

Environmental taxation as a form of environmental
protection: Exploring the Carbon Reduction Commitment

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April 2018

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Abstract

This thesis looks at the Carbon Reduction Commitment (the CRC) Energy Efficiency Scheme. This, for the purposes of this PhD, is a green tax on energy consumption that targets large businesses not already covered by the European Union Emissions Trading Scheme or Climate Change Agreements. The CRC has had a rocky life. It has been reformed on numerous occasions and will now come to an end in 2019. Importantly, the CRC has received relatively little academic attention, especially in legal scholarship. As such, this thesis aims to plug a gap in academic scholarship by providing a case study of the scheme in an original, empirical analysis of the scheme. Drawing upon 31 semi-structured interviews with regulatees, solicitors and the Environment Agency; and a quantitative analysis of emissions under the scheme, this PhD will begin to tell the story of how the CRC has been perceived by those who pay it.

Whilst the CRC is coming to an end in 2019, this thesis remains important for two reasons: first, it is important to gain a deeper understanding of the failings of the CRC from the eyes of regulatees, and; second, this study will provide broader lessons to take away from the CRC and which can be carried forward to its replacement (the Climate Change Levy).

This is an account of how different regulatory aspects send deeper messages to regulatees. In particular, this thesis considers: stability; competence of the regulator; nudging; positive incentives; and the efficiency of the CRC. As such, this thesis draws on a wide range of literature in order to analyse the above themes in light of the original data from the empirical study. This thesis concludes that how regulation is packaged and presented to regulatees is critical and can affect how they engage with a regulatory scheme such as the CRC.

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Table of Legislation

England and Wales:

Climate Change Act 2008.

CRC Energy Efficiency Scheme Order (SI 2013/1119).

CRC Energy Efficiency Scheme Order 2010 (SI 2010/768).

CRC Energy Efficiency Scheme (Amendment) Order 2014 (SI 2014/502).

Energy Act 2008.

Energy Savings Opportunity Scheme Regulations 2014 (SI 2014/1643).

Finance Act 2000.

Housing Act 1996.

Income Tax (Employments) Regulations 1944 S,R & O 1944/251.

European Union:

European Parliament and Council Directive 2009/31/EC of 23 April 2009 on the geological storage of carbon dioxide [2009] OJ L 140/114.

European Parliament and Council Directive 2009/28/EC of 23 April 2009 on the promotion of the use of energy from renewable sources [2009] OJ L 140/16.

European Parliament and Council Directive 2003/87/EC of 13 October 2003 Establishing a Scheme for Greenhouse Gas Emission Allowance Trading Within the Community [2003] OJ L275/32 (as amended by Directive 2009/29/EC).

International Law:

UN Framework Convention on Climate Change (adopted 9 May 1992, ratified 21 March 1994) 1771 UNTS 107.

United Nations, Kyoto Protocol to the United Nations Framework Convention on Climate Change (1997;2005).

United Nations, Paris Agreement (2015).

Table of Abbreviations

Abbreviation

ARP	Annual Report Publication
CDM	Clean Development Mechanism
CO ₂	Carbon Dioxide
BIT	Behavioural Insights Team
CCA	Climate Change Agreement
CCL	Climate Change Levy
CRC	Carbon Reduction Commitment
DECC	Department for Energy and Climate Change
DEFRA	Department for Food and Rural Affairs
EA	Environment Agency
ESOS	Energy Savings Opportunities Scheme
EU	European Union
EU ETS	European Union Emissions Trading Scheme
FIT	Feed-in Tariff
GGI	Greenhouse Gas Inventory
GHGs	Greenhouse Gases
kWh	Kilo-watt Hour
MMR	Mixed Methods Research
NDC	Nationally Defined Contribution
OECD	Organisation for Economic Co-operation and Development
OPC	One-time Pass Code
PLT	Performance League Table
ROC	Renewable Energy Certificate
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change

Acknowledgments

In memory of Sheila Wayman (1933-2016)

I would firstly like to thank Steven Vaughan for his help and guidance throughout this PhD. Without Steven, this thesis (and I) would not be where we are today, so thank you. Moving forwards, I will be sure to work on my charm, smile (ha!), and comma use. I truly think you are a role model for future PhD supervisors. I would also like to thank my other supervisors, Robert Lee and Penelope Tuck. Bob, your guidance during the last stages of my PhD was appreciated, and your knowledge has fed into the final thesis as it is today.

I would like to thank my fellow PTAs and especially David Sheldon. They say that the PhD can be a lonely adventure, but you guys in the office made this journey an enjoyable one. From infusing the office sloe gin, to hilarious secret Santa's, it's been a fun ride. I would also like to thank my colleagues, at both Birmingham and Lancaster, as your friendship, support and proof reading have been invaluable to me.

Finally, I would like to thank my family and friends. Your unconditional patience, wine, support, wine, feeding (thanks, Mum), and wine during this time got me through the more challenging times.

Chapter One: Introduction

"[C]limate change is no longer some far-off problem. It is happening here. It is happening now."¹

Climate change is a significant environmental threat. Human influence on the Earth's changing climate has been scientifically confirmed and is growing.² It is today considered to be "extremely likely" that climate change has been caused by anthropogenic greenhouse gases.³ These anthropogenic sources of greenhouse gas emissions are at their highest in history,⁴ and have risen from around 280 parts per million (ppm) at the start of the industrial revolution to around 400ppm.⁵ In 2017, the 12th annual Global Carbon Budget predicted a 2% rise in global carbon emissions, which signifies the first increase in carbon emissions in three years.⁶ These emissions are having "widespread impacts" on natural systems,⁷ and the best-known consequence of climate change is temperature increase, with global surface temperature projected to rise 1.5°C in the next century.⁸ It is of little surprise, therefore, that the law has attempted to mitigate the anthropogenic causes of climate change.

The policy challenges associated with tackling climate change have been described as "super wicked",⁹ due to the extraordinary difficulties associated with crafting climate change legislation.¹⁰ It has also been described as the "defining issue of our age".¹¹ The challenges surrounding climate change are linked to its global impact (i.e. we are concerned with overall, global levels of GHGs) and its long term, "potentially irreversible" consequences.¹² As such, its international nature requires largely international action. Difficulties arise because the benefits of climate change mitigation are not accrued by the individual countries taking action, but rather by all countries;¹³ meaning that most

¹ Barack Obama, August 31st 2015, Anchorage US. Available at <https://obamawhitehouse.archives.gov/the-press-office/2015/09/01/remarks-president-glacier-conference-anchorage-ak> accessed 24/08/2017.

² IPCC, 'Climate Change 2014: Synthesis Report' (2015), Foreword.

³ Ibid, Summary for Policymakers.

⁴ Ibid, 2.

⁵ Ibid,4; a recent reading of 406ppm was recorded in January 2017 by Scripps Institute of Oceanography, 'The Keeling Curve' available at <https://scripps.ucsd.edu/programs/keelingcurve> accessed 04/10/2017

⁶ Global Carbon Project, 'Carbon budget and trends 2017' (13 November 2017). Available at www.globalcarbonproject.org/carbonbudgetpublished last accessed 14/11/2017.

⁷ IPCC (n 2), 4.

⁸ Ibid, Summary for policymakers.

⁹ Richard Lazarus, 'Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future' (2010) 40 Environmental Law Reporter 10749.

¹⁰ Ibid, 10750.

¹¹ UN Secretary General Ban Ki-moon, Opening Remarks at 2014 Climate Summit (23rd September 2014)

¹² Daniel Bodansky, Jutta Brunnée and Lavanya Rajamani, *International Climate Change Law* (OUP 2017), p2.

¹³ Ibid, 3.

countries will only engage in climate change mitigation, if other countries do the same.¹⁴ On the international level, it has been difficult to reach a global agreement on climate change. Bodansky et al suggest this is for the following reasons: 1) climate change impacts most areas of domestic policy (for example energy, agriculture, transport etc.) and so has high economic stakes; 2) states are being required to act now to tackle future, long term impacts of climate change; and, 3) each state has a different list of priorities, capacities and perspectives on climate change.¹⁵ All of these factors result in climate change being an expensive, long-term problem that cannot be resolved by one country alone.

The aims of this thesis are twofold. First, to shed light on a relatively unexplored regulatory regime that forms part of the climate change regulatory toolbox in the UK (the Carbon Reduction Commitment (CRC)). Second, to consider how and why regulatees have responded to the CRC. Following a public consultation on the scheme in November 2015, the government abolished the CRC and it will end in 2019. The fact that the CRC now has a limited lifespan does not detract from the original contributions that this PhD thesis has to offer. These contributions lie in three domains.

First, the study of the CRC is itself original.¹⁶ The CRC is a relatively untouched subject in legal scholarship. This thesis will therefore provide an exposé of a major environmental tax regime in the UK. Second, this thesis draws upon the data collected from an original, empirical study (31 interviews with regulatees, the regulator and CRC advisors). Third, and finally, this thesis draws upon a number of theoretical frameworks to triangulate an analysis of the CRC. This combination of approaches is a novel blend of theories that allows for an original insight into the CRC. In particular, this thesis draws upon both regulatory and tax literature to provide a number of policy recommendations for future regulation.

By engaging with regulatory and tax literature as well as the original, empirical data, this thesis will also put forward several policy points. In particular, this thesis will tell the story of how the various regulatory aspects of the CRC communicate different messages to regulatees. First, in line with economic literature this thesis argues that tax instability has negative impacts on engagement with

¹⁴ IPCC, 'Climate Change 2014: Mitigation of Climate Change' (2015), p5.

¹⁵ Bodansky et al (n 12), 3-4

¹⁶ A study on the effectiveness of the CRC was commissioned by the government prior to its abolition in 2016: DECC, CRC Energy Efficiency Scheme Evaluation: Final Synthesis Report (July 2015). This report focuses on Phase One of the scheme. The current study builds on this work in three ways: first, this thesis considers the second phase of the CRC; second, my study considers the views of participants, solicitors and the regulator (while the government study only looks at regulatees; and finally, the government study does not engage with any legal scholarship (or scholarship in any field). Also of note is the fact that this report is relatively difficult to find unless you know it exists.

regulation by regulatees. Beyond this, this thesis goes further to argue that an unstable piece of regulation can lead to perceptions of unstable policy. Second, where there is a lack of trust in the competence of the regulator, this also has impacts on engagement and compliance – echoing existing trust literature that demands a level of trust between the regulator and regulated. Third, nudging literature primarily focuses on the role of nudging with individuals. This thesis argues that there is a role for nudging to play in businesses, and in particular, how the use of social norms and reputation can provide a driver for behavioural change in the corporate setting. Fourth, this thesis argues that rewards can be better than sanctions (in line with current regulatory literature). Taxpayers would like to be able to make some link between what they are paying in taxes and environmental projects. While this thesis does not argue for tax hypothecation, some rebranding of tax revenues and/ or environmental projects would help CRC participants make the link between green taxation and an environmental benefit. Finally, the narratives from the above all draw from the point that the CRC is perceived as ‘just a tax’. My work suggests that a complex scheme is a difficult scheme to understand and engage with, confirming regulatory and tax literature on this point. Furthermore, as the CRC is perceived as ‘just a tax’, it is arguably too complex for purpose. This thesis argues that a higher level of complexity could be tolerated for something that is *more* than ‘just a tax’.

The take away point for this study on the CRC is that regulatees are perceptive. How a regulatory scheme is packaged to them has the ability to alter how they engage with a scheme. Despite the CRC ending in 2019, lessons can be carried forward to future regulatory schemes and, in particular, future environmental taxes. The key contribution of this thesis is therefore to provide some lessons to take forward to the Climate Change Levy (CCL),¹⁷ which will replace the CRC. How this future tax is packaged to taxpayers/ regulatees could have an impact on how the tax is engaged with and whether a high level of emissions reduction could be achieved.

This chapter will provide the contextual backdrop to this thesis. First, the existing regulatory responses to climate change will be briefly outlined, at both an international and domestic level. Here, this chapter will consider the overarching agreements which drive climate change mitigation; as well as explore the underlying politics behind the UK’s response. Second, a short introduction to the CRC will be provided. This chapter will then move on to the study which underpins this thesis, and will outline

¹⁷ By way of introduction, the CCL is a UK tax that targets business consumption of energy. The tax is paid by energy suppliers and is then added onto the energy consumer’s energy bill. See Section 1.1.4 of this Chapter for more information.

the research methods, questions and theoretical frameworks which form the basis of this doctorate. Finally, by way of guidance, the structure for the remainder of this thesis will be summarised.

1.1 Regulatory Responses to Climate Change

1.1.1 What is regulation?

While the pool of regulatory literature is vast, regulation has been defined as a sustained and focused control over certain activities by a public agency.¹⁸ Baldwin et al identify a number ways in which the word regulation has been used, including: as a specific set of commands; as deliberate state influence; and, as all forms of social or economic influence.¹⁹ These ideas move from the more restrictive (i.e. a specific set of commands held within a piece of legislation) to broader concepts of influence that go beyond legislation and include the use of economic measures (such as taxes and subsidies). At its widest, all forms of social and economic influence could be considered as regulation, meaning that regulation need not be created by the State.²⁰ Gunningham distinguishes environmental regulation from environmental 'law' by saying that:

“Regulation is a rather broader category and includes much more flexible, imaginative and innovative forms of social control which seek to harness not just governments but also markets (as with economic instruments), business and third parties”²¹

With this broader concept of regulation in mind, there are therefore a number of regulatory tools at the disposal of the government. These tools are available to provide either a 'red light' to certain activities (i.e the regulation seeks to restrict behaviour) or to provide a 'green light' whereby activities are facilitated.²²

¹⁸ P Selznick, 'Focusing Organisational Research on Regulation' in R Noll (ed), *Regulatory Policy and the Social Sciences* (Berkeley 1985), p363.

¹⁹ Robert Baldwin, Martin Cave and Martin Lodge, *Understanding regulation: Theory, strategy and practice* (2nd Edition) (OUP 2012), p2.

²⁰ Neil Gunningham and Peter Grabosky, *Smart Regulation* (Clarendon Press 1998).

²¹ Neil Gunningham, Environment Law, 'Regulation and Governance: Shifting Architectures' (2009) 21(2) JEL 179, 181.

²² A Ogus, *Regulation, Legal Form and Economic Theory* (OUP 1994)

There are also a number of different, possible regulatory approaches.²³ Traditionally, and a common starting point when looking at regulation,²⁴ command-and-control regulation was the most common form of regulation and is “where legal authority and the command of law is used to pursue policy objectives”.²⁵ For emissions control, the most common example of command and control regulation is the setting of standards to achieve environmental aims.²⁶ This approach has the advantage of bringing political legitimacy to the regulated activities;²⁷ as well as sending strong moral signals to both the regulatees and the wider population – namely, that to engage in polluting activity is a concession and not a right.²⁸ However, from the 1980s command-and-control regulation was widely criticised for “being inflexible and excessively costly to business”.²⁹ This can lead to problems of overregulation, intrusion into business,³⁰ and the impediment of competition.³¹ While command and control regulation will arguably remain relevant to any modern regulatory framework,³² arguments were made for the “introduction of ‘less-restrictive’ and ‘incentive-based’ controls.”³³

Despite criticisms of command-and-control regulation, businesses have still resisted the introduction of taxes in the place of direct regulation.³⁴ There has, however, been a shift towards a greater use of economic instruments since the late 1990s.³⁵ Economic measures work by altering the negative and positive incentives associated with a particular environmental behaviour in order to encourage business to change their behaviour.³⁶

²³ For a succinct review of the literature, see: Christopher Taylor et al., ‘Selecting Policy Instruments for Better Environmental Regulation: a Critique and Future Research Agenda’ (2012) 22 *Environmental Policy and Governance* 268.

²⁴ Bronwen Morgan and Karen Yeung, *An Introduction to Law and Regulation: Text and Materials* (CUP 2007), p80.

²⁵ Baldwin et al (n 19), 106.

²⁶ There are different standards approaches that can be taken; namely performance-based standards, technical standards and ambient-based controls. For definitions of further approaches in command and control regulation see: G Lubbe-Wolff, ‘Efficient Environmental Legislation – On Different Philosophies of Pollution Control in Europe’ (2001) 1 *JEL* 79.

²⁷ E Elliott, ‘Environmental TQM: Anatomy of a Pollution Control Program that Works!’ (1994) 92 *Michigan Law Review* 1840, 1845.

²⁸ Gunningham and Grabosky argue that other instruments may send out moral signals that would indicate that polluting is a right: Gunningham and Grabosky (n.19), 42.

²⁹ Gunningham (n 21), 183.

³⁰ See for example, C Veljanovski, ‘Economic Approaches to Regulation’ in R Baldwin, M Cave and M Lodge, *The Oxford Handbook of Regulation* (OUP 2010) 28.

³¹ Baldwin (n 19), 108; C Veljanovski (n 29), 33.

³² J Harman, ‘Environmental Regulation in the 21st Century’ (2004) 6 *ELR* 141, 143.

³³ Robert Baldwin, Martin Cave and Martin Lodge, Introduction: Regulation – The Field and the Developing Agenda in Robert Baldwin, Martin Cave and Martin Lodge, *The Oxford Handbook of Regulation* (OUP 2010), p9.

³⁴ Gunningham (n 21), 184.

³⁵ *Ibid*, 185; Baldwin (n 19), 7.

³⁶ Roger Perman et al., *Natural Resource and Environmental Economics* (Addison Wesley 2011).

These economic measures are considered to be more efficient and cost-effective compared to traditional command-and-control regulation,³⁷ and include charges, taxes, subsidies, and trading. The principal function of these charges and taxes is to create behavioural change for a certain activity.³⁸ However, as environmental taxes also raise revenue, it is difficult to identify genuine economic instruments for behavioural change amongst more generic, revenue raising taxes.³⁹ The CRC, as will be discussed below, is a *de facto* tax, but one which has clearly been marketed as part of the climate change toolbox for the government. The CRC is therefore not an example of classic command-and-control regulation, but rather an economic instrument, which (according to the government) aims to reduce carbon emissions. Government attitudes towards regulation are reflected in the shift away from command-and-control regulation. In the UK, this is reflected in the “better regulation executive” which seeks to ensure that regulation is “smarter, better targeted and less costly”.⁴⁰

Beyond economic instruments, alternative approaches to regulation include self-regulation and voluntarism. The government describes self-regulation as “an approach initiated and undertaken by those whose behaviour is to be regulated”.⁴¹ In the environmental sphere, these measures encourage business to introduce their own mechanisms for environmental protection and so provide a “significant degree of flexibility to businesses”.⁴² It can also “engender a degree of ownership of regulation within the industry”.⁴³ However, business interest in these mechanisms could be explained by a desire to escape “the imposition of binding standards altogether”.⁴⁴ Other criticisms include a scepticism that self-regulation can achieve environmental goals without being underpinned by command-and-control regulation.⁴⁵ More generally, Gunningham notes that the attitudes of business towards environmental protection has traditionally been a reactive, rather than proactive, one.⁴⁶ However, these attitudes are now changing with the knowledge that going beyond compliance with environmental regulation is good for business as well as the environment.⁴⁷ Compliance in regulatory

³⁷ Gunningham (n 21), 185.

³⁸ Morgan and Yeung (n 24), 86.

³⁹ Ibid.

⁴⁰ <https://www.gov.uk/government/groups/better-regulation-executive> last accessed 02/11/2017.

⁴¹ UK Department for Business, Innovation and Skills, ‘Promoting Alternatives to Regulation’ (2012); also the wording of the definition adopted in: Christopher Hodges, *Law and Corporate Behaviour: Integrating Theories of Regulation, Enforcement, Compliance and Ethics* (Bloomsbury 2015), p466.

⁴² Taylor (n 23), 281.

⁴³ National Audit Office, ‘Using Alternatives to Regulation to Achieve Policy Objectives’ (June 2014) page 16

⁴⁴ Gunningham (n 21), 187.

⁴⁵ Christopher Taylor et al., ‘Better by Design: Business Preferences for Environmental Regulatory Reform’ (2015) *Science of the Total Environment* 287.

⁴⁶ Gunningham (n 21), 193.

⁴⁷ Ibid, 194.

literature can be seen in a number of landmark concepts: responsive regulation;⁴⁸ smart regulation;⁴⁹ and really responsive regulation.⁵⁰ These concepts will be explored further in Chapter Five, but primarily consider how the regulator approaches issues of non-compliance.

This thesis does not seek to provide an answer to this regulatory debate of ‘what works best’. Rather, this thesis will apply regulatory and tax theory to the CRC in order to identify shortcomings and strengths, with a view to problematising key regulatory features that will improve engagement with the scheme (and most importantly future schemes that will replace the CRC from 2019) and reduce carbon emissions. The following sections will consider the international and UK regulatory responses to climate change.

1.1.2 International level approaches

Climate change 'law' goes beyond the individual regulatory response to tackle the environmental problem, and has an "integral international dimension".⁵¹ The first foundation block in international climate change law is the UN Framework Convention on Climate Change (UNFCCC), which was adopted in 1992 and ratified in 1994.⁵² The Convention, now ratified by 176 states, seeks to stabilise greenhouse gas levels in the atmosphere to a level that would “prevent dangerous anthropogenic interference with the climate system”.⁵³ The Convention places the onus of this stabilisation on developed countries by asking them to “take the lead” in the fight against climate change.⁵⁴ However, the convention does not require action. Instead, it highlights climate change as a problem and encourages change. This is demonstrated in its only provision that refers to limiting GHGs, Article 4.2, which is phrased as a non-binding aim, rather than a legally binding target.⁵⁵ The Framework also establishes a Conference of the Parties (COP), which meets annually and is the highest decision-making body of the UNFCCC.⁵⁶ Of particular note are COP meetings COP3, which adopted the Kyoto Protocol in 1997, and COP21, which adopted the Paris Agreement in 2015. The Kyoto Protocol and Paris Agreement will be considered in turn.

⁴⁸ Ian Ayres and John Braithwaite, *Responsive Regulation: Transcending the Deregulation Debate* (OUP 1992).

⁴⁹ Gunningham and Grabosky (n 21).

⁵⁰ Julia Black, ‘Really Responsive Regulation’ (2008) 71(1) MLR 59.

⁵¹ Jacqueline Peel, ‘Climate Change Law: The Emergence of a New Legal Discipline’ (2008) 32 MULR 922, 978.

⁵² UN Framework Convention on Climate Change (adopted 9 May 1992, ratified 21 March 1994) 1771 UNTS 107.

⁵³ *Ibid*, Article 2.

⁵⁴ *Ibid*, Article 3.

⁵⁵ *Ibid*, Article 4.2.

⁵⁶ *Ibid*, Article 7.

The requirement to act is found within the Kyoto Protocol, which creates an obligation for states to ensure that their GHGs do not exceed “assigned amounts” with the objective of reducing emissions by 5% between 2008 and 2012.⁵⁷ The assigned amount varies in line with each country’s ability to reduce emissions. In order to enable this reduction, the Protocol allows for three flexibility mechanisms; whilst their efficacy has been called into question, it is worth outlining each in turn.⁵⁸ First, the Protocol allows International Emissions Trading which permits countries that are below their assigned amount to trade with other countries. The Protocol, therefore, only aims to reduce emissions by 5% by 2012, and no further (though it was envisaged that there would have been further phases).⁵⁹ Second, the Protocol provides for the Clean Development Mechanism (CDM), which allows developed countries to offset some of their emissions by implementing emissions reducing programs in developing countries.⁶⁰ Finally, Article 6 allows for a Joint Implementation mechanism, which allows Annex I countries to transfer emission reductions units to other Annex I countries for emissions reducing projects which are aimed at reducing anthropogenic GHGs.

In addition to the three flexibility mechanisms under the Protocol, Article 4 allows for the cooperation of parties to fulfil their commitments jointly under the Protocol. For example, the EU has adopted a cooperative approach under the protocol with its Burden Sharing Agreement, which was an agreement by fifteen EU Member States at the time of the Protocol to aggregate emissions and distribute the burden according to each member’s ability to reduce GHGs.⁶¹ Specific measures adopted by the EU will be discussed below.

The Paris Agreement is the most recent addition to the international law portfolio, and once again builds upon the work of the UNFCCC. The Agreement, which has been ratified by 175 parties to the Convention,⁶² aims to keep global temperature increase below 2 degrees Celsius.⁶³ In order to achieve this, the Agreement requires parties to put their best efforts to achieving “nationally determined contributions” (NDCs) as well as putting in place the infrastructure and financial means for developing countries. According to Article 4 of the Agreement, parties are responsible for determining and

⁵⁷ United Nations, Kyoto Protocol to the United Nations Framework Convention on Climate Change (1997;2005), Article 3.

⁵⁸ Gerd Winter, ‘The Climate is no Commodity: Taking Stock of the Emissions Trading System’ (2010) 22(1) JEL 1.

⁵⁹ Elizabeth Fisher, *Environmental Law* (OUP 2013) p643.

⁶⁰ Kyoto Protocol (n 57), Article 12.

⁶¹ Council Decision 2006/944/EC of 14 December 2006 determining the respective emissions levels allocated to the Community and each of its Member States under the Kyoto Protocol [2006] OJ L358/87.

⁶² Correct as of 5th March 2018 with the most recent state to ratify being Trinidad and Tobago on the 22nd February 2018. http://unfccc.int/paris_agreement/items/9444.php accessed 05/03/2018.

⁶³ United Nations, Paris Agreement (2015), Article 2.

communicating their NDCs; which countries will then work towards by implementing national climate change mitigating measures.

1.1.3 European Union level approaches

Taking a geographical step down from the international scene, the European Union (EU) has been a key player in the international climate change scene. In general, “there is broad agreement within the European Union that law and regulation have an important part to play in mounting a response to this era-defining challenge [climate change]”.⁶⁴ Although, Čavoški argues that this positive and strong stance on climate change is not necessarily as visible in a post-austerity Europe.⁶⁵ Overall, the EU has ratified the UNFCCC, the Kyoto Protocol, and the Paris Agreement.⁶⁶ As discussed above, the 15 states who were members of the EU at the time of the Kyoto Protocol aggregated their emissions and worked together towards their Kyoto targets. In addition, the EU also introduced its EU ‘Climate and Energy Package’ in 2008. This package contains measures such as the Renewable Energy Directive,⁶⁷ and the Carbon Capture and Storage Directive.⁶⁸ However, the best-known measure of the EU in its climate change toolbox is undoubtedly the EU Emissions Trading Scheme (EU ETS).

Economic approaches to environmental problems are not novel.⁶⁹ Many groups have come to realise that the power of economics and the market can be harnessed in order to tackle environmental problems.⁷⁰ That is to say that the optimal financial path can be made to coincide with the best (or

⁶⁴ Suzanne Kingston, Veerle Heyvaert and Aleksandra Čavoški, *European Environmental Law* (CUP 2017), p258.

⁶⁵ Aleksandra Čavoški, ‘A Post-Austerity European Commission: No Role for Environmental Policy’ (2015) 24(3) *Environmental Politics* 501, 501.

⁶⁶ Council Decision 94/69/EC of 15 December 1993 concerning the conclusion of the United Nations Framework Convention on Climate Change [1993] OJ L 33/11; Council Decision 2002/358/EC of 25 April 2002 concerning the approval, on behalf of the European Community, of the Kyoto Protocol to the United Nations Framework Convention on Climate Change [2002] OJ L 130/1; Council Decision 2016/1841 of 5 October 2016 on the conclusion, on behalf of the European Union, of the Paris Agreement adopted under the United Nations Framework Convention on Climate Change [2016] OJ L 282/1.

⁶⁷ European Parliament and Council Directive 2009/28/EC of 23 April 2009 on the promotion of the use of energy from renewable sources [2009] OJ L 140/16.

⁶⁸ This Directive provides the framework for the safe storage of carbon dioxide. European Parliament and Council Directive 2009/31/EC of 23 April 2009 on the geological storage of carbon dioxide [2009] OJ L 140/114

⁶⁹ See for example, T Tietenberg, ‘Economic Instruments for Environmental Regulation’ (1990) 6(1) *Oxford Review of Economic Policy* 17, 17. For a recent working paper on the intersection of environmental policy and taxation at an EU level, see: Ulrike Spangenberg, Ann Mumford, and Stephen Daly, ‘Navigating Taxation towards Sustainability: Contradictions between social, gender, environmental, and economic ambitions, obligations and governance capacities in European tax law’ (February 2018) available at <http://umu.diva-portal.org/smash/get/diva2:1180582/FULLTEXT01.pdf> accessed 18/04/2018.

⁷⁰ Ibid.

better) environmental path.⁷¹ As set out above, this is an alternative to more traditional command and control regulation. One example of an economic approach is the emissions trading scheme and includes regimes such as California's AB-32 Cap-and-Trade System,⁷² Quebec's Cap and Trade System for Greenhouse Gas Emissions,⁷³ and the European Union Emissions Trading Scheme (EU ETS).⁷⁴ One way of defining an emissions trading scheme is that "it is a scheme under which the government imposes a total limit on the total quantity of emissions, issues allowances adding up to that total and then allows emitters to buy and sell surplus allowances among each other".⁷⁵ One of the general principles underlying emissions trading, put forward by Coase,⁷⁶ is that pollution is part of production, and that pollution can therefore be turned into clear, transferable legal rights. By defining pollution as such, it is possible then to allow the open market, rather than the Government and command-and-control regulation, to aid in its regulation.⁷⁷ Following on from Coase's work, the concept of emissions trading has been widely discussed in environmental literature.⁷⁸

Peeters and Weishaar argue that "significant academic literature" supports the use of emissions trading schemes as a regulatory instrument;⁷⁹ while Freeman and Kolstad state that the use of such schemes will continue, "unless one can show that [they] are somehow deficient".⁸⁰ In a review of emissions trading schemes from the past thirty years, Schmalensee and Stavins highlight a number of advantages that emissions trading schemes have over more traditional command and control regulation.⁸¹ These include being "environmentally effective and economically cost effective";⁸² providing incentives for emissions reductions at lower costs;⁸³ as well as providing a source of revenue

⁷¹ Ibid.

⁷² More information available from: <https://www.arb.ca.gov/cc/capandtrade/capandtrade.htm> accessed 26/03/2018.

⁷³ For more information, see <http://www.mddelcc.gouv.qc.ca/changements/carbone/Systeme-plafonnement-droits-GE5-en.htm> last accessed 16/03/2018.

⁷⁴ European Parliament and Council Directive 2003/87/EC of 13 October 2003 Establishing a Scheme for Greenhouse Gas Emission Allowance Trading Within the Community [2003] OJ L275/32 (as amended by Directive 2009/29/EC).

⁷⁵ Sanja Bogojevic, *Emissions Trading Schemes: Markets, States and Law* (Bloomsbury 2013), p4.

⁷⁶ Ronald Coase, 'The Problem of Social Cost' (1960) 3 *Journal of Law and Economics* 1.

⁷⁷ Ibid.

⁷⁸ See Bogojevic (n 75), Chapter 1 for an extensive list of references.

⁷⁹ Marjan Peeters and Stefan Weishaar, 'Exploring Uncertainties in the EU ETS: 'Learning by Doing' Continues Beyond 2012' (2009) 1 *Carbon and Climate Law Review* 88, 89.

⁸⁰ Jody Freeman and Charles Kolstad, 'Prescriptive Environmental Regulations versus Market-Based Incentives' in Jody Freeman and Charles Kolstad (eds), *Moving to Markets in Environmental Regulation: Lessons After Twenty Years of Experience* (OUP 2006), pp4-5.

⁸¹ Richard Schmalensee and Robert Stavins, 'Lessons Learned from Three Decades of Experience with Cap-and-Trade' (2015) Harvard HKS Faculty Research Working Paper Series.

⁸² Ibid, page 4

⁸³ Ibid, page 5

for governments.⁸⁴ The EU implemented its own Emissions Trading Scheme (EU ETS) which commenced in 2005,⁸⁵ and the scheme has been labelled as a “cornerstone” of Europe’s environmental protection policy.⁸⁶ It is the largest multi-country emissions trading scheme in the world.⁸⁷ Its aim is to facilitate the achievement of international climate change targets (discussed above), and does this through a ‘cap and trade’ system, which entails setting a cap on the aggregate emissions of the participating states, and allows the individual states to trade their emissions to stay within the cap. The scheme applies to all Member States of the EU, plus Iceland, Lichtenstein and Norway. In its first phase, the EU ETS was criticised for granting so many free allowances and the lack of a price floor.⁸⁸ Directive 2009/29/EC substantially reformed the EU ETS, and the current scheme has been described as being “meatier” and more “detailed” than its predecessor.⁸⁹

Baldwin has criticised the use of emissions trading by arguing that a trading process does not necessarily achieve a reduction in GHGs, but that this depends very much on mode of distributing allowances.⁹⁰ As of Phase III (2013), much of the EU ETS has become more centralised, with a single EU-wide cap;⁹¹ and a central emissions trading EU registry.⁹² The scheme has also expanded, with more gases and industries covered in the scheme, for example aviation.⁹³ Originally due to cover all flights taking off or landing in the EU, a ‘stop the clock’ has now limited this to intra-EU flights.⁹⁴ In terms of how the EU ETS now works, the EU allocates Member States their allowances, and then the states then auction most of these allowances off at a national level.⁹⁵ The EU ETS covers 45% of Europe’s GHGs,⁹⁶ and as such, is a significant tool aimed at mitigating climate change.

