicle excise duty, with some of the revenue used to reduce the impact on rural drivers.

This is a Liberal approach to environmental taxation, giving individuals and others the freedom and information to change their own behaviour.

Ch 9: Can behaviour change make a difference? (Paul Burall)

- Behavioural change campaigns work best when linked to key moments in people's lives.
- Campaigns must be geared to the specific audience.
- Incentives must be consistent and maintained over the long term; those comprising a variety of methods are more successful.
- Technology will only deliver its full benefits if people find it easy to use; a standard for user-friendliness and better user information is needed.
- Local authorities should make recycling regimes consistent.
- A small levy on advertising to fund sustainability messages.
- Pronouncements by politicians and government officials are not generally trusted; people respond better to peer pressure.
- Government should give the same prominence to the well-being index as to the quarterly GDP figures.

Ch 10: Embedding sustainability in government (Simon Wright MP)

The coalition government has not yet succeeded in embedding sustainable development objectives across government. A combination of five key elements is needed:

- An agreed set of objectives across government: some have been articulated in key documents such as the Carbon Plan, but an overall strategy for sustainable development is overdue.
- One or more departments giving a strong policy lead: a new, larger and high-status department with the Deputy Prime Minister as Secretary of State, together with a sustainable development Cabinet Committee.
- An internal institutional set-up to monitor all departments' adherence to agreed policies, and question any department's decisions which impact negatively on agreed policies and objectives: a new Panel for Sustainability across government.

- An external scrutiny body: the Environmental Audit Committee and National Audit Office working together.
- Strong, consistent and obvious support from the Prime Minister and/or other senior government figures – largely lacking in the coalition government, apart from the Deputy Prime Minister.

Government can also lead by example by greening its own operations and procurement policies – both areas in which the coalition has a better record.

Ch 11: Green growth (Chris Huhne)

The idea that growing and greening our economy are at odds is a classic false choice. In reality, as we invest to decarbonise our economy, we also grow it. Green investments – whether in resource efficiency or substitution for polluting processes – create jobs, raise incomes, and prop up demand. They produce green growth. In the future it won't just be that we *can* have green growth; it will probably be that we can *only* have green growth.

The main reason behind this is that resource costs are rising rapidly, even in a period of global recession; energy, transport and materials costs are all up. The failure to green our economy, to cut fossil-fuel dependency and buffer the impact of price shocks, has become painfully clear: we are paying in lost jobs, lost income, and lost growth.

A greener economy would enjoy lower resource costs and higher resilience to shocks. It is how we raise standards of living without creating systemic risk, and how we tease out growth in an age of scarcity. The new markets in fuel-efficiency, renewable energy and resource-productivity are what will increase business margins, boost sales, and create jobs. Many of the key policy instruments have largely been laid out: the Climate Change Act, vehicle emissions standards, subsidies for electric vehicles, the Green Deal, electricity market reform. But the government is sending out mixed messages, which is undermining investor confidence. Ministers need to show a united front.

Ch 12: Driving growth through green innovation (Dimitri Zenghelis)

Market opportunities are opening up in fast-growing green sectors, but a lack of investor confidence has meant that desired saving has vastly exceeded desired investment, yielding record private financial surpluses and a collapse in long-run risk-free market interest rates. The associated lack of spending has meant that the UK economy has barely grown for half a decade.

Spare resources in the economy as a whole mean that currently, additional investment would not crowd out alternative investment or displace jobs.

Mixed or muddled policy signals always deter investors and raise project costs, but the potential to put off nervous investors is particularly acute in uncertain economic conditions. The flip side is that with so much nervous saving looking for a return, a green policy framework that is credible, long-term and ambitious could galvanise substantial private investment.

There is no shortage of private money, only a shortage of perceived opportunities. By alleviating policy risk, clear and coordinated long-term policy would allow investors to make productive use of record private savings. There is therefore a unique opportunity to capture business's imagination and help restore growth, investment and employment. An ambitious green investment programme would leave a lasting infrastructural legacy and improve the sustainability of public debt. The opportunity should not be missed.

Ch 13: Building a green economy in the UK: supporting innovation and jobs (Patrick and Shas Sheehan)

Environmental challenges are beginning to create huge pressure for change, not just in energy generation, but across many industries. These pressures will create a new industrial revolution, which will be enabled by deploying new resource- and energy-efficient technologies (REETs).

Britain is already creating REETs, but far more needs to be done to ensure that the UK emerges as a winner from what is now a global race for new technologies. Government needs to play a far larger role in articulating a long term stable strategy for REET and in incentivising investors to take risk on emerging REETS. In short, the Government needs to shape up to address the opportunity REETS present.

Ch 14: Green and growing – the importance of cleantech (Julian Huppert MP)

The trillion-pound high-tech green industry is crucial to economic growth and environmental sustainability. The UK already excels in 'cleantech' but, through proper regulation and new government policies, we have the chance to capitalise on growing markets and become global leaders.

The government needs to provide incentives for research and development, as well as the scaling up of emerging 'cleantech' companies; the chapter outlines a number of ways in which this can be achieved, from business incubators to EU-wide reforms. With these policies in place, researchers and small businesses in Britain will have the opportunity to tackle climate change and create sustainable growth.

Ch 15: Revitalising the Green Investment Bank (Christopher J. Wigley)

The transition to a low-carbon economy in the UK will require hundreds of billions of pounds of investment capital.

The Green Investment Bank has made some positive first steps in this task, but could do more. An agency / asset-backed security model has the potential to raise the necessary finance, and would also help to provide credit to companies, stimulate green growth for the UK and provide more jobs. The public could play a key role in providing funds for the green economy through green ISAs and green bonds.

It would also be worth considering bringing the National Infrastructure Plan under the wing of the Green Investment Bank.

Ch 16: Empowering a shift to a more circular economy (Ben Earl)

The limitations of our current extract–consume–dispose linear economic system are examined in this chapter. How can we massively cut environmental impacts in a finite world, while providing sustainable economic growth to lead us out of recession?

This chapter proposes a shift in system thinking, accepting the notion of the ‘circular economy’ allowing maximum resource productivity alongside built-in waste reduction, and changing the nature of our relationship with products and services, making more use of product rental and collaborative consumption models. Taxation and regulation should be employed to encourage reuse and minimise waste and resource use. Accelerating the transition will need leadership and communication within the business sector and with consumers.

Ch 17: A world without waste – achieving a more resource-efficient country (Susan Juned)

Demand for resources is increasing globally. We can only achieve a competitive economy that also addresses climate change and lowers environmental impacts by improving the efficiency of resource use, including:

- Developing a national resource management strategy incorporating closed-loop economic models, with the aim of achieving a zero-waste economy.
- Introducing strategic planning to raise the profile of resource management issues and to focus on the skills, investment, data gathering, research and policy development required.
- Setting the goal of reducing household and business residual waste by 50 per cent, and introducing a complete ban of biodegradable waste to landfill.

- Preparing the business sector to address energy efficiency and low-carbon replacements, investing in resource infrastructure and ensuring that energy generation capacity (including renewables) continues to be developed.
- Encouraging local authority partnerships across administrative boundaries to plan for large facilities, attract significant investment in waste infrastructure and support the development of small-scale community-owned and operated facilities.
- Develop further information and research on ways to save, store and recycle water and support an increase in responsible metering to help people and companies measure and manage their water usage.

Ch 18: The choice – energy policy in a changing climate (Tom Burke)

The world will be fundamentally transformed, whether climate policy succeeds or fails; the choice is whether events or people drive the change. A hotter world will cost us civil liberties, human rights and the rule of law.

Seven policy imperatives will get us to a low-carbon energy system:

- Recognise the political importance of separating bills from prices. The government can do very little to change global fossil fuel prices, but much to ensure that those global prices do not translate inexorably into rising bills for home-owners and businesses.
- Get serious about energy efficiency – by a long way, the largest, fastest and cheapest source of carbon reductions.
- Halt the Treasury's theft of green taxes for disguised revenue-raising; revenues from the carbon price floor should be recycled directly into financing the low-carbon transition.
- Stimulate much wider participation in community energy projects.
- Stop dithering about renewables: provide a stable energy policy to keep investment flowing.
- Move forward urgently on carbon capture and storage, to enable the use of gas without damaging climate security.
- Work with our partners in the EU to build an integrated electricity grid and gas supply networks to increase energy security and accelerate further the falling costs of renewables.

Ch 19: Only connect (Fiona Hall MEP)

For too long, energy policy in the UK has been blinkered and inward-looking. Successive governments have failed to assess or exploit the potential for controlling energy demand and have treated UK security of supply as an issue to

be solved on national soil by means of an expensive basket of options – despite the development of a European energy market. The UK government should:

- Make energy efficiency and energy demand management its first and top priority, on economic grounds.
- Reassess how much electricity capacity will be needed to 2050, taking account of demand-side savings.
- Abandon the ‘basket’ approach to energy supply.
- Encourage a favourable investment climate for renewables, acknowledging that this primarily means wind. Electricity market reform must not act as a covert subsidy for nuclear power.
- Support the introduction of EU 2030 targets for renewables and energy efficiency.
- Integrate the UK fully into the European internal energy market by optimising interconnection to other countries.
- Work closely with Norway to exploit the additional balancing capacity of hydropower, including pumped storage.

Ch 20: A liberal and democratic energy market (Mark Hinnells)

The chapter argues that if climate change targets are to be met, the business landscape in which energy is supplied and used needs to change fundamentally, to become much more liberal and democratic, and with a change in the balance of power from utilities to consumers.

Three major new business models are explored, which government needs to open the market to: embedded generation, energy services, and community financing. Policy implications focus around energy use in buildings, finance, innovation, encompassing both technical and service models, and energy market regulation. A potential outcome could include more than half of households and businesses generating their own renewable electricity or heat within a decade.

Ch 21: A green deal for transport (Stephen Potter)

Transport is an important area that needs to be at the heart of government policy-making. However, policy responses to transport’s environmental impacts have tended to be add-ons to fundamentally unsustainable systems rather than attempts to seek a systemic solution.

There are opportunities emerging radically to reduce transport’s environmental impacts; the key to transport sustainability may lie in finding alliances with social and economic trends towards the information society, leading to the reinvention of how access is achieved. Transport policy needs to engage with

different players; not so much with the civil engineering and automotive industries, but with business development, IT services, marketing and education.

A new business model for sustainable transport needs a new policy model as well. Our institutional, regulatory and assessment structures, built around the existing models of transport provision make it difficult, if not impossible, for new design configurations to emerge.

Ch 22: Reducing emissions from transport: the role of taxation (Tim Leunig)

This chapter shows how we can use green taxation to cut emissions from cars, buses, trains and planes. Sensible changes can deliver meaningful environmental improvements quickly, and without big costs to consumers. For cars, replacing annual vehicle excise duty for all new cars with an upfront first registration fee equal on average to fifteen times the current vehicle excise duty would create a bigger incentive to buy a greener car – and an incentive for firms to produce greener cars. We should subsidise bus mileage or passenger mileage, not fuel use. Trains should be taxed on fuel, and subsidised in other ways, as appropriate. And taxing planes, not passengers, gives airlines an incentive to use planes efficiently.

Ch 23: Going green has to be fair (Chris Huhne)

Green efforts that hit poorer families and create real social injustices will not be seen as fair or legitimate, and they will gradually erode the coalition in favour of change. The environmental agenda must complement the social agenda, for example through:

- Taking care to delay excessive reliance on prices or quotas – carbon taxes or carbon budgets – until key differences in energy use due to poorly insulated buildings are evened out.
- Ensuring that green taxes are only introduced with accompanying offsetting tax cuts or other measures.
- Increase the Energy Company Obligation to complement the Green Deal's 'pay as you save' mechanism for low-income households and 'hard-to-treat' homes.
- Boost the Green Deal by making it an opt-out rather than opt-in measure at the point of sale and give the added incentive of lower stamp duty for participants.
- Protect people from side-effects of climate policies, for example with special transport help for the rural poor.

- Reform the Winter Fuel Allowance to focus help on low-income high-fuel-cost households.

Ch 24: Planning for sustainability and green growth (Paul Burall and Kate Parminter)

Planning should be about meeting current needs without compromising the future: ensuring people's quality of life in the long term, securing sustainable economic prosperity, and safeguarding the sustainability of the environment. This chapter argues that government should:

- Review the impact of the National Planning Policy Framework in 2014; introduce a community right of appeal on planning decisions; and commission research to set guidance on using environmental limits as the prime basis for local planning policies.
- Encourage cities and towns to adopt food policies; and give local authorities a positive duty to protect local biodiversity.
- Challenge the near-monopoly of development land in many areas by requiring the registration of all land and options, reserving a fifth of all public residential development land for self-build, and allocating land for self-build in local plans; and use community land auctions to drive down market land prices.
- Use the Green Investment Bank to provide low-cost, long-term loans to boost the sustainability of major housing developments.
- Introduce mandatory financial incentives, paid by the developer, for individuals and communities affected by new wind farms.
- Introduce land value taxation to capture the increase in land values created by development; and equalise VAT on new build, renovations and repairs.

Ch 25: How to save our cities from economic collapse (David Boyle)

The rising cost of energy and other resources will force cities to change, and focus attention on local production. This chapter proposes a ten-step programme:

- Plug the leaks that are draining local money away: setting up sustainable businesses and social enterprises to use local resources.
- Encourage local diversity and distinctiveness: places that feel authentic attract money and people.
- Bust local monopolies, such as supermarkets, to let enterprise flourish.
- Provide enterprise coaching, support and advice in every neighbourhood to help create new locally-owned businesses.