⁸⁴ Ibid, page 11

⁸⁵ European Parliament and Council Directive 2003/87/EC of 13 October 2003 Establishing a Scheme for Greenhouse Gas Emission Allowance Trading Within the Community [2003] OJ L275/32 (as amended by Directive 2009/29/EC).

⁸⁶ Case C-127/07 *Arcelor Atlantique and Lorraine and Others v Commission* [2008] OJ C44/8, Opinion of AG Maduro, para 2.

⁸⁷ European Communities, ‘EU Emissions Trading: An Open Scheme Promoting Global Innovation to Combat Climate Change’ (European Commission, Brussels 2005).

⁸⁸ Schmalensee and Stavins (n 81), 15.

⁸⁹ Sanja Bogojevic, ‘The EU ETS Directive Revised: Yet Another Stepping Stone’ (2009) 11 *Env LR* 279, 280.

⁹⁰ Robert Baldwin, ‘Regulation Lite: the Rise of Emissions Trading’ (2008) 2 *Regulation and Governance* 193, 196.

⁹¹ ETS Directive (n 74), Article 9.

⁹² Ibid, Article 19.

⁹³ Ibid, Articles 12(2a) and 14(3).

⁹⁴ Originally announced: http://europa.eu/rapid/press-release_MEMO-12-854_en.htm accessed 24/03/2018. The stop the clock has since been renewed annually.

⁹⁵ There are some exceptions, held in articles 10a and 10b, which allow free allocations for some types of industry, new market entrant, and for manufacturers of products at risk of carbon leakage.

⁹⁶ https://ec.europa.eu/clima/policies/ets_en accessed 05/10/2017.

1.1.4 Regulatory Responses to Climate Change: The UK Response

Closer to home, UK policy is committed to “working at home and abroad to adapt to the effects of climate change and reduce greenhouse gas emissions by investing in low-carbon energy sources, improving fuel standards in cars and increasing energy efficiency wherever possible.”⁹⁷ Former Prime Minister David Cameron referred to climate change as “one of the most serious threats facing our world”.⁹⁸ This is offset by other UK policy manifestations under a more recent Conservative government, such as the abolition of the Department of Energy and Climate Change in 2016, a decision that has since been labelled as “plain stupid”.⁹⁹ Former Secretary of State for the Environment, Andrea Leadsom, reportedly asked ministers “is climate change real?”¹⁰⁰ In addition, the current environment secretary, Michael Gove, attempted to drop climate change as a subject from the geography curriculum at school.¹⁰¹ Yet, Gove has also criticized US President Donald Trump over his decision to pull out of the Paris Agreement.¹⁰² More recently in the 2017 Autumn Budget, however, Chancellor of the Exchequer Phillip Hammond MP talked of a need to protect the future environment and specifically stated that “the tax system can play an important role in protecting our environment”.¹⁰³ The UK policy front on climate change therefore sends mixed messages. When considering the UK regulatory response to climate change, this can also be seen in the numerous reforms over the past 10 years. The UK climate change toolbox primarily consists of the following: the Climate Change Act 2008; the Climate Change Levy; Climate Change Agreements; and, the Carbon Reduction Commitment.¹⁰⁴

The Climate Change Act 2008 embodies what has been described as a “tighter and more robust series of measures” and an “aspiration to do the right thing”;¹⁰⁵ and which purports “to impose legally

⁹⁷ <https://www.gov.uk/government/topics/climate-change> accessed 24/08/2014.

⁹⁸ David Cameron, UN Climate Summit 2014, 23rd September 2014.

⁹⁹ <http://www.independent.co.uk/environment/climate-change-department-killed-off-by-theresa-may-in-plain-stupid-and-deeply-worrying-move-a7137166.html> accessed 24/08/2017.

¹⁰⁰ <http://www.independent.co.uk/news/uk/politics/andrea-leadsom-environment-secretary-andrea-leadsom-fox-hunting-selling-off-forests-climate-change-a7137066.html> 24/08/2017.

¹⁰¹ <https://www.theguardian.com/education/2013/jul/05/michael-gove-climate-change-geography-curriculum> accessed 24/08/2017.

¹⁰² <http://www.independent.co.uk/environment/michael-gove-donald-trump-climate-change-us-walk-out-heat-on-paris-agreement-fossil-fuels-a7852626.html> accessed 24/08/2017.

¹⁰³ The Rt Hon Phillip Hammond MP, Autumn Budget 2017: Speech (22 November 2017) available at <https://www.gov.uk/government/speeches/autumn-budget-2017-philip-hammonds-speech> accessed 23/11/2017.

¹⁰⁴ The government strategy for climate change can be accessed via <https://www.gov.uk/guidance/climate-change-explained#uk-government-action> accessed 24/03/2018.

¹⁰⁵ Harriet Townsend, ‘The Climate Change Act 2008 – Will it do the Trick?’ (2009) 11 ELR 116, 116-117.

binding domestic targets, supported by transparent budgeting and reporting processes”.¹⁰⁶ Key arguments on differences the Act has made are: “a better political debate on climate change”; “the climate consensus has held”; and an example of “international leadership, inspiring others to act”.¹⁰⁷ Other reviews of the Climate Change Act 2008 call for a greater focus on decarbonisation,¹⁰⁸ and argue that the Act has so far failed to secure political commitment and investor confidence.¹⁰⁹ The Act requires a climate change risk assessment to be carried out in the UK every five years.¹¹⁰ The first of these assessments was published by the government in 2012,¹¹¹ and the most recent in 2017.¹¹² The 2017 report labels the Climate Change Act as “an important piece of UK legislation”.¹¹³ Furthermore, the 2017 report highlights six key areas of concern for the UK: 1) flooding; 2) risks to health from higher temperatures; 3) risks of shortages in water supply; 4) risks to natural capital; 5) risks to food production; and, 6) new and emerging pests and diseases.¹¹⁴ The government then attributes a risk level to each of the areas, which in turn forms the basis of the UK plan of action against climate change. In addition, the Act also introduces the Committee on Climate Change,¹¹⁵ which aims to advise the UK on climate change and the setting of carbon targets.¹¹⁶

This thesis is not concerned with the more specific consequences of climate change, but rather is seeking to consider how the UK’s broader climate change regulatory response is helping to reduce GHGs. Part of the UK’s GHG reduction package is the Climate Change Levy, which was introduced in the Finance Act 2000,¹¹⁷ and which applies a tax on supplies of energy. Supplies which are taxable are considered taxable commodities, and include electricity, gas, oil and coal.¹¹⁸ The Levy only targets

¹⁰⁶ Mark Stallworthy, ‘Environmental Justice Imperatives for an era of Climate Change’ (2009) 36(1) *Journal of Law and Society* 55, 64.

¹⁰⁷ Sam Fankhauser et al, ‘10 Years of the UK Climate Change Act’ (LSE Grantham Research Institute on Climate Change and the Environment, March 2018) available at http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2018/03/10-Years-of-the-UK-Climate-Change-Act_Fankhauser-et-al.pdf accessed 18/04/2018, Infographic.

¹⁰⁸ Roger Pielke, ‘The British Climate Change Act: a Critical Evaluation and Proposed Alternative Approach’ (2009) *Environmental Research Letters* 024010.

¹⁰⁹ Matthew Lockwood, ‘The Political Sustainability of Climate Policy: The Case of the UK Climate Change Act’ (2013) 23 *Global Environmental Change* 1339.

¹¹⁰ *Climate Change Act 2008*, s.56.

¹¹¹ DEFRA, ‘UK Climate Change Risk Assessment: Government Report’ (January 2012).

¹¹² HM Treasury, ‘UK Climate Change Risk Assessment 2017’ (January 2017).

¹¹³ *Ibid*, Executive Summary.

¹¹⁴ *Ibid*, 11-17.

¹¹⁵ *Climate Change Act* (n 110), s.32.

¹¹⁶ *Ibid*, s.33.

¹¹⁷ *Finance Act 2000*, s.30.

¹¹⁸ *Ibid*, Schedule 6.

business consumption;¹¹⁹ and the levy is paid by the energy supplier.¹²⁰ In practice this then equates to an additional 'bill' being added onto businesses' energy bills by their supplier – so for instance, British Gas would work out the amount of levy to be paid and add this onto the bill.

For those with a Climate Change Agreement (CCA), a reduced rate of Climate Change Levy is charged.¹²¹ These agreements require businesses to report and set two-year interval targets to reduce energy consumption.¹²² These are voluntary agreements made between industry and the Environment Agency that sit under broader umbrella agreements made between the government and industry sectors. Once a certificate is issued by the Environment Agency, this entitles the holder of a CCA to a 90% reduction in the CCL rate for electricity.¹²³ A list of organisations that have been issued a reduced rate certificate due to a CCA is published and available to view online.¹²⁴

As set out above, the Carbon Reduction Commitment forms the foundation of this study. Introduced in 2009, it also targets business consumers of energy in an attempt to reduce energy consumption. The details of the CRC will be considered later in the thesis, but a brief introduction is provided below.

1.2 The Carbon Reduction Commitment

The CRC Energy Efficiency Scheme has operated in phases and is currently in its second phase (from 2014).¹²⁵ As explored above, following the conclusion of the second phase, the CRC scheme will end in 2019. The CRC targets high consumers of energy (that are not already covered by other climate change linked regulatory schemes, such as Climate Change Agreements,¹²⁶ or the European Emissions Trading Scheme),¹²⁷ in order to reduce their carbon emissions. Once a participant meets the qualification criteria for the scheme (consumption over 6000MWh of energy, and a special type of

¹¹⁹ Ibid, Schedule 6, Part III.

¹²⁰ Ibid, Schedule 6, Part IV.

¹²¹ Ibid, Schedule 6, Part IV.

¹²² More information on how the CCL operates is available from: Environment Agency, Climate Change Agreements Operations Manual (Version 7, April 2017).

¹²³ <https://www.gov.uk/guidance/climate-change-agreements--2> accessed 24/08/2017.

¹²⁴ <https://www.gov.uk/government/collections/climate-change-agreements-reduced-rate-certificates> accessed 24/08/2017.

¹²⁵ The CRC Energy Efficiency Scheme Order 2013, SI 2013/1119, Article 2.

¹²⁶ "Climate change agreements are voluntary agreements made by UK industry and the Environment Agency to reduce energy use and carbon dioxide (CO₂) emissions. In return, operators receive a discount on the Climate Change Levy (CCL), a tax added to electricity and fuel bills." Definition source: <https://www.gov.uk/climate-change-agreements--2> accessed 13/07/2015.

¹²⁷ CRC 2013 Order (n 125), Schedule 1, paragraphs 28 and 29.

meter fitted to read energy consumption),¹²⁸ the scheme is mandatory, and the participant must register for the CRC and comply.

The CRC then operates by effectively taxing participants on their carbon emissions.¹²⁹ This is through the purchase and surrender of allowances where the participant is required to purchase and surrender one allowance for every tonne of carbon dioxide emitted.¹³⁰ The revenues from the allowances go to the Treasury.¹³¹ A difficulty with the CRC lies in the fact that it bases its initial measurements on energy consumption (i.e. qualification is based on energy consumption), yet the tax is based on carbon emissions. This requires participants to convert their energy consumption into emissions data using government issued emissions factors.¹³² In England, the CRC is enforced and regulated by the Environment Agency.¹³³

There is a debate to be had about whether the CRC should be labelled as a tax. Whether or not the CRC is a tax is important in the sense that a wider pool of tax literature opens up and becomes more relevant. For the purposes of this PhD, I label the CRC as a de facto tax and in so doing then draw upon this additional tax scholarship. I set out the rationale for this decision below.

Whilst there are a number of definitions of a tax,¹³⁴ *Re Eurig Estate* sets out key criteria.¹³⁵ This approach has been adopted by leading tax law textbooks and provides a useful starting point for this discussion.¹³⁶ The criteria are as follows:

1. The tax is compulsory – once the qualification criteria have been met under the CRC, it is mandatory to comply.¹³⁷

¹²⁸ Ibid, Article 3.

¹²⁹ I say effectively because a) there are debates as to whether the CRC is a tax; and b) the 'tax' is raised through the purchase of allowances, rather than through a tax bill. See later on in this chapter for further explanation.

¹³⁰ CRC 2013 Order (n 125), Article 36(1).

¹³¹ HM Treasury, 'Spending Review 2010' (2010), p62.

¹³² CRC 2013 Order (n 125), Article 33(1) and Schedule 1, paragraph 33.

¹³³ Ibid, Article 9; for Wales, this is the Natural Resources Body; for Scotland, this is the Scottish Environment Protection Agency; and for Northern Ireland, this is the chief inspector.

¹³⁴ For a review of the various definitions of tax see: John Snape and Jeremy de Souza, *Environmental Taxation Law* (Ashgate, 2006).

¹³⁵ *Re Eurig Estate* (1999) 165 DLR (4th) 1, paragraph 15-16.

¹³⁶ See Glen Loutzenhiser, *Revenue Law*, 8th Edition (Hart, 2016); Snape and de Souza (n 134).

¹³⁷ CRC 2013 Order (n 125), Article 3.

2. The tax is levied by a public body – in the case of the CRC, the Environment Agency is the administrator and ensures compliance. This involves the payment for allowances through the CRC Registry.¹³⁸
3. The tax is intended for public purpose – in the 2010 Spending Review, it was specifically stated that the revenues of the CRC were destined for “public spending”.¹³⁹
4. The tax has been introduced by legislation – this is a potential sticking point of the CRC. The CRC scheme itself is actually held within a piece of secondary legislation: The CRC Energy Efficiency Scheme Order 2013.¹⁴⁰ The parent Act for this secondary legislation is actually the Climate Change Act 2008.¹⁴¹

The CRC has not been introduced specifically by a piece of primary legislation and this is a clear argument against the CRC being a tax. The full name of the CRC is also CRC Energy Efficiency Scheme which would also indicate something other than a tax. This is not, however, the first time that the mechanics of a taxation scheme have been introduced by secondary legislation. The Income Tax (Employments) Regulations 1944 introduced the PAYE (Pay-as-you-earn) system;¹⁴² and whilst this secondary legislation did not impose the tax itself,¹⁴³ it is an example of a significant tax element being held in secondary legislation – just as is the case with the CRC.

Furthermore, there appears to be some level of confusion about how to label the CRC both within government and outside. In addition, mixed messages have been sent by government when the CRC has been lumped under the same bracket as other environmental taxes.¹⁴⁴ Other mixed messages include sending the revenues of the CRC to the Treasury,¹⁴⁵ as well as the government including the CRC as part of the business energy tax landscape.¹⁴⁶ During interview, all interviewees were asked:

¹³⁸ Ibid, Articles 6 and 9.

¹³⁹ Spending Review 2010 (n 131), 62.

¹⁴⁰ CRC 2013 Order (n 125).

¹⁴¹ Climate Change Act (n 110).

¹⁴² S, R & O 1944/251. See John HN Pearce, ‘The Road to 1944: Antecedents of the PAYE Scheme’ in John Tiley (ed.), *Studies in the History of Tax Law: Volume 5* (Bloomsbury 2012).

¹⁴³ PAYE being a mechanism for the collection of Income Tax, which is found annually in the Finance Act – a primary piece of legislation.

¹⁴⁴ On the gov.uk website the CRC falls under “Environmental Taxes, Reliefs and Schemes for Businesses” where related content is “pay environmental taxes”. See: <https://www.gov.uk/green-taxes-and-reliefs/crc-energy-efficiency-scheme> accessed 16/03/2018.

¹⁴⁵ Spending Review 2010 (n 131), 62.

¹⁴⁶ HM Treasury, ‘Business Tax Road Map’ (March 2016); also see CRC’s website which also refers to the business energy tax landscape: <https://www.gov.uk/government/collections/crc-energy-efficiency-scheme> accessed 16/03/2018.

“do you consider the CRC to be a tax”. All interviewees in my study referred to the CRC as a tax. The following quotes from interview data summarise the interviewees’ views on the subject well:

“Well, it is – I believe it is technically a tax because I believe there is a definition of a tax and I remember a meeting where the Treasury stated quite clearly that this is a tax – so it is a tax. But I have always considered it to be a bit more than a tax. One of the successes of the CCAs is that it mixed the carrot and the stick and so it mixed a bit of the push and a little bit of pull. The original intent of the CRC is that it would do the same through the revenue recycling scheme, so you provided a bit of a stick and a bit of a carrot and incentivised what you were trying to incentivise. So, I thought it was always a bit more than a tax, even though it technically is just a tax since the Treasury took the revenues from it.”
(CRC M9)¹⁴⁷

“Amy: Do you think that the CRC is a tax?”

Interviewee: I didn’t think so when it was first devised, and it was certainly was the case with everything that came out on the CRC – nothing mentioned it being a tax, but when you spoke to people who were sceptical about how it was going to work, people said: ‘oh it is just another tax’. Now I have noticed that as each year has gone by, it has been seen more and more as a carbon tax. When you explain what the CRC is to people, if you only have 30 seconds to explain it to somebody, then it doesn’t feel misrepresentative to just say: ‘oh, it’s a carbon tax’.” (CRC M11)

The fact that the CRC is not a tax under current definitions of taxation does not stop the CRC from being perceived as a tax in the eyes of the interviewees. CRC M9 clearly believes that the CRC is a tax in the legal sense as they refer specifically to tax definitions. Both excerpts from CRC M9 and M11 demonstrate that the CRC has been labelled as a tax by the wider CRC community (and potentially also the Treasury). Considering these mixed messages about whether the CRC is labelled as a tax, and the fact that all participants in this doctoral study considered the CRC to be a tax, this PhD will adopt

¹⁴⁷ Interviewees will be identified by an identifier code which has been attributed to each interview. An example of this is CRC M1. The letters prior to the number denote which pool of interview the interview is from. ‘P’ is an interview from the pilot study; ‘M’ an interview from the main study; and, ‘S’ an interview with a solicitor.

the stance that the CRC is a de facto tax. One of the key purposes of this thesis is to explore how participants have engaged with the CRC. Therefore, if they engage with the CRC as a tax, then tax literature is very much relevant.

This plurality of the CRC (the fact that it is both a tax and regulatory scheme) can cause some linguistic issues. There are a number of terms that could be used to refer to those who have to comply with the CRC: participant; taxpayer; and regulatee. Throughout this thesis, it would be disingenuous to the specific fields of study to only adopt one term. As such, each of these terms will be used dependant on the literature I am looking at, and all refer to a participant of the CRC scheme.

1.3 Thesis Methodology

1.3.1 Overview

Doing a PhD was, for me, the next logical step in an academic career following on from my LLM at the University of Birmingham. Both an interest in research and my desire to pursue an academic career after the PhD were the principal drivers behind my decision to apply for funding to complete a PhD at Birmingham. My interest in environmental taxes and the CRC was almost a happy accident. The research area for this thesis derives from a longstanding interest in the environment, and more specifically environmental law, which dates back to my undergraduate studies at the University of Sheffield. There, Dr Carolyn Shelbourn made the subject come alive for me. I specialised as much as I could in environmental law for my LLB.

I brought this keen interest in environmental law to my LLM at Birmingham. During this time, I thought about areas that were lacking research – which is how I stumbled across the CRC. The CRC at this point in 2014 was considered a technical and dense scheme, which was scheduled to run for the next 30 years.¹⁴⁸ The scheme was largely untouched in the academic sphere, providing an opportunity to make a real contribution to the CRC literature. I began my research journey by focussing on the 2012 reforms to the scheme as part of my LLM dissertation, which led on to the start of my PhD in 2014. It was during this work that I first engaged with the CRC and it was impossible to ignore that the CRC had undergone a significant amount of reform for its age. These reforms then raised the questions of why they were needed and what went wrong with the first iterations of the scheme. It was here that I

¹⁴⁸ The CRC Energy Efficiency Scheme Order 2010, SI 2010/768.

began to think about what makes an effective environmental tax. Taking a purist viewpoint, the CRC aims to reduce emissions and forms part of the UK climate change toolbox. As such, an effective environmental tax is one which facilitates and encourages behavioural change: in this case, resulting in a drop in carbon dioxide emissions.

The CRC is due to end in 2019. However, this does not alter the importance of a PhD that focusses on the CRC. The importance of this study remains on two levels: First, it is always important to consider why a piece of regulation does not work; and second, the CRC will be replaced by an incarnation of the CCL that will cover the scope of the CRC.¹⁴⁹ As such, this PhD remains relevant in considering the final form of what will succeed the CRC, and will still help to paint the picture on what drives behavioural change under an environmental tax regime.

This thesis will explore the following research questions:

1. What is the CRC, and how does it work?
2. How have regulatees perceived the CRC, and has this perception altered how the regulatees have engaged with the scheme?
3. What drives regulatees to change their behaviour under an environmental taxation scheme?
4. What does existing literatures say about these drivers, and is there a role for these drivers in a UK environmental tax regime?
5. Has the CRC been effective in reducing carbon emissions?

1.3.2 Research Methods

This is an empirical thesis in which I will draw upon both qualitative and quantitative research to shed light on the CRC. Whilst regulatee perceptions of the CRC (uncovered by interview) are important, the objectivity of the CRC emissions data will help to form a more comprehensive picture of the scheme.¹⁵⁰ By triangulating and drawing together both the qualitative and quantitative data,¹⁵¹ I hope to discover whether and how regulatees have engaged with the CRC, and what, if needed, could improve this engagement. Chapter 2 sets out my methodology and methods in a much greater depth.

¹⁴⁹ HM Treasury, 'Reforming the business energy efficiency tax landscape' (September 2015), paragraph 4.11.

¹⁵⁰ Burke Johnson, Anthony Onwuegbuzie and Lisa Turner, 'Towards a Definition of Mixed Methods Research' (2007) 1(2) JMMR 112, 123.

¹⁵¹ See Jennifer Greene, Valerie Caracelli, and Wendy Graham, 'Toward a Conceptual Framework for Mixed Method Evaluation Designs' (1989) 11(3) Educational Evaluation and Policy Analysis 255.

The qualitative aspect of this thesis comprises of 31 50-minute semi-structured interviews. In order to gauge a wider perception of the CRC, these interviews targeted: the regulator; participants of the CRC; environmental consultants; and, solicitors. Two phases of interviews were undertaken for this study: a pilot study and a main study. The initial pilot study of 8 interviews was undertaken between October and December 2015. The interviewees for the pilot study were all university participants of the CRC, and were selected at random to be contacted. This was done by collating each university participant, identified through the CRC 2013-2014 ARP,¹⁵² onto a spreadsheet and using a random number generator to generate the corresponding university to be contacted. Out of 50 universities contacted by email, 8 positive responses were received and the interviews took place both over the phone and face-to-face. The interviews were semi-structured, using an interview schedule as a basis.

Following this pilot, a further 23 interviews were scheduled and undertaken between January and April 2016. Initially, recruitment for these interviews was done at random by letter (again using the ARP and a random number generator). Despite 90 letters being sent to participants of the CRC, no positive responses (and only one negative response) was received. I then contacted the regulator for the scheme and asked for an advert to be placed in the taxpayer newsletter.¹⁵³ This proved more productive. The interviewees for the main part of the study were therefore self-selecting, and were a mix of taxpayers, advisers (i.e. consultants), and solicitors. The regulator (an Environment Agency official) was also interviewed, with questions focussing on taxpayer perception of the CRC. The demographic of the taxpayers was varied. Interviewees came from a range of sectors including: higher education; construction; utilities; retail; transport and logistics; hospitality; the NHS; and local authorities. The study therefore consists of data from both the public and private sector.

The quantitative aspect of the thesis involves an analysis of the raw emissions data which is published annually by the Environment Agency in the ARP.¹⁵⁴ This quantitative approach required me to collate the emissions data for each of the six years for which the scheme has been active and a published report, including only those participants that had reported their emissions for all years under the

¹⁵² Available via <https://www.gov.uk/government/publications/crc-annual-report-publication-2013-to-2014> accessed 15/12/2016.

¹⁵³ Following an interview with the regulator, a short advert of the study was placed into a participant email update in March 2016. This advert contained contact details which allowed participants to come forward if they wanted to be interviewed.

¹⁵⁴ The Annual Report Publications are all available from <https://www.gov.uk/guidance/crc-energy-efficiency-scheme-annual-report-publication> last accessed 22/08/2017. These documents list the participants under the scheme and their raw emissions figure reported for that year.

CRC.¹⁵⁵ Using this redacted emissions data, I outline in Chapter 3 some descriptive statistics including the median and mean (average) emissions under the scheme for each participant. In addition, I perform a paired t-test on each pair of consecutive years to determine whether there is a statistically significant difference between the years of the CRC. The purpose of this is to determine whether there has been a change in emissions under the scheme. As the CRC aims to reduce carbon emissions, an effective CRC would see a drop in emissions on a yearly basis. To complement the t-tests, a repeated measures test has also been conducted, and this compares each year to every other year under the scheme to test whether there is a statistical difference between years.

1.4 Thesis Structure and Theoretical Frameworks

The theoretical frameworks adopted by this thesis form part of its original contribution, in the sense that the analysis of the CRC is being conducted through a number of theoretical angles. This thesis will adopt multiple theoretical frameworks to mirror the themes that arise from the study data. As such, work on regulatory stability, trust, nudging, incentives, and efficiency will be covered in the substantive chapters of this thesis. During the analysis of my interview data, it quickly became apparent that one overarching theoretical framework would not tackle all of the issues raised by my interviewees. Given this, I decided that it would be disingenuous to my data to artificially shoe-horn my data into one theory; and adopted a multiple theory, inductive approach.

Chapter 2 of this thesis will consider the method and methodology underlying my study of the CRC (as raised above) in more depth. The thesis will then move on to consider the scheme which forms the basis of the study: the CRC. Chapter 3 will outline the key features of the CRC, the existing literature on the CRC and, finally, will present the statistical findings from the CRC emissions data. This chapter will then inform chapters 4 through to 8, which cover the substantive themes that arose from the interview data.

The numerous reforms of the CRC during its lifespan drew out concepts of regulatory stability and the practical impacts of instability on an environmental regime. As such, Chapter 4 will consider the role of tax and regulatory stability and the CRC. The concept of stability will draw upon the work of wider

¹⁵⁵ This was a painstaking and long-winded task, which in hindsight required a lot of resources and effort for the insight gained into the CRC.

economic theorists and Elen Stokes,¹⁵⁶ who argue respectively that tax stability and regulatory stability have a role to play. Economic literature argues that stability is important to maintain stability in the rule of law, property rights and institutional stability.¹⁵⁷ Stokes argues that how regulation is packaged is important and that stability and change can be used to illustrate the adequacy of regulatory regimes.¹⁵⁸ The chapter will argue that an unstable regulatory regime is a less efficient one; and that instability is perceived and interpreted by regulates. This can bring into play a bigger role for how policymakers package regulation, as unstable regulation can also speak to unstable policy in the eyes of the interviewees.

The interview data also raised questions surrounding the competence of the regulator, and Chapter 5 considers the role that trust has played between regulatees and the Environment Agency. When looking at trust, this thesis will rely upon the work of Roger Kasperon *et al*,¹⁵⁹ who explore the role of social trust alongside a more traditional cognitive trust. This social trust comprises of four key elements: competence, caring, predictability and commitment. By running through these elements of trust, Chapter 5 will outline the practical impacts of what is perceived to be an incompetent regulator. Chapter 6 considers the role of nudging and draws upon the seminal work of Cass Sunstein and Richard Thaler, who look at how influencing choices can drive behavioural change.¹⁶⁰ Interviewees expressed an interest in a reputational element for the CRC (for example rankings and performance publications). Thaler and Sunstein argue that we follow the crowd and are conscious of our public image.¹⁶¹ Through the use of reputational drivers, policymakers can harness social norms to encourage competition and collaboration between businesses to further behavioural change goals. Chapter 6 therefore examines the potential for nudging under the CRC and how a reputational element under the scheme could help to drive behavioural change.

Incentives, which are similar to, but distinct from, nudges are covered widely in literature. Chapter 7 will draw upon this wide range of literature to consider the role of incentives in environmental

¹⁵⁶ Elen Stokes, 'Regulatory Domain and Regulatory Dexterity: Critiquing the UK Governance of 'Fracking'' (2016) 79(6) MLR 961.

¹⁵⁷ Douglas North, *Institutions, Institutional Change and Economic Performance* (CUP 1990); Friedrich von Hayek (edited by Ronald Hamowy), *The Constitution of Liberty* (University of Chicago Press 2011); Walter Lippmann, *The Good Society* (Transaction 1938).

¹⁵⁸ Stokes (n 156).

¹⁵⁹ Roger Kasperon, Dominic Golding and Seth Tuler, 'Social Distrust as a Factor in Siting Hazardous Facilities and Communicating Risks' (1992) 48(4) Journal of Social Issues 161.

¹⁶⁰ See for a comprehensive introduction to nudging: Richard Thaler and Cass Sunstein, *Nudge: Improving decisions about health, wealth and happiness* (UK: Penguin 2009).

¹⁶¹ *Ibid*, p65.

taxation. Specifically, this chapter will consider the differences between the negative incentives (the cost of the tax) and potential positive incentives (included tax hypothecation and green investment) and how they are viewed by participants of the CRC. Chapter 7 will argue that the carrot can be better than the stick,¹⁶² and as in the case with the CRC, how revenues have been labelled is important to participants of the scheme, particularly as the CRC scheme was originally revenue neutral. In addition, positive incentives in general can work well alongside the negative incentive of the tax to improve participant engagement. Chapter 7 therefore explores a wider role for incentives, both negative and positive, to consider whether incentives have the potential to reduce emissions further.

Finally, the above themes will be drawn together by considering how they all affect efficiency. What makes 'good' regulation will be considered by drawing upon the work of Robert Baldwin *et al.*¹⁶³ Chapter 8 will specifically consider the complexity of the CRC and the impacts that this has had on regulatee understanding and engagement with the scheme, in order to argue that the CRC has been perceived by participants as unnecessarily complex.

All of the themes in chapters 4-8 feed into Chapter 9 which discusses the regulatory package. This chapter will draw together all five themes to argue that how regulation is packaged is crucial to efficiency and to increasing regulatee/ taxpayer engagement. The role of regulatory symbolism is considered, and by drawing on the work of John Dwyer and Bart van Klink,¹⁶⁴ this chapter argues that the attributes of the CRC covered in this thesis form part of the perceivable regulatory package and all feed into how the CRC has been perceived since its introduction. By considering this overall image which is being portrayed to regulatees, policymakers can tailor the regulatory package to imbed environmental values. My work suggests that these environmental values will be perceived by regulatees and engaged with. Chapter 9 also looks to the future and beyond the abolition of the CRC, as questions which have been raised throughout this thesis are equally relevant to the CRC's future replacement.

¹⁶² As per motivational theory seen in Jeremy Bentham, 'From An Introduction to the Principles of Morals and Legislation', in John Stuart Mill and Jeremy Bentham, *Utilitarianism and Other Essays* (1987 Penguin).

¹⁶³ Baldwin et al (n 19).

¹⁶⁴ John Dwyer, 'The Pathology of Symbolic Legislation' (1990) 17 *Ecology LQ* 233; Bart van Klink, 'Symbolic Legislation: An Essentially Political Concept' in Bart van Klink, Britta van Beers and Lonneke Port (Eds), *Symbolic Legislation Theory and Developments in Biolaw* (Springer 2016).

Chapter Two: Research Methods and Methodology

In 2015, a government study into the CRC was commissioned by DECC, which undertook a quantitative and qualitative analysis of the first phase of the CRC scheme.¹ Where similar themes arise from the two studies, reference will be made to the government study. However, in general, nuanced, different themes (which this thesis has drawn from legal scholarship) run through the two studies.

There is a general lack of empirical work in environmental law.² There is a general lack of empirical research in law full stop.³ This Chapter will outline both the methods and methodology that have been used for my empirical study of the CRC scheme. I will explain the structure and rationale behind my study on the CRC. My study is based on 31 semi-structured interviews of CRC participants, advisors and the regulator of the CRC scheme. The interviews took place between October 2015 and April 2016. The study also draws upon the raw data published within the Annual Report Publication. This is an Excel spreadsheet which details the emissions data for each CRC participant published annually by the Environment Agency.

I have structured this chapter into three parts: Part 1 of this chapter will consider the research questions that I set out to answer during the study; Part 2 will explore the mixed methods methodology and underlying paradigm which underpinned the analysis; and Part 3 will outline the methodology for my study as well as the methods of analysis.

This chapter has been revised iteratively following the conclusion of the interviews, and so the past tense will be used from now on for consistency.

¹ DECC, 'CRC Energy Efficiency Scheme Evaluation: Final Synthesis Report' (July 2015).

² See for example: Steven Vaughan, "'The Law is my Data': The Socio-Legal in Environmental Law' (4th September 2017) available at <https://blog.oup.com/2017/09/socio-legal-in-environmental-law/> accessed 25/04/2018.

³ Hazel Genn et al, 'The Nuffield Inquiry on Empirical Legal Research: Final Report' (The Nuffield Foundation November 2006).

2.1 Research questions and analysis overview

2.1.1 Research questions

Originally, my research questions focussed on the 2012 simplification of the CRC, and whether this influenced the scheme's efficiency. However, it quickly became apparent that this was not an important point for the interviewees. In addition, I had a research question on the Polluter Pays Principle, which again was removed because I no longer thought it to be key to answering the question of whether the CRC was efficient. Finally, my original research questions were wider, bringing in a comparison of other schemes and analysing their efficiency. However, the CRC tends to run in isolation from other schemes, and while participants were aware of other taxes and regulatory schemes, they were unable to draw in depth comparisons. Comparisons will, however, still be drawn between the schemes in the chapters that follow to consider whether an alternative to the CRC can be suggested.

My research questions have since changed into one main research question, and several sub-questions which flow from the main question. The research questions addressed in the subsequent parts of this thesis are:

1. Is the CRC an effective tool to reduce carbon emissions?
 - a. How is the CRC perceived by those that pay it?
 - b. Has the CRC reduced carbon emissions?
 - c. In what ways, and to what extent, have the participants of the CRC engaged with scheme?
 - d. What is the role of politics and the government in terms of participant engagement with the CRC?
 - e. Is there a role for incentives in environmental taxation?
 - f. Would an alternative regulatory mechanism provide a more effective solution to environmental taxation alone? Could environmental taxation be combined with other tools to make it more effective?

To answer the above research questions, this project blended both qualitative and quantitative research. This is justified on the premise that the study aims to look into the efficiency and the perceptions of the CRC. The efficiency of the CRC will be studied in two ways: through a consideration of tax theory, and also a quantitative analysis of the CRC emissions data published by the Environment Agency within the Annual Report Publication (ARP). In terms of the quantitative analysis, various

statistical approaches were taken to determine whether the CRC has had an impact on carbon emissions. Additionally, to gain an insight into the perceptions of the scheme, over 30 interviews were carried out.

Due to the dual nature of this study's research aims (i.e. whether the CRC has been efficient and how the CRC is perceived), I made the decision that it would have been impossible to achieve both without the blend of both qualitative and quantitative methods. This duality is reflected in the methodology that was adopted for this study.

2.1.2 Limitations of the study

First, I acknowledge that my sample size was relatively small at 31. Within this figure, there was a mixture of participants, consultants, solicitors and the regulator; which means that each individual pool of interviewee type was much smaller than 31. In Chapter Two, I highlighted the difficulties I saw in recruiting participants of this study. It was only following an advertisement in the CRC newsletter that the majority of participants for this study were secured. There are therefore issues in the fact that my interviewees were, for the large part, self-selecting, and would indicate that they already had strong opinions on the CRC. In addition, with a bigger pool of participants, I acknowledge I would have a richer data set which would allow me to present more concrete conclusions throughout this thesis.

Second, whilst this thesis acknowledges that the CRC is coming to an end, it does not cover the replacement in any great depth. It would have been useful to gain a deeper picture of the views held by CRC professionals on the CCL. These views were hinted at during interviews, and it would have been useful to develop these in further questions. Additional research is necessary to understand the role that the CCL will play in organisations from 2019. Nonetheless, I would argue that the lessons learnt from the CRC have a wider regulatory application and are still useful in terms of understanding how regulatees respond to regulation and environmental taxes more specifically.

2.2 Methodology

2.2.1 Mixed methods research: the paradigm war

As the name might suggest, mixed methods is usually the combination of quantitative and qualitative research methods.⁴ Traditionally, mixing methods has been discouraged because quantitative and qualitative methods are considered to be separate paradigms. Following Kuhn's definition of a 'paradigm',⁵ Morgan states that it is a "consensual set of beliefs and practices that guide a field".⁶ Quantitative methods tend to follow a positivist approach, which looks at facts and truths as independent from human experience and perception.⁷ Durkheim argues that research should only consider facts, and that a reliance on subjective experience is not necessary.⁸ On the other hand, qualitative methods tend to take a constructivist approach, which instead argues that there is more than one truth and that truth depends on human experience.⁹ Constructivists argue that it is not possible to analyse human behaviour in the same way as we might analyse natural/ scientific phenomena.¹⁰

Critics of mixed methods research, and particularly purists (from both camps),¹¹ state that it is impossible to reconcile the two methods, which are in themselves linked to paradigms that have 'impermeable' boundaries.¹² This is based upon the idea that qualitative and quantitative data are on opposite ends of the epistemological spectrum and so should not be brought together.¹³ This inability

⁴ Sharlene Nagy Hesse-Biber, *Mixed Methods Research: Merging Theory with Practice* (The Guildford Press 2010), p3.

⁵ Thomas Kuhn, *The Structure of Scientific Revolutions* (first edition) (University of Chicago Press 1962).

⁶ David Morgan, 'Paradigms Lost and Pragmatism Regained: Methodological Implications of Combining Qualitative and Quantitative Methods' (2007) 1(1) *Journal of Mixed Methods Research* 48, 49.

⁷ Amaryll Perlesz and Jo Lindsay, 'Methodological Triangulation in Researching Families: Making Sense of Dissonant Data' (2003) 6(1) *International Journal of Social Research Methodology* 25.

⁸ E Durkheim, *The Rules of Sociological Method* (Free Press 1966).

⁹ Joanne Sale, Lynne Lohfeld, and Kevin Brazil, 'Revisiting the Quantitative-Qualitative Debate: Implications for Mixed Methods Research' (2002) 36(1) *Quality & Quantity* 43.

¹⁰ Reza Banakar and Max Travers, 'Law, Sociology and Method' in R. Banakar and M. Travers (eds), *Theory and Method in Socio-Legal Research* (Hart 2005) pp1-26.

¹¹ Kenneth Howe, 'Against the Quantitative-qualitative Incompatibility Thesis (or Dogmas Die Hard)' (1988) 17(8) *Educational Researcher* 10.

¹² John Creswell, 'Controversies in Mixed Methods Research' in Norman Denzin and Yvonna Lincoln (Eds), *The Sage Handbook of Qualitative Research* (2011 Sage), p275.

¹³ Charles Teddlie and Abbas Tashakkori, 'Mixed Methods Research: Contemporary Issues in and Emerging Field' in Norman Denzin and Yvonna Lincoln (Eds), *The Sage Handbook of Qualitative Research* (2011 Sage), p289.

to combine the two different methods has also been labelled as the 'incompatibility thesis'.¹⁴ Purists in the quantitative camp argue that qualitative methods are too subjective and lack precision;¹⁵ whilst purists in the qualitative camp criticise quantitative methods for their lack of flexibility which leads to surface data (i.e. data that is not deep or rich).¹⁶ There are then two sides of the debate, with number crunchers on the one side of the fence and "navel-gazers" on the other.¹⁷ The incompatibility thesis has since been largely dismissed with the possibility of merging methods.¹⁸ In this sense, each method will be accorded their own paradigm, but that they are "compatible and can be used fruitfully in conjunction with one another".¹⁹ Mixed methods research has, in fact, been hailed as a response to the paradigm wars.²⁰ Bazeley has argued that:

"Although the epistemological arguments of the "paradigm wars" sharpened our thinking about issues relating to mixed methodology, their lingering legacy has been to slow the progress of integration of methods".²¹

"If quantitative and qualitative are poles on a multidimensional continuum, as is now widely recognized, then emphasis on the separate definition of these components (and inclusion of both) in a mixed methods study can create unhelpful boundary issues and potentially impede analytic integration."²²

In light of these above arguments, I adopt an intermediate position. I disagree with the idea that there is an absolute truth as favoured by the positivist approach; yet, qualitative data from interviews is limited by its subjectivity, and is context dependent.

Mixed methods researchers have attempted to create an alternative philosophical framework in which to place mixed methods research.²³ Whilst no perfect solution has yet been found, an attempt can be made to "fit together the insights provided by qualitative and quantitative research into a

¹⁴ Kenneth Howe, 'A critique of experimentalism ' (2004) 10(1) *Qualitative Inquiry* 42.

¹⁵ Alan Bryman, *Social Research Methods* (fourth edition) (OUP 2012).

¹⁶ Alan Bryman, *Quantity and Quality in Social Research* (Unwin Hyman 1988), p104.

¹⁷ As labelled by each camp's opposition: Sam Sieber (1973) 'The Integration of Fieldwork and Survey Methods', (1973) 78(6) *American Journal of Sociology* 1335; and Nigel Fielding and Jane Fielding, *Linking Data* (Sage 1986).

¹⁸ Creswell (n 12), 275.

¹⁹ Teddlie and Tashakkori (n 13), 285.

²⁰ Martina Feilzer, 'Doing Mixed Methods Research Pragmatically: Implications for the Rediscovery of Pragmatism as a Research Paradigm' (2010) 4(1) *JMMR* 6, 6.

²¹ Patricia Bazeley, 'Integrating Data Analyses in Mixed Methods Research'(2009) 3(3) *JMMR* 203, 203.

²² Ibid.

²³ Feilzer (n 20), 7.

workable solution".²⁴ Against this debate, I argue that the two methodological approaches can be combined in this middle ground through a pragmatic approach. This framework has been adopted as a paradigm for mixed method research by many authors,²⁵ and it argues that methods should be used as a tool for research.²⁶ As such, I believe that this framework resonates with and bypasses the arguments put forward in the paradigm war debate – it frames the diverging methodological approaches as a tool to help answer research questions. This is echoed in the literature, which, under a pragmatic approach, argues that there is a false dichotomy between the two methodological approaches.²⁷

Evidence of this can be seen in the fact that there is quite often an overlap in the two approaches in research. For example, it has been noted that most forms of research make use of numbers in some capacity, thus bringing the quantitative into the qualitative.²⁸ In terms of quantitative research, it has been argued that eventually the data will be analysed with some qualitative elements, as even quantitative researchers need to make sense and select the relevant data.²⁹ This builds upon the idea that quantitative researchers make decisions during the design and implementation of the study which are not objective, introducing a level of subjectivity into their findings.³⁰ Pragmatists separate the practical from the theoretical and believe that one single methodological approach is not exclusive to a particular paradigm.³¹ Rather, they adopt an approach which identifies the problem to be explored, and choose the appropriate methods to tackle the problem.³²

However, pragmatism itself has a muddled history.³³ As a philosophical concept, pragmatism accepts that there are both singular and multiple realities which are all open to research.³⁴ John Dewey argued

²⁴ Johnson and Onwuegbuzie, *Mixed Methods Research: A research paradigm whose time has come* (2004) 33 Educational researcher 14, 16

²⁵ See John Creswell and Vicki Plano Clark, *Designing and Conducting Mixed Methods Research* (Sage 2007) p26.

²⁶ Janice Beyer, 'Researchers Are Not Cats – They Can Survive and Succeed by Being Curious' in Peter Frost and Ralph Stablein (eds), *Doing Exemplary Research* (Sage 1992).

²⁷ Isadore Newman and Carolyn Benz *Qualitative-Quantitative Research Methodology: Exploring the Interactive Continuum* (Southern Illinois University Press 1998).

²⁸ Stephen Gorard and Chris Taylor, *Combining Methods in Educational and Social Research* (Open University Press 2004).

²⁹ Alan Bryman, *Quantity and Quality in Social Research* (Unwin Hyman Ltd. 1988).

³⁰ Anthony Onwuegbuzie and Nancy Leech, 'On Becoming a Pragmatic Researcher: The Importance of Combining Quantitative and Qualitative Research Methodologies' (2007) 8(5) *International Journal of Research Methodology*.

³¹ Nigel Gilbert, *Researching Social Life* (third edition) (Sage 2008).

³² Johnson and Onwuegbuzie (n 24).

³³ Feilzer (n 23), 7. It is not within the scope of the thesis to go into a detailed historical analysis of pragmatism.

³⁴ Creswell and Plano Clark (n 24), 24; and Feilzer (n 23), 8.

that pragmatism was simply the search for the truth, be that an objective truth (as in the positivist stance), or the truth of many realities (akin to the constructivist stance).³⁵ The pragmatist standpoint on research “relies on an argument for the utility of research means for research ends”;³⁶ orienting itself to solve “real world” problems.³⁷ Critics of pragmatism argue that relying on this practical pragmatism as a philosophical pragmatism is not so simple.³⁸ This is because Dewey’s pragmatism “did not so much offer new answers to old epistemological questions as he replaced the very assumptions on which modern epistemology had been based.”³⁹ It is also a philosophical approach that does not sit among the traditional philosophical strands; it is “rather a set of philosophical tools that can be used to address problems.”⁴⁰

What is key about Dewey's pragmatism is that it does not accept that knowledge is the only version of reality, but that experience is equally important.⁴¹ In fact, pragmatism accepts that knowledge is both constructed and based on the reality of the world we experience.⁴² In a project where the focus is experience and perception, as well as hard facts, this approach resonates well. Whilst a philosophical paradigm is important to any project involving social research, “it matters less how this philosophy is packaged.”⁴³

2.2.2 Mixed Methods Research: Justification of approach

It is important that the research questions of a project are framed with the methodology in mind.⁴⁴ It is also important to choose a methodology that can best answer the research questions posed.⁴⁵ Tax research is not traditionally reflexive, and methodology of research is not often discussed at any length.⁴⁶ Whilst my project does focus on a UK tax, I wish to openly justify my approach to methods

³⁵ John Dewey, *Experience and Nature* (1925 Kessinger), p47.

³⁶ Gert Biesta, ‘Pragmatism and the philosophical foundations of mixed methods research’ in Abbas Tashakkori and Charles Teddlie (eds), *The Sage Handbook of Mixed Methods in Social and Behavioral Research* (2nd Edition) (2010 Sage), p96.

³⁷ Feilzer (n 23), 8.

³⁸ Biesta (n 36), 96.

³⁹ *Ibid*, 105.

⁴⁰ *Ibid*, 97.

⁴¹ *Ibid*, 107.

⁴² Johnson and Onwuegbuzie (n 24), 18.

⁴³ Jennifer Greene and Jori Hall, ‘Dialectics and Pragmatism: Being of consequence’ Abbas Tashakkori and Charles Teddlie (eds), *The Sage Handbook of Mixed Methods in Social and Behavioral Research* (2nd Edition) (2010 Sage), p121.

⁴⁴ Hesse-Biber (n 4), 10.

⁴⁵ Howe 1988 (n 11).

⁴⁶ Lynne Oates (Ed), *Taxation: A Fieldwork Research Handbook* (Talyor and Francis 2012), p1.

and methodology. In this study, I considered both whether the CRC is efficient (objectively) as well as how the CRC is perceived (subjectively) – these questions demonstrate the need of both quantitative (objective) and qualitative (subjective) methods. Thus, the duality of methods used in this project is the reason behind my initial decision to adopt a mixed methods approach.⁴⁷ The main aim of the research was to explore whether the CRC is considered to have been an effective instrument. Therefore, the quantitative data will provide a general backdrop, whilst the qualitative data is intended to provide a deeper understanding of how the CRC operates. Whilst it is unusual for the qualitative methods to be the primary focus in a mixed methods study, it is not unheard of.⁴⁸

Whilst not a novel methodology (work using this methodology can be seen to date back as far as 1855),⁴⁹ mixed methods research is growing in popularity and influence.⁵⁰ That is not to say that the approach is without criticism in the literature. Denzin states, for example, that there is a need to acknowledge the messiness of mixed methods.⁵¹ In addition, there has been discussion that would suggest that mixed methods research subordinates qualitative research below quantitative research.⁵² This problem is overcome by the acknowledgement that qualitative research has much to contribute to this project (indeed, it is the primary focus of this project); and by the thorough integration of both quantitative and qualitative into the project.⁵³ In the present study, qualitative research will provide a crucial fleshing out of our understanding of how environmental taxation is perceived by those affected by it, and is an insight that would never be obtained by quantitative data alone.

Furthermore, there are logistical difficulties with mixed methods research - the costs in both time and money of conducting the research. This is a salient point, due to the time constraints attached to conducting doctoral research as well as financial considerations. There is also a question of training; as the researcher would need to be competent with both the qualitative and quantitative methods.⁵⁴ Teddlie and Tashakkori argue that to combat these criticisms, mixed methods research should only be used when it is necessary to answer a research question.⁵⁵ In the present study, I wanted to explore

⁴⁷ Abbas Tashakkori and John Creswell, 'Developing Publishable Mixed Methods Manuscripts' (2007) 1(2) JMMR 107; and Abbas Tashakkori and John Creswell, 'Exploring the Nature of Research Questions in Mixed Methods Research' (2007) 1(3) JMMR 207, 207.

⁴⁸ Hesse-Biber (n 4), 14.

⁴⁹ Ibid, 2.

⁵⁰ Ibid, 1.

⁵¹ Creswell (n 12), p278.

⁵² Teddlie and Tashakkori (n 13), p295; and Howe 2004 (n 14), 54.

⁵³ Teddlie and Tashakkori (n 13), p295.

⁵⁴ Hesse-Biber (n 4), 21-22.

⁵⁵ Teddlie and Tashakkori (n 13), p295.

and uncover how the CRC has been perceived by those affected by it and this would have been impossible without the use of interviews and participant involvement. In addition, the known benefits of mixed methods research make this approach useful in the current study.

Johnson *et al* argue that such a blend of qualitative and quantitative methods allows the researcher to gain a broader and deeper understanding of the problem.⁵⁶ The blend also allows “words, pictures and narrative” to be added to the quantitative data in order to develop a meaning to the numbers.⁵⁷ The approach allows the researcher to have multiple ways of seeing the problem at hand.⁵⁸ There are further benefits to employing a mixed methods framework to this research. Greene *et al* and Hesse-Biber both raise three key advantages to using a mixed methods approach which influenced my decision to adopt a multi-method approach: triangulation; complementarity; and expansion.⁵⁹ The first benefit of triangulation will be considered in more detail below, in section 2.2.3, which considers how the two sets of data will be brought together to examine the same research questions.⁶⁰

A second benefit of complementarity allows the researcher to “gain a fuller understanding of the research question” as one data type enhances the other.⁶¹ It allows the strengths of each method to enhance the other.⁶² In this particular study, the quantitative data complements the qualitative by providing a statistical backdrop to the CRC on which to build the more detailed picture. The approach also allows me to give voice to two different perspectives: the raw emissions data published by the government; as well as those of the participants.⁶³ Ultimately, the complementarity of both sets means that bringing them together allows me to create a much “bigger picture” of the CRC.⁶⁴

Finally, Greene *et al* and Hesse-Biber speak of expansion, which is the extension of the breadth and range of the enquiry by potentially producing more detailed findings than would be otherwise produced without a mixed methods approach.⁶⁵ By collecting data from a wider range of sources and

⁵⁶ Burke Johnson, Anthony Onwuegbuzie and Lisa Turner, ‘Towards a Definition of Mixed Methods Research’ (2007) 1(2) JMMR 112, 123.

⁵⁷ Johnson and Onwuegbuzie (n 24), 21.

⁵⁸ Cresswell (n 12), 272.

⁵⁹ See Jennifer Greene, Valerie Caracelli, and Wendy Graham, ‘Toward a Conceptual Framework for Mixed Method Evaluation Designs’ (1989) 11(3) Educational Evaluation and Policy Analysis 255.

⁶⁰ Hesse-Biber (n 4), 3.

⁶¹ *Ibid*, 4.

⁶² Sale *et al* (n 9).

⁶³ Onwuegbuzie and Leech (n 30).

⁶⁴ Julia Brannen, ‘Mixed Methods Research: A Discussion Paper’ [online] (2005) available from: <http://eprints.ncrm.ac.uk/89/1/MethodsReviewPaperNCRM-005.pdf> accessed 01 November 2017, p12.

⁶⁵ Hesse-Biber (n 4), 5.

stakeholders, a greater and more comprehensive understanding of the research topic can be achieved.⁶⁶ This is not necessarily the case in my current study as the Environment Agency data does not truly broaden the range of enquiry. Rather, the use of quantitative data in this study is another perspective, which will enable me to tell the story of the CRC. I consider the analysis arising from the quantitative data to be the broader, foundational blocks of the story of the CRC, with the deeper qualitative data identifying the more specific issues that arise from the scheme. I argue that without both methods, the story of the CRC would not be as rich. Indeed, the quantitative data would not stand alone very well,⁶⁷ and so it necessary to combine this with the qualitative interviews. The next section will now consider the bringing together of these two methods.

2.2.3 Method design

Triangulation is one of the benefits of a mixed methods strategy.⁶⁸ Traditionally, triangulation brings together the two data types so that the one may validate the other.⁶⁹ However, in my study, I was conscious of the fact that the quantitative data may not reflect the issues raised in the qualitative phase of the project. In light of this, I still saw value in bringing the data sets together for two main reasons: 1) regardless of whether the data sets agree, they still form part of the CRC story; and, 2) it is interesting to consider how and why the two data sets diverge from one another. In this sense, I will be using triangulation as a way of bringing two different, yet complimentary, data sets together.⁷⁰

There are four major designs that are commonly used for mixed methods research: the triangulation design, the embedded design, the explanatory design and the exploratory design.⁷¹ The reasons for choosing a certain design will be made clear throughout the rest of this section, but I will first explain my reasons for dismissing the other designs. The embedded design is where the qualitative data is secondary to the quantitative data.⁷² As such, I have dismissed the design asfor both of my data sets are of equal weight but have been used differently. The explanatory design uses qualitative data to subsequently explain the quantitative data,⁷³ and whilst the role of my qualitative data has been to help explain any quantitative findings, the qualitative data also has the purpose of painting a picture

⁶⁶ Gilbert (n 31).

⁶⁷ See Lawrence Friedman, 'The Roots of Justice' in Simon Halliday and Peter Schmidt (eds), *Conducting Law and Society Research: Reflections on Methods and Practices* (CUP 2009), p55.

⁶⁸ Greene et al (n 59).

⁶⁹ Ibid.

⁷⁰ Gorard and Taylor argue that this is critical for social sciences, see Gorard and Taylor (n 28).

⁷¹ Cresswell and Plano Clark (n 25), p59.

⁷² Ibid, p67.

⁷³ Ibid, p71.

of the CRC in combination with the quantitative data. Finally, the exploratory design builds on the explanatory design where there is a need for further exploration for the quantitative data by the qualitative data (for example, where a variable needs to be explored further).⁷⁴ Again, this is not the primary purpose of the study, and whilst the qualitative data may help to shed some light on the quantitative data, the focus is on the two data sets working together. Some aspects of each of the four designs reflect within the current study, however, the design chosen encompasses the primary purpose of the study.

This study has adopted the triangulation design as a structure for this thesis. It is a "well-known approach"⁷⁵ which brings together research from different sources to "obtain different but complementary data on the same topic".⁷⁶ A succinct definition of the aims of triangulation can be seen within the work of Brewer and Hunter:

"Triangulated measurement tries to pinpoint the values of a phenomenon more accurately by sighting in on it from different methodological viewpoints".⁷⁷

The design essentially keeps the two different data sources separate (quantitative data and analysis can be found in Chapter 3, while the substantive qualitative chapters can be found in Chapters 4 onwards), until the two sources are interpreted together to more effectively answer a problem (see Chapter 8). Cresswell and Plano Clark explain the use of the triangulation design as:

"the design is used when a researcher wants to directly compare and contrast quantitative statistical results with qualitative findings or to validate or expand quantitative results with qualitative data."⁷⁸

In this study, the quantitative data and analysis is presented first as a foundation for the thesis. This is subsequently followed by the qualitative data which seeks to paint a deeper picture of the CRC through the eyes of those involved with it. To determine whether the CRC is an effective instrument, both emissions statistics (quantitative data) and participant perceptions (qualitative data) will be

⁷⁴ Ibid, p75.

⁷⁵ Ibid, p62.

⁷⁶ Janice Morse, Approaches to qualitative-quantitative methodological triangulation (1991) 40 Nursing Research 120, 122.

⁷⁷ John Brewer and Albert Hunter, *Multimethod research: A synthesis of styles* (1989 Sage), p17.

⁷⁸ Cresswell and Plano Clark (n 25), p62.

brought together. This depth of analysis would not be achieved by quantitative data analysis or qualitative data analysis alone.

The data is kept distinctly separate until it is time to interpret the results of both datasets in Chapter 8. As such, this study will not adopt the simple triangulation design but will adopt the convergence model of the triangulation design.⁷⁹ This model goes one step further than the standard triangulation design by explicitly separating out the two data sets throughout the process until a final interpretation is conducted using both sets of data. This suits the present study well, as the quantitative data will be analysed separately from the qualitative data.

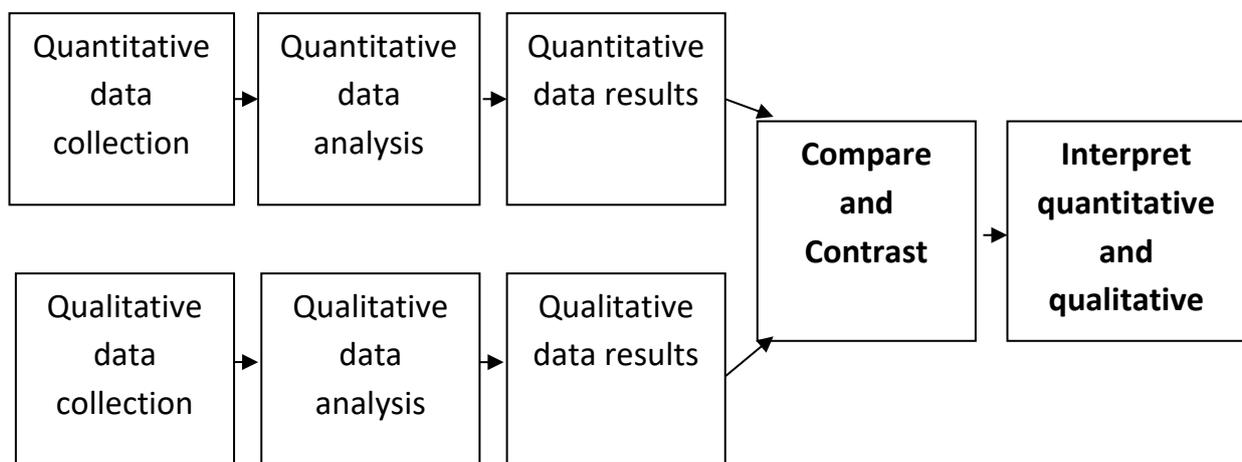


Diagram illustrating the convergence model of the triangulation design.⁸⁰

Whilst there have been appraisals of the triangulation design, there have also been criticisms. These need to be dealt with to justify the adoption of this design for the present study. Cresswell and Plano Clark outline a number of potential criticisms of the triangulation design, of which four are relevant to the CRC study.⁸¹ The first criticism is that researchers need to bear in mind the fact that having at least two different samples and sample sizes will have consequences when considering both data sets together; and that it is crucial to specify the interplay between both the quantitative and qualitative data.⁸² Whilst this is an important consideration, my study into the CRC has already borne this in mind during its development - for the quantitative data will provide a more general insight into the CRC with a smaller, deeper insight provided by the qualitative data.

⁷⁹ Ibid, pp62-63.

⁸⁰ Ibid, p63.

⁸¹ Ibid, pp66-67.

⁸² Cresswell (n 12), p275.

Secondly, Cresswell and Plano Clark build upon this by saying that it could be difficult to converge the two types of data. Again, this has been considered by accepting the fact that the quantitative data analysis will provide the background context to the qualitative data which will then fill in the fine detail of the study. I do not believe that the data sets need to be identical to converge them in this manner. Thirdly, there is the risk that the two data sets may not agree with one another. This is the case with the current study, for whilst the quantitative data demonstrates that the CRC has been effective on some level, the qualitative data is very much mixed in terms of how participants view the CRC. Bringing the two types of data together naturally introduces a conflict. I therefore acknowledge that this conflict exists, but the two types of data remain of interest as they still paint the picture of the CRC. It is also perfectly possible that the CRC is effective (based on the emissions data), but that the regulatees despise its existence (and so it is painted as inefficient in the qualitative data). Even if the emissions data indicate an effective instrument, the fact that participants do not view the scheme as effective is striking and is worthy of exploration. Unexpected results are a possibility in any study, and the diverging data sets provide a rich source of interpretation for this thesis.

Finally, it requires a lot of time and expertise to collect and analyse two data types at the same time; however, this study perfectly suits simultaneous data collection, since the quantitative data is already readily available via the Environment Agency. Without the need to collect data for the quantitative aspect of the project, allows the two data sets to run parallel to one another harmoniously. In addition, the triangulation approach also has benefits to a study. It has been described as an "intuitive design" when dealing with two types of data,⁸³ and it is certainly simpler than trying to convert both data sets to weave them together at an earlier point in the study design. It is also an efficient design in terms of time,⁸⁴ as both data sets may be collected at the same time rather than one after another. This is a significant benefit of the triangulation design for the present study which has ambitious data goals. Finally, each type of data can be collected and subsequently analysed. This allows for the most to be taken from each of the data sets and minimises any loss from the convergence of the two sets of data. I will now consider the design of each methodological approach in the following section.

⁸³ Cresswell and Plano Clark (n 25), p66.

⁸⁴ Ibid.

2.3 Qualitative Methods

I opted to conduct interviews for this project because I wished to obtain wider perspectives on the CRC from the people who are involved with it. I believed that it was important to gain this perspective to understand how the CRC operates in practice and whether it was perceived to be effective in practice. In the main, these interviews were conducted over the telephone for the convenience of the interviewee. However, on five occasions, I was able to conduct the interview face-to-face, and this enabled me to explore participants' experiences in more detail.⁸⁵ The interviews themselves were semi-structured and I had identified a number of issues (that I had gleaned from the literature) beforehand.⁸⁶ However, I was looking to glean "an account of the values and experiences of the respondent in terms meaningful to them".⁸⁷ Therefore, whilst I had a list of questions covering certain topics as a starting point, the interviewee was free to answer in the manner they saw best, and free to introduce new ideas and topics.⁸⁸ Brinkmann and Kvale describe the semi-structured interview as an "openness to changes of sequence and forms of questions in order to follow up on the specific answers given and the stories told by subjects".⁸⁹

The issues therefore naturally changed and developed through the course of the interviews. As such, I had to be flexible and change the interview schedule during and after the pilot study; and, indeed, during the interviews themselves.⁹⁰ This allowed interviewees to develop their ideas and drive the direction of the interviews.⁹¹ This was critical for this study as I was looking at how the CRC has been perceived by the interviewees, and not what I thought they had perceived. During the interviews, I used open-ended questions which allowed interviewees to express themselves in their own words.⁹² I avoided the use of 'leading questions', as I did not want to influence the answers provided by interviewees.⁹³ Drawing upon literature, I also kept questions as simple as possible and considered my use of language to ensure that the questions did not incite closed or short answers.⁹⁴ The interview schedules can be found in Appendices 1 and 2.

⁸⁵ Tim May, *Social Research: Issues, Methods and Process* (3rd Edition) (Open University Press 2001).

⁸⁶ Ibid.

⁸⁷ Neil Stephens, 'Collecting Data from Elites and Ultra-Elites: Telephone and Face-to-Face Interviews with Macroeconomists' (2007) 7 *Qualitative Research* 203, 205.

⁸⁸ Alan Bryman, *Social Research Methods* (OUP 2008), p438.

⁸⁹ Svend Brinkmann and Steinar Kvale, *Interviews: Learning the Craft of Qualitative Research Interviewing* (3rd edition) (Sage 2015), p150.

⁹⁰ Raymond Lee, *Doing Research on Sensitive Topics* (Sage 1993).

⁹¹ Gilbert (n 31).

⁹² May (n 85).

⁹³ Brinkmann and Kvale (n 89), pp199-200.

⁹⁴ Ibid, pp160-164.

The following section of this Chapter will take a closer look at the interviews that have been conducted as part of this project. Interview theory will be considered as well as the practical methods and methodology of the interviews themselves. Broader aspects of the project, such as ethics, will also be outlined. First, I turn to the pilot study.

2.3.1 The Pilot interviews

My anticipated problems in the early part of the study were primarily concerned with data collection. The primary problem was likely to be interview recruitment; that is identifying suitable candidates for the study and arranging an interview with them. As such, I was conscious to keep re-evaluating the success of my recruitment strategy, which is one of the reasons why a pilot study was introduced. In addition, other anticipated problems revolved concerned the interview questionnaire. I was apprehensive that the questions would not be suitable for two reasons: 1) They simply might not have gone down well with interviewees, in the sense that interviewees did not respond well to them; and 2) I might have missed out further relevant questions on issues that I had not identified in the first draft of the interview questionnaire. Once again, I thought that the pilot study would help to rectify this.

Initially, between 30 and 40 interviews were planned, and in light of the literature which dictates that interviews should be carefully thought out alongside the research questions,⁹⁵ several drafts were made of the interview questionnaire. Interviewing, however, is an art and not a science.⁹⁶ Therefore, the interviewing process included a pilot interview stage where the initial interview questionnaire was tried and tested and then amended in light of issues that were raised during these initial interviews. This allowed me to obtain the most relevant data in the most efficient way. I decided to undertake between 4-5 interviews for the pilot study, with the intention of using these initial interviews to amend and improve my interview questionnaire and interview technique. In addition, I made the decision to limit the pilot study to the university participants of the scheme. This was for two reasons: universities would give a useful insight into the public-sector approach to the scheme; and they would also be understanding, hopefully, of the need to develop and work on interview questions for the purposes of research.

⁹⁵ Steinar Kvale, *Interviews: An Introduction to Qualitative Research Interviewing* (Sage 1996), p12.

⁹⁶ *Ibid*, p13.

Following this decision, it was necessary to determine the sampling method for the pilot interview. I decided to choose a random sampling method, which is a form of probability sampling that allows me to generalise my results.⁹⁷ The random sampling was conducted by populating a spreadsheet with the names of the universities that participated in the scheme, in the order that they are featured within the 2013-2014 ARP (alphabetically). Then, using a random number generator,⁹⁸ I generated five random numbers (using the number of universities as the range). For example, if the generator gave me the number 2, then I would contact the second university on the list, the number 7 would represent the seventh on the list and so forth. These five numbers represented the first five universities that I would contact for the pilot interview.