- Build an effective new local lending infrastructure: local banks for new sustainable businesses.
- Invest in local energy and local food, two areas where local economies can replace scarce imports.
- Use waste products as raw material for new enterprises.
- Use public sector spending to maximise local money flows: use local procurement to encourage local business, and green business in particular.
- Experiment with new kinds of money to provide credit.
- Experiment with new ways of creating national currency that can provide a stream of quantitative easing, created by the central bank, to provide the capital for new local energy infrastructure.

Ch 26: Power to the people? The case for community-owned renewable energy (Steve Bradley)

With the UK approaching a crisis in its ageing electricity infrastructure, how can Liberal Democrats in government ensure that the decisions they take on this issue are not just environmentally sound, but also deliver the fundamental principles and benefits of liberalism for all? This chapter makes the case for:

- The creation of a preferential legal status for community-owned renewable energy infrastructure, to recognise its primary social function.
- Funding and legal support to be made available to kick-start community energy projects with a credible business case.
- An open-ended Feed-in-Tariff to accelerate growth in UK renewables.
- Greater price and service competition to be introduced into the UK's energy market by enabling community micro-generators to sell their power on to their own residents or to new market entrants.
- Government to use its financial, legal and scrutiny levers to encourage local authorities to play a leading role in the creation of district heating infrastructure.

Ch 27: Councils, cities and energy transition (Christian Vassie)

Who should be in control if we are to create a low-carbon future – companies answerable to shareholders and profit, or bodies answerable to the common good? Government must learn from the federal nations of Europe and apply the principles of localism to decentralise the energy economy by giving local authorities responsibility for:

- Understanding and managing their territories' energy supply, energy resources and flows.
- Ending fuel poverty in their territory.

- Creating a territorial bio-waste management plan.
- Integrating future energy prices and the polluter pays principle into their budget calculations and investment and development decisions.
- Developing smarter communication on energy to engage the public.
- Controlling public transport provision.
- Integrating a low-carbon future into urban planning.

Ch 28: Community policies for a low-carbon future (Louise Bloom)

Tackling climate change and building a low-carbon future can best be achieved at a local rather than a national level, by:

- Community-based locally funded sustainable energy projects.
- Local councils providing leadership, support and funding.
- Sharing best practice and expertise.
- Partnership working across councils, communities and businesses.
- Using the Green Deal to provide investment and create jobs.
- Truly sustainable town planning, taking the long view on how communities best develop.
- Recognising that while national government may need to legislate to achieve a low-carbon future, it is local communities and politicians who are best placed to lead on and implement the policies.

Ch 29: Adapting to climate change (Paul Burall)

Planning to adapt to climate change is now critical; the longer we put off the necessary action and investment, the greater the risks to human welfare and the higher the long-term cost to the economy. Action is needed on:

- Food security: improve the efficiency of water use by agriculture; reduce the loss and degradation of soils; maintain global genetic resources and breed new heat and drought-resistant crop varieties; fund research into new methods of food production.
- Built environment: ensure sufficient green space and tree planting in urban areas to counter the heat island effect; review building standards to minimise the need for air conditioning and respond to the increased risk of severe storms and droughts; set targets and policies to improve water efficiency and expand the water storage infrastructure; protect people and infrastructure from the increased risk of flooding, including avoiding development in at-risk areas; ensure that the transport infrastructure is upgraded to cope with higher temperatures and severe storms.
- Biodiversity: make local authorities responsible for developing and implementing natural adaptation plans for species at risk from climate change.

- Research: fund research to enable adaptation measures to be developed where the science is not properly understood.

Ch 30: The crisis of environmental multilateralism: a liberal response (Robert Falkner)

Environmental multilateralism is in a state of crisis. Creating new and implementing existing international agreements is proving increasingly difficult, while global warming and biodiversity loss continue unhindered.

Liberals need to renew the case for environmental internationalism. Global leadership needs to be rooted in domestic action, and Britain should continue to be a driving force behind ambitious environmental policy in Europe and internationally.

The processes and institutions of environmental multilateralism need to be reformed. Established UN-based negotiations need to be augmented with new forms of mini-lateral and partial agreements that serve as stepping stones towards broader international solutions. Institutional reform is needed to strengthen existing UN bodies.

A broader range of actors needs to be engaged in global environmental policy. Private initiatives cannot replace multilateral policies but can be encouraged and directed to play an enhanced role where inter-governmental solutions fail.

Ch 31: Green policies for global economic justice (Myles Wickstead)

Global economic, social and environmental issues cannot continue to be addressed in isolation. The next three years provide an opportunity to bring together growth, equity and sustainability in an integrated way as discussions on the Sustainable Development Goals and a successor to the Millennium Development Goals gather momentum. This chapter identifies a number of areas in which UK leadership could make a significant difference, and concludes that issues of economic development, poverty and social inclusion must be addressed along with those about the survival of the planet if progress is to be achieved.

The Threats We Face

Paul Burall

When Chancellor of the Exchequer George Osborne told the 2011 Conservative Party conference that ‘We’re not going to save the planet by putting our country out of business’, and announced an attack on measures aimed at protecting the environment, he was merely echoing the views of many right-wing politicians around the world. But he should have looked back at his hero Margaret Thatcher who, as a scientist, recognised the very real threat of climate change, warning in a speech in 1990 that: ‘The danger of global warming is as yet unseen, but real enough for us to make changes and sacrifices, so that we do not live at the expense of future generations’.¹

The effects of global warming are now being seen clearly. There is overwhelming evidence that, unconstrained, humankind’s impact on the planet threatens our very future. Without urgent action, we face not just environmental disaster but economic catastrophe.

And it is not just climate change that we need to worry about. We are using resources at an unsustainable rate, creating health risks that threaten our well-being, destroying our ability to produce the food needed to feed the burgeoning global population, and are well on the way to a massive extinction of biodiversity.

Of course, climate change is the threat which receives the most attention, not least because its potential impacts are so extensive and serious. A 2007 study by the Organisation for Economic Co-operation and Development (OECD) found that cities including New York, Tokyo, Amsterdam and Shanghai will be exposed to the risk of severe flooding due to climate change; by 2070 the value of economic assets at risk of loss in those cities could be as much as US\$3,000 billion.² Many other heavily populated areas of the world will also be at risk from shoreline erosion, coastal flooding and agricultural disruption, leading to widespread socially disruptive migration that might, according to the UN, affect as many as 200 million people, again causing huge economic disruption.