On reflection, this method of choosing participants made it difficult for me to recruit a sufficient sample for the pilot study because I had to contact a high number of participants to get enough positive responses. The process for recruiting the pilot participants was adapted during the recruitment process itself. Initially, I planned to contact the five universities with the invitation by email. However, this was quickly changed to 10 universities, and finally to 50 universities, to compensate for the fact that the response rate would not be 100%. In the future, I would increase the number of potential interviewees contacted from the start of the study, as waiting for responses and incrementally increasing the pool of potential recruits was a slow and arduous process. A small number of the candidates responded quickly, but the general response was slow and not positive. It was therefore necessary for me to chase potential participants on several occasions before receiving a positive response. I decided to follow up the initial email within two weeks with a second, follow up email. In addition, I contacted a number of institutions by phone, but again had only limited success. From the 50 universities that were contacted, I received eight positive responses, three negative responses, and 39 without response. My pilot study therefore consists of eight interviews which were conducted between October 2015 and January 2016.

Fortunately, the pilot study did give me the opportunity to trial my initial interview schedule. The pilot study also allowed me to draw some initial conclusions on the data;⁹⁹ and I was flexible to new ideas that were raised by interviewees that were not in my original interview schedule.¹⁰⁰ The result of this was that the interview schedule changed significantly to include the themes raised by the interviewees including the revenues of the CRC. Overall, I found the pilot study to be incredibly formative to the

⁹⁷ Sharan Merriam, *Qualitative Research: A Guide to Design and Implementation* (Wiley 2009), p77.

⁹⁸ The random number generator can be found at <https://www.random.org/> accessed 10/08/2015.

⁹⁹ Lisa Given (Ed), *The SAGE Encyclopedia of Qualitative Research Methods* (Sage 2008), p624.

¹⁰⁰ May (n 85).

final interview schedule used in the main study phase. Appendix 2 contains both the pilot and revised interview questionnaire.

2.3.2 Main study phase

Following the pilot study of the project, I progressed onto the main phase of interviewing. Once again, I had problems recruiting interviewees for the study. For this stage of the project, I decided to target interviewees who fell under the following three headings: participants of the CRC; solicitors/ advisers of the CRC; and the regulator. By targeting three different aspects of the CRC, I hoped to triangulate the various views of the CRC and draw conclusions that take into account views from all sides of the CRC. The approaches for each type of interviewee were different and will be discussed in turn.

2.3.2.a *The regulator*

The regulator was identified and contacted directly for the project. This communication consisted of an email which was sent directly to the regulator and resulted in an interview being scheduled. A limitation of this interview is that I selected the interviewee, and that there is no element of randomness to this sample. However, since the administrator for the CRC is fixed in the CRC Order, there was no way to bypass this. This interview was conducted face-to-face, and was the longest interview conducted under the study (at 91 minutes in length). It provided me with a unique opportunity to allow the regulator to express itself at length.¹⁰¹

As will be discussed below, following this interview, my research was advertised to all the participants of the CRC via a newsletter in April 2016:

“Request for Volunteers – Research Project on Environmental Taxation

Amy Louise Lawton of Birmingham University is looking for participants of the CRC Energy Efficiency scheme to participate in a project exploring the purpose and design of environmental taxation; and the role that environmental taxation could and should play within the climate change arena, using the CRC as a case study. She is interested in anyone who has been a participant for either phase of the CRC. It is a great opportunity for you to share your views in an independent study of the scheme.

¹⁰¹ Ibid.

Participants of the study will take part in a short (30-40 minute) interview with Amy, and all interviews will be on an anonymous and confidential basis. If you would be interested in taking part in this project, please send an email to a.l.lawton@bham.ac.uk.”

This advertisement was key to this study’s viability as it provided me with a fresh access point to those involved in the CRC. Following the circulation of this newsletter, the project received interest from both participants and consultants and provided me with the opportunity to schedule a further 16 interviews in April and May 2016. Without this newsletter, it is likely that I would have struggled to recruit a sufficient number of people to the study. I now turn to the recruitment of participants of the CRC.

2.3.2.b Participants of the CRC

Following the approach taken for the pilot interviews, I initially contacted the participants in the same way. I used the 2013-2014 ARP as a point of reference,¹⁰² and used a number generator to identify the participants that I would contact. Using this method, I generated 25 participant names. Due to the constraints of my ethical approval, if the number for a local authority or NHS trust was generated, I simply generated a new number and moved on.¹⁰³

Participants of the CRC tend to be large, private organisations and it was difficult to identify the CRC contact within the organisation. As such, I took the decision to contact these organisations by letter, as I was able to send the letter to the registered headquarters of the company.¹⁰⁴ I sent out 25 letters to the 25 names on the list. Out of those 25, I received two negative responses and the remaining number did not respond. A month later, following the low response rate, I sent out a further 60 letters to participants identified in the same manner. Of these 60 letters, I received a further two negative responses with the remaining number not responding. It was quickly apparent that this approach was not yielding results. Following the advertisement of my project in the CRC newsletter, I received interest from a further 16 people who were willing to be interviewed – these were a blend of

¹⁰² Note that as of January 2016, the 2014-2015 ARP still had not been published and as such, the author was still relying on the 2013-2014 ARP.

¹⁰³ This is because my ethical approval did not allow me to include NHS trusts or local authorities in the research. In order to be able to contact these organisations, an additional ethical approval was required. At the time of the study, following advice from my supervisors, I decided not to apply for this additional approval.

¹⁰⁴ A copy of the letter can be found in Appendix 4.

participants and consultants for the CRC. Therefore, the interviewees for my main interviews were self-selecting.

The demographic of the participants I interviewed varied. I interviewed participants from the following sectors: Higher education; construction; utilities; retail; transport and logistics; hospitality; the NHS; and local authorities.¹⁰⁵ I therefore had a mix of public and private participants from a range of sectors. A limitation of this is that whilst I had a varied range of interviewees from the participant pool, I did not have the opportunity to probe deeply into specific sectors. I acknowledge, therefore, that my data is more of an overview of the participants of the CRC and cannot be used to explain trends in specific sectors. In terms of organisation size, my interviewees also varied. Due to the nature of the CRC, all the organisations would be considered 'large' organisations as the scheme was designed to capture larger consumers of energy.¹⁰⁶ However, within this, there is still a wide range of organisations. This study included an interview with an organisation that only just fell into the CRC with a liability in the tens of thousands of pounds; but also included an interview with one of the emitters in the top 1% of the scheme, with a liability figuring in the millions. Most organisations naturally fell in the middle and there was generally a six figure (i.e. above £100,000) liability under the CRC. The individuals interviewed were generally male (two interviews were with women in this category) with a career history in environmental management. The interviews also consisted of organisations throughout the UK (except for Northern Ireland), although there was a concentration of organisations in the South East of England. A good mix of different organisations were represented in the interview data set.

2.3.2.c Solicitors/ advisers of the CRC

It was not easy to identify which solicitors had a practise on the CRC, either from an existing list of solicitors, or from the websites of key firms. In order to identify these solicitors, I generated a possible list of solicitors from the Law Society website.¹⁰⁷ The list consisted of 86 solicitors who potentially worked on the CRC, and I systematically took the name of every other solicitor on the list (so the first, third, fifth and so on). If the solicitor did not practise in the UK, I moved to the next solicitor on the list. This gave me a shorter list of 43 solicitors to contact, which was achieved by a short email addressed to the solicitor, a copy of which can be found in Appendix 5.

¹⁰⁵ Note, that whilst I could not actively contact NHS/ Local Authorities under my ethical approval, I was permitted to interview them if they approached me following the newsletter (permission granted April 2016).

¹⁰⁶ For more information on the workings of the CRC scheme, see Chapter Three.

¹⁰⁷ This list was generated by filtering solicitors who practised in environmental law and more specifically, energy law.

One of the main difficulties in interviewing solicitors is that they are 'elites'.¹⁰⁸ Whilst they are used to being interviewed or asked their opinion,¹⁰⁹ they are also time poor, and so recruitment to the study was a particular concern. Following contact with the first 43 solicitors, I received one positive response. Two weeks later, I sent a reminder email to the 42 remaining solicitors and received seven positive replies as a result. Of those seven, five scheduled interviews, and four interviews were eventually undertaken.¹¹⁰ From the five interviews undertaken, one further solicitor was identified, and an interview scheduled. I undertook a total of six interviews with solicitors. My response rate was therefore relatively low, but this in line with the idea that lawyers are busy and hard to access.¹¹¹ A further demonstration of this is that one solicitor submitted a short monograph style email in the place of an interview because he was too busy to do an interview.

In addition, elite interviewing can skew the interview dynamic. Here, there is a tendency for the researcher to "be in awe" or to be "intimidated" by the people they are interviewing.¹¹² These feelings can come from a range of sources such as the solicitor's status, influence or expertise.¹¹³ It can result in the interviewer being "talked down to" in light of the interviewee's elite status.¹¹⁴ I found that when interviewing these solicitors, such a talking down was not really present. I did not feel patronised by the solicitors, nor was I made to feel intimidated during the interview. What was interesting was that I had some experience of what is termed "gate-keeping questions",¹¹⁵ where the solicitors would test my knowledge of the CRC by asking specific questions. For example questions such as "I don't know whether you have heard of X", and "I'm not sure how much you know about Y" preceded some explanations of more complex points. My background as a researcher (without experience in the legal profession) probably did not help the dynamic of the interview,¹¹⁶ and the interviewees were explicitly told that I was a doctoral student. Overall, however, I do not believe that the elite nature of these

¹⁰⁸ Steven Vaughan, 'Elite and Elite-Lite Interviewing: Managing Our Industrial Legacy' in Alex Franklin and Paul Blyton (Eds), *Researching Sustainability: A Guide to Social Science Methods, Practice and Engagement* (Routledge 2011), Chapter 7.

¹⁰⁹ Brinkmann and Kvale (n 89), 171.

¹¹⁰ One solicitor agreed to participate but rescheduled the interview four times before stopping contact.

¹¹¹ Stewart Macauley, 'Non-contractual Relations in Business' in Simon Halliday and Peter Schmidt (eds), *Conducting Law and Society Research: Reflections on Methods and Practices* (CUP 2009), p19.

¹¹² Vaughan (n 108), p113.

¹¹³ Ibid.

¹¹⁴ Joseph Conti and Moira O'Neil, 'Studying Power: Qualitative Methods and the Global Elite' (2007) 7 *Qualitative Research* 63.

¹¹⁵ See L J Cassell, *The Relationship of the Observer to the Observed When Studying Up* in R G Burgess (Ed.) *Studies in Qualitative Methodology* (JAI Press 1988); Harriet Zuckerman, *Scientific Elite* (Transaction 1996)

¹¹⁶ T Odendahl and A M Shaw, *Interviewing Elites*, in J F Gubrium and J A Holstein (eds) *Handbook of Interview Research: Context and Method* (Sage 2002), page 307.

interviews negatively impacted on the views that were expressed by the solicitors, and I noticed a shift away from gate keeping questions as the interview progressed.¹¹⁷

Following the advertisement of my research in the CRC newsletter, I also received interest from consultants who were willing to be interviewed. In total, 31 interviews were conducted. Whilst there is no magic number for the number of interviews to make a study viable, there needs to be enough interviews to answer the intended study question.¹¹⁸ In the case of the current study, I believe 31 interviews were sufficient to answer the research questions in this thesis, as recurrent themes were present throughout all interviews. Below is a summary of all interviews.

Interview stage	Number of interviews	Demographic of interviewees
<i>Pilot Interviews</i>	8	Universities across the UK.
<i>Solicitor Interviews</i>	6	Solicitors largely based in London and the South of England.
<i>Main Interviews</i>	16	A mix of participants (12) and consultants (4). Participants from across the UK geographically and a wide range of sectors (hospitality, retail, utilities, logistics and education).
<i>Regulator</i>	1	
TOTAL	31	Note: an additional monograph was submitted which has also been coded. Therefore, 32 sources of qualitative data.

¹¹⁷ Perhaps because of my dogged explanations of more complex aspects of the CRC, whereby I gained some respect from the elites. See, Vaughan (n 108), Chapter 7.

¹¹⁸ Merriam (n 97), p80; Kvale (n 95), p101.

2.3.4 Access, ethics and informed consent

For all research undertaken at the University of Birmingham, ethical approval must be obtained.¹¹⁹ Ethics approval for this project was obtained in August 2015 through the University of Birmingham via a process of self-assessment and an ethics approval form which was then approved by the University.¹²⁰ The process required me to consider the potential ethical questions raised by my project, as well as how to handle the data and obtain informed consent. Both anonymity and confidentiality posed significant problems for my research - for without both, there is the risk that the participants of the study could be exposed to negative publicity depending on their response to the interview questions. The data used within the study therefore had to be both confidential and anonymous.

To ensure that the data was both confidential and anonymous, a number of precautionary measures were taken. Most of the raw interview data (sound files) were sent to a private company for transcription. Before transcription, the transcription company was required to sign a confidentiality agreement prior to them receiving the sound files. Once the data had been transcribed, I went through all the data and redacted any confidential information that could identify the participant. This left a transcript that could not be linked back to the original participant and was followed by a permanent deletion of the original transcript and recording. From then on, only the redacted files were retained for the rest of the project. For analysis, the participant will not be linked to any ID number or name. Only their regional location and 'type of organisation' information (e.g. retail, education etc.) will be retained. These steps should mitigate the above risks and prevent any negative portrayal of an individual organisation, as well as limit the ability of third parties to identify who participated in the study.

In addition, I secured informed consent from my participants. Simply obtaining consent may not be sufficient when undertaking a qualitative study, and this is particularly relevant when the interviews are to be recorded.¹²¹ It is therefore necessary to obtain further consent.¹²² In addition, the University requires the consent to be an informed consent,¹²³ and a failure to implement a strategy for obtaining

¹¹⁹ University of Birmingham, Code of Practice for Research 2014, paragraph 7.1

¹²⁰ See <https://intranet.birmingham.ac.uk/finance/accounting/Research-Support-Group/Research-Ethics/University-Ethical-Review.aspx> accessed 22/05/2015

¹²¹ David Silverman, *Interpreting Qualitative Data: Methods for Analysing Talk, Text and Interaction* (Sage 2001), p271.

¹²² *Ibid.*

¹²³ University of Birmingham, Code of research, paragraph 10.1.6(iv).

informed consent could be deemed as negligence.¹²⁴ Silverman argues that informed consent includes the provision of information that is understood by the participants who are volunteering.¹²⁵ As the project targeted adult businessmen, lawyers and civil servants, I was relatively unconcerned about their ability to provide informed consent. Nonetheless, a procedure was designed and developed to obtain informed consent for the current study.

The participants of the study were asked to give their consent on two occasions: firstly, by email, when the details of the interview are confirmed; and secondly, at the start of their interview. As all the interviews were recorded, there remains a permanent record of their oral consent given at the start of each interview in the interview transcript. For the consent to be informed, the participants received a participant information sheet,¹²⁶ which detailed all the information relevant for the study (withdrawal, contact details, the data collection and analysis etc.). The sheet was written in clear and simple language so that it was accessible to all participants; there was also the opportunity for participants to email any further questions that they may have had to ensure that they had understood both the contents of the information sheet and the study itself: none of the interviewees emailed me any questions.

2.3.5 Analysis of the data

The purpose of qualitative data analysis is to make sense of the data.¹²⁷ There is no one correct way to analyse qualitative data. Rather, the method of analysis should consider the purpose of the study and integrate this purpose into the methods used from the start.¹²⁸ There are risks attached to the fact that this analysis was conducted by a human (i.e. me), and it is important that any analysis is systematic, disciplined and transparent to ensure that the analysis is conducted in a rigorous manner.¹²⁹ The purpose of this study is to identify and perceive CRC participants' perceptions of the scheme; as well as identify how their level of engagement links to existing tax and regulatory theory. The method of analysis will therefore be largely thematic and will draw upon the existing literature in these areas.

¹²⁴ Ibid, Paragraph 10.1.6.

¹²⁵ Silverman (n 121), p271.

¹²⁶ The Participant Information Sheet is attached in Appendix 3.

¹²⁷ Sharran Merriam and Elizabeth Tisdell, *Qualitative Research: A Guide to Design and Implementation* (4th Edition) (John Wiley's and Sons 2015), p202.

¹²⁸ Keith Punch, *Introduction to Social Research* (SAGE 2013), page 169.

¹²⁹ Ibid.

At the outset, a decision was taken to transcribe all of the interview data to ensure that the data was clear and readily accessible for data analysis once the interviews had been completed.¹³⁰ It was thought that doing this would enable me to re-familiarise myself with the data.¹³¹ Initially, the decision to transcribe for clarity was balanced against the factor of time (roughly three to four hours per hour of recording),¹³² as well as the ethical issues that are raised by transcribing interview data. The interview data was transcribed from the audio recording of the interview. As it is important to start data analysis from the outset,¹³³ I transcribed my first few interviews immediately after the interview. This allowed me to review the initial data in light of my research questions,¹³⁴ and where appropriate, alter my approach to the interview. Due to the risks of basing my transcriptions solely on an audio recording of the interview, I also made the decision to take notes during the interview, both as a transcription aid¹³⁵ and in case of technology failure.

I therefore transcribed my first four interviews verbatim myself, following the start of the pilot study and removed any identifiers within the data. Following the receipt of external funding from the Chartered Institute of Taxation, the decision was made to get the rest of the interview recordings professionally transcribed. Therefore, 27 of the recordings were transcribed 'intelligent verbatim' (which removes stutters and repeated words) by an external company. Once the transcripts were returned, I then began the process of cleaning and redacting the data to make it confidential and anonymous. To clean the data, I listened once again to the recordings with the transcripts open. Overall, there were few issues with the transcripts; it was largely a matter of correcting a few lesser-known acronyms which had been typed incorrectly. The cleaned, redacted copies of the transcripts were then uploaded into NVivo 11 for coding.

2.3.6.a Initial exploration of the data

I presented on the initial findings of my data at a conference before I had coded my data.¹³⁶ I therefore familiarised myself with the data before the coding process began. A difficulty with this was that there was a lot of data to read and reflect upon. However, it gave me the opportunity to get an initial idea

¹³⁰ Willow Powers, *Transcription Techniques for the Spoken Word* (AltaMira Press 2005), 25.

¹³¹ Virginia Braun and Victoria Clarke, 'Using Thematic Analysis in Psychology' (2006) 3(2) *Qualitative Research in Psychology* 77, 87.

¹³² Powers (n 130), pp25-26.

¹³³ David Silverman, *Doing Qualitative Research: A Practical Handbook* (Sage 2000), p121.

¹³⁴ *Ibid.*

¹³⁵ Powers (n 130), p29.

¹³⁶ Society of Legal Scholars conference, 2016, Oxford: UK.

of the themes that were emerging from the data. Reading through all the data before coding allows researchers to focus on the data as a whole, rather than the intricacies that are identified with coding.¹³⁷ I therefore read through each interview transcript twice, in order to “capture the essential nature of what was being spoken of”.¹³⁸ In hindsight, I would have preferred to have read through the transcripts one more time – as I believe this would have made the process of coding much swifter. Another limitation is that reading through transcripts categorises the data by document, rather than allowing ideas to cut through *all* the data.¹³⁹

2.3.6.b Coding the data

For most researchers, coding forms a key part of any analysis of qualitative data,¹⁴⁰ as it forms the foundations of any subsequent analysis.¹⁴¹ Coding can be used to identify themes and develop theory from qualitative interview data.¹⁴² Auerbach and Silverstein define a theory as “a description of a pattern that you find in the data”.¹⁴³ It helps by allowing the researcher to look across the data as a whole, rather than by individual piece of data.¹⁴⁴ It is a process of both data reduction and data retention,¹⁴⁵ by keeping relevant parts of the data.

I used NVivo 11 to code my data.¹⁴⁶ I found the use of this software to be helpful, as it allowed me to readily visualise the themes in the data and organise my ideas. Using software to aid the coding process is not a novel idea.¹⁴⁷ Some issues have been raised about the use of software for analysing data,¹⁴⁸ including technological aversion and the potential to make errors due to the complexity of coding programmes. However, NVivo is a useful programme which focusses on providing the researcher places in which to store and visualise their data to facilitate analysis.¹⁴⁹ In addition, I attended a training course on NVivo in March 2016, which equipped me with the skills required for

¹³⁷ Patricia Bazeley, *Qualitative Data Analysis: Practical Strategies* (SAGE 2013), p101.

¹³⁸ *Ibid*, p102.

¹³⁹ Lyn Richards, *Handling Qualitative Data: A Practical Guide* (3rd Edition) (Sage 2015), 103.

¹⁴⁰ *Ibid*.

¹⁴¹ Punch (n 129), p173.

¹⁴² Carl Auerbach and Louise Silverstein, *Qualitative Data: An Introduction to Coding and Analysis* (NYU Press 2003), p31.

¹⁴³ *Ibid*.

¹⁴⁴ Richards (n 139), p103.

¹⁴⁵ *Ibid*, p104.

¹⁴⁶ A visual of all the NVivo nodes can be found in Appendix 6.

¹⁴⁷ Christina Silver and Ann Lewins, *Using Software in Qualitative Research: A Step-by-Step Guide* (2nd edition) (Sage 2014), p1.

¹⁴⁸ See Patricia Bazeley and Kristi Jackson, *Qualitative Data Analysis with NVivo* (Sage 2013), pp6-10.

¹⁴⁹ Silver and Lewins (n 147), p71.

using the software. I went through the codes several times in the software in order to streamline the nodes, a process which has been labelled first and second cycle coding in the literature.¹⁵⁰

2.3.6.d First cycle coding

A number of methods can be used to initially code data, and these can be mixed and matched in order to complete what is referred to as 'First Cycle' coding.¹⁵¹ These methods are largely low-inference codes, i.e. fairly descriptive, used to build a foundation for later coding cycles.¹⁵² I identified a number of First Cycle coding methods which were relevant to this study: sub-coding; simultaneous coding; emotion coding; and theming the data. I used these methods alongside one another to initially identify codes within the interview data.

Sub-coding is the process of attributing further codes to an initial code in order to develop detail and to enrich meaning.¹⁵³ It is especially useful when there is a volume of data and a greater depth of categorisation is desired.¹⁵⁴ In this study, whilst the volume of data is not particularly great (31 interview transcripts and 1 short monograph of two pages), sub-coding was useful to organise codes – i.e. to allow for broader codes to contain more detailed codes, which was a useful tool to organise my data. In addition, emotion coding allows data to be labelled in terms of emotions that are experienced by participants.¹⁵⁵ By coding the emotions in my data, I was able to gain a deeper insight into participant perspectives,¹⁵⁶ and therefore, their perceptions of the CRC. Since I am particularly interested in whether the participants are willing to engage with the CRC, I limited these codes to "engaged" and "disengaged". This limited the amount of emotion I was able to explore, but I decided that a full emotive coding would have produced little reward for the time cost involved.

The main approach to coding my data was theming the data. This is the most pertinent approach to coding my data, since I will be drawing upon the relevant literature bases to create meaning in the data. Theming the data involves attributing a meaning to a unit of data, whether that is a word or a phrase.¹⁵⁷ It is a way of organising repeating ideas within the data into implicit topics, as a way getting

¹⁵⁰ Johnny Saldaña, *The Coding Manual for Qualitative Researchers* (2nd edition) (Sage 2013).

¹⁵¹ *Ibid*, 66.

¹⁵² Punch (n 129), p174.

¹⁵³ Saldaña (n 150), p77.

¹⁵⁴ *Ibid*.

¹⁵⁵ *Ibid*, 105.

¹⁵⁶ *Ibid*, 106.

¹⁵⁷ *Ibid*, 175.

to the core meaning of the data.¹⁵⁸ This is because a theme is not limited to a specific extract of text, but is something that runs throughout the data.¹⁵⁹ It is argued that this is an active process, with the researcher playing a role in identifying the themes and selecting those which are of interest.¹⁶⁰ Whilst there is not one correct way to go about this, a logical approach to thematic coding is to draw on literature at the start of the coding process.¹⁶¹ Building upon this, my choice of themes is only *one way* of interpreting the data from this study.¹⁶² It is also important to attribute names to these repeating ideas, in order to create the themes, and the goal of this naming is to strike to the core of the repeating idea.¹⁶³ To achieve this, I drew upon the surrounding literature to attribute meaningful names to the codes. As such, my codes referred to ideas and themes within regulatory, tax, nudge and governance literature. Whilst there is no set number of themes to identify, it is important to only code what is necessary to avoid too great a volume of codes and/ or themes.¹⁶⁴ Auerbach and Silverstein suggest around 60 themes are sufficient for a study.¹⁶⁵ In the end, this study had 70 nodes.¹⁶⁶

Following this process, I mapped the codes. This is the process of reorganising the full list of codes and condensing them further to create a smaller number of central themes.¹⁶⁷ This was particularly useful in the present study. I discovered several themes were repeated that were essentially identical and could be condensed (for example, I initially had both simplicity and complexity, but decided to condense this down to the idea of complexity alone); as well as identifying codes that were core to my study (for example regulatory overlap). Overall, I deleted eight codes that were either repetitive or proved to be insignificant (as they only featured in single interviews).

2.3.6.e Second cycle coding

Similar to code mapping, second cycle coding is the recoding of data to ensure that the most accurate words or phrases are used; as well as the reorganising and reanalysing data which is coded during the first cycle.¹⁶⁸ In addition, second cycle coding gives the researcher an opportunity to review the data

¹⁵⁸ Ibid, 176.

¹⁵⁹ Lyn Richards and Janice Morse, *Readme First for a User's Guide to Qualitative Methods* (Sage 2012), p160.

¹⁶⁰ Braun and Clarke (n 131), 80.

¹⁶¹ Ibid, 86

¹⁶² Auerbach and Silverstein (n 142), p32.

¹⁶³ Ibid, p60.

¹⁶⁴ Richards and Morse (n 159), p163.

¹⁶⁵ Auerbach and Silverstein (n 142), p60.

¹⁶⁶ A full table of the nodes exported from NVivo can be found in Appendix 6.

¹⁶⁷ Saldaña (n 150), p194.

¹⁶⁸ Ibid, 207.

and start to introduce theoretical codes (also referred to as analytical or pattern codes¹⁶⁹), which are umbrella codes that cover the codes already identified during the first cycle.¹⁷⁰ These codes are larger, and more abstract than those identified in first cycle coding, and are also referred to as theoretical constructs.¹⁷¹ It allows the researcher to identify their core conceptual categories that are emerging from the data.¹⁷² During this stage, I thought about the main, overarching themes that ran through my data. This allowed me to bring together several nodes into broader ideas.

2.4 Quantitative Methods

Statistics “play a vital role in collecting, summarising and interpreting data”.¹⁷³ The statistical aspect of this project aims to shed light on the efficiency and effectiveness of the CRC. As the data is published annually by the regulator, the data did not need to be collected other than from the regulator itself. As such, the next section of this chapter will outline the sampling techniques and analysis methodology that was used to determine whether or not the CRC has had an impact on emissions. Basic statistical analysis will also be used to paint a broader picture of the scheme itself.

2.4.1 Access to data

The access to the data for statistical analysis was relatively simple. This is because the raw emissions data for the scheme is now published annually within the Annual Report Publication (following the 2012 CRC reforms). As such, I based my analysis on all the annual data up to the most recent report available (the 2015-2016 ARP), which encompasses six years of raw emissions data. Another aspect of the data is that it is published within a Microsoft Excel spreadsheet. The benefits of using this data are clear: it is data that is readily accessible, and in an easy to use format.

Whilst the data is simple to access, and the software easy to use; the data does have one drawback. The Environment Agency (EA) only publishes the raw data for emissions, and each year is on separate sheets of the document. In addition, the EA is clearly limited to publishing the data that they have received, and as such, there are 'holes' within the data. For example, although there are over 2500 registered participants for phase one, there are only 2040 data entries for the compliance year 2013-

¹⁶⁹ Punch (n 129), p176.

¹⁷⁰ Saldaña (n 150), pp223-224.

¹⁷¹ Auerbach and Silverstein (n 142), p39.

¹⁷² See for example Kathy Charmaz, 'Premises, Principle, and Practices in Qualitative Research: Revisiting the Foundations' (2004) 14(7) *Qualitative Health Research* 976.

¹⁷³ Duncan Cramer, *Introducing Statistics for Social Research* (Routledge 1994), p1.

2014. Furthermore, many participants do not have data for each of the four years (for example there is only data for the first two years, or the last two years). As such, the data needed considerable sorting and cross referencing before it could be used to represent all four years. A limitation of this aspect of the study is also that it will be limited in scope and will not cover every participant for the CRC.

2.4.2 Approaches to statistical analysis

A range of statistical approaches was used to answer the question of whether the CRC has been effective. However, this analysis does not consider other variables which could impact on emissions (such as gains or losses in assets and increases or decreases in production) and so only provides an initial snapshot into the emissions under the CRC. I acknowledge that this is a major limitation in the utility of this data. Nevertheless, the time and resources required to gather the data on these other variables would have been beyond the confines of doctoral study. I believe that the very general trends shown by the statistics can still paint a background to the CRC.

Initially, descriptive statistics were used to get an idea of trends in the emissions data. The descriptive statistics used with the CRC include: the total emissions; the median emissions; the mean (average) emissions; and the raw difference between yearly averages. Baguley argues that descriptive statistics “are an excellent starting point for most statistical analyses and are a good way to summarize and communicate information”.¹⁷⁴ I found these descriptive statistics to be a useful starting point for my statistical analysis and allowed me to gain a provisional idea of what to expect from the more complex statistical analysis.

Two forms of statistical analysis were then used to provide a basic picture of the CRC and the emissions of the participants. In order to determine whether there is a relationship between the first-year emissions (2010-2011) and the final year emissions (2013-2014) of Phase 1, a two-sample *t*-test was carried out. In addition, a further analysis of all the data was attempted to determine whether there is an annual change/ relationship in the data, by using a repeated measures analysis. The two approaches will now be explained, along with my methodology.

¹⁷⁴ Thom Baguley, *Serious Stats: A guide to Advanced Statistics for the Behavioural Sciences* (Palgrave Macmillan 2012), p4.

2.4.2.a Paired *t*-test

There are four steps to carrying out a hypothesis test.¹⁷⁵

1. Set up the hypotheses;
2. Specify the significance level;
3. Compute the test statistic and generate the *p* value;
4. Decide whether to accept or reject the hypothesis.

The first step was to decide upon a hypothesis that I wanted to test using the *t*-test. It was my hypothesis that the CRC scheme has resulted in a reduction in emissions over the four years between 2010 and 2014. As such, the null hypothesis will be that there has been no reduction, or no change in emissions (this will be represented by the term H_0), and the alternative hypothesis will be that there has been a reduction in emissions (this will be represented by H_1). Therefore, my hypothesis can be represented as follows:

$$H_0: \mu_1 = \mu_2$$

$$H_1: \mu_1 > \mu_2$$

Within the above hypothesis, μ is the population mean of the data set,¹⁷⁶ and so μ_1 will be the mean for the 2010-2011 emissions data and so forth. Furthermore, as the test is looking to see whether the emissions have decreased, this will be a one tailed test - which means that it is only interested in whether the emissions have reduced, and not whether they have increased. SPSS generates a 2-tailed significance (which looks at whether there has been an increase *or* decrease in emissions), which means that the figure needs to be halved to obtain the one-tail figure.¹⁷⁷

The next step requires a significance level to be chosen. The significance level represents the percentage of error that will be taken - for instance, a 1% significance level means that the author can state that there is a relationship with 99% accuracy should the *t*-test be satisfied. For the purposes of this study, a 5% significance level has been chosen as this is the orthodox approach.¹⁷⁸

¹⁷⁵ See Robert Carver and Jane Nash, *Doing Data Analysis with SPSS: Version 18.0* (Brooks/Cole Cengage 2012), Chapter 11.

¹⁷⁶ <http://stattrek.com/statistics/notation.aspx> accessed 16/08/2015.

¹⁷⁷ Carver and Nash (n 175), Chapter 11

¹⁷⁸ *Ibid*, pp103-105; for the science behind calculating confidence intervals see, Baguley (n 174), Chapter 3.

Once both the hypothesis and the significance level have been determined, it was then time to compute the *t*-test and generate a *p* value - which will be used to either accept or dismiss the null hypothesis (H_0). The calculation for the *t*-test was conducted through SPSS, a statistical software package. To produce a *p* value, the emissions data for both the 2010-2011 year and the 2013-2014 year were inputted into SPSS. This was achieved by simply copying the data column from Excel into SPSS. Once both variables were copied over, the test was conducted by first selecting the 'Analyse' tab, followed by 'Compare Means', and 'Paired Samples T-Test'. SPSS then generates a table with the *p* value, which can then be judged against the significance level.

As I have chosen a 5% significance level, the *p* value needs to be less than 0.05 to be statistically significant; and as this is a one tailed test (I am only looking at whether there has been a drop and not whether there has been an increase), I needed to halve this value. As such, the *p* value searched for was one which was less than 0.025 (or 2.5%). If a *p* value of less than 0.025 was generated, I could dismiss the null hypothesis and accept the alternative. On the other hand, if the value was greater than 0.025, then no statistically significant relationship will exist between the two years. The effect of this was that such a figure left me unable to state that there had been a reduction in emissions.