And climate change means just that. The *Climate Change Risk Assessment* (CCRA) published in 2012 by the UK Department for Environment, Food

and Rural Affairs (Defra) illustrates some of the consequences for the UK that are almost inevitable even if greenhouse gas emissions are stabilised to constrain the average temperature rise to 2°C from the pre-industrial era.³ For example, by 2050, the number of days a year when the temperature exceeds 26°C in London will increase from the current 27 to more than 120 and the number of people affected by water deficits will double to almost 60 million. By the end of the century the area of high-quality agricultural land subject to flooding at least once every three years will increase from 30,000 hectares to 130,000 hectares.

Globally, the consequences will be even worse: in 2007, the Intergovernmental Panel on Climate Change (IPCC) concluded that: 'Evidence is growing that climate change already contributes to the global burden of disease and premature deaths'.⁴ Particular impacts include:

- *Extreme weather events*: the European heat wave in 2003 led to more than 20,000 excess deaths in two weeks; extensive flooding across the globe has already resulted in increases in the incidence of infectious diseases, respiratory symptoms and mental health problems; and droughts and floods are having a devastating effect on already scarce food supplies.
- *Infectious diseases*: rising temperatures will allow the wider spread of vector-borne diseases, particularly malaria and dengue; the incidence of rodent and water-borne diseases are likely to increase; and the range of animal diseases such as bluetongue will extend.
- *Respiratory disease and immune disorders*: increasing levels of ozone at ground level could lead to a wide range of adverse respiratory conditions; changing levels of allergenic pollen are likely to increase the incidence and intensity of allergic rhinitis.
- *Increasing exposure to UV radiation*: climate change could slow the recovery of the ozone layer and increase exposure to UV radiation, increasing the risks of skin cancer and the incidence of cataracts.

In 2010, the World Health Organisation reported that global warming was already causing 140,000 excess deaths annually.⁵ In 2012, the US Natural Resources Defense Council and the US Geological Survey forecast that, if climate change emissions continue to rise unabated, extreme heat events could kill 150,000 Americans by the end of the century.⁶

Rising temperatures may not be the only problem. In 2012, the summer sea ice in the Arctic Ocean shrank to the lowest area ever recorded and is expected to disappear completely within the next thirty years (much earlier than predictions made just a few years ago). Not only will this speed up global warming because sunshine will no longer be reflected back by the white ice

but the lack of cold freshwater sinking to the bottom of the ocean to feed the 'Great Ocean Conveyor' may disrupt the Gulf Stream that drives warm water north from the equator. This could see Europe's average temperature dropping by as much as 10°C and a lesser drop in parts of eastern North America, reaching temperatures experienced in the last Ice Age.

Things will get even worse if the IPCC's stated need to avoid catastrophic impacts – to stabilise greenhouse gas levels in the atmosphere at 450 parts per million – is not achieved. This may lead to spiralling global warming, with temperatures rising by 6°C or higher, eventually resulting in the melting of the Greenland and Antarctic ice caps and sea level rise of many metres, inundating huge areas around the world, including London and much of the East of England.

So will climate change be constrained within the IPCC's limits? The outlook is bleak: one study published in advance of the 2012 Doha climate change conference found that sea levels are rising 60 per cent faster than the IPCC forecast.⁷ Another 2012 report, this time from the International Energy Agency, concluded that there was no stabilisation of greenhouse gas emissions in sight and that, without action, energy use in 2050 would be twice that of 2009, leading to a long-term temperature rise of 6°C.⁸

Tim Jackson, professor of sustainable development at the University of Surrey, highlights the extent of the challenge, pointing out that the IPCC's target requires annual global CO₂ emissions not to exceed 5 billion tonnes by 2050.⁹ Even without any economic growth, that works out at an average carbon footprint of less than 0.6 tonnes per person – lower than in India today, and a fivefold reduction at current levels of global GDP. But add in continuing GDP growth, and emissions for every unit of output will have to fall to one-eleventh of the current level to meet the IPCC's target.

The *PwC Low Carbon Economy Index*, published by PricewaterhouseCoopers at the end of 2012, underlines the gloom, pointing out that even doubling our current annual rates of decarbonisation globally every year to 2050 would still lead to 6°C warming, making ambitions to hit the 2° limit appear highly unrealistic.¹⁰ PwC's director of sustainability and climate change, Jonathan Grant, pointed out the economic risks: 'The risk to business is that it faces more unpredictable and extreme weather, and disruptions to market and supply chains ... More radical and disruptive policy reactions in the medium term could lead to high carbon assets being stranded.'

The picture is no better for the future of the planet's resources. Before it was abolished, the Commission on Sustainable Development published a think-piece by David Woodward, a former economic policy adviser in

Whitehall, who wrote: ‘The question, therefore, is not whether we will run out of mineral reserves if we do not reduce our consumption, but, rather, when?’¹¹ This conclusion was supported by a study by Pavan Sukhdev, Head of Global Markets at Deutsche Bank India, that found that there was not enough metal in the ground to manufacture the laptops, televisions and vehicles needed to meet the expected future demand from the emerging economies in the East.¹²

Some much-vaunted new technologies rely on rare metals; for example, if global car production switched to fuel cells there will be a requirement for around 1,500 tonnes of platinum a year, six times current production and exhausting all supplies within seventy years. Other metals that play a critical role in the world economy and that are forecast to run out within fifty years if current levels of consumption continue include bauxite (from which aluminium is extracted), nickel, tin, tungsten and zinc.

Optimists argue that past experience shows that technological progress and human ingenuity always overcome such problems by finding new resources, increasing the efficiency of use or switching to alternatives. But in a 2011 report the United Nations Environment Programme (UNEP) disagreed, pointing out that: ‘Global consumption of natural resources could almost triple to 140 billion tonnes a year by 2050 unless nations take drastic steps ... The world cannot sustain the tearaway rate of use of minerals, ores and fossil and plant fuels’.¹³ With the world population expected to reach 9.3 billion by 2050 and developing nations becoming more prosperous, the report warned that: ‘the prospect of much higher resource consumption levels is far beyond what is likely to be sustainable’, and pointed out that the world is already running out of cheap and quality sources of some essential materials such as oil, copper and gold.

Worryingly, such conclusions are nothing new; governments have simply ignored the warnings. As long ago as 1987 the Brundtland Report, *Our Common Future*, alerted the world to the urgency of making progress toward economic development that could be sustained without depleting natural resources or harming the environment.¹⁴ Resource consumption and environmental damage have since accelerated.

And before that, in 1972, there was the seminal *Limits to Growth* report, published by the Club of Rome, that claimed that exponential growth would eventually lead to economic and environmental collapse.¹⁵ Most economists rubbish the book and its recommendations have been ignored by governments. But in 2008 Graham Turner of the Commonwealth Scientific and Industrial Research Organisation in Australia compared the book’s

predictions with data from the intervening years and found that changes in industrial production, food production and pollution were all in line with those forecast.¹⁶ If correct, the world is on a path leading inexorably to decreasing resource availability and escalating costs of resource extraction that will trigger a slowdown of industry and eventual global economic collapse some time after 2020.

The Dalai Lama may have got it right in 2002 when, in his *Little Book of Inner Peace*, he wrote that there are: ‘Almost imperceptible changes – I am thinking of the exhaustion of our natural resources, and especially of soil erosion – and these are perhaps more dangerous [than the nuclear threat] because once we begin to feel their repercussions it will be too late’.

The Dalai Lama was certainly right to highlight soil erosion: a recent UNEP-funded report estimated that around 15 per cent of the Earth’s ice-free land surface is afflicted by land degradation, threatening our ability to feed the world’s rising population.¹⁷ And according to John Reganold, a soils scientist at Washington State University, a further 1 per cent of the world’s soil is lost every year, mostly due to agriculture.¹⁸

The food challenge was picked up in a major United Nations report early in 2012 that warned that time is running out to ensure there is enough food, water and fuel to meet the needs of the world’s rapidly growing population: ‘Within the next twenty years the world’s population will need 50 per cent more food and vast new reserves of energy and water: failure to secure resources will condemn up to 3 billion people to poverty.’¹⁹ Climate change may improve agricultural productivity in some areas but is likely overall to cause a reduction in output.

In a portent of what may come, drought in the major food-producing areas of the United States and Russia in 2012 led to significant price rises, and the UN Food & Agriculture Organisation (FAO) is forecasting a significant reduction in world grain inventories in 2013, despite a reduction in demand due to higher prices. In the longer term, the FAO warned that the ‘slow-onset’ impacts of climate change are ‘expected to bring deeper changes that challenge the ecosystem services needed for agriculture, with potentially disastrous impacts on food security during the period from 2050 to 2100’.²⁰

Water – both too much and too little – is already a critical issue in many parts of the world. Already 780 million people lack access to safe drinking water, according to the United Nations. And the OECD has warned that, by 2030, 47 per cent of the world’s population will be living in areas of high water stress.²¹ So it is little wonder that a 2012 report from the office of the US Director of National Intelligence predicted that the risk of conflict will grow

as water demand is set to outstrip sustainable current supplies by 40 per cent by 2030.²² ‘These threats are real and they do raise serious national security concerns,’ commented US Secretary of State Hillary Clinton.

Climate change will bring increased rates of evaporation from the soil, from vegetation, and from areas of open water. Droughts will not be the only result, for what evaporates must come down, bringing a severe risk of flooding to areas where such events are currently rare, including the United Kingdom. Defra’s 2012 *Climate Change Risk Assessment* estimated that, if no further plans are made to adapt to changing flood risks, the effects of climate change and population growth will, by 2080, bring the annual cost of damage to buildings and property to between £2.1bn and £12bn, compared to current costs of £1.2bn.

The CCRA also forecast that, without action to improve water resources, there could be major supply shortages by the 2050s in parts of the north, south and east of England. Solving this by piping water from the North and West to the South and East would not only be extremely expensive but might simply exacerbate climate change by adding significantly to carbon emissions; in California, where water already has to be pumped over similar distances, almost 20 per cent of all the state’s electricity and a third of all non-electricity natural gas use is needed to pump water. As a report produced by the United Nations Global Compact and the Pacific Institute in 2009 pointed out: ‘The risks of managing water and energy/climate change in isolation of one another are woefully underappreciated by policy-makers’.²³

Pollution is also a threat. Virtually every region of the globe now has traces of industrialised toxins. The amount of hazardous wastes in the United States increased over 250 times in the latter half of the twentieth century. Various types of radioactive wastes will remain toxic for thousands of years. Estimates suggest that, globally, up to 30 million people have been killed by air pollution since 1980. A study by the US National Institutes of Health suggested that between 80 and 90 per cent of all cancers may be due to pollution of one kind or another.²⁴ There are now some 150,000 synthetic compounds in commercial use around the world: very few have been examined for their potentially harmful effects on living things. It is known that many of these chemicals are carcinogenic, endocrine-inhibiting, bioaccumulative, toxic heavy metals or volatile organic compounds. And more are being introduced every year.

Another threat that has been ignored by almost every government globally is the loss of biodiversity. The Millennium Ecosystem Assessment, published by the United Nations in 2003, warned that: ‘Human activities have taken the

planet to the edge of a massive wave of species extinctions, further threatening our own well-being,' putting the threat on a par with global warming.²⁵ A research paper published in *Nature* in 2012 pointed out that the loss of biodiversity reduces the ability of ecosystems to protect humans and crops from pests and diseases and decreases the ability of nature to regulate the global climate; that genetic variation within crops makes them better able to resist disease; and that extinction rates are now 1,000 times higher than occurs naturally.²⁶ 'There is a strong likelihood that there will be another mass extinction in the foreseeable future,' concluded the paper.

Much of the damage to biodiversity is being caused directly by human activity, mainly by the destruction of habitats. But changes in the environment caused by climate change are also an important factor: another paper in *Nature* suggested that climate change alone could force between 15 and 37 per cent of species into extinction by 2050.²⁷

The final risk may be the most worrying of all. It is the George Osborne risk – the failure of those who could make a difference to understand what the results for the world are likely to be if they continue to fail to act to tackle these extreme challenges. Some politicians are in total denial – US President George Bush was renowned for censoring government scientists from warning about the dangers of climate change. In 2012 the North Carolina Senate passed a bill banning coastal managers from predicting that sea level rises would accelerate.

But even governments that recognise the risk have failed to take significant action. The excuses are legion, ranging from prioritising economic growth to arguing that action by any one country is insignificant and will have little impact. Internationally, the repeated failure of the UN climate change conferences to agree an effective global framework demonstrates a lack of willingness and a lack of urgency to take action that will make any difference.

There is little doubt that many of the threats highlighted in this chapter can be resolved if we act urgently and effectively. And the potential harm of others can be substantially mitigated if we follow the kinds of policy outlined elsewhere in this book.

And, of course, there is a positive story: taking a proactive approach to tackling these threats will also create jobs, reduce the cost of living for many, especially the poorest in society, and improve the quality of life for everyone.

But time is running out...

Notes

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The Liberal Record

Duncan Brack¹

As David Howarth argues in Chapter 6, Liberalism is not only compatible with environmentalism – it *requires* an environmental approach. And indeed, in the UK the Liberal Party, and then the Liberal Democrats, have consistently shown themselves to be the greenest of the three major political parties.

Policy stances

The Liberal ‘Yellow Book’, *Britain’s Industrial Future* (1928), is best remembered for its advocacy of a proto-Keynesian approach to unemployment and the economy, but it also contained a strong defence of the countryside, advocating, for example, the establishment of National Parks. Later in the century the Liberal Party was the first of the major parties to recognise the upsurge of environmental concern, holding a landmark conference on pollution in 1970 and publishing a comprehensive *Report on the Environment* in 1972 (the year in which ‘People’, later the Ecology Party and now the Green Party, was founded). The party called for a reduction in pollution and greater protection for endangered wildlife; it opposed the expansion of nuclear power, at least until the problems of waste disposal could be dealt with, and called for more energy conservation measures and the development of renewable sources of power. In 1979 the Liberal assembly adopted a resolution declaring that ‘economic growth, as measured by GDP, is neither desirable nor achievable’. It was not until the late 1980s that the environmental critique of orthodox economic growth models was to become more widely accepted; in 1979 the Liberals were considerably ahead of their time.