2.4.2.b Repeated measures analysis

It was whilst I was on a statistics course at the University of Hertfordshire (June 2015) that I was first introduced to this potential method of statistical analysis. It is more complex and less commonly used than the *t*-test but will complement my analysis. Repeated measures explore the difference between all four years at the same time to determine whether there is a statistically significant relationship.¹⁷⁹ However, because the repeated measures analysis does not simply calculate the mean of the two data sets but looks at the individual changes between the same data over the four years; a different approach was required. It was necessary to dismiss data entries that did not have entries for each of the four years. As such, the data had to be correlated manually within Excel,¹⁸⁰ and a final emissions data sheet created, which could then be copied from Excel to SPSS.¹⁸¹

Once in SPSS, the method of conducting the statistical analysis was simple, yet longwinded. The method for analysing the data by repeated measures is listed below:

¹⁷⁹ For more information on the repeated measures test, see: Alan Bryman and Duncan Cramer, *Quantitative Data Analysis for Social Scientists* (Routledge 1994), pp147-150.

¹⁸⁰ The emissions data within the ARP is published on separate sheets for each year, as such the data had to be cross referenced by hand. This was a very slow process.

¹⁸¹ Excel was used initially due to the fact that the ARP is published with Excel which allowed more easily for the manipulation of the different data sources.

1. 'Analyze' tab;
2. 'General Linear Model';
3. 'Repeated Measures';
4. Once within the repeated measures tool, it is necessary to specify the number of levels to be measured - in this case, I had four years' worth of data and so there were four levels to be measured;
5. Each level then needed to be defined within SPSS, which simply put, was the transfer of each year into the test. For example, level 1 was the 2009-2010 emissions data, level 2 the 2010-2011 emissions data and so forth;
6. Once all the levels had been defined, the test was run by clicking 'OK' in SPSS - this then generated the results.

It is important to note that repeated measures tests for sphericity meaning it requires a data set with a normal distribution. Sphericity has been defined as: "the assumption that the variances of differences between repeated measures are equal".¹⁸² In other words, the repeated measures test explored whether there was an overall relationship between the changes in CRC emissions on a year-to-year basis. When doing an initial trial with a sample of 100, I found that this method of analysis did not work, because I had only tested the participants beginning with 'A' within the 2013- 2014 ARP. As such, my data did not follow the normal distribution curve. In addition, a significance level of 5% was once again chosen and SPSS will provide a value in a table to this effect.

2.5 Concluding Remarks

Traditionally, mixed methods research has received criticisms from an epistemological viewpoint. Combining both quantitative and qualitative methods is to combine to methods which are at the opposite ends of a spectrum. One way to get around this is to adopt a pragmatic standpoint, where methods are a tool to help answer research questions. This is the approach taken by this thesis. In order to answer questions of the efficacy of the CRC, both statistics and interviews are used to tell a story of the CRC.

¹⁸² Baguley (n 174), p631.

In terms of interviews, this study comprises of 31 semi-structured interviews and includes interviews with the regulator, participants of the CRC and solicitors/ advisors on the CRC. The structure of these interviews has given interviewees the opportunity to express their own views on the CRC which has directly informed the structure for the rest of this thesis. During the analysis of these interviews, transcripts were coded, and themes were identified. In the second stage of coding, these themes were brought together to form more complex ideas which form the foundation of each of the substantive chapters to follow.

In addition, quantitative, statistical analysis will be introduced to provide a more general backdrop of the CRC. These statistics will look at the raw emissions data published on the CRC to consider whether there has been a reduction in emissions during the scheme. Approaches include descriptive statistics (averages, medians etc.), as well as more complex statistics (t-tests and repeated measures). It is important to reiterate that the quantitative analysis seeks to complement the qualitative data and is only being used to paint some rough, initial pictures of the CRC. The following chapter will now consider the structure of the CRC, as well as present the findings of the quantitative analysis.

Chapter Three: The Carbon Reduction Commitment

This Chapter summarises the substance of the CRC scheme as it is found within the CRC Energy Efficiency Scheme Order 2013 (as amended by the CRC amendment Order 2014),¹ hereafter referred to as the Order.² The substance of this chapter will be very dense and dry. However, this is an important point in itself, as the density of the CRC feeds into how the regulatees engage with the scheme. It is also important to outline how the CRC works as the different aspects of the CRC form the basis for the analysis chapters that follow. These subsequent chapters will take various points from the CRC and draw upon literature and interview data, in order to consider how the CRC is perceived and engaged with.

This chapter will draw upon the CRC Order and the government issued guidance for the scheme. Guidance forms part of the ‘soft law’ that surrounds the CRC and works alongside the hard law (in this case the 2013 Order). It is, as put forward by Vaughan, “governance arrangements that operate in place of, alongside or blended with [...] ‘hard law’”.³ It is important to bear in mind that the guidance on the CRC is plentiful, but also extremely dense and technical. The 2013 Order spans 152 pages, although this is shorter than the 2010 Order, which spanned 235 pages. Whilst this is not as copious as other pieces of regulation,⁴ the guidance for the CRC remains vast. It comprises of guidance communicated in a variety of mediums by both the Department of Energy and Climate Change (DECC) and the Environment Agency. To date, the guidance is made up of 650 pages of PDF guidance; 39 slides of PowerPoint; and, 18 pages of website guidance.⁵

The structure adopted for this chapter consists of a chronological summary of the scheme found in the 2013 Order, which will be considered alongside all the relevant guidance. It is split into five main parts comprising of: a brief literature review; a brief overview of the CRC scheme; an exploration of the 2013 Order; the abolition of the CRC; and the presentation of a statistical analysis of CRC reporting and emissions data. Due to the length of the Order, the section which runs through the substance of

¹ CRC Energy Efficiency Scheme (Amendment) Order 2014, SI 2014/502.

² The CRC Energy Efficiency Scheme Order 2013, SI 2013/1119.

³ Steven Vaughan, *EU Chemicals Regulation: New Governance, Hybridity and REACH* (Edward Elgar 2015), p6.

⁴ For instance, Elen Stokes and Steven Vaughan, ‘Great Expectations: Reviewing 50 Years of Chemicals Legislation in the EU’ (2013) 25(3) JEL 411.

⁵ This was calculated by transposing the guidance onto a Word document.

the scheme will be further split into six subsections and will consider: the trading scheme; emissions and supplies; participants; the administrator; group liabilities; and, enforcement and penalties.

By way of introduction, and as set out in Chapter One, the Carbon Reduction Commitment is a scheme within the UK that aims to reduce carbon emissions, in accordance with the UK's international emissions targets, using economic and market incentives. The CRC targets high-energy consuming organisations that are not already covered by other regulatory schemes such as Climate Change Agreements (CCA) and the European Emissions Trading Scheme (EU ETS). It operates by effectively taxing participants for each tonne of carbon dioxide that they emit. This is achieved by assigning a price per tonne of CO₂ (which is an 'allowance'), and by making participants purchase and surrender a number of allowances that is equivalent to their emissions. It is enforced and regulated by the administrator, which varies dependent in which country of the UK the organisation is based. For England, the administrator is the Environment Agency, and it is charged with the operation of the scheme within England and its enforcement.

3.1 Literature Review of the CRC

The lack of existing academic literature on the CRC forms one of the claims as to the originality of this thesis. When searching for the "Carbon Reduction Commitment" in the database for the *Journal of Environmental Law*, there is only one result - a piece about Northern Ireland's consent to the Climate Change Act 2008.⁶ This is not a paper which focuses on the CRC, it simply contains the phrase within the main body of its text.

When considering literature outside the *Journal of Environmental Law*, there is a similar lack of literature on the CRC. The literature that does exist can be divided into two main groups: writing that predates the introduction of the scheme and/or descriptive pieces that lack any level of analysis. For instance, Grubb praised the introduction of the CRC, stating that it plugged a gap in emissions control in the UK. However, as his article predated the introduction of the CRC, his article was based upon the theoretical CRC, rather than final legislation that was introduced.⁷ Further examples can be seen

⁶ Sharon Turner, 'Northern Ireland's Consent to the Climate Change Act 2008: Symbol or illusion?' (2013) 25(1) JEL 63.

⁷ Michael Grubb, 'Plugging the gap in energy efficiency policies: the emergence of the UK 'Carbon Reduction Commitment'' (2009) 8 EREM 1.

within a 385 page book that contains only 13 lines about the scheme,⁸ short legislative pieces,⁹ or within four short paragraphs in an article on emissions reduction.¹⁰ Other literature includes pieces that lack analysis - which are mostly concentrated on the reforms of 2012 - and simply bullet point information to the reader.¹¹ By and large, the CRC is simply mentioned in passing as one of the regulatory tools in the climate change toolbox.¹² Other contributions include the publishing of the Environment Agency's CRC league table (which ranked the participants each year, but which has since been abolished) in academic journals.¹³ In all of the literature, however, there has yet to be an in-depth analysis of the scheme, as seen within this thesis.

It could be argued that the lack of literature in the area could be justified by the fact that the CRC is a relatively new instrument, only coming into force in 2010. However, as time goes by this argument loses its potency, particularly as the scheme is now in its eighth year and second phase. The lack of literature may also be justified by the technical and complex nature of the scheme. The CRC has its roots in numbers: and in particular, the calculation of emissions across potentially complex organisations from energy supplies to potentially numerous sites. This is compounded by the fact that at the start of the scheme 29 fuels were included (this has now been reduced to two), requiring participants to calculate emissions from obscure energy supplies. It is also perhaps the fact that phase one required participants to structure their organisations into complex qualifying units (SGUs), that discouraged scholars from tackling the subject. Regardless of the reasons behind the lack of literature on the CRC, it gives this thesis, and this Chapter, the opportunity to shed some light and explain a modern, and important tool of environmental protection as part of a broad suite of approaches to combatting climate change.

Due to the lack of useable literature on the CRC, this chapter will be largely descriptive in nature, drawing its content from the CRC Orders and associated guidance. Wider literature will be brought in later on in the thesis in order to explore specific aspects of the CRC.

⁸ Michael Faure and Marjan Peeters, *Climate Change and European Emissions Trading* (Edward Elgar Ltd 2008)

⁹ Joanne Hopkins, 'The Carbon Reduction Commitment Energy Efficiency Scheme: Overview, Rationale and Future Challenges' (2010) 12(3) ELR 211.

¹⁰ Rachel Blackburn, 'Emissions reduction and energy efficiency and reporting: is it time to reconsider your compliance strategy' [2014] 224 IHL 66.

¹¹ Anonymous, 'CRC energy efficiency scheme: initial conclusions on simplifications' (2011) 10 JPL 1306

¹² See, for example: Julia Patrick and Susan 'Bright, WICKED Insights into the Role of Green Leases' (2016) *The Conveyancer and Property Lawyer* 264; George Robinson, 'Stemming the Rising Tide: Developing Approaches for UK Law and Policy to Combat Climate Change' (2017) *Birmingham Student Law Review* 27.

¹³ Ed, 'Energy league table published by the Environment Agency' (2011) 17(6) H.S. at W 8.

3.2 A brief overview of the CRC scheme

3.2.1 The CRC Scheme

As introduced within Chapter I, the CRC was introduced in 2009 and the first phase was implemented in April 2010. As each phase lasts four years, the CRC is currently in its second phase, which commenced on the 1st April 2014. The scheme was introduced as a mechanism to help the United Kingdom meet its Kyoto Protocol targets (to reduce CO₂ emissions by 80% by 2050).¹⁴ The scheme is therefore centred on CO₂ emissions, and acts as a green tax for those that qualify for the scheme. It is a mandatory contribution to state revenue based on the quantity of CO₂ that the participant emits, for the emissions equal to a number of allocations which must be paid for by the participant. The CRC therefore also has a secondary purpose of raising state revenue and it was initially predicted that the tax would create £1.1 billion per year by 2015.¹⁵ However, this prediction has since been lowered to a prediction of £0.9 billion for 2015, and an actual revenue of £0.7 billion in 2011-2012.¹⁶ The CRC still represents a large proportion of green tax revenue for the United Kingdom, however, as it is the third highest revenue tax behind the Climate Change Levy and the Landfill Tax.¹⁷

An organisation will qualify for the CRC scheme if it meets the scheme's qualification criteria: at least one settled half hourly meter (half hourly meters are used by large consumers of energy and allow the energy data to be read remotely by the energy supplier every 30 minutes); and consume at least 6,000 MWh of energy.¹⁸ The energy sources that are covered by the scheme were dramatically reformed with a major simplification of the scheme in 2012. The reforms were preceded by a public Consultation by the government in December 2012, during which the majority of the proposed reforms were approved by those consulted (which included both participants to the scheme and third parties).¹⁹ The approved reforms mainly (with the exception of a small number which came into effect immediately) came into effect with the start of the second phase in April 2014 and so there is little empirical data

¹⁴ The Climate Change Act 2008, s.1.

¹⁵ <http://budgetresponsibility.independent.gov.uk/wordpress/docs/Fiscal-Supplementary-Tables-AS11.xls> accessed 13/01/2014.

¹⁶ <http://www.parliament.uk/documents/commons-vote-office/March-2013/26-3-13/2.CHANCELLOR-Environmental-taxation.pdf> accessed 13/01/2013.

¹⁷ Ibid.

¹⁸ CRC Order 2013 (n 2), Article 3: "qualifying amount".

¹⁹ DECC, 'Consultation on simplifying the CRC Energy Efficiency Scheme' (March 2012).

on the efficiency of the simplified scheme. The reforms will be briefly outlined so that the current scheme may be contextualised next to how the scheme used to be.

A government review of the scheme was commissioned in 2015 and looked at Phase One of the CRC.²⁰ This review found that whilst the CRC had been effective at making some participants reduce their energy consumption, the effectiveness of the CRC was hindered by its complexity.²¹ Following this review, a second public consultation on the CRC was held in late 2015, which asked stakeholders whether the CRC should be abolished.²² In the 2016 Spring budget, the abolition of the CRC was announced.²³ The CRC will therefore come to an end following the 2018-2019 compliance year and will be replaced by the CCL.

3.2.2 The 2012 reforms

The CRC scheme first underwent a vast reform in 2012-2013. There is not the space here to consider all 46 of the proposed 2012 reforms, however, the main purpose of the reforms was to simplify the scheme, primarily due to its high administrative costs. George Osborne, the then Chancellor of the Exchequer, gave the reasons behind the reform as the following:

"The carbon reduction commitment was established by the previous Government. It is cumbersome and bureaucratic and imposes unnecessary costs on business, so we will seek major savings in the administrative cost of the commitment for business."²⁴

The Chancellor also indicated that a change in political stance within Government was also a reason behind the reforms, but it remains clear that the financial burden of the unreformed CRC was the primary concern behind its reform. The Consultation and Government therefore proposed that the 2012 simplifications would cut the costs of the CRC by 55% million by the year 2030.²⁵ As such, the reforms focussed on cutting unnecessary aspects of the scheme and included: cutting the number of

²⁰ DECC, CRC Energy Efficiency Scheme Evaluation: Final Synthesis Report (July 2015).

²¹ Ibid, pp 9-13.

²² HM Treasury, 'Reforming the Business Energy Efficiency Tax Landscape' (September 2015).

²³ HM Treasury, 'Policy Paper: Spring Budget' (2016), paragraph 4.14.

²⁴ George Osborne, House of Commons Financial Statement 2012, 21st March 2012, Column 798

²⁵ <https://www.gov.uk/government/policies/reducing-demand-for-energy-from-industry-businesses-and-the-public-sector--2/supporting-pages/crc-energy-efficiency-scheme> accessed 01/10/2014.

energy supplies from 27 to two;²⁶ abolishing the footprint report,²⁷ and the league table;²⁸ postponing the date for the surrender of allowances;²⁹ and the introduction of a *de minimis* threshold for gas supplies (any gas supplies which represent less than 2% of total supply are now discounted from the scheme).³⁰

3.3 The 2013 Order

The new CRC Order came into force on the 20th May 2013.³¹ It was introduced following the consultation undertaken by the DECC in 2012, whereby proposals for reform of the CRC were put forward to stakeholders for comment.³² The proposals were implemented, largely unamended, by the government.³³ It is this, more simplified, version of the CRC scheme that will be considered in the present chapter and the wider thesis.

The 2013 Order is comprised of 15 parts containing 96 articles and an additional 9 schedules which help to interpret the Order. Article 3 assists with the interpretation of the scheme, and includes 89 definitions of both technical CRC terms such as "qualifying electricity", as well as more generic items of interpretation, seen within the definition of "day" (which is coined as including working days only).³⁴ The following 'general provisions' within Chapter I of the Order will provide the structure for the rest of the chapter: the trading scheme (Art.2); supplies and emissions (Art.4); registration and requirements of participants (Art.5); the powers and duties of the administrator (Art.6); and the penalties of the scheme (Art.7).

²⁶ DECC, Government Response to the Consultation on simplifying the CRC Energy Efficiency Scheme, December 2012.

²⁷ *Ibid.*

²⁸ *Ibid.*

²⁹ *Ibid.*

³⁰ *Ibid.*

³¹ CRC Order 2013 (n 2), Article 1.

³² DECC Consultation 2012 (n 19).

³³ DECC Consultation Response (n 26).

³⁴ CRC Order 2013 (n 2), Article 3.

3.3.1 The trading scheme

One of the first objectives of the Order is to establish a trading scheme under the CRC.³⁵ The trading scheme, which commenced on the 1st April 2014, was to consist of six phases (five phases of five years and one final phase of four years).³⁶ However, organisations that fall under the exemption or have relief from taxes under the International Organisations Act 1968 do not fall within the scope of the Order, and this Order does not apply in any way to those organisations.³⁷ Such organisations include but are not limited to international courts and tribunals, diplomats, and organisations of which the UK and other countries are members.³⁸

Allowances:

The allowances, which form the currency of the trading scheme, are valid for the year that they are issued or any subsequent year.³⁹ This is subject to Art.35(2) which does not permit a participant to surrender an allowance which is valid for a subsequent year when they are required to surrender additional allowances under Art.74 or Art.77.⁴⁰ If a participant does require additional allowances, then these must be acquired from either a special allocation or trading with third parties.⁴¹ All allowances are only valid for the purposes of complying with Art.36,⁴² which requires participants to:

"surrender a quantity of allowances from its compliance account to the cancellation account which is at least equal to the participant's CRC emissions for that year."⁴³

This surrender must happen "by the last working day of October after the end of the applicable year" via the registry.⁴⁴ However, should a participant's annual emissions equal less than 1 tCO₂, no allowances are required to be surrendered.⁴⁵ The surrendered allowances must be placed within a

³⁵ Ibid, Article 2(1).

³⁶ Ibid, Article 2(1)(a)-(b).

³⁷ Ibid, Article 2(2).

³⁸ <http://www.hmrc.gov.uk/manuals/remanual/re2400.htm> accessed 01/10/2014.

³⁹ CRC Order 2013 (n 2), Article 35(1).

⁴⁰ Ibid, Article 35(2).

⁴¹ Ibid, Article 35(3).

⁴² Ibid, Article 35(1).

⁴³ Ibid, Article 36(1).

⁴⁴ Ibid, Article 36(3).

⁴⁵ Ibid, Article 36(2).

cancellation account and be cancelled by the Environment Agency.⁴⁶ The above is subject to the following exceptions: when the participant has not yet provided an annual report;⁴⁷ as part of a penalty for failing to provide an annual report;⁴⁸ when the participant has failed to surrender the correct number of allowances and is subject to a sanction;⁴⁹ and when the participant later discovers a shortfall in surrendered allowances and is required to surrender them the following year.⁵⁰ On the contrary, where a participant surrenders too many allowances, these must be kept within the cancellation account for cancellation the following year.⁵¹ Alternatively, any surplus allowances can be repaid to the participant on application to the Secretary of State.⁵² Records must be kept by the administrator for all allowances, and which detail the important dates of the allowance and the important information of the allowance-holder.⁵³

The Trading Scheme:

Aside from the establishment of a trading scheme within Article 2, the trading of allowances is only dealt with in article 38(2), which states that participants and third parties are permitted to trade allowances.⁵⁴ There is, however, further guidance outside the Order which can be used to better understand the trading scheme. If a participant is in need of further allowances, these may be purchased from another participant or third party if they are offered for sale.⁵⁵ It is possible to identify the allowances that are 'for sale' by consulting the CRC Registry, which has a 'notice board' facility to match up buyers and sellers of allowances.⁵⁶ Additional security measures have been created for the trading scheme to protect buyers and sellers; therefore, a one-time pass code (OTP) is required for the transaction to take place.⁵⁷ The government states that this is "to check the identity of the person making the trade and prevent fraud".⁵⁸ As such, there is also a process to obtain an OTP which requires the party to undergo an ID check and register their mobile telephone number with the CRC Registry.

⁴⁶ Ibid, Article 37(1).

⁴⁷ Ibid, Article 37(1)(b).

⁴⁸ Ibid, Article 74(4)(b).

⁴⁹ Ibid, Article 77(2)(a).

⁵⁰ Ibid, Article 78(2)(a).

⁵¹ Ibid, Article 37(2).

⁵² Ibid, Article 37(4).

⁵³ Ibid, Article 38(1).

⁵⁴ Ibid, Article 38(2).

⁵⁵ See the online guidance for the scheme available at: <https://www.gov.uk/crc-energy-efficiency-scheme-allowances#crc-trading-allowances> accessed 10/10/2014.

⁵⁶ Ibid.

⁵⁷ Ibid.

⁵⁸ Ibid.

The codes will then be sent to their phone each time a transfer takes place.⁵⁹ A limitation to the trading scheme is that participants may only have three contacts with whom they can trade at any one time, and therefore OTP codes will only be generated for three contacts. This is presumably to improve the security of the scheme, although no authoritative explanation can be found.⁶⁰ Further guidance on the mechanics of obtaining the OTP and trading allowances can be found within the 'How to trade allowances' guidance on the government website.⁶¹

3.3.2 Supplies and Emissions – the scope of the CRC

The information that is required concerning the supplies and emissions that fall under the Order is outlined within Article 4. 'Supplies' are the provision of energy sources that fall within the scope of the scheme, and 'emissions' is the total carbon dioxide that results from the provision of the said energy:

"As provided under this Order, Schedule 1 (supplies and emissions) has effect concerning— (a) whether a supply is made of electricity or gas; (b) the amount of such a supply; and (c) the emissions from such a supply."⁶²

CRC supplies therefore "means the supplies of electricity and gas supplied to a participant and participant equivalent".⁶³ The Order also indicates that the lowest value of CRC emissions is zero, which would indicate that emissions cannot be offset so that they equate to negative emissions.⁶⁴ "CRC emissions" are defined as the emissions that are calculated in accordance with paragraph 33 of Schedule 1 of the Order.⁶⁵ The cited paragraph within the first Schedule states:

"The emissions in tCO₂ from an amount of electricity or gas supplied is found by applying to that amount the relevant conversion factor".⁶⁶

⁵⁹ Ibid.

⁶⁰ Environment Agency, 'CRC Energy Efficiency Scheme Guidance for Participants in Phase 2' (September 2015), p.46.

⁶¹ <https://www.gov.uk/crc-energy-efficiency-scheme-allowances#crc-trading-allowances>

⁶² CRC Order 2013 (n 2), Article 4(a-c).

⁶³ Ibid, Article 33(2).

⁶⁴ Ibid, Article 33(3).

⁶⁵ Ibid, Article 33(1).

⁶⁶ Ibid, Schedule 1, paragraph 33.

or;

"Emissions (tCO₂) = Quantity of fuel supply × Emission factor × 0.001".⁶⁷

All fuel must be converted into kWh before entering the quantity of fuel into the above equation, and the government provides participants with a conversion table to aid the process.⁶⁸ The emission factor, published annually by DEFRA, represents the amount of pollution which is created by the two fuels: electricity and gas,⁶⁹ and therefore acts to represent the true greenhouse gas value of both electricity and gas. The emission factors for the fuels are based upon the trending methods of electricity generation - for example, the recent increase in coal consumption has increased the emissions factor for electricity due to the more carbon intensive nature of coal.⁷⁰ The factors are currently set at 0.541 for electricity and 0.1836 for natural gas.⁷¹

Further clarification and detail on the supplies and emissions that fall under the CRC scheme may be found within Schedule 1 of the Order. The schedule outlines the two fuels which fall under the scheme: electricity and gas.⁷² Electricity is supplied following an agreement and the performance of supply under that agreement, as long as the electricity is measured by a metering device or classed as an unmetered supply (defined as electricity "supplied otherwise than through a metering device"⁷³).⁷⁴ The supply is effective at the time it is made, meaning that the supply counts towards the scheme on the day that it is received by the participant.⁷⁵ Likewise, gas is only supplied subject to an agreement to supply, a receipt of the supply and that the supply is measured by a metering device - note, there is no unmetered supply for gas.⁷⁶ The scheme not only encapsulates supply from a third party, but also self-supply which is where a participant supplies electricity and/ or gas to itself (for example, where a site generates its own electricity).⁷⁷ This supply also falls under the scheme with the exception of electricity that is used for the generation, transmission or distribution of electricity;⁷⁸ and the

⁶⁷ Environment Agency (n 60), p86.

⁶⁸ Ibid, p87.

⁶⁹ <http://www.carboncredentials.com/crc-emission-factors-phase-2/> accessed 19/10/2014.

⁷⁰ <http://www.carboncredentials.com/crc-emissions-factors-what-has-changed/> accessed 12/01/2015.

⁷¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/278890/crc_conversion_factors.pdf accessed 19/10/2014.

⁷² CRC Order 2013 (n 2), Schedule 1, paragraphs 1-2.

⁷³ Ibid, Schedule 1, paragraph 1(4)(a).

⁷⁴ Ibid, Schedule 1, paragraph 1(1)(a-b).

⁷⁵ Ibid, Schedule 1, paragraph 1(2).

⁷⁶ Ibid, Schedule 1, paragraph 2(1)(a-b).

⁷⁷ Ibid, Schedule 1, paragraphs 4, 5.

⁷⁸ Ibid, Schedule 1, paragraph 4(2)(a).

transport, supply or shipping of gas.⁷⁹ Self-supplied gas is also exempted from the CRC if it is used for the transport, supply or shipping of gas,⁸⁰ or if it is used for the generation, transmission or distribution of electricity.⁸¹

The question of supplies to franchises is covered in Section 3 of the Schedule. The schedule proceeds to define a franchise⁸² and what does not represent a franchise.⁸³ When a franchise does exist, and supply is made to the franchise premises, the Order states that the supply is a supply to the franchisor and not the franchisee.⁸⁴ Trusts of land are dealt with in the following section of the schedule and concerns supplies to trustees, beneficiaries and operators.⁸⁵ In this regard, any supply to a land held on trust is a supply to the trustee,⁸⁶ unless the beneficiary holds more than half a share of the land under trust - in which case, the supply is to the beneficiary and not the trustee.⁸⁷ This is similarly the case for operators that are carrying out a regulated activity in relation to the land under trust and receives supplies of electricity or gas for this reason. It is the operator, and not the trustee, who is considered to receive the supplies for the purposes of the CRC in this scenario.⁸⁸

Following the calculation of the supplies of gas and electricity, there is the possibility of having deductions from the total individual supplies. This is covered within section 5 of Schedule 1. Any electricity which remains unconsumed following supply may be deducted from the overall supply providing that it is measured by a meter or a device "which measures electricity supplied but the measurements are not used for the purpose of charging for that electricity."⁸⁹ The position is the same for any gas that remains unconsumed.⁹⁰ However, if any unconsumed supply is subsequently consumed by an occupier that occupies premises with the permission of the owner of the unconsumed supply, this may not be deducted from overall supplies.⁹¹ Further supplies that are deducted for the purposes of the scheme are any supplies that are consumed outside the United Kingdom, for these

⁷⁹ Ibid, Schedule 1, paragraph 4(2)(b).

⁸⁰ Ibid, Schedule 1, paragraph 5(1)(a).

⁸¹ Ibid, Schedule 1, paragraph 5(1)(b).

⁸² Ibid, Schedule 1, paragraph 7.

⁸³ Ibid, Schedule 1, paragraph 8.

⁸⁴ Ibid, Schedule 1, paragraph 9.

⁸⁵ Ibid, Schedule 1, section 4.

⁸⁶ Ibid, Schedule 1, paragraph 10.

⁸⁷ Ibid, Schedule 1, paragraph 11.

⁸⁸ Ibid, Schedule 1, paragraph 12.

⁸⁹ Ibid, Schedule 1, paragraph 14.

⁹⁰ Ibid, Schedule 1, paragraph 15.

⁹¹ Ibid, Schedule 1, paragraph 16(2).

supplies fall outside the scope of the CRC.⁹² This provision is of specific importance to the 7 participants during phase one that were registered with an address outside the United Kingdom. Another exclusion is the domestic accommodation exclusion, which essentially excludes any electricity or gas that is used "for the purposes of domestic accommodation".⁹³ This is defined within the Schedule as being a "premises intended to be used as a person's permanent home",⁹⁴ and also includes certain communal areas which are also used solely or partly for domestic accommodation.⁹⁵ The exception does not cover all accommodation, however, and DECC guidance states that such examples of accommodation which will still fall under the scheme include but are not limited to: university accommodation; nunneries; hotels; and hospitals.⁹⁶ There is a similar provision concerning caravan sites used for accommodation purposes. Under paragraph 19 of Schedule 1, a participant is not supplied with electricity or gas under the scheme if the supply is consumed at a caravan site used for accommodation.⁹⁷ The exceptions to supply extend beyond permanent accommodation and also provide an exception for supply that is consumed for the purposes of emergency or temporary accommodation.⁹⁸ Emergency and temporary accommodation is defined within the Housing Act 1996 and is the provision of accommodation by the local authority for those who are homeless.⁹⁹

Another exclusion under the schedule is the use of supply for transport purposes.¹⁰⁰ The schedule defines the meaning of the "purpose of transport" and includes the use of supply for any road going vehicle, vessel, aircraft or train, conveyor belts exceeding 8km in length and any buildings connected to the network service of the railway.¹⁰¹ This exception is subject to the condition that the participant may in fact be supplied with an un-metered supply where the participant has decided that the supply was not consumed for the purposes of transport (as defined above).¹⁰² As stated above, gas is only counted as a supply if it used for the purposes of heating.¹⁰³ This means the:

⁹² Ibid, Schedule 1, paragraph 17.

⁹³ Ibid, Schedule 1, paragraph 18(1).

⁹⁴ Ibid, Schedule 1, paragraph 18(3).

⁹⁵ Ibid, Schedule 1, paragraph 18(5).

⁹⁶ DECC, 'Guidance for the CRC Energy Efficiency Scheme: Assessing Qualification and Registering for Phase 2' (May 2013), p20.

⁹⁷ CRC Order 2013 (n 2), Schedule 1, paragraph 19(1).

⁹⁸ Ibid, Schedule 1, paragraph 20(1).

⁹⁹ Housing Act 1996, Part VII.

¹⁰⁰ CRC Order 2013 (n 2), Schedule 1, paragraph 21(1).

¹⁰¹ Ibid, Schedule 1, paragraph 24(1).

¹⁰² Ibid, Schedule 1, paragraph 21(2), 22, 23.

¹⁰³ Ibid, Schedule 1, paragraph 25.

"gas is consumed for the purposes of heating where it is used as part of a process where the primary purpose of that process is the generation of heat."¹⁰⁴

This does not include any gas that is used in a process which is both for electricity generation and heating.¹⁰⁵ In addition to the requirement that gas is used for heating purposes, there is also a de minimis threshold for gas supply. Therefore, if the supply of gas used for heating represents less than 2% of the electricity supply, it is not considered to be consumed for the purposes of heating and does not count as a supply under the scheme.¹⁰⁶

A final group of exceptions include supply that falls under a scheme other than the CRC scheme. For example, a supply does not fall within the CRC scheme if it is consumed for the purposes of running an installation which is already covered by the European Energy Trading Scheme (EU ETS).¹⁰⁷ This is likewise if the supply is consumed in order to operate a facility covered by a Climate Change Agreement (CCA).¹⁰⁸ However, supplies to both *will count* if the participant decides that the supply has not been consumed for the purpose of operating the facilities.¹⁰⁹ This decision must be made before or when a participant submits their first annual report and may not be changed for the duration of the phase.¹¹⁰ A final exception to the supplies that fall under the CRC scheme concerns metallurgical and mineralogical processes. During these processes, a supply will not fall within the scope of the scheme if it is consumed for this purpose.¹¹¹ Examples of processes that would fall under a metallurgical process include, but are not limited to: the manufacture of iron and steel; precious metals production; and the forging, stamping and rolling of metal.¹¹² Mineralogical processes include the manufacture of glass and ceramics amongst other processes.¹¹³

Whilst the total supplies may be potentially reduced in consideration with the exceptions to supplies discussed above, total supply may also be increased under the scheme. For instance, where the supplies through a metering device are estimated by the supplier for at least half of the year, and the participant cannot prove that the estimates are based upon readings from the meter, an "estimation

¹⁰⁴ Ibid, Schedule 1, paragraph 26(1).

¹⁰⁵ Ibid, Schedule 1, paragraph 26(2).

¹⁰⁶ Ibid, Schedule 1, paragraph 27(2).

¹⁰⁷ Ibid, Schedule 1, paragraph 28(1).

¹⁰⁸ Ibid, Schedule 1, paragraph 29(1).