Liberal support for environmental causes, and in particular the party’s opposition to nuclear power, was a source of some tension with their SDP partners in the Alliance of the 1980s. The creation of the merged party, the Liberal Democrats, in 1988, together with the election of Paddy Ashdown as its first leader, led to the party adopting a more consistently green approach. This fitted well with the growing concern over the environment

exemplified by the 1992 'Earth Summit' in Rio, and the gradual understanding that environmental degradation was an inevitable consequence of the way in which Western economies were structured, culminating in the concept of environmentally sustainable development. The party called for much stricter national targets for reducing pollution, and argued for a shift in taxation from income and employment to pollution and resource use. It also argued for some environmental constraints on free trade, recognising the impact that trade liberalisation could have on magnifying the effects of unsustainable patterns of production and consumption. The 2001 and 2005 election manifestos saw green policy points picked out in every major policy area. Since 1992 the party's manifestos have been rated (by environmental NGOs) just behind those of the Green Party, and well ahead of those of the Conservative and Labour parties, and opinion polls have regularly shown that the public viewed the party as the best of the three main parties on environmental issues (a rating it achieved in no other policy area).

Why should the Liberal Party and Liberal Democrats have adopted green policies so enthusiastically? The party's basic philosophy provides the underpinnings, but it was not inevitable that this would result in such a consistently green approach; some European liberal parties have not followed the green route (which in turn has provided political space for the growth of explicitly green parties, most notably in Germany). The Liberals' and Liberal Democrats' consistently social-liberal stance, comfortable with the principle of state intervention where necessary, has made the adoption of green policies easier. Just as important has been the party's freedom from vested interests; it has not been held back by producer interests, whether in business or organised labour, and has always prided itself on its openness to new ideas and new ways of thinking and its willingness to think long-term. In addition, party activists and, to a lesser extent the party's voters, have been drawn disproportionately from the educated middle classes, the group most likely to care about environmental issues. And finally, environmental policy has always offered a way to distinguish the party from its two main competitors, always a main goal of Liberal Democrat leaders (as Paddy Ashdown once said, 'I'd sell my grandmother for a bit of definition').

It should be noted that the adoption of green policies by the party was not a smooth process and did not always go unchallenged. Proposals for higher taxation on transport fuel have always caused some tensions with MPs from rural constituencies. And the party's localist and green approaches have sometimes clashed; local Liberal Democrats have generally, for example, opposed schemes for urban congestion charging, despite the fact that support

for the principle has consistently featured in the party's national policy platform. Successive party leaders, however, and in particular Paddy Ashdown, have given a consistent lead for the adoption of the green approach.

Local government

Liberal Democrats may only have entered UK government in 2010, but the party has been running local authorities for decades, and in many cases Lib Dem councillors have put effective green policies into place at a local level. This section provides some examples.

In housing, Lib Dem local authorities have implemented initiatives to improve energy efficiency and install solar panels. Wrexham Borough Council has delivered Europe's biggest social housing solar PV scheme, with 30,000 locally made panels installed on 3,000 council houses. In Portsmouth between 2008 and 2012, over 500 private householders were taken out of fuel poverty thanks to a council loans-to-homeowners scheme. Birmingham City Council, when run by a Lib Dem–Conservative coalition, was the first in the UK to declare its intention to implement the government's Green Deal programme; the council set up the Birmingham Energy Savers project, planning to roll out energy efficiency measures to 15,000 homes, at a cost of £100 million. In Cambridge, a heatseeker van equipped with thermal imaging cameras has toured the city to identify and offer help for homes that would benefit from improved insulation. The London Borough of Sutton was one of the five pilot areas for the Green Deal, and the council is running a second energy-cutting project in Hackbridge, which aims to become the UK's first sustainable suburb. Sutton also supported the Beddington Zero Energy Development (BedZED), which in 2010 was voted, by green building experts, one of the five most globally important green buildings constructed since 1980.

Ask the average person what services their local council provides, and 'collecting the rubbish' always features. Using this essential service to spread a green message, as well as reducing waste sent to landfill, has been a focus of many Lib Dem local authorities. Watford Borough Council, for example, achieved an improvement in recycling rates from 11 per cent in 2002 to 42 per cent in 2012, through education campaigns and support for events such as Recycle Now week. Stockport has increased recycling rates to more than 60 per cent, bringing an annual financial saving (from avoided landfill tax and other rebates) of £5.2 million.

County and unitary councils are responsible for local transport policy. Portsmouth has become known nationally for its pioneering 20mph scheme

across residential roads in the city centre, helping persuade other councils to follow suit. The introduction of a 20mph zone in Bristol reduced numbers of accidents by two-thirds. Bristol has also seen a sharp increase in cycle use, and in 2010 was named the best city in the UK for cyclists. In Watford councillors focused on reducing car use, appointing the company TravelSmart to go door to door, informing residents on alternatives; the impact was a 12 per cent reduction in car use between 2005 and 2009.

Liberal Democrat councils have aimed for significant reductions in carbon emissions from their own buildings and operations. In Eastleigh, climate change strategy has been embedded in every department, with each service area having to contribute. Many councils, including Portsmouth, Eastleigh, Bristol and South Somerset, have improved the energy efficiency of their own buildings and used them to install micro-generation equipment; Bristol, for example, has invested £16 million in solar panel installation, wind turbines and biomass boilers. Chesterfield installed a geothermal heating system, utilising heat from 100 metres underground, in an office and workshop building; and also built Staveley Healthy Living Centre, in an area of high deprivation, which features high insulation standards, solar water heating, a combined heat and power unit, waste heat recycling, grey water recycling and a computer-controlled building energy management system.