¹⁰⁹ Ibid, Schedule 1, paragraph 28(2), 29(2).

¹¹⁰ Ibid, Schedule 1, paragraph 28(3), 29(3).

¹¹¹ Ibid, Schedule 1, paragraph 29A(1).

¹¹² Eurostat, NACE Rev. 2: Statistical Classification of Economic Activities (European Communities 2008).

¹¹³ Ibid.

adjustment" is added onto the supply.¹¹⁴ This adjustment is valued at 10% of the supply which is measured by the participant's meter.¹¹⁵

Finally, schedule 1 considers renewable energy generation and stipulates that any participant that generates their own electricity in this way that is eligible either for a Renewable Obligation Certificate (ROC),¹¹⁶ or to receive a financial incentive made under the Energy Act 2008 is to be counted towards their supply.¹¹⁷ These financial incentives are Feed-in Tariff payments (or FITs) and consist of payments for "small-scale low-carbon generation of electricity".¹¹⁸ If renewable energy is used, then this must be submitted, along with any ROCs or FITs received within the Annual Report.¹¹⁹ Within a 2013 Government Consultation on renewables within the CRC scheme, it was suggested that the CRC should go further to incentivise the use of renewables within the scheme.¹²⁰ Therefore, the government reformed the CRC in 2014 to assign a zero rating to any renewable energy generated under the scheme that is not eligible for a ROC or FIT payment.¹²¹ This means that such renewable energy does add to the total supplies for the participant.

3.3.3 Participants: registration and requirements

The initial provisions on registration and the requirements of participants can be found within Article 5. More detailed provisions for participants are available throughout the Order, and indeed, the provisions that relate to participants and their obligations are numerous. This section will therefore attempt to summarise the participants' obligations in terms of registration and generally.

The CRC had 2757 participants registered for phase one of the scheme (an equivalent list for phase two has not yet been published).¹²² The regional demographic of participants is relatively diverse, with participants registered in 632 towns in the UK. There is a heavy dominance of participants based in London, with 574 participants giving London based addresses to the CRC Registry, but there are also

¹¹⁴ CRC Order 2013 (n 2), Schedule 1, paragraph 31(1).

¹¹⁵ Ibid, Schedule 1, paragraph 31(2).

¹¹⁶ Ibid, Schedule 1.

¹¹⁷ Ibid, schedule 1, paragraph 32(1).

¹¹⁸ Energy Act 2008, s.41(2).

¹¹⁹ <https://www.gov.uk/crc-energy-efficiency-scheme-annual-reporting> accessed 19/11/2014.

¹²⁰ DECC, 'Finalising CRC Simplification: treatment of renewable energy and the metallurgical and mineralogical sectors - Government Response' (February 2014), p8.

¹²¹ CRC Order 2013 (n 2), Schedule 1, paragraph 32.

¹²² Environment Agency, 'CRC Phase 1 Participant List' (November 2012).

a strong number of regional firms from small towns - for instance, there are two participants based in Kidderminster, a small town within the West Midlands.

Registration:

As set out earlier, it is necessary for participants to register for the scheme if they meet the qualifying criteria: at least one settled half-hourly meter,¹²³ and an annual supply of at least 6000 MWh.¹²⁴ If the qualification criteria are satisfied, participants are required to register with the administrator (the Environment Agency) using the Registry.¹²⁵ Government guidance stipulates that access to the Registry is limited to those that possess a Government Gateway ID, which is a username for government services.¹²⁶ There is therefore the requirement to provide the administrator evidence of identity or any other information asked for by the administrator.¹²⁷ All participants must make an application for registration no later than 2 months before the beginning of each phase.¹²⁸ For Phase Two, which started on the 1st April 2014, this would have meant that participants should have been registered by the 1st February 2014. Those that register late will receive a fine of up to £5000, and then £500 for every working day that registration is not completed - this is impossible for up to 80 days following the registration deadline creating a maximum fine of £40,000.¹²⁹ There is a fee for registration which is currently set at £950 with an annual subsistence charge of £1290.¹³⁰ Following a successful registration and payment of the fee, participants will receive a certificate and are then registered for the relevant phase.¹³¹

¹²³ These meters record energy consumption every half-hour and pass the data back to the supplier.

¹²⁴ See online guidance: <https://www.gov.uk/crc-energy-efficiency-scheme-qualification-and-registration> accessed 01/12/2014.

¹²⁵ CRC Order 2013(n 2), Article 11(1).

¹²⁶ Online guidance (n 124).

¹²⁷ CRC Order 2013 (n 2), Article 11(2-4).

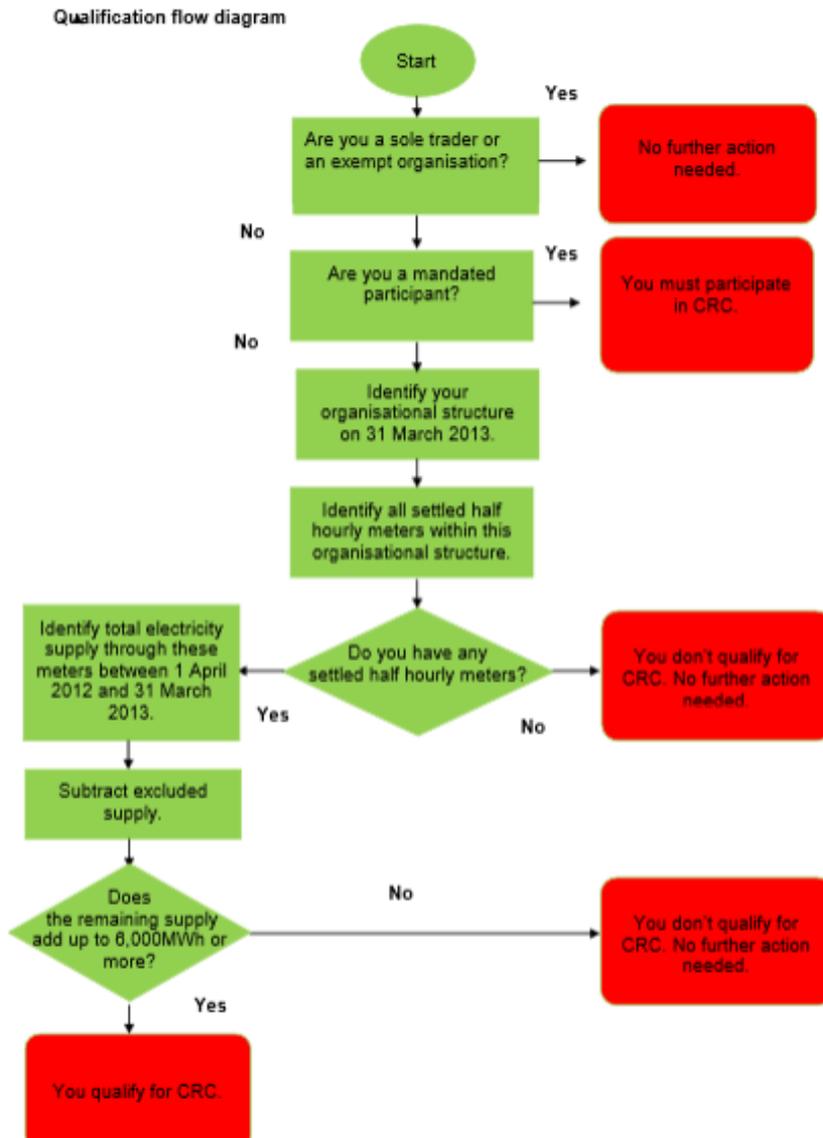
¹²⁸ Ibid, Article 12.

¹²⁹ Online guidance (n 124).

¹³⁰ Ibid.

¹³¹ CRC Order 2013 (n 2), Article 13(1).

Figure 1:



Qualification flow diagram, DECC, *Guidance for the CRC Energy Efficiency Scheme: Assessing Qualification and Registering for Phase 2, May 2013*

It is important to note here that registration is mandatory for some public bodies including: government departments, Scottish Ministries, the Welsh Government, a Northern Ireland department or a public body in relation to which a public authority decision is made (local authorities are therefore included within this definition).¹³² A public body which is a member of one of the above groups also falls under the mandatory registration.¹³³ The existence of any other public bodies is to be determined on the qualification day of the qualification year.¹³⁴ These public bodies can apply to register in groups

¹³² Ibid, Article 14(1)(a-e).

¹³³ Ibid, Article 14(2).

¹³⁴ Ibid, Article 15(2).

as long as they meet the qualification criteria for the qualification year,¹³⁵ but it is the administrator who may determine whether a public body is a member of a group.¹³⁶ This is also the case for public bodies that do not fall under article 14(1) as a mandatory participant, and who do not apply as a group.¹³⁷

The Order also makes provision for universities and colleges under the scheme. The university must be wholly or mainly situated in England,¹³⁸ and whether it is a university or a college of a university is determined on the qualification day of the qualification year.¹³⁹ Once it has been decided that a college is part of a university, the colleges of a university become a group for the purposes of the scheme regardless of whether they have a separate legal identity.¹⁴⁰ If the university and/or colleges do not meet the qualification criteria then they do not fall within the scope of the scheme.¹⁴¹ However, if they do meet the qualification criteria, they must then decide if any colleges will form an independent group,¹⁴² and the university must apply for registration informing the administrator of any independent groups within the university structure.¹⁴³

Reporting Obligations:

A participant has the obligation to provide an annual report to the administrator using the Registry (unless provided for otherwise),¹⁴⁴ and before the last working day of July of each reporting year.¹⁴⁵ The deadline for the report is important, because if a participant fails to submit a report then the administrator may 'determine' (make the report) the report 40 days after the due date.¹⁴⁶ For the annual report to comply with the scheme, the participant must include the following within the report: the amount of CRC supplies, how those supplies were directed to any participant-equivalent member

¹³⁵ Ibid, Article 16(2).

¹³⁶ Ibid, Article 18(1).

¹³⁷ Ibid, Article 17(2).

¹³⁸ Ibid, Article 19(1)(b).

¹³⁹ Ibid, Article 19(2).

¹⁴⁰ Ibid, Article 20(1).

¹⁴¹ Ibid, Article 20(3).

¹⁴² Ibid, Article 21(1)(a).

¹⁴³ Ibid, Articles 22(1), 22(2).

¹⁴⁴ Ibid, Article 31(2)(a).

¹⁴⁵ Ibid, Article 31(2)(b).

¹⁴⁶ Ibid, Article 31(3).

of a group; and whether there were any estimation adjustments, renewable electricity generation and their respective amounts.¹⁴⁷ The administrator will then calculate the participants' emissions.¹⁴⁸ The website guidance on reporting states that the report should include at least two meter readings which are at least six months apart.¹⁴⁹ Without these two meter readings, the report is estimated only and will have a 10% estimation adjustment added onto the supply figure provided by the participant.¹⁵⁰ In addition to providing details of supply, the annual report has several voluntary sections. Participants are invited to provide the following information on a voluntary basis: turnover data, details of any carbon management within the organisation, and a comments box for any general comments that the participants may have on the CRC.¹⁵¹ Any data that is inputted into the report can be amended up until submission of the report, participants are also invited to download a digital copy of their report for their records.¹⁵² Once the report has been submitted, a copy will be sent to the CRC contact for the participant who will be able to check the report for any errors - should any be found, it is possible to submit a new report up until the reporting deadline.¹⁵³ Failure to submit an annual report by the deadline will incur a penalty and a publication by the Environment Agency.¹⁵⁴ For example, Mansfield College received a fine for £2,500 for failing to report in May 2014 and the Harbour Exchange Management Company received a fine of £179,952 for the same failure in May 2014.¹⁵⁵ The penalties for an annual reporting breach can therefore be substantial.

Records and information:

As well as having obligations to report data under the scheme, the participant also has the obligation to maintain records.¹⁵⁶ All records must be maintained for six years after the end of the year to which the record relates,¹⁵⁷ and must be adequate, up to date and available for inspection by the administrator at all times.¹⁵⁸ Records must be kept of any information used for a participant's annual report and any information that is relevant to the changes outlined in Schedule 5.¹⁵⁹ Schedule 5

¹⁴⁷ Ibid, Article 32(1).

¹⁴⁸ Ibid, Article 32(2).

¹⁴⁹ Online Guidance: <https://www.gov.uk/crc-energy-efficiency-scheme-annual-reporting> accessed 01/12/2014

¹⁵⁰ Ibid.

¹⁵¹ Ibid. It is not known how many participants actually provide this additional, voluntary information.

¹⁵² Ibid.

¹⁵³ Ibid.

¹⁵⁴ Ibid.

¹⁵⁵ Ibid.

¹⁵⁶ CRC Order 2013 (n 2), Article 39(1).

¹⁵⁷ Ibid, Article 39(2).

¹⁵⁸ Ibid, Article 39(3).

¹⁵⁹ Ibid, Article 40.

provides for when governmental departments across the UK create, transfer or merge departments,¹⁶⁰ or when Government decisions affect a participant that contains a separate participant within.¹⁶¹ The Schedule also provides for changes which occur in other public bodies that are not Government departments.¹⁶² These public bodies must notify the Environment Agency within three months should they merge with another participant that is not a Government department during the first year of a phase,¹⁶³ and the newly formed public body must then apply for registration as a participant and comply with the Order as if it existed for the whole of Year 1.¹⁶⁴ Similar changes for non-public participants are dealt with under Part 3 of the Schedule, and essentially create an obligation for any newly created qualifying participant to register, inform the Environment Agency and keep a record of the change.¹⁶⁵ When informing the EA of any of the above changes, guidance states that the information provided should include: the nature of the change, the parties involved, which participant/ equivalent was bought or sold, who was it sold from, and when the change took place.¹⁶⁶

Looking back at the 2013 Order, if a participant discloses its emissions targets to the public (this is not obligatory) alongside its performance in accordance with those targets, and a) a person is responsible for those matters or b) the participant operates an employee engagement programme, then the participant must maintain records of the information disclosed.¹⁶⁷ The participant must audit its records once a year to ensure that the records comply with the Order and must be evidenced with an "audit certificate", which is a certificate signed by a person in a management position and which is kept with the records.¹⁶⁸ The Environment Agency may also ask to audit the records to ensure that the participant is keeping sufficient records.¹⁶⁹ The use of audits under the CRC scheme is covered more in depth in Chapter Five.

In addition to the requirements to keep records, there are also situations where participants are required to provide information to the administrator. There are also situations where the participant may make a request for information, for example, the participant may request information from their

¹⁶⁰ Ibid, Schedule 5, Part 1.

¹⁶¹ Ibid, Schedule 5, Part 1, paragraph 12.

¹⁶² Ibid, Schedule 5, Part 2.

¹⁶³ Ibid, Schedule 5, Part 2, paragraph 2(1).

¹⁶⁴ Ibid, Schedule 5, Part 2, paragraph 3(3)(a-b).

¹⁶⁵ Ibid, Schedule 5, Part 3.

¹⁶⁶ DECC, 'Guidance for the CRC Energy Efficiency Scheme: Assessing Qualification and Registering for Phase 2' (May 2013), p25.

¹⁶⁷ CRC Order 2013 (n 2), Article 41(1).

¹⁶⁸ Ibid, Article 42.

¹⁶⁹ <https://www.gov.uk/crc-energy-efficiency-scheme-annual-reporting> accessed 01/12/2014.

energy supplier.¹⁷⁰ A participant may also ask any occupiers to provide such information that is required for the participant to be able to comply with their obligations.¹⁷¹ The same applies for franchisees, public bodies that form a group and administrators where a group member has gone into insolvency.¹⁷² The participant is also required to provide information when required on their supplies to the administrator, and this is discussed above in relation to the Annual Report.¹⁷³ More generally, a participant is required to provide information to the administrator when they move location, and must provide the new address within 10 days of moving.¹⁷⁴

3.3.4 The Administrator: powers and duties

The "administrator" of the CRC and any reference to the "administrator" under the scheme may refer to the Environment Agency in England, the Natural Resources Body for Wales, the Scottish Environment Protection Agency in Scotland and the Chief Inspector for Northern Ireland.¹⁷⁵ The references vary throughout the Order, and there is a table which informs the reader of when each reference applies.¹⁷⁶ The relevant administrator of the CRC scheme has numerous duties and powers which enable it to administer the scheme effectively. These powers and duties will now be considered.

Powers:

To enable the administrator to carry out its duties and to ensure the running of the scheme, the administrator possesses a number of statutory powers. These powers include the discretion to decide whether or not a public body is to be considered as part of a group,¹⁷⁷ whether a non-public undertaking is to be considered as part of a group,¹⁷⁸ and other powers relating to the collection of information. For instance, the administrator has the power to ask for information regarding supplies,¹⁷⁹ and for any information relating to the monitoring of compliance by the administrator.¹⁸⁰ The administrator also has the power to inspect any premises in order to monitor compliance with the

¹⁷⁰ CRC Order 2013 (n 2), Article 44(1).

¹⁷¹ Ibid, Article 46(1).

¹⁷² Ibid, Article 47; 48; 49.

¹⁷³ Ibid, Part 5.

¹⁷⁴ Ibid, Article 56.

¹⁷⁵ Ibid, Article 9(1).

¹⁷⁶ Ibid, Article 9, Table of provisions.

¹⁷⁷ Ibid, Article 18(1).

¹⁷⁸ Ibid, Article 28.

¹⁷⁹ Ibid, Article 45(1).

¹⁸⁰ Ibid, Article 65(1).

Order.¹⁸¹ This power is limited with the proviso that reasonable notice must be given by the administrator to the participant.¹⁸²

In addition to the administrator's duties toward the creation and maintenance of the Registry, the administrator also possesses the power to prevent the use of the Registry by a participant who is in breach of the Order, or who wishes to use the Registry for a criminal offence.¹⁸³ The administrator may also suspend a participant's use of the Registry on the same grounds.¹⁸⁴ In terms of publication, the administrator has the discretion to publish information on a participant's performance within the scheme - this publication is based upon the information held within the participant's annual report or any other information collected by the administrator.¹⁸⁵ Following the 2012 reforms, this publication now takes the form of the Annual Report Publication (ARP), which is the raw data on each participant's annual emissions.¹⁸⁶ There has only been one ARP so far, the 2013-2014 report, but it contains the data for all annual emissions since the scheme started in 2010.

The administrator also has the power to charge participants for activities that are listed within the Order as being chargeable.¹⁸⁷ These listed activities include: the participant's registration,¹⁸⁸ the maintenance costs of a participant throughout the years of the phase that it is a participant,¹⁸⁹ the costs of an account that is other than the compliance account,¹⁹⁰ and the costs associated with the maintenance of such an account.¹⁹¹ The administrator may also charge for any determinations that are made under Art.31(3) (Where the participant has failed to provide an annual report, and so the administrator does so on behalf of the participant.¹⁹² This power is limited by the fact that the administrator may only charge the amount that is listed within a charges document made available by the administrator.¹⁹³ The administrator may only revise its charges document after approval from the Secretary of State.¹⁹⁴ If the charge is collected by an administrator other than the Environment Agency,

¹⁸¹ Ibid, Article 66(1).

¹⁸² Ibid, Article 66(2).

¹⁸³ Ibid, Article 53(1).

¹⁸⁴ Ibid.

¹⁸⁵ Ibid, Article 58.

¹⁸⁶ This replaced the Performance League Table, which used a matrix to rank participants.

¹⁸⁷ Ibid, Article 60(1).

¹⁸⁸ Ibid, Article 61(1)(a).

¹⁸⁹ Ibid, Article 61(1)(b).

¹⁹⁰ Ibid, Article 61(1)(c).

¹⁹¹ Ibid, Article 61(1)(d).

¹⁹² Ibid, Article 61(1)(e).

¹⁹³ Ibid, Article 62(1).

¹⁹⁴ Ibid, Article 63(2)(b).

this charge must be paid directly to the Secretary of State.¹⁹⁵ The administrator also has powers of enforcement which will be discussed alongside the enforcement of the Order generally.

Duties:

One of the first duties of the administrator is to register an applicant as a participant when an application has been duly made, and provide the participant with a certificate of registration.¹⁹⁶ In line with this duty, the administrator must also provide and maintain an up to date list of all the participants of the scheme.¹⁹⁷ Following the end of a participant's participation in the scheme, the administrator must finally cancel the registration of a participant where the participant has permanently ceased any scheme activity within the United Kingdom.¹⁹⁸ Further duties include the duty to maintain a record for all allowances, and which shows: the year of the allowance, the date, to whom it was issued, the account it is held in and the cancellation of the allowance (when the allowance has been surrendered).¹⁹⁹

In addition to the administrator's duties to maintain an up-to-date list of all participants and a record of all allowances, the administrator also has the duty to create and operate an electronic Registry.²⁰⁰ The administrator has a duty to ensure that the Registry is accessible to those who are entitled to use it every working day at any other time that the administrator believes reasonable.²⁰¹ The Registry is also to be used as a platform for communication between the administrator, the participants and any third party account holders.²⁰² The security of the Registry is also a duty that belongs to the administrator, who must "take reasonable steps to ensure that the operation of the Registry is secure from misuse".²⁰³ This duty includes the ability for the administrator to suspend any accounts on the Registry when the security of the Registry is at risk.²⁰⁴ The administrator is under an obligation to make any determinations (in relation to its powers stated above)²⁰⁵ in writing and sent to the affected persons within 10 days of the decision.²⁰⁶

¹⁹⁵ Ibid, Article 64(1).

¹⁹⁶ Ibid, Article 13(1)(a-b).

¹⁹⁷ Ibid, Article 13(3).

¹⁹⁸ Ibid, Article 54(1).

¹⁹⁹ Ibid, Article 38(1).

²⁰⁰ Ibid, Article 50(1).

²⁰¹ Ibid, Article 50(3).

²⁰² Ibid, Article 50(2).

²⁰³ Ibid, Article 51(a).

²⁰⁴ Ibid, Article 51(b).

²⁰⁵ Ibid, Article 57(1).

²⁰⁶ Ibid, Article 57(2).

3.3.5 Group and undertaking liabilities

Group liabilities arise, where for the purposes of the scheme, several undertakings come together as one participant under the scheme. Whether a group exists is a matter to be decided on the qualification day of the qualification year,²⁰⁷ by the administrator.²⁰⁸ A group may then apply to be a participant of the scheme if they meet the qualification criteria of a standard participant (6000 MWh of energy consumption and one half hourly settled meter).²⁰⁹ Likewise, if an undertaking applies to be a participant of the scheme but is not part of a group, the undertaking may register for the scheme if it meets the qualification criteria.²¹⁰

The Order also has special provisions relating to trusts. An undertaking or public body which is a trustee of a trust; and the trustee is required to register under the scheme as a participant, may apply for registration as a separate participant in respect of any trust activities.²¹¹ This means that, although the trustee is required to become a participant on their own merits, they may apply for a different registration in relation to their trust activities. Operators are also treated differently under the scheme, and may also apply for separate registration in relation to the activities for which they are an operator only.²¹²

3.3.6 Penalties and enforcement of the CRC

For the CRC scheme and the Order to be effective, it is enforceable by the administrator. The enforcement of the CRC will be covered in more depth in Chapter Five, but this section will outline the relevant aspects of the 2013 Order: Parts 11 through to 14. It contains 28 articles on potential penalties and the powers that the administrator possesses in order to enforce the scheme, giving enforcement a large presence within the Order. These can broadly be separated into four main areas: enforcement notices, civil penalties, the criminal offence, and the appeals process.

²⁰⁷ Ibid, Article 23(2).

²⁰⁸ Ibid, Article 28.

²⁰⁹ Ibid, Article 24(2).

²¹⁰ Ibid, Article 25(1)(b).

²¹¹ Ibid, Article 29(2).

²¹² Ibid, Article 30(2).

The powers held within Part 11, are exercisable when the administrator "reasonably believes that there has been a failure [...] to comply with a provision of this Order."²¹³ The powers include the ability of the administrator to require a participant to provide information surrounding a failure to comply with Article 40 or 41, by means of a written notice.²¹⁴ This written notice to provide information may be withdrawn by the administrator at any time.²¹⁵ In addition to information notices, the administrator may also serve enforcement notices upon anyone who fails to comply with the Order.²¹⁶ The enforcement notice must be written and contain the following: the provision of the Order in respect of which there has been the breach;²¹⁷ the matter that constitutes the breach;²¹⁸ the steps that need to be taken by the person in breach;²¹⁹ and how long the person has to take those steps.²²⁰ As with the information notices, the administrator reserves the right to modify or withdraw the enforcement notice at any time.²²¹ If the enforcement notice is not complied with, the administrator has the option to do what the person was required to and recover the costs of doing so from the person.²²²

The Order also provides for civil penalties within the CRC scheme. Therefore, the administrator may also serve a penalty notice for a civil penalty where they are liable.²²³ A penalty notice takes effect once it is issued,²²⁴ apart from financial penalties which are due 60 days after the notice is given.²²⁵ If a financial penalty is not paid by the person against whom the notice is served, the administrator may recover the amount as a civil debt.²²⁶ The administrator retains the power to waive, modify (but only by lowering the amount of a financial penalty), or allow more time for the person to pay;²²⁷ and if the administrator subsequently decides that the person is no longer liable, they may withdraw the notice or modify it by lowering the penalty.²²⁸ The civil penalties themselves are listed within the Order and

²¹³ Ibid, Article 67.

²¹⁴ Ibid, Article 68(1).

²¹⁵ Ibid, Article 68(2).

²¹⁶ Ibid, Article 69(1).

²¹⁷ Ibid, Article 69(2)(a).

²¹⁸ Ibid, Article 69(2)(b).

²¹⁹ Ibid, Article 69(2)(c).

²²⁰ Ibid, Article 69(2)(d).

²²¹ Ibid, Article 69(3).

²²² Ibid, Article 69(4).

²²³ Ibid, Article 70(1).

²²⁴ Ibid, Article 71(1).

²²⁵ Ibid, Article 71(2)(a).

²²⁶ Ibid, Article 71(2)(b).

²²⁷ Ibid, Article 72(1).

²²⁸ Ibid, Article 72(2).

consist of: a failure in respect of registration;²²⁹ annual reports,²³⁰ and their inaccuracies;²³¹ a failure to provide information;²³² a failure to surrender allowances,²³³ and any later discoveries of failed surrenders;²³⁴ and a failure to maintain records.²³⁵ A holistic list of these penalties is available within a guidance document created by the Environment Agency, and lists the penalty for each area of non-compliance.²³⁶ As well as imposing a financial, civil penalty, the administrator may also impose a 'blocking penalty' until any failure is remedied and any financial penalty is paid.²³⁷ The administrator may also publicise the person's failures, as long as the time for appeal has expired, or if there has been an unsuccessful appeal.²³⁸ It is possible to see a list of the civil penalties issued on the Government website, and, for instance (as stated above), Mansfield College received a penalty of £2500 for an annual reporting breach on the 15th May 2014.²³⁹ However, whilst the civil penalties are viewable on the government website, there are only three penalties published, and all are recent.²⁴⁰ This might imply that the civil penalties are not displayed indefinitely and are not readily accessible following their removal; which has implications on the efficacy of publication, the transparency of the tax and also the play off between business and environmental concerns - i.e. that the Environment Agency is not willing to tarnish business indefinitely for green tax transgressions.

Part 13 outlines the criminal offences which are created by the Order. As such, it is an offence for a person to make a statement which is knowingly false or is recklessly false where the statement is made in relation to compliance with the Order.²⁴¹ Non-compliance with an enforcement notice is also an offence,²⁴² although this offence has the defence of reasonable excuse.²⁴³ It is also an offence to pretend to be an authorised person for the purposes of the scheme.²⁴⁴ The final offence listed within Art.82 is that it is an offence for a person who is in control of a premises to refuse entry to the

²²⁹ Ibid, Article 73.

²³⁰ Ibid, Article 74.

²³¹ Ibid, Article 76.

²³² Ibid, Article 75, A.80.

²³³ Ibid, Article 77.

²³⁴ Ibid, Article 78.

²³⁵ Ibid, Article 79.

²³⁶ Environment Agency, 'Penalties and Offences in CRC' (undated).

²³⁷ CRC Order 2013 (n 2), Article 81(1).

²³⁸ Ibid, Article 81(2).

²³⁹ <https://www.gov.uk/crc-energy-efficiency-scheme-evidence-audits-and-penalties#crc-enforcement-and-penalties-for-non-compliance> accessed 15/01/2015.

²⁴⁰ This figure is correct as of April 2015.

²⁴¹ CRC Order 2013 (n 2), Article 82(1).

²⁴² Ibid, Article 82(2).

²⁴³ Ibid, Article 82(3).

²⁴⁴ Ibid, Article 82(4).

administrator or an authorised person where such access is reasonably required.²⁴⁵ These offences give rise to criminal penalties which differ between England and Wales, and Scotland (Scotland has a much higher imprisonment penalty on summary conviction than England and Wales). In England and Wales, the offence of a false statement and failure to comply with an enforcement carry up to a £50,000 fine and three months imprisonment on summary conviction,²⁴⁶ or a fine and/ or 2 years imprisonment upon conviction.²⁴⁷ The offences of imitating an authorised person and refusing entry to the administrator carry a fine (not exceeding the statutory minimum) and three months imprisonment upon summary conviction,²⁴⁸ and the same penalty as the other offences upon conviction.²⁴⁹ In terms of corporate bodies, if the offence is committed with the consent or neglect of an officer of the body corporate (director, manager, secretary, or anyone else in a similar position),²⁵⁰ then the officer as well as the body corporate will be guilty of the offence.²⁵¹ The position is the same for Scottish partnerships,²⁵² but criminal immunity is granted to the Crown.²⁵³

The powers listed above are all subject to the appeals process set out within Part 14 of the Order. An appeal may be made against a determination made in relation to article 57 (a determination of whether a public body or undertaking forms part of a group, see above), an enforcement notice, and an appeal by a public body or undertaking against the imposition of a civil penalty.²⁵⁴ The Order provides for three grounds of appeal: error of fact, error of law and that the decision appealed was unreasonable.²⁵⁵ The appeal is heard by the First-tier Tribunal for appeals within England and Wales,²⁵⁶ and by the Scottish Ministers in Scotland.²⁵⁷ If a person brings an appeal, this has the effect of suspending any enforcement notice, financial penalty or publication, but will not suspend a determination or any other kind of notice.²⁵⁸ The appellate body may either cancel or affirm the notice

²⁴⁵ Ibid, Article 82(5).

²⁴⁶ Ibid, Article 83(1)(a)(i).

²⁴⁷ Ibid, Article 83(1)(a)(ii).

²⁴⁸ Ibid, Article 83(2)(a)(i).

²⁴⁹ Ibid Article 83(2)(a)(ii).

²⁵⁰ Ibid, Article 84(2).

²⁵¹ Ibid, Article 84(1).

²⁵² Ibid, Article 85.

²⁵³ Ibid, Article 86.

²⁵⁴ Ibid, Article 87.

²⁵⁵ Ibid, Article 88.

²⁵⁶ Ibid, Article 89(1)(a-c).

²⁵⁷ Ibid, Article 89(1)(d).

²⁵⁸ Ibid, Article 90.

or determination;²⁵⁹ they may also modify any affirmed decision.²⁶⁰ Any decision made by the appeal body must be made on the balance of probabilities, that is to say the evidence must favour one side.²⁶¹ Schedule 7 provides further information and guidance on the appeals procedure of the CRC, and is split into guidance dependant on what decision is being appealed and who made that decision.²⁶² As an example, the guidance for decisions made by the Chief Inspector or the Department of the Environment (appeals within Northern Ireland) is held within Section 2 of the Schedule.²⁶³ In such circumstances, anyone who wishes to appeal to the Planning Appeals Commission (which is the appeals body) must do so in writing and must also provide a statement of the grounds of appeal.²⁶⁴ The written notice must be given within 47 days of the decision to be appealed.²⁶⁵ Following receipt of this written notice, the appeals body must then send the administrator a copy as soon as soon as is reasonably possible.²⁶⁶ The person making the appeal retains the right to withdraw an appeal, and should they do so, the appeals body should inform the administrator.²⁶⁷

The Order also provides guidance on the service of documents within the scope of the scheme. Schedule 8 therefore dictates that all documents must be in writing,²⁶⁸ and must be served to a person in person, by leaving it at their proper address or by sending it by post or email to that person's proper address.²⁶⁹ The case for companies is slightly different, and is covered within paragraph 4 of the Schedule.²⁷⁰

3.4 The abolition of the CRC

In the Spring Budget of 2016, the CRC was scrapped and will end in 2019.²⁷¹ The abolition of the CRC followed a short public consultation which took place between September and November 2015.²⁷²

²⁵⁹ Ibid, Article 92(a)(i).

²⁶⁰ Ibid, Article 92(a)(ii).

²⁶¹ Ibid, Article 91(2).

²⁶² Ibid, Schedule 7.

²⁶³ Ibid, Schedule 7, paragraph 6.

²⁶⁴ Ibid, Schedule 7, paragraph 7.

²⁶⁵ Ibid, Schedule 7, paragraph 10.

²⁶⁶ Ibid, Schedule 7, paragraph 8.

²⁶⁷ Ibid, Schedule 7, paragraph 9.

²⁶⁸ Ibid, Schedule 8, paragraph 2.

²⁶⁹ Ibid, Schedule 8, paragraph 3.

²⁷⁰ Ibid, Schedule 8, paragraph 4.