Councils can also play a key role in encouraging residents, local businesses and public sector organisations to reduce carbon emissions. Cambridge has worked in partnership with the university to look at setting up a district heating scheme for university and faculty buildings, with funding from the EU. Under Liberal Democrat leadership, Southwark set up the 200 Club, involving the largest businesses in the borough to share best practice on reducing carbon emissions; early members included Ernst & Young, PriceWaterhouseCoopers and Tesco. Portsmouth incorporated carbon reduction measures in its Local Plan and Regeneration Strategy, and supports the Portsmouth Network of the Sustainable Business Partnership, which works with small- and medium-sized enterprises to help them become more sustainable. Birmingham established 'Be Birmingham', a partnership organisation involving the public, private, voluntary and community sectors signing up to a shared vision for the city, including carbon reduction. Perhaps the most innovative part of the project was the creation of a Sustainable Procurement Contract, which commits the organisations involved to consider a raft of social and environmental factors when procuring goods and services.²

Bristol City Council worked with local businesses on an award-winning Hydrogen Ferry scheme (opposed by Labour and Conservative councillors), helping to quantify the reductions in carbon emissions hydrogen power can bring. The city has also received a £2.5m grant from the European Investment Bank to meet most of the costs of developing an energy services company and investment programme; the city-wide company will drive projects forward worth up to £140m, and help create at least 1,000 jobs, as well as increasing energy efficiency across the city and reducing energy bills for local residents.

Newcastle offers a good example of how initiatives like these can be combined in an overall ambitious programme. During the period in which the city was run by the Liberal Democrats, it was declared the UK's 'most sustainable city' by the environmental think-tank Forum for the Future in 2009 and 2010, the only city to have won the award twice. Achievements included increasing the recycling rate to 46 per cent, placing solar panels on council houses, installing energy efficiency measures in 36,000 homes, creating thirty-two electric vehicle charging points across the city, establishing a freight consolidation centre to switch freight from lorries to low-carbon vehicles for delivery into the city centre and a highly innovative carbon route mapping project (in collaboration with Newcastle University) to map carbon emissions down to individual buildings.

These and many other examples illustrate the importance that Liberal Democrat councillors across the country place in tackling environmental issues. A passion for the environment is not something that is imposed from the top in the party; it is a cause that Liberal Democrat councillors and activists have been pursuing for many years.

The financial climate for local authorities is proving ever more challenging, with large cuts in government grants and political pressure to keep Council Tax down. The financial benefits of early investment in energy efficiency and renewables, as well as in avoiding landfill tax by increased recycling, are now more keenly felt than ever – and Liberal Democrats in local government up and down the country have led the way.

Scotland

The first elections to the new Scottish Parliament took place in 1999. No party won an overall majority, and the Liberal Democrats formed a coalition government with Labour. The Scottish Liberal Democrat leaders Jim Wallace (until 2005) and Nicol Stephen (from 2005) served as Deputy First Ministers; Ross Finnie joined them in the Cabinet throughout the period, as Minister for Rural Affairs 1999–2003 and for Environment and Rural Development

2003–07. From 2003 the party had a third Cabinet post as Minister for Transport, held by Nicol Stephen 2003–05, and Tavish Scott 2005–07.

The party gained recognition for the inclusion of all the environmental commitments in the Scottish Liberal Democrat 1999 manifesto in the coalition agreement for 1999–2003, namely to: promote renewable energy; insulate lower-income families' homes; open new rail links, encourage freight on rail, and support concessionary fare schemes; promote safe cycling routes; enable road user charging to be introduced; establish national parks; promote sustainable agriculture, forestry and fisheries; improve water quality and reduce pollution; set targets to increase recycling; and introduce strategic environmental assessment.

The party's support for sustainability in Scotland was even more widely recognised during the second term of the Parliament, with, once again, all the commitments made by the Scottish Liberal Democrats in the 2003 election adopted, including using measures of quality of life and environmental degradation alongside GDP; the adoption of proper measures on climate change progress; strategic environmental assessment across government; a requirement for public bodies to reduce energy, water and private transport use; procurement policy to promote sustainable development, including, specifically, recycled products; setting high environmental standards for the rebuilding of the school estate; more environmental studies at school; continued support for sustainable agriculture and fisheries, and nature conservation; continued support for renewable energy; expansion of community heating schemes; higher targets for recycling domestic waste; further improvements to public transport and rail freight; and establishing access to environmental justice.

To emphasise the significance the Scottish Liberal Democrats made in moving Scotland towards improved sustainable development, the document *Choosing Our Future: Scotland's Sustainable Development Strategy* was published in December 2005. In addition, *Changing Our Ways: Scotland's Climate Change Programme* calculated for the first time Scotland's contribution to the Kyoto Protocol's target for emissions reductions, and with the insistence of the Scottish Liberal Democrats, that target was increased dramatically beyond Scotland's population share.

When the coalition government came into office in 1999, electricity generation from all renewable sources amounted to some 11 per cent. *Securing a Renewable Future: Scotland's Renewable Energy*, launched by the Liberal Democrats, set the target at 40 per cent by 2020, double the UK rate of 20 per cent. That formed the basis of the first climate change legislation, adopted

in Scotland in 2009. The government funded the ‘warm deal programme’ which led to 209,000 homes of those on lower incomes being insulated by 2006, saving some 39,000 tonnes of carbon dioxide. The proportion of the Scottish government’s transport budget devoted to public transport rose significantly during the period in which Liberal Democrats held the transport portfolio, from 38 per cent to 53 per cent; this has now fallen, with the biggest drop in support for rail services in Scotland.

The *National Waste Plan* in 2003 set a target for recycling and composting of 55 per cent by 2020 (Scotland’s recycling rate for municipal waste was 6 per cent in 2002), and the government created a £500 million strategic waste fund. The recycling rate increased to 26 per cent by 2007 and had reached 38 per cent by early 2012.

Liberal Democrats in government in Scotland brought in new approaches to climate change, renewable energy generation, waste management and public transport. All saw budget priorities shifted towards them and in each area major progress was made in the first two terms of devolution.

Wales

In Wales, after a period of minority government the Labour Party chose coalition with the Liberal Democrats in October 2000; it lasted until the second election for the Welsh Assembly, in 2003. The Welsh Liberal Democrat leader Mike German served as Deputy First Minister and Minister first for Economic Development and later for Rural Affairs; there was also one other Liberal Democrat cabinet member. As in Scotland, the Liberal Democrats were able to implement a significant number of policies; indeed, they claimed that 80 per cent of the policies in their manifesto would be introduced.

The party afforded a high priority to green issues. Achievements included reopening the Cardiff to Ebbw Vale railway line and increasing investment in bus subsidy schemes, particularly in rural areas. Planning regulations were developed to create green spaces around urban centres across Wales, to encourage the development of brownfield sites and to introduce a strong presumption in planning regulations against out-of-town shopping centres. A strategic spatial plan was developed for the whole of Wales. A waste strategy was introduced to promote the minimisation of packaging, re-use and recycling, and to reduce incineration and landfill. An air quality strategy was also introduced, with strengthened powers for the Environment Agency and with higher standards. Within the framework of the Assembly’s Sustainable Development Strategy, a ‘green audit’ of the Assembly’s policies and spending commitments, including quality-of-life indicators, was brought in.

Coalition government

In 2010 Liberal Democrats finally returned to UK government after an absence of sixty-five years. In recognition of the importance the party has placed on environmental issues, one of its five cabinet ministers was the Secretary of State for Energy and Climate Change – Chris Huhne from May 2010 to February 2012, and Ed Davey from February 2012. An informal group of Lib Dem green ministers started to operate, including junior ministers in other departments, most notably, Norman Baker in Transport and Andrew Stunell in Communities and Local Government.

As Chapter 1 made clear, Liberal Democrat ministers in the coalition have faced an uphill struggle in putting into practice green policies, including some of the commitments agreed between the coalition partners in 2010; the last two and a half years has revealed just how weak is the Conservative Party's commitment to the green agenda (with a few notable exceptions), even to those policies on which it fought the 2010 election. Nevertheless, green policy achievements have been real, particularly in those policy areas for which the Department of Energy and Climate Change (DECC) holds the lead, but not only there – recognising that environmental issues are fundamental to the whole economy, and not just optional add-ons, Liberal Democrats have fought to establish elements of the framework needed to achieve a low-carbon green economy and a government which takes sustainable development seriously.

In this respect one of the most notable achievements was reaching agreement on the fourth carbon budget, the total of greenhouse gas emissions allowed from the UK for the period 2023–27. If achieved, this will represent a step change for the economy, with a reduction of an average 50 per cent of emissions from 1990. (George Osborne, however, insisted on a review of the target in 2014, and if he stays true to form will argue for a reduction.) The government Carbon Plan was published in December 2011, explaining how the fourth carbon budget target would be met.³

UK climate policy of course operates within EU and global frameworks, and Liberal Democrat ministers, with their underlying belief in internationalism, have argued for more ambitious targets and measures at both levels. Chris Huhne and Ed Davey played key roles in keeping the UN climate conferences in 2010, 2011 and 2012 on track, operating through the EU delegation. The government's commitment to provide £2.9 billion for international climate spending over the spending review period of 2011–15 is more generous than that of many developed countries.

Domestic energy policy is facing a wholesale shake-up, as dealt with in detail in Chapters 18, 19 and 20. The draft Electricity Market Reform Bill published in November 2012 is designed to establish clear incentives for low-carbon generation at least cost to the taxpayer and consumer. Key components include support for low-carbon generation through contracts for difference (low-carbon generators will be paid the difference between their supply price and the market price for electricity), capacity mechanisms to ensure security of supply at periods of peak demand, and an emissions performance standard to set upper limits on emissions from coal and gas stations. The Liberal Democrat intention to include a decarbonisation target for the power sector in the Bill was resisted by the Conservatives, but the inclusion of the requirement to set one in 2016 was a notable success, as was agreement on the future level of the levy control framework, through which low-carbon generation will be subsidised.

Until the new arrangements come into force, the existing support system for renewable electricity is being maintained, and support levels were confirmed – after a struggle with the Treasury – in July 2012. Renewable energy is also being supported through the Renewable Heat Incentive, direct payments to business and householders installing renewable heat technologies such as solar thermal and heat pumps. The previous Labour administration's feed-in tariff scheme for microgeneration, mainly solar PV, was not designed to take account of the unexpectedly rapid fall in the capital costs of the solar panels, and in late 2011 the government was forced to make a drastic reduction in levels of support. Although this was justifiable in terms of cost-effective spending – and the final shape of the scheme, which incorporates gradual reductions in the tariff alongside falling costs, has been generally welcomed – the abrupt change did nothing to boost investor confidence; with the benefit of hindsight the government should have acted sooner.

Alongside policies to boost low-carbon generation, the other main plank of the government's energy strategy is to reduce energy use. Through the 2011 Energy Act, the government introduced the Green Deal energy efficiency programme, aimed to catalyse a major programme of retrofitting buildings to improve energy efficiency, paid for through reductions in energy bills, with no up-front costs to householders or businesses. Extra support will be available to low-income households and those living in hard-to-treat homes (such as those with solid rather than cavity walls). The programme is also expected to help generate significant employment opportunities, though it is proving slower than anticipated to get off the ground.

Liberal Democrat ministers outside DECC have also achieved notable green policy successes. This includes the establishment of the Green Investment Bank by Vince Cable's Department for Business, Innovation and Skills. Formally launched in October 2012, the Bank is designed to mobilise significant new sources of private investment into low-carbon infrastructure and technologies; this is particularly important for power generation, where an estimated £120 billion of investment is needed to replace ageing power stations by 2020. The Bank's initial capitalisation of £3 billion can only go so far in addressing this, and Treasury restrictions on its ability to borrow will limit it further (see Chapters 12 and 15).

Achievements in transport policy include a major programme of investment for rail upgrades and expansions, encouragement for cycling and walking, and subsidies for the use of low-carbon cars, including a £5,000 grant for anyone buying an electric car, and a national recharging network. The Local Sustainable Transport Fund, established in 2011 by Norman Baker, will support local transport authorities outside London in developing measures that support economic growth and reduce carbon emissions in their communities, as well as delivering cleaner environments, improved safety and increased levels of physical activity.

The difference Liberal Democrat ministers have made to the coalition is substantial; if the coalition succeeds in realising David Cameron's aim of making the government 'the greenest ever', it will be due to Liberal Democrats, not to his own party colleagues. The difference in approach can be most easily seen in the analyses of green policy achievements (against the coalition commitments) carried out by NGOs in the autumn of 2011.⁴ In the fourteen policy areas in which DECC had the lead, the NGOs awarded it four green lights (good progress), seven amber (moderate progress) and one red (poor progress). In contrast, the Treasury received no green, one amber and three red. Defra, a department with (until September 2012) no Liberal Democrat ministers, received two green, six amber and four red.

As the *Business Green* editor James Murray commented in September 2012, after the Liberal Democrat conference:

... over the past week the Liberal Democrats have taken a series of steps that should prove of invaluable long-term benefit to the British economy. There has been little fanfare and scant media attention, but the junior coalition party has used its annual shindig in Brighton to revive one of its more attractive qualities: its unwavering support for the green economy and, more importantly, the desire to fight for it ... The Lib Dems have been battered

and bruised by their time in government ... But if they can just deliver the essential energy market reforms that have eluded previous governments while holding the line against the regressive forces of the 'pollutocracy', then the country as a whole, and the green economy in particular, will owe them a considerable debt of gratitude.⁵

Notes

- 1 The author is very grateful for earlier draft chapters by, and input from, Rob Banks, Mike German, Martin Horwood MP, Jeremy Purvis and Sarah Whitebread.
- 2 See: http://www.bebirmingham.org.uk/documents/Compact_Doc_Complete_1.pdf?phpMyAdmin=b5998cc58dff68a4b03a480ef59038da Section 5.7
- 3 *The Carbon Plan: Delivering our low-carbon future* (HM Government, December 2011).
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- 5 James Murray, 'In praise of the Lib Dems', *Business Green* 26 September 2012; <http://www.businessgreen.com/bg/james-blog/2208374/in-praise-of-the-lib-dems>