²⁷¹ HM Treasury, 'Policy Paper: Spring Budget' (2016), paragraph 4.14.

²⁷² HM Treasury (n 22), preface.

The consultation sought to engage with the interplay between green taxes (such as the CRC, Climate Change Levy (CCL), and the Energy Saving Opportunity Scheme (ESOS)) in an assessment of their effectiveness in regards to the then current (as of September 2015,) government priorities of: simplicity, productivity, security of energy supplies and decarbonisation.²⁷³ The government also stated the clear objectives of encouraging the long term investment of capital in order to boost productivity; as well as encouraging “the uptake of energy efficiency and low carbon measures” in order to achieve the above government priorities.²⁷⁴

In general, the consultation raised a number of concerns from those involved with the scheme.²⁷⁵ These primarily focussed on three points:

1. The current green tax landscape is too complex,
2. Uncertain tax policy can undermine investor confidence,
3. The then current (as of 2015) hierarchy of incentives did not drive people to invest in energy efficiency, rather investment in renewables.²⁷⁶

Specifically looking at the CRC, the consultation proposed abolishing the CRC and moving to a single tax where the revenues from the CRC were covered by the CCL.²⁷⁷

There were 356 responses to the consultation, from a variety of sectors ranging from public authorities to well-known high street names.²⁷⁸ The government response to the consultation was published alongside the Spring Budget in 2016, and added more flesh to the decision to abolish the CRC, which was announced during the budget itself. In a summary of stakeholder responses, the report stated that:

“The majority of respondents agreed with the proposed move towards a single tax. There was broad support from respondents for abolishing the CRC in favour of a new tax based on the CCL. Respondents cited several benefits including

²⁷³ Ibid.

²⁷⁴ Ibid, paragraph 1.3.

²⁷⁵ Who formed the group of stakeholders was not specified in the consultation document.

²⁷⁶ HM Treasury (n 22), paragraph 3.18.

²⁷⁷ Ibid, paragraph 4.11.

²⁷⁸ HM Treasury, Reforming the business energy efficiency tax landscape: response to the consultation (March 2016).

simplicity, reduction in collection errors and a reduction in administrative burdens.”²⁷⁹

This stakeholder response formed the basis for the government’s response, which detailed the abolition of the CRC, effective from April 2019, this being the end of the 2018-2019 compliance year.²⁸⁰ The reasoning behind the decision was a desire to “reduce the administrative burden of the CRC and simplify the tax system”.²⁸¹ In its place, the CRC will move to become part of a single tax: the existing CCL. Furthermore, the rate of the CCL will be increasing from April 2019 in order to recoup the revenues from the CRC.²⁸² The rationale behind this being that one, single tax will help encourage energy efficiency.

The CRC will therefore come to an end in April 2019 and will be replaced by the CCL with a higher main rate.

3.5 The CRC: statistics

As mentioned in Chapter Two, I am interested in undertaking a statistical analysis of the raw emissions data published by the Environment Agency. It is important to point out that this is an initial quantitative analysis that does not take into account other variables which could explain any change in emissions under the scheme.²⁸³ Nonetheless, I believe this analysis remains a useful exercise to explore the broader efficiency of the CRC. The statistical analysis will primarily take the form of a paired t-test and repeated measures test conducted through SPSS. These tests will be looking at whether there is a relationship between the emissions data in each year to determine whether there has been a reduction in emissions over the years. The merits of using these tests were set out in Chapter 2.

These tests were only conducted based on the participants who had submitted emissions data for all six years of the CRC (i.e. had emissions data from 2010 to 2016). As a result, the tests tested 1403 participants for all six years, rather than every participant of the CRC (where n= 1935).²⁸⁴ A consequence of this is that the statistical analysis does not take into account over 1000 participants

²⁷⁹ Ibid, paragraph 2.11.

²⁸⁰ Ibid, paragraph 3.4.

²⁸¹ Ibid, paragraph 3.4.

²⁸² Ibid, paragraph 3.5.

²⁸³ The government also ran a statistical analysis on Phase One of the CRC (2010-2014) only. DECC (n 20).

²⁸⁴ Latest list of participants drawn from Freedom of Information Request NR6994.

who have been a part of the CRC, but who have not reported emissions data for all six years. To try to combat this, a separate t-test has been conducted on the organisations who have reported data for the second phase only, which comprises 1734 participants.

As set out in Chapter two, this chapter will adopt a 1% significance level. A significance of less than 1% (or 0.001) enables the rejection of the null hypothesis (which is that the CRC emissions have not changed over the relevant years) with a 1% chance of error. That is to say that I can then accept the alternative hypothesis (the hypotheses are set out below) with a 1% chance of being wrong. Therefore, if any of the tests produce a significance level of less than 1%, the null hypothesis will be rejected.

First, this section will present a number of descriptive statistics on the emissions data. This will include looking at the median and mean (average) emissions for each year in order to paint a broadbrush picture of the CRC over the six years of data. Next, this section will present the findings of a number of t-Tests conducted on SPSS, which look at how the CRC has progressed each year. Finally, this section will present the results of a repeated measures test, which looks at the relationship between each year with all other years in order to determine whether there is a statistically significant difference. These tests will be able to illustrate whether the emissions under the CRC have changed since the CRC began properly in 2010.

Descriptive statistics

In this sub-section, using the six-year emissions data, the total emissions under the scheme will be calculated. The median has also been calculated to provide further illustration of how the emissions data have changed over the six years of the CRC scheme. In addition, the mean (average) amount of emissions under the scheme will be calculated. This figure is the amount of emissions that the average participant releases in a year. This is complemented by an additional calculation which shows how this average has changed on a yearly basis during the CRC.

YEAR	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016
TOTAL EMISSIONS	49,905,746	46,577,238	47,746,320	45,534,150	40,199,432	36,080,266
MEDIAN	13,952	13,022	13,488	12,666	11,820	10,297
MEAN	35,545	33,175	34,007	32,432	28,632	25,698
Difference in mean to prior year	N/A	-2,370	+832	-1,575	-3,800	-2,934

Table 1: all values are in tCO₂

In terms of raw data, there are 13,825,480 fewer tonnes of carbon dioxide reported under the CRC scheme from the first reporting year (2010/2011) to the latest available year (2015/2016). However, looking at the raw number of emissions reported under the CRC is not capable of painting a general picture of participants under the CRC. This is because a drop in raw emissions could be explained by a small number of participants. The median shows the middle point in the data set, and the median emissions for the CRC again show a general decrease in emissions.

By looking at the mean (the average) emissions reported, I can consider the average emitter under the scheme. By looking at how this average has changed over the years of the CRC, I can start to paint a picture of the 'average participant's' journey through the scheme. As is illustrated by Table 1, the average emissions reported under the scheme drops every year,²⁸⁵ with the exception of the 2011/2012 to 2012/2013 difference, where there is in fact an increase in average emissions. In general, however, the differences in means between each year would indicate that there is a decreasing trend in emissions since the start of the CRC.

Paired t-Tests

Using SPSS, paired t-Tests were conducted on the yearly emissions data to determine whether there was a relationship between the emissions at the start of the scheme and the emissions at the most recent data point (2015/2016). The paired t-Test was testing the following hypothesis:

$$H_0: \mu_1 = \mu_2$$

²⁸⁵ Interestingly, the drops shown in my quantitative analysis are not dissimilar to the 3-5% drop predicted by the government: DECC (n 20), p9.

$$H_1: \mu_1 > \mu_2$$

If we illustrate this by taking an example t-Test; the null hypothesis (H_0) would be that there is no significant difference between the years 2010/2011 and the 2011/2012 year. That is to say that the emissions for both years should largely be the same. The hypothesis that this thesis attempts to prove is that there *is* a significant difference between the emissions in 2010/2011 and the emissions in 2011/2012. The CRC aims to reduce emissions, and so the hypothesis is that the emissions are lower on an annual basis. As this thesis is only looking at identifying a reduction in emissions, this will require a one tailed t-Test.²⁸⁶ Therefore, the hypothesis to be tested are:

$$H_0: \text{Earlier year} = \text{Later year}$$

$$H_1: \text{Earlier year} > \text{Later year}$$

This t-Test has been conducted between each of the years in order to see whether there is a significant difference between each consecutive year. In addition, a t-Test has been performed to measure the start of phase one with the end of phase one (2010/2011 and 2013/2014) and the start of the scheme with the most recent data set (2010/2011 and 2015/2016):

²⁸⁶ For more on the t-test, see: Thom Baguley, *Serious Stats: A guide to Advanced Statistics for the Behavioural Sciences* (Palgrave Macmillan 2012).

Paired Samples Test

			Paired Differences		95% Confidence Interval		t	df	Sig. (2-tailed)	
			Mean	Std. Deviation	Std. Error Mean	of the Difference				
						Lower				Upper
Pair 1	Year20102011 - Year20112012	-2370.732	13976.527	373.006	1639.023	3102.442	6.356	1403	.000	
Pair 2	Year20112012 - Year20122013	-832.679	10497.134	280.148	-1382.233	-283.126	-2.972	1403	.003	
Pair 3	Year20122013 - Year20132014	-1575.620	10576.438	282.264	1021.914	2129.325	5.582	1403	.000	
Pair 4	Year20132014 - Year20142015	-3799.657	24523.068	654.472	2515.807	5083.506	5.806	1403	.000	
Pair 5	Year20142015 - Year20152016	-2933.879	13405.694	357.772	2232.054	3635.704	8.200	1403	.000	
Pair 6	Year20102011 - Year20132014	-3113.672	18762.263	500.728	2131.417	4095.928	6.218	1403	.000	
Pair 7	Year20102011 - Year20152016	-9847.208	38423.788	1025.455	7835.618	11858.798	9.603	1403	.000	

Table 2: SPSS t-Test results table

The significance levels for each of the years can be found in the final column of the table labelled Sig (2-tailed) (the values in this column have been highlighted and are in bold). In all but one year the significance is stated as being .000. This does not mean that the probability of wrongly rejecting the null hypothesis is zero, but rather than that the probability is less than 0.0005, or 0.05%. The test between the 2011/2012 and 2012/2013 has a .003 significance which is 0.3%. Due to the fact that SPSS provides the significance as a two-tailed test, these values need to be halved for a one tail test. As it is impossible to know the values for the .000 significant years, this thesis will not halve these values. The final significance value for the 2011/2012 year is therefore 0.0015, or 0.15%.

As a result, all of the significance levels are below the 1% level of significance which has been adopted. What this means in terms of the above hypotheses is that the null hypothesis (that there has been no change) has been disproved, and the alternative hypothesis (that the earlier year is greater than the year) proved within a 1% degree of error.

Repeated measures

Another method of testing the data is a repeated measures test, which tests multiple data sets where the participants are the same for each data set. In particular, the repeated measures test on SPSS performs a test for sphericity which looks at whether the mean emissions data between each year is statistically different.²⁸⁷

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
factor1	Sphericity Assumed	95711737910.000	5	19142347580.000	63.918	.000
	Greenhouse-Geisser	95711737910.000	1.544	61991133250.000	63.918	.000
	Huynh-Feldt	95711737910.000	1.545	61935953190.000	63.918	.000
	Lower-bound	95711737910.000	1.000	95711737910.000	63.918	.000
Error(factor1)	Sphericity Assumed	2100877360000.000	7015	299483586.500		
	Greenhouse-Geisser	2100877360000.000	2166.174	969856327.100		
	Huynh-Feldt	2100877360000.000	2168.104	968993030.700		
	Lower-bound	2100877360000.000	1403.000	1497417933.000		

Table 3: Repeated measures results table from SPSS

The above table shows us that once again there is a statistically significant difference between means for each year of the CRC (each test provides a significance of <0.0005). This means that once again there are statistically significant differences between each compliance year under the CRC. This would indicate that the CRC is having some impact on carbon dioxide emissions. What the table does not tell us is where those differences occurred. To have a look at where the difference occurred, the repeated measures test also produces a comparison of each year compared to the other five years (similar to the multiple t-Tests performed above):

²⁸⁷ For more information on the repeated measures test, see: Alan Bryman and Duncan Cramer, *Quantitative Data Analysis for Social Scientists* (Routledge 1994), pages 147-150.

Pairwise Comparisons

Measure: MEASURE_1

(I) Year	(J) Year	Mean Difference (I-J)	Std. Error	Sig. ^b	95% Confidence Interval for Difference ^b	
					Lower Bound	Upper Bound
2010-2011	2	2370.732*	373.006	.000	1639.023	3102.442
	3	1538.053*	373.630	.000	805.120	2270.986
	4	3113.672*	500.728	.000	2131.417	4095.928
	5	6913.329*	907.269	.000	5133.580	8693.078
	6	9847.208*	1025.455	.000	7835.618	11858.798
2011-2012	1	-2370.732*	373.006	.000	-3102.442	-1639.023
	3	-832.679*	280.148	.003	-1382.233	-283.126
	4	742.940*	332.244	.026	91.191	1394.689
	5	4542.597*	732.860	.000	3104.977	5980.217
	6	7476.476*	838.866	.000	5830.909	9122.042
2012-2013	1	-1538.053*	373.630	.000	-2270.986	-805.120
	2	832.679*	280.148	.003	283.126	1382.233
	4	1575.620*	282.264	.000	1021.914	2129.325
	5	5375.276*	745.586	.000	3912.693	6837.859
	6	8309.155*	877.532	.000	6587.739	10030.572
2013-2014	1	-3113.672*	500.728	.000	-4095.928	-2131.417
	2	-742.940*	332.244	.026	-1394.689	-91.191
	3	-1575.620*	282.264	.000	-2129.325	-1021.914
	5	3799.657*	654.472	.000	2515.807	5083.506
	6	6733.536*	776.820	.000	5209.682	8257.389
2014-2015	1	-6913.329*	907.269	.000	-8693.078	-5133.580
	2	-4542.597*	732.860	.000	-5980.217	-3104.977
	3	-5375.276*	745.586	.000	-6837.859	-3912.693
	4	-3799.657*	654.472	.000	-5083.506	-2515.807
	6	2933.879*	357.772	.000	2232.054	3635.704
2015-2016	1	-9847.208*	1025.455	.000	-11858.798	-7835.618
	2	-7476.476*	838.866	.000	-9122.042	-5830.909
	3	-8309.155*	877.532	.000	-10030.572	-6587.739
	4	-6733.536*	776.820	.000	-8257.389	-5209.682
	5	-2933.879*	357.772	.000	-3635.704	-2232.054

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Table 4: Pairwise comparison between each year of the CRC

The table above demonstrates that there is a statistically significant difference (<0.0005 , and 0.003 for 2011/2012 and 2012/2013) between all years in the CRC with the exception of 2011/2012 and 2013/2014 where the significance is 0.026 , or 2.6% . This is above the 1% significance threshold adopted and so indicates that there is no significant difference between these two years. This lack of significance could be explained by the fact that there is a raw increase in emissions under the scheme which would then skew the general trend of decrease in emissions under the scheme. As such, in general, this statistical test shows us that for all but two years there is a statistically significant relationship between the changes in emissions. The two anomaly years correlate with the descriptive statistics and t-tests, which showed an increase in emissions in the 2012/2013 compliance year. For all other years, it is possible to say that there has been a statistically significant drop in emissions under the CRC scheme.

3.6 Concluding Remarks

This chapter has outlined the core aspects of the CRC in order to provide an overarching understanding of how the CRC functions. This has included a consideration of: the allowances; scope of the scheme; participant obligations; regulator powers; and the enforcement of the CRC. The abolition of the CRC in 2019 is a significant development in the CRC's life and changes the lens through which this thesis will consider the CRC. The fact that the CRC scheme will end in 2019 will therefore run throughout this study. Many of the specific aspects of the CRC, as outlined above, will be explored in more depth, and alongside relevant literature, later in this thesis.

In addition, this chapter has presented an initial statistical analysis of the CRC. The purpose of this analysis was to start to paint a picture on the CRC's efficiency as a tool to reduce carbon emissions. Because of this analysis, I argue that the CRC has had at least some positive impact on carbon emissions during this time.²⁸⁸ Further statistical analysis is beyond the time and resources of this doctoral study. However, a fuller picture would be able to be painted, if other variables (such as turnover, assets etc.) were able to be collected and measured. The rest of this thesis will now turn to specific elements of the CRC that formed the core themes running through the qualitative (interview) data. Chapter Four will consider the reforms of the CRC and the impacts this has had on the scheme's stability.

²⁸⁸ This echoes the government's findings that there had been a potential drop in emissions of around 3-5% under the CRC during Phase One. DECC (n 20), p9.

Chapter Four: Stability, legitimacy and credibility

Constantly changing regulation is inefficient regulation.¹ This chapter focusses and builds upon two different concepts seen in regulatory and tax literature: tax stability/instability; and Elen Stokes' ideas of regulatory domain/dexterity.² Tax stability refers to the changes in legislation and/ or rate at which a tax is levied; whilst regulatory domain and dexterity refer to how regulation has been packaged by government – the domain is the stable, existing regulatory field, and the dexterity the changing. In an original combination of both concepts, this chapter introduces a novel method to analyse environmental taxation and environmental regulation more generally. Both regulatory domain and tax stability are required for the same function in environmental taxation: to present a consistent green policy in order to retain credibility in the eyes of those subject to regulation, and therefore investment by regulatees into the environmental tax. Assuming that an environmental tax is designed with two functions (raising revenue and changing environmentally unfriendly behaviour),³ then regulatory credibility is fundamental for any environmental tax in its behavioural changing capacity. Through the lens of my study on the Carbon Reduction Commitment (CRC), I will argue that it is only through the promise of secure investment for regulatees (that comes from a stable regulatory environment) that taxpayers will be willing to go above and beyond compliance for environmental taxes.

This chapter maps traditional economic literature onto the concepts of regulatory domain and dexterity put forward by Stokes.⁴ Much in the same way as Stokes maps the regulatory field of fracking to consider the changing and unchanging; a similar exercise has been undertaken in economics literature by mapping stability and change through time.⁵ Identifying change and stability in the

¹ For a general discussion of “good regulation” see Robert Baldwin, Martin Cave and Martin Lodge, *Understanding regulation: Theory, strategy and practice* (2nd Edition) (OUP 2012); Robert Baldwin, Martin Cave and Martin Lodge, *The Oxford Handbook of Regulation* (OUP 2010) and, Martin Lodge and Kai Wegrich, *Managing Regulation: Regulatory Analysis, Politics and Policy* (Palgrave MacMillan 2012).

² Tax and economic stability has been discussed in a wide range of tradition economic theory; For regulatory domain and dexterity, see Elen Stokes, ‘Regulatory Domain and Regulatory Dexterity: Critiquing the UK Governance of ‘Fracking’’ (2016) 79(6) MLR 961.

³ Snape and de Souza also argue that a “levy is not prevented from being a tax by the fact that raising revenue is not the government's main reason for imposing it”: John Snape and Jeremy de Souza, *Environmental Taxation Law* (Ashgate, 2006), p169.

⁴ Stokes (n 2), 961-963.

⁵ Douglas North, *Institutions, Institutional Change and Economic Performance* (CUP 1990), Chapter 13.

regulatory arena is therefore not a novel concept. More generally, stability has been considered in wider economic literature and has been considered through various lenses including rule of law;⁶ institutional stability;⁷ and property rights.⁸ The most relevant to legal scholarship is an argument put forward by Hayek:

“But the important point is that all coercive action of government must be unambiguously determined by a permanent legal framework which enables the individual to plan with a degree of confidence and which reduces human certainty as much as possible.”⁹

As such, similarly to how Stokes discusses a regulatory domain, economic literature looks at the permanent legal framework. It is the idea that there is an unchanging body of rules which provide certainty to those subject to them. What is novel about Stokes’ work is the linking of this change and stability to how regulation is packaged to regulatees. Stokes argues that the use of domain and dexterity can be used to convey messages (such as sufficiency or confidence) regarding the regulatory field. This chapter will further this idea by considering how these messages are received by regulatees. In particular, the ability of regulatees to perceive and garner meaning from the stability (or instability) of a regulatory field is of particular interest.

This chapter unfolds in three parts. First, by way of context, a brief recap of the changes to the CRC will be provided. Second, the themes of reform and stability will be explored through the lens of the interview data. My work raises questions in terms of Government credibility, as well as taxpayer engagement with the CRC, and environmental taxation more generally. The concepts of tax stability and regulatory domain/ regulatory dexterity will be explored as the theoretical framework which underpins this chapter. Finally, this chapter will combine these two concepts. Combining the two concepts of the regulatory landscape (comprising of regulatory dexterity and regulatory domain) and tax stability, stability is demonstrated through a sound regulatory domain. Without this domain (and therefore demonstration of stability), the green tax will be perceived as unstable; as such, questions of credibility will arise.

⁶ Friedrich von Hayek (edited by Ronald Hamowy), *The Constitution of Liberty* (University of Chicago Press 2011).

⁷North (n 5).

⁸ Walter Lippmann, *The Good Society* (Transaction 1938).

⁹ von Hayek (n 6) pp331-332.

I wrap together the concepts of tax stability and regulatory domain/dexterity to argue that regulatees are perceptive and sensitive to regulatory change. Whilst there remains a role for regulatory dexterity in terms of reforming inefficient regulatory schemes, the importance of maintaining a strong regulatory domain is not to be underestimated. Stability itself is perceived by interviewees/ regulatees to be portrayed by a strong regulatory domain (a body of regulation that remains unchanging); and this stability is, through the eyes of the regulatees, also a manifestation of government policy. In the case of the CRC, the unstable nature of the scheme therefore translates to a perception of an unstable green policy and a lack of commitment to the environment. Without this underlying policy commitment to the environment, a green tax will lack credibility, as is the case with the CRC. As such, my data has much to offer policy makers looking at what works in the context of environmental regulation.

4.1 Context: the changes to the CRC

The regular changes to the CRC form the contextual foundation to this chapter. As set out in the previous chapter, in its initial form, the CRC was criticised by the Coalition Government for its “administrative burdens” and complexity.¹⁰ The scheme as originally conceived covered almost 30 fuels, required reporting on 90% of emissions (as opposed to 100% reporting), and ranked participants in an annual League Table based upon their performance.¹¹ Following a public consultation, the CRC was reformed significantly in 2013, in order “to streamline and simplify the scheme to create a new leaner, simplified and refocused CRC.”¹² Reforms of note include a drop in the scope of the CRC from 19 fuels to two (electricity and gas) and the abolition of the Performance League Table. These are important later when I turn to my data. For the large part, these changes came into effect at the start of the second phase in 2014. Since then, the CRC Energy Efficiency (Amendment) Order 2014 has come into force, which makes smaller changes to the scheme.¹³ Finally, it will be recalled that in 2016 the scheme was abolished, as part of a larger energy tax reform, and the CRC will come to an end following the 2018-2019 compliance year.¹⁴ It is following the announcement of the CRC’s abolition that the main part of my CRC study took place.

¹⁰ DECC, ‘Consultation on simplifying the CRC Energy Efficiency Scheme’ (March 2012), 6.

¹¹ The CRC Energy Efficiency Scheme Order 2010, SI 2010/768, Article 77.

¹² DECC (n 10), 6 and 11.

¹³ CRC Energy Efficiency Scheme (Amendment) Order 2014, SI 2014/502.

¹⁴ HM Treasury, ‘Budget 2016’ (2016), para 4.14.

Although the CRC will now come to an end in 2019, it nevertheless provides an interesting case study of a green tax. In addition, the Climate Change Levy will be expanding to cover the scope of the CRC from 2019 onwards – as such, questions of taxpayer engagement and regulatee behaviour in this field will continue to resonate beyond the time of the CRC. These insights into regulatees and how they react to regulation will have a wider application to other green taxes, and as such is especially important given the lack of empirical socio-legal work in environmental law.¹⁵

4.2 The changing landscape of the CRC: tax stability and the regulatory domain

I had not set out to explicitly discuss the number of reforms to the CRC with my interviewees. The multiple reforms did not form one of the questions asked of the interviewees. This aspect of the CRC was, however, raised by 27 out of 31 interviewees without stimulus.¹⁶ When I came to analyse the data from the study four overarching themes emerged which are relevant to notions of stability and domain/dexterity: 1) the changing landscape of the CRC was attributable (by the interviewees) to political interference; 2) the multiple changes to the CRC inhibit participant/advisor understanding of the scheme; 3) the changes reduce the levels of engagement with the scheme by participants; and 4) the participants' perception of the credibility of the CRC also drops in line with the number of changes. These four themes will now be explored in turn before turning to the relevant literature as a basis for analysis.

As I set out in the introduction, this chapter draws upon the ideas of stability and regulatory domain and dexterity; building upon the work of Elen Stokes and wider economic literature. These ideas resonate with the changes to the CRC, and specifically, taxpayer reactions to the numerous changes that have taken place during the scheme's life. Economic literature argues that a stable framework is necessary for the formation of regulatee expectations and economic growth; whilst Stokes looks at how the regulatory landscape in a field is packaged by government. The two ideas are drawn from two different fields: economic literature and regulatory literature. It should be noted, that whilst Hayek

¹⁵ On which, see: Elizabeth Fisher et al., 'Maturity and Methodology: Starting a Debate about Environmental Law Scholarship' (2009) 21 JEL 213.

¹⁶ Interviewees will be identified by an identifier code which has been attributed to each interview. An example of this is CRC M1. The letters prior to the number denote which pool of interview the interview is from. 'P' is an interview from the pilot study; 'M' an interview from the main study; and, 'S' an interview with a solicitor.

and wider economic literature can be traced back to traditional theorists such as Hume and Smith;¹⁷ Stokes relies heavily on policy documents (rather than other academic literature) as a basis for her argument.¹⁸ By bringing the two ideas together, this chapter builds upon the debate set out by Stokes and Hayek, and analyses the two ideas in light of an existing taxation scheme. This literature, along with other, relevant literature, will be woven through the study data to illustrate the effects of instability on the CRC.

4.2.1 Political interference with the scheme

The concept of regulatory domain is coupled with regulatory dexterity.¹⁹ Stokes discusses how the use of domain and dexterity is important in terms of how regulation is packaged by government, using fracking (the process – hydraulic fracturing - of injecting water at high pressure into underground rocks to extract oil and gas) as a case study. Stokes’ analysis shows how government preference for fracking is shown in two ways: one narrative which says existing laws are sufficient to control fracking issues (i.e. regulatory domain) and another which introduces new, specific fracking laws which enable fracking to advance (i.e. regulatory dexterity). My work builds on this idea and Stokes’ work and considers how those narratives are perceived by regulatees.

Domain and dexterity are antithetical in their meaning; in terms of time, domain represents continuity, whilst dexterity is change.²⁰ In terms of focus, domain is broad, whilst dexterity is specific. Regarding regulatory response, domain is resisting reform, whilst dexterity introduces new, specific legislation.²¹ The two concepts are therefore contradictory. The high number of changes seen under the CRC is more reflective of regulatory dexterity than domain. My participants suggested that political interference with the scheme was responsible for the high number of changes:

“So, I actually felt sorry for the people that were trying to do it because they didn’t know what they were doing – you’ve got the political masters changing the rules.”

(CRC P8)

¹⁷ This chapter will also draw on David Hume, *A Treatise of Human Nature (Oxford Philosophical Texts)* (OUP 2000); and Adam Smith, *Wealth of Nations Books IV-V (1776)* (Penguin Classics 1999), Book V.

¹⁸ For example, Stokes (n 2), 964-965.

¹⁹ Ibid.

²⁰ Ibid, 962.

²¹ Ibid, 962.

Economic literature has traditionally advocated against government interference with the economy.²² Smith's concept of justice also limited the role of government intervention to the protection against foreign foes and the maintenance of justice (which included property stability).²³ Government intervention should be limited to those interventions that protected this stability, to the point that government intervention is seen as a positive when it protects these interests.²⁴ Lippmann provides an alternative viewpoint through a property rights lens:

“Only by recognizing that legal rights are declared and enforced by the state is it possible to make a rational examination of the value of any particular right. The latter-day liberals did not see this. They fell into a deep and confusing error when they failed to see that property, contracts, corporations, as well as governments, electorates, and courts, are creatures of law, and have no existence except as bundles of enforceable rights and duties.”²⁵

Here, Lippmann is arguing that these fundamental property rights (as well as other rights such as those under contracts) are, in fact, created by laws; and, as such, can be modified by law.²⁶ This would indicate that there are circumstances which would justify the modification of laws and the introduction of instability (regulatory dexterity). Hayek agrees with this viewpoint in the sense that the economic freedom advocated by Hume and Smith actually means economic freedom *under the law*, rather than an “absence of all government action” full stop.²⁷ Some political and legislative interference is therefore to be expected in taxation.

However, due to the fact that this “political interference” was “constantly changing” (CRC P8), this resulted in a higher than what participants would consider as normal amount of reforms to the CRC. This in turn meant that the changes were perceived as a failing of the CRC:

“A lot of the problems with CRC is the fact that they've changed the rules. When it came in in 2010 and there was a 2010 order, a 2011 order, a 2013 order and a 2014 order so it's a lot of changes.” (CRC R1)

²² Hume (n 17), Book 3, Chapter 2.

²³ Smith (n 17), Book V.

²⁴ Adam Viner, 'Adam Smith and Laissez Faire' (1927) 35(2) Journal of Political Economy 198, 220.

²⁵ Lippmann (n 8), p244.

²⁶ Ibid, p245.

²⁷ von Hayek (n 6), p329.

“I think the biggest single thing that created bad reputation for the CRC was the constant meddling. If they had brought it in and stuck with all the phases and stuck with the broad design, I can understand there would have been some minor tweaks, then it would have been a successful scheme I think – but it became a **political football**.” (CRC M9, emphasis added)

Since the frequency of changes was so high, this was considered to be political “tinkering” with the scheme (CRC S3, CRC S5, CRC M9). One interviewee linked this tinkering to the wider green taxation landscape; where they stated that the government has “a habit of changing taxation” (CRC M6). The language surrounding the changes was not impersonal. The changes were seen as intimately linked to government *interference*.

This is not to say that there is not a role for regulatory dexterity in a regulatory field. Amongst the backdrop that some government intervention is to be expected in the economic field,²⁸ regulatory domain and dexterity can work well together. They can provide justification for one another in the sense that “[o]ne reason for invoking 'dexterity', for example, is that it is underpinned by an ostensibly sound and solid 'domain'.”²⁹ Dexterity and domain can also protect each other from criticisms: an example provided by Stokes is that any concerns that the law is too slow can be alleviated by the swiftness of regulatory dexterity.³⁰ In essence, the two concepts can be complementary to one another, even though they are so different.³¹ Stokes argues that, with fracking, both approaches are taken as part of a policy agenda: a resistance to reform the existing legislative framework under which fracking arguably falls (regulatory domain); whilst introducing specific pieces of legislation to plug any gaps left by that overarching regulatory framework (regulatory dexterity).³²

The CRC has a single piece of parent legislation – the Climate Change Act 2008³³ – but sits within, on the national level, a wider energy consumption and carbon emissions regulatory framework, and, at the international level, a further host of climate change linked emissions agreements.³⁴ Further afield

²⁸ Ibid, p329.

²⁹ Stokes (n 2), 983.

³⁰ Ibid, 984.

³¹ Ibid.

³² Ibid.

³³ Climate Change Act 2008

³⁴ Such key international agreements include: UN Framework Convention on Climate Change (adopted 9 May 1992, ratified 21 March 1994) 1771 UNTS 107; United Nations, Kyoto Protocol to the United Nations Framework Convention on Climate Change (1997;2005); United Nations, Paris Agreement (2015); European

still are energy efficiency regulations such as other taxes on energy consumption/ carbon emissions include the European Emissions Trading Scheme; and the CCL (including the regulation of Climate Change Agreements).³⁵ Moving away from taxes, the CRC sits alongside other regulatory schemes such as the Energy Savings Opportunity Scheme (ESOS).³⁶ Using this wider definition of the 'energy efficiency domain', I would suggest that the regulatory domain, whilst forming part of a policy agenda, is also a physical projection of that policy, and in this case green policy. By maintaining a stable regulatory domain, policymakers are able to communicate a commitment to green policy through this stability. Regulatees are able to perceive this commitment (through the stability) and are more likely to positively engage with the specific instrument within the green policy landscape (in this case, the CRC).

The fact that interviewees have explicitly attributed the changes to the CRC to the government mean that they make the link between the regulatory changes and government policy. This sort of connection may be somewhat unsurprising and what I would otherwise expect even in the absence of my data. What this means, however, is that a strong and stable regulatory domain is therefore a reflection of stable policy underlying the regulatory field. As will be discussed below, this has impacts on the emotional response of the CRC participant towards the government and policy. First, two practical impacts of the changes will be considered: the impact on understanding, and the impact on engagement with the scheme.

4.2.2 Understanding the CRC scheme

It is not surprising that the constant changes to the CRC have had an impact on the ability of participants to understand the scheme. Two main themes emerged from the data regarding such knowledge. The first was that the frequency of the changes made it hard to 'catch up', and the second was the fact that because there have been no substantive changes to the scheme for the past 2-3 years (apart from the abolition of the scheme) this had allowed participants to settle into a routine. This lack of understanding (as participants struggle to stay up to date) under the CRC makes it difficult for participants to know how to behave, or how to comply, with the scheme.

Parliament and Council Directive 2003/87/EC of 13 October 2003 Establishing a Scheme for Greenhouse Gas Emission Allowance Trading Within the Community [2003] OJ L275/32 (as amended by Directive 2009/29/EC).

³⁵ Introduced in the Finance Act 2000.

³⁶ ESOS was introduced under Article 8(4-6) of EU Energy Efficiency Directive (2012/27/EU). The scheme is held in the Energy Savings Opportunity Scheme Regulations 2014, SI 2014/1643.

In the institutional literature, institutions are defined as “are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction.”³⁷ As such, institutions “reduce uncertainty” by providing a structure that shapes everyday life so that people know how to behave – for example, North talks of how we know how to drive a car, how to conduct a sales transaction, and how to start a business.³⁸ The same could be said of taxes – institutional certainty tells us how we pay our taxes. If, as is the case with the CRC, that institutional stability is lacking, then this could affect the participants’ ability to know how to conduct themselves under the scheme. Once again, this institutional stability should not come at the expense of stagnation. North argues that change is necessary:

“The major role of institutions in a society is to reduce uncertainty by establishing a stable (but not necessarily efficient) structure to human interaction. But the stability of institutions in no way gainsays the fact that they are changing. From conventions, codes of conduct, and norms of behaviour to statute law, and common law, and contracts between individuals, institutions are evolving and, therefore, are continually altering the choices available to us [...] institutions typically change incrementally rather than in discontinuous fashion.”³⁹

Formal rules therefore facilitate desired social exchanges,⁴⁰ and their stability is important. The difficulty here lies in the character rather than the volume of changes.⁴¹ As with the rule of law approach adopted by Hayek, it is not the fact that the law is changing that is the problem. Following institutional stability, changes come incrementally. In the case of the CRC, therefore, it was important to avoid regular overhauls of the scheme that would then alter how much tax participants would be paying under the scheme. Smith has also considered this concept, as he draws on the idea of institutions in his own work.⁴² In particular, he argues that if taxation is to be imposed, then it should be in accordance with the “generally accepted” canons of taxation.⁴³ The key canon of interest here is

³⁷ North (n 5), p3.

³⁸ Ibid, pp3-4.

³⁹ Ibid, 6.

⁴⁰ Albert de Vaal and Wouter Ebben, ‘Institutions and the Relation between Corruption and Economic Growth’ (2011) 15(1) Review of Development Economics 108, 110.

⁴¹ von Hayek (n 6), 331.

⁴² Andrew Skinner, *A System of Social Science: Papers Relating to Adam Smith* (Clarendon Press 1979), p209.

⁴³ Ibid, 216.

the canon of certainty. Here, Smith argues that “the time of payment, the amount to be paid ought all to be clear and plain to the contributor and to every other person”.⁴⁴

With annual changes to the scheme in the first half of its life, some of this certainty is lost as participants had to keep track of the CRC rules in order to ensure compliance (CRC P8). Effort and resources were required to follow the changes and understand them (CRC M15).

“Because the person working in their business, who’s not from an energy background, and hasn’t been kept in the loop with the changes in the legislation - I really don’t think would have any chance of truly understanding how CRC works.” (CRC M3)

This interviewee discusses the need to closely follow the changes in the CRC, to have a chance of understanding the scheme. Keeping up with the scheme is therefore demanding in terms of time and resources. As such, the changes were viewed as a burden which acted as a drain on expertise, time and physical resources.⁴⁵ CRC participants have struggled to keep up with the significant changes (CRC R1), and so struggled to understand the scheme (CRC P3). Solicitors and consultants also raised the problem of coming to grips with the scheme:

“Because there’s been so many changes and there’s been so many changes of terminology, it is very difficult sometimes to provide clients with very clear advice without boring them and going into lots of detail.” (CRC S2)

The changes make it difficult for advisors to give concise, and accurate, advice on the CRC whilst working with their clients. Advisors also had a “tough three or four years” coming to grips with the scheme relearning the rules as they changed (CRC M7). Whilst another participant believed that the scheme was even too complex for some consultants to understand:

“You’ve got a compliance scheme, you set yourself up, then suddenly they change the rules. Then you’ve got to change again. There’s a lot of time and effort and you can’t afford to get it wrong. And I’m also aware that some of the

⁴⁴ Smith (n 17), p416.

⁴⁵ One participant claimed that the CRC took around one month of staff time to comply with – which largely included “reading and understanding the regulations, which were constantly changing” (CRC P8).

consultants out there did not understand it. I know some people took advice from consultants which was misleading.” (CRC P8)

The regularity with which the CRC has changed over the years has led to difficulties in understanding the scheme, both by participants and by their advisors. This level of regular reform and regulatory complexity (even for specialist advisors) may be of concern, and it has potential scheme-wide impacts in terms of compliance and engagement. Any incorrect understanding could filter down from the advisors to the participants. The regularity of the changes is also resource heavy and requires both participants and advisors to actively engage with each issue of new CRC legislation enacted to ensure a current understanding of the scheme.

The CRC scheme had settled down following the reforms which were implemented at the start of phase 2 (April 2014), and no further changes were applied to the scheme prior to the announcement of its abolition in March 2016. The CRC therefore experienced its first taste of stability between April 2014 and March 2016. This period of stability had been picked up by participants without my prompting, in what they referred to as “fairly settled down” (CRC M11) and as a “business as usual” (CRC M7) phase:

“Only now really, especially post-ESOS do we feel like we're finally in a position where CRC has settled down. It's become a routine. It's been more incentivised. There's more focus on energy efficiency improvement, etc.” (CRC M10)

Several interviewees expressed negative emotions towards the abolition of the CRC purely due to the fact that they did not want to see another change.⁴⁶ Specifically because the CRC will be replaced by something else (CRC M12) and, as such, this is another regulatory scheme that they will have to come to grips with after the CRC has ended. From the data, there seemed to be a level of fear of the unknown. These responses show two things. First, that taxpayers can perceive and respond positively to stability. Second, that instability coupled with the unknown has created positive emotion towards what is currently in place (i.e. the CRC), and negative emotion towards what is to come (i.e. the CCL). This may prove problematic in enacting the CRC’s replacement and driving taxpayers to engage with it.

⁴⁶ CRC M7, M10, M12, M13.

4.2.3 Lack of engagement with the CRC

Historically, the argument put forward by Hayek for the need of “a permanent legal framework which enables the individual to plan with a degree of confidence”,⁴⁷ also draws roots from property rights arguments. As a tax regime changes, the levying process also changes and can include changes in how much tax is levied and/ or the way in which the tax is levied. Stability therefore has “large consequences” for property,⁴⁸ as it will indirectly enhance any property rights.⁴⁹ It provides a “robust private sphere” for taxpayers.⁵⁰ Hume argues that one of the three fundamental laws of nature is stability of possession.⁵¹ This stability is key, he argues, to the growth of society:

“There are three different species of goods, which we are possess’d of; the internal satisfaction of our mind, the external advantages of our body, and the enjoyment of such possessions as we have acquir’d by our industry and good fortune. We are perfectly secure in our enjoyment of the first. The second may be ravish’d from us, but can be of no advantage to him who deprives us of them. The last only are both expos’d to the violence of others, and may be transferr’d without suffering any loss or alteration; while at the same time, there is not a sufficient quantity of them to supply every one’s desires and necessities. **As the improvement, therefore, of these goods is the chief advantage of society, so the instability of their possession, along with their scarcity, is the chief impediment.**” (Emphasis added)⁵²

The stability of possession of property is therefore key for societal security; and, according to Hume, this stability must be inflexibly applied to the whole of society.⁵³ More specifically to business engagement and stability, Smith argues:

⁴⁷ von Hayek (n 6), 331-332.

⁴⁸ John Snape, ‘Stability and its significance in UK tax policy and legislation’ (2015) BTR 561, 577.

⁴⁹ Ibid, 574.

⁵⁰ Ibid.

⁵¹ Alongside transfer of property by consent and the performance of promises: Hume (n 17), p337.

⁵² Ibid, p313.

⁵³ Hume (n 17), p322.

“Commerce and manufactures can seldom flourish long in any state which does not enjoy a regular administration of justice; in which people feel themselves secure in the possession of their property...”⁵⁴

Smith is arguing here that without some level of stability in possession, business cannot flourish. More recent literature also considers the role of tax stability on property,⁵⁵ where stability has been described as “critical to capitalist exchange”.⁵⁶ An unstable regulatory regime, and particularly a tax regime (which requires money to be paid to the Treasury), does not provide this property stability. The Mirrlees Review reiterated the importance of stability, stating that, alongside simplicity and neutrality, stability was a factor to be considered when assessing a tax system.⁵⁷ As they put it:

“Tax systems that continually change impose greater compliance costs on those who are taxed. They lead to difficulties in making long-term plans. Lack of stability can impact negatively on investment decisions by firms and on saving and investment decisions by individuals.”⁵⁸

Regulatory stability “is widely considered to be important to promote investment in general”.⁵⁹ Black argues that businesses should be able to operate in “a stable regulatory environment”.⁶⁰ Goldsmith argues that “uncertainty discourages investment and commerce”,⁶¹ and that “guaranteed economic rights are a *sine qua non* [essential] for producing an environment where investors are willing to trade”.⁶² It is the negative impacts of instability in this long-term engagement that is particularly interesting. It is important to note here that I am not advocating the permanent stagnation of legislation,⁶³ rather, a level of stability that allows for taxpayer investment into the particular

⁵⁴ Smith (n 17), p510.

⁵⁵ See for example: Gavin Kennedy, *Adam Smith: A Moral Philosopher and His Political Economy* (Springer 2016).

⁵⁶ Arthur Goldsmith, ‘The State, The Market and Economic Development: A Second Look at Adam Smith in Theory and Practice’ (1995) 26 *Development and Change* 633, 636.

⁵⁷ Stuart Adam, Timothy Besley, Richard Blundell et al, *Tax by Design: The Mirrlees Review* (OUP 2011), 22.

⁵⁸ Ibid, p44.

⁵⁹ Lorenzo Cotula, ‘Reconciling Regulatory Stability and Evolution of Environmental Standards in Investment Contracts: Towards a Rethink of Stabilization Clauses’ (2008) 1(2) *Journal of World Energy Law and Business* 158, 158.

⁶⁰ Julia Black, ‘Forms and paradoxes of principles-based regulation’ (2008) 3(4) *Capital Markets Law Journal* 425, 430.

⁶¹ Goldsmith (n 56), 637.

⁶² Arthur Goldsmith, *Democracy, Property Rights and Economic Growth* (1995) 2 *Journal of Development Studies* 157, 160.

⁶³ See also, Mirrlees (n 57), p44.

regulatory scheme. Whilst the abolition of the CRC, and the unknown that follows, has created some positive feelings towards the CRC; there has largely been a lack of regulatee engagement with the CRC scheme. This disengagement can be categorised into two camps: a general disengagement with the scheme by regulatees; and an unwillingness by regulatee organisations to invest financially into the scheme.

Stability of policy has the ability to create co-operation and engagement under a regulatory scheme.⁶⁴ The converse, with the CRC, saw my participants “fed up” (CRC R1), “discouraged” (CRC P3), together with an acceptance that the CRC is just a cost that needs to be paid (CRC M6), and loss of confidence in the scheme (CRC S3). One interviewee stated:

“It just bores people. When you do a seminar explaining the rules and what has changed year on year, people actually fall asleep.” (CRC M8)

Thus, I saw a general disengagement with a scheme that consistently changes. The emotions of being “bored” and “fed up” indicate that the change/ instability is a long-term feature of the CRC scheme. That is to say that there have been a sufficient number of changes, that regulatees have had time to get used to the fact that the scheme has changed and had time to get bored by the fact that the CRC has changed.

This disengagement extends to regulatees investing into the scheme and measures taken by participants which promote energy efficiency. The nature of taxation is that it deprives the taxpayer of their own property, which is justified through the consent of their elected representatives.⁶⁵ Without this certainty under the CRC, investment simply will not happen. One interviewee explains:

“I think a key concern you hear over and over again is certainty and confidence. And I think all of these schemes work best if businesses have the confidence to invest in equipment and management tools and structures and so on. And I think it is difficult to do that when they’re lacking certainty and confidence.” (CRC S3)

As business cases for investment are based on returns, an uncertain scheme means that incentives could be removed, or the scheme changed in such a way that the returns are never realised. As such,

⁶⁴ Peter John, *Making Policy Work* (Taylor and Francis 2011), p89.

⁶⁵ Snape (n 48), 566; See also Hume (n 17), p337.

taxpayers are reluctant to invest into energy reducing measures for the CRC, because “there’s no certainty about their returns” (CRC S4). This was particularly pertinent due to the uncertainty of the future of the scheme, and the fact that there was the risk that the CRC would simply “go away anyway”, rendering any significant investment into the scheme pointless (CRC M5). In addition, one interviewee suggested that the link between paying the tax and reducing emissions had been lost during the changes of the scheme – meaning that they were less inclined to engage and invest in energy reducing measures (CRC M6). Regulatory instability thus leads to apathy and disengagement.

The changing landscape of the CRC therefore invokes negative emotions in the taxpayer and a disengagement from the scheme. This disengagement is not only emotional but is demonstrated in an unwillingness to invest financially into the scheme. This in turn reduces the ability of the CRC to lower carbon emissions – as it is through the investment into energy efficiency projects that reductions in energy consumption (and thus emissions) can be realised. The CRC is, to some, simply a cost that is to be swallowed rather than engaged with.

Due to the fact that the changes in the CRC are seen to be attributable to political interference, the disengagement not only has implications for the scheme itself, but also links back to the creators of the scheme. There is therefore a potential drop in wider taxpayer confidence in the government.

4.2.4 Lower level of credibility for the CRC

Tax stability was one limb of the Conservative/ Liberal Democrat coalition government policy. Here, one of the principles for corporate tax reform was stated to be “maintaining stability” in the Corporate Tax Road Map of 2010.⁶⁶ The link between stability and confidence has also been made by Smith:

“Commerce and manufactures, in short, can seldom flourish in any state in which there is not a certain degree of confidence in the justice of government.”⁶⁷

Hayek also argues that there needs to be a stability which “enables the individual to plan with a degree of confidence”.⁶⁸ In the area of taxation, this is particularly pertinent as Skinner highlights:

⁶⁶ HM Treasury, ‘Corporate Tax Reform: Delivering a more competitive system’ (November 2010), p11.

⁶⁷ Smith (n 17), p510.

⁶⁸ von Hayek (n 6), pp331-332.

“Government, while bound by the laws of political economy, is by the same token faced with the necessity of understanding them and being capable of implementing policies which are appropriate to particular cases [...] a point which is especially important in the discussion of taxation and debt – areas where the government is peculiarly liable to offend the people and to be constrained by the necessity of preserving some ‘degree of confidence in the justice of government’”.⁶⁹

In order to preserve a level of confidence, Snape argues that it is important to winnow out the unnecessary changes from the necessary; and it is the government’s skill at doing this that represents the strength of the tax and how the tax will be accepted.⁷⁰ CRC M9 highlights their opinion on whether some of the changes under the CRC have been necessary:

“The biggest problem with the simplification was actually it probably wasn’t necessary. It was done to beat the political drum really. In my experience 80% of people out there would be saying ‘don’t touch it, now we understand the rules let’s just stick with it’, and that 80% would have included the people previously complaining about it. I’ve been to meetings where that has happened, so that’s not me making that up. That was a definite effect of what was happening at the time.” (CRC M9)

CRC M9 argues that the changes to the CRC were unnecessary and that change was perceived negatively in wider meetings they had attended, demonstrating a potentially, wider negative consensus around the reforms. It is important in this context, therefore, to consider whether the taxpayer considers the changes to the CRC to have been “necessary”.⁷¹ Any unnecessary changes are “in the language of my times, a matter of credibility”.⁷²

⁶⁹ Skinner (n 42), p230.

⁷⁰ Snape (n 48), 564.

⁷¹ As the question is considered from the point of view of the taxpayer, there is the potential for bias. However, in order to answer this question, the study triangulates opinions from taxpayers, solicitors and advisors. This is an attempt to mitigate bias from one direction.

⁷² Snape (n 48), 563-564.

An interesting example to illustrate this point more specifically can be seen in the changes to the CRC revenues. Although the revenues now go to the Treasury, this was not always to be the case. The revenues were originally ring-fenced to go back to taxpayers, depending on their performance under the scheme.⁷³ Whilst not held in legislation, a number of interviewees talked of how the top half of performers would get their CRC costs plus 10% back, whilst the lower performers would get their CRC costs minus 10%. The CRC was therefore designed to be revenue neutral. The government changed this in 2010, where it was decided that the revenues “will be used to support the public finances, including spending on the environment, rather than recycled to participants”.⁷⁴ In the interviewees’ minds, this has led to a drop in credibility for the scheme:

“And then as soon as the new coalition government came in, they scrapped that within about four months I think, and just said, “No, we’re going to keep the money. Whatever you pay for allowances, we’re going to keep it, because there won’t be any revenue recycling going on.” And at that point, everybody just said, “That’s a tax then.”” (CRC M16)

“Yeah so the simplification. But the simplification didn’t come across as simplification so much as a tax grab.” (CRC M6)

"That's a tax then" and "tax grab" are two phrases that label the CRC in quite a negative way. The idea is that the CRC is just a government revenue raising tax. The constant changes illustrated, therefore, a shift from an energy efficiency scheme with potential benefits to regulatees to an energy tax. This shift undermined the environmental aims behind the CRC,⁷⁵ and this was perceived by interviewees as a proactive policy decision by the government to place revenue raising above environmental aims.

Once the revenue recycling element of the CRC was removed, and the revenues went instead to the Treasury, one interviewee questioned the motives of the government:

“But I think if it goes into general taxation and just gets lost, I think you are at risk of saying, “You’re just taxing us because you can and you’re not taxing us to

⁷³ This is no longer visible in any guidance document. The only visible evidence that the CRC revenues were destined to go anywhere but the Treasury is the fact that the statement was made that the CRC revenues will *now* go to the Treasury.

⁷⁴ HM Treasury, Spending Review 2010 (2010), p62.

⁷⁵ CRC M2; M6; M13; M16; P1; P3; P4; P5; P6; S1; S4; S5; S6.

actually drive change.” So, I think one needs to be very careful how one frames the taxation.” (CRC M16)

This incremental move away from the environmental aims of the CRC through various changes forms the basis of the loss of confidence. These changes have then been linked back by interviewees to the underlying policy of the government. I argue that this change has created a new standpoint in regard to stability. The taxpayers, in their minds, have already hypothecated the revenues of the CRC for environmental gain (i.e. those that reduced their energy consumption the most would receive more money out of the revenues) and this change has clearly been labelled as a strategic policy move by government; leading to a drop in confidence.

Beyond the revenue changes of the CRC, the other reforms that the CRC has undergone are also a reflection of government policy in the eyes of the taxpayers.⁷⁶ They interpret the changes and identify a shift in policy towards a policy that they are less engaged with:

“I think within the industry we’ve become very disillusioned with **what the government are doing** at the moment and it needs to be what you’re joining up to, and if the government has got the policies in place and the right reasons for doing it, and then that falls down on the institutions to play their part, then they will do. But at the moment, it’s a pure tax and **we see the government going in a certain direction**, it makes it very difficult to get people to engage really.” (CRC P5, own emphasis added)

This means that, in Stokesian terms, the packaging of regulation, in terms of how changes to the CRC have been portrayed, is important.⁷⁷ Participants are able to interpret these changes, and perceive them to be manifestations of wider government policy. As such, what are seen as the frequent and unnecessary changes have led participants of the CRC to question the motives and policy of the government:

"From a university’s point of view, certainly from some people, I think they see it as just a way of generating income and maybe more of a taxation, particularly

⁷⁶ In the interviews, several interviewees believed that the government was not interested in climate change regardless of their public commitment to the problem. This would indicate that the taxpayers place more weight on actions rather than words – i.e. the changing landscape of the CRC.

⁷⁷ Stokes (n 2), 986.

this government, and maybe it's more about just getting the money in, rather than necessarily the commitment to improve the carbon performance of organisations, because we don't necessarily see other drivers from government on this." (CRC P6)

"[T]he very strange position of a government who's making commitments about energy or carbon reduction, but at the same time effectively dismantling an otherwise successful renewables sector without thinking it through" (CRC S5)

The interviewees have identified a disparity in what the government was claiming to do (help combat climate change), and what the reforms to the CRC and other environmental schemes have reflected in practice. There was the view that the government was "reneging" on its environmental promises, in favour of generating revenues from taxes (CRC P1). The instability of the CRC also has, in participants' eyes, a presence throughout the energy efficiency landscape. CRC S4 summarised as follows: "for God's sake let's have a proper coherent energy policy that ties in together." In 2015, the Conservative government held a public consultation on "reforming the business energy efficiency landscape" with a view to "to simplify and improve the effectiveness of the landscape".⁷⁸ This move to potentially further change the CRC (and which later resulted in the abolition of the CRC), was viewed with some scepticism by interviewees. When asked whether they would respond to the consultation, one interviewee opined:

"I think all the clients I work for, everybody thought it (the CRC) was going to be cancelled. So they all thought, "Oh there's no point responding because it's going to be cancelled", do you know what I mean?" (CRC M7)

M7 insinuates here that the government already had a policy agenda before the consultation began; and as such, there was little point in trying to change that agenda through a consultation response. This was reiterated by CRC P4, who was "cynical" that the consultations would ever change the position of the government. As such, not only has there been a disengagement with the CRC a specific piece of regulation, but also a disengagement with wider policy. The result of this is, is that the CRC no longer has any credibility as an environmental scheme (CRC S5) and participants see the government as disingenuous due, in part, to the multiple and many CRC changes.

⁷⁸ HM Treasury, 'Reforming the Business Energy Efficiency Landscape (September 2015), Preface.

4.2.5 Converging concepts: tax stability and the regulatory domain

As I have just set out, without prompting, participants wanted to talk about the numerous changes to the CRC and, and more importantly, they attributed the changes to political interference with the scheme (i.e. change without any 'good' cause). There have been two practical responses to these changes: 1) there is now a general lack of understanding of the CRC; and 2) these changes mean that participants are less engaged with the scheme. The CRC is considered too unstable to invest in energy reducing programmes and guarantee their payback. However, this link back to political interference runs deeper, and has manifested into an emotive response: a lack of confidence in wider government 'green' policy. This connection with the underlying policy means that, in the participants' eyes, the CRC scheme as a whole lacks credibility. It is this emotional consequence of the changes that are particularly interesting and resonates with aspects of tax and regulatory literature to which I now turn.

In his speech to the Department of Energy and Climate Change in 2010, David Cameron stated that he wanted "to be the greenest government ever".⁷⁹ These words were repeated verbatim by interviewees during the study (CRC P3, M6, M13, S4), but with incredulity.⁸⁰ The CRC has undergone much reform during its lifetime, but so has the energy efficiency landscape more generally.⁸¹ The CRC instability has therefore spread throughout the regulatory domain. As a result, what is left is an overarching climate change framework which actually comprises of piecemeal, regularly changing legislation and secondary schemes, lacking the constant regulatory domain that Stokes discusses. This lack of stability (or domain) has led interviewees to doubt the policy commitments which have been communicated publicly by the government. The individual scheme, in this case the CRC, loses credibility, and as a result, suffers a drop in engagement from participants of the scheme. They are far less willing to invest time and resources into a tax regime that lacks credibility and is prone to change.

⁷⁹ David Cameron, Speech to the Department of Energy and Climate Change on 14 May 2010, available at <https://www.gov.uk/government/speeches/pms-speech-at-decc> accessed 15/12/2016.

⁸⁰ Interestingly, a similar level of incredulity can be seen in academic scholarship regarding the idea of a "Green Brexit". For example, Cameron Hepburn and Alexander Teytelboym, 'Climate Change Policy after Brexit' (2017) 33 *Oxford Review of Economic Policy* 144, 146.

⁸¹ For instance, new schemes have been introduced (such as ESOS, and the CRC itself) and older schemes have been altered (for example, there have been changes to CCAs).

4.3 Concluding Remarks

This chapter has explored how taxpayers have perceived the series of regular reforms to the CRC. Taxpayers have made the link between the regular changes to the CRC and political motivation. This, in turn, has allowed the taxpayer to “map” what they think the underlying, wider policy behind energy efficiency is. This perceived policy preference diverges from the “green government” image that the government is keen to portray; and taxpayers have started to disengage, not only from the CRC, but from energy efficiency policy in general. The data shows a reduction in taxpayer confidence, and a wider correlating reduction in government credibility.

There has already been empirical work conducted on how regulatees respond to regulation.⁸² Stability has also been discussed in other fields. For example, Gracia discusses the role of stability being defined through relational interactions between the regulator and regulatee to build stability from the ground up:

From a Bourdieusian perspective, relative stability and certainty in the tax compliance game emerges from the relational interactions, or collusion, of the dominant player (tax professionals and the tax authority), which maintains HMRC’s illusion of legitimacy to control, act and regulation the field.⁸³

The ability to improve and maintain legitimacy would have been useful for the CRC. However, as the problem here stems not from the regulator, but the government, it would be difficult for the Environment Agency to build up stability and therefore improve legitimacy themselves. Such legitimacy has been described as “a crucial aspect of organizational success within an organizational field”.⁸⁴

The concept of legitimacy also figures in the work of Gunningham and Sinclair. They specifically raise the legitimacy of regulation as a motivational factor for regulatees.⁸⁵ However, this motivation for compliance runs much deeper: to the legitimacy of policy. They argue:

⁸² See, in particular: Neil Gunningham, Dorothy Thornton and Robert Kagan, ‘Motivating Management: Corporate Compliance in Environmental Protection’ (2005) 27(2) *Law and Policy* 289; and, Neil Gunningham and Darren Sinclair, ‘Regulation and the Role of Trust: Reflections from the Mining Industry’ (2009) 36(2) *Law and Society* 167.

⁸³ Louisa Gracia, ‘Boundary work and tax regulation: A Bourdieusian view’ (2012) 37(5) *Accounting, Organizations and Society* 304, 317.

⁸⁴ Jens Beckert, ‘Agency, Entrepreneurs, and Institutional Change: The Role of Strategic Choice and Institutionalized Practices in Organizations’ (1999) 20(5) *Organization Studies* 777, 791.

⁸⁵ Gunningham and Sinclair (n 82), 184.

It may also be that a prosecution policy that is perceived to be fundamentally unfair is undermining the general belief in the legitimacy of regulatory requirements. Certainly there is evidence from other studies that if regulated enterprises mistrust the regulator and believe that regulations are being used strategically, with regard to purposes and values with which they fundamentally disagree, then they are far less motivated to comply with these requirements.⁸⁶

Evensky builds on this by saying: “more generally, where government is perceived as unjust, individuals will dismiss the authority of government”.⁸⁷ Lacking this confidence, Evensky argues that people will not “buy-in”, and so commit to the scheme.⁸⁸ As such, where the regulatory scheme or policy underlying it is perceived to be unfair and/or unreasonable, the law loses legitimacy and the regulatees lose the commitment to comply.⁸⁹ The prosecution policy that is perceived to be unfair in their work can be widened, using my work, to governmental policy. The legitimacy of this policy that underpins the CRC can have wide ranging impacts on compliance. Whilst Gunningham and Sinclair discuss legitimacy in terms of unfairness, I believe this stretches to arbitrary and unnecessarily changing policy. Here, unnecessary (or, to merge vocabulary, unreasonable) changes result in a drop in credibility.⁹⁰ For Gunningham and Sinclair, unreasonable policy leads to a drop in legitimacy. The connection between the two: they both result in less engagement from regulatees.

How the regulatory field is packaged is then important as a means of potentially overcoming this loss of credibility and engagement. Interviewees demonstrated a disengagement with general governmental ‘green’ policy due to its lack of consistency, and this in turn has led to a disengagement with the specific CRC scheme itself. Drawing together the concepts of regulatory domain and dexterity, interviewees demonstrated that the stable (domain) and the changing (dexterity) also reflect policy decisions. Stable policy is reflected in stable regulation, whilst unstable policy is reflected in a constantly changing regulation.

⁸⁶ Ibid.

⁸⁷ Jerry Evensky, *Adam Smith’s Essentials: On Trust, Faith, and Free Markets* (2011) 33(2) *Journal of the History of Economic Thought* 249, 260.

⁸⁸ Ibid.

⁸⁹ Gunningham and Sinclair (n 82), 185.

⁹⁰ Snape (n 48).

In the interviewees' minds, the changes to the CRC were unnecessarily frequent. The CRC would, therefore, be considered an unstable tax according to Snape.⁹¹ When I expand this to the bigger picture, the government's green policy is also seen by interviewees as unstable, due to the prevalence of regulatory dexterity. As such, Snape's comments on credibility and instability resonate in a regulatory landscape that lacks constancy, or domain. If an individual tax's instability can call in to question its credibility, so can the instability of the wider policy that underpins it; as interviewees made the link between the unstable CRC and unstable green policy. As such, any loss of credibility in terms of the CRC also resonates throughout the government's green policy. A lack of stable policy in this context has made taxpayers question the motivations of the government in introducing and reforming the CRC. This, in turn, has resulted in a disengagement with the CRC, or a drop-in motivation to go beyond compliance, demonstrated through a reluctance to invest in energy efficiency schemes. The instability of the regulatory landscape in this area has a direct impact on businesses being able to guarantee a payback, or return, on their investments.

As such, how regulation is packaged is critical. What the CRC shows is that the action or inaction of the government in terms of changing regulation forms the basis of how the regulatory landscape in an area is perceived. For those subject to regulation, a resistance to reform, or a regulatory domain, portrays an image of stability; whilst regulatory dexterity portrays instability. That is not to say that regulatory dexterity in itself is an inherently bad thing. However, the data suggests that taxpayers will not be able to identify a coherent policy without an underlying regulatory domain to link this policy to.⁹² Take this underlying regulatory domain away, and taxpayers can lose confidence in policy – for this regulatory domain is the clearest physical representation of policy. As such, policy and the regulatory landscape in a certain field (i.e. green energy or climate change) should be packaged as stable and unchanging in its early phases. Once this has been established, individual taxes in that regulatory landscape can be reformed to iron out any specific inadequacies, and dexterity can be introduced.

With stability comes taxpayer engagement and understanding. Taxpayers are much happier to go beyond compliance, and invest in energy efficiency projects, when the stability is there to ensure such projects will provide a guaranteed payback. An individual scheme that changes too regularly will also be hard to follow for taxpayers and can lead to taxpayers losing interest in the environmental objectives of the scheme. Having a stable, overarching energy efficiency policy may offset some of

⁹¹ Ibid.

⁹² Whilst stability and the CRC were not covered in any depth, the DECC study into the CRC did also call for a more stable policy: DECC, CRC Energy Efficiency Scheme Evaluation: Final Synthesis Report (July 2015), p13.

these effects in individual schemes, like the CRC, that are later considered to be inadequate by policymakers. As such, dexterity can be combined with domain to produce regulatee perceptions of stability and confidence. The following chapter will build on this chapter by considering the levels of trust and the regulator-regulatee relationship between participants of the CRC and the Environment Agency, the CRC regulator.

Chapter Five: Trust and Competence

The previous chapter on stability outlined the importance for the government to package its regulation carefully, as taxpayers are perceptive and form judgements on the government and its policy and regulatory choices. Linked to this idea is the concept of trust. This chapter will argue that just as the perceptions on policy can impact on taxpayer engagement, so can taxpayer perceptions of the regulator. In the case of the CRC, the regulator is primarily the Environment Agency (see Chapter Three for a more detailed discussion on which body acts as the CRC regulator in different contexts). Drawing on my interview data, this chapter will argue that a strong regulator-regulatee relationship would help the taxpayer to engage with the tax.

Questions surrounding the competence of the Environment Agency in relation to the CRC were raised by regulatees and advisors during interviews. Whilst the term “expertise” or “competence” was not raised explicitly, interviewees talked of their relationship and contact with the Environment Agency. This contact, which was usually in the context of taxpayer queries, regularly tested the competence of the regulator. Expertise has been coined as the ability to contribute to a field of scientific knowledge,¹ and that is not what is being considered here. The questions here primarily focus on the EA’s ability to deal with participant queries and understand and portray understanding of the CRC scheme more generally.

This chapter will first outline the scholarship on trust. Second, this chapter will explore the support that is provided to taxpayers by the Environment Agency. Finally, through the framework of trust, taxpayers’ perceptions of the regulator will be considered to argue that a regulator-regulatee relationship built on trust is key to improving taxpayer engagement.

5.1 Trust Literature

The role of trust and environmental regulation has recently been considered by Joanne Hawkins in her doctoral thesis entitled “The Legitimation of Hydraulic Fracturing Regulation: Power, Prejudice and

¹ H M Collins and Robert Evans, ‘The Third Wave of Science Studies: Studies of Expertise and Experience’ (2002) 32(2) *Social Studies of Science* 235, 258; Sidney Shapiro, ‘The Failure to Understand Expertise in Administrative Law: The Problem and the Consequences’ (2016) 50 *Wake Forest Law Review* 1097, 1103, 1108.

Public Participation”.² In this empirical work on how local communities respond to fracking regulation, Hawkins builds on the trust literature to argue that trust is made up of both cognitive and social trust; and that both are required for a meaningful relationship of trust between regulator and regulatee. She further argues that trust is vital where “risk is part of the narrative”.³ Whilst the CRC is not surrounded by the same risks as fracking,⁴ there are still risks in investing in technology, expertise and other resources, in order to reduce energy and comply with the scheme.⁵ This chapter will argue that trust is also vital for an engagement with the CRC. First, the literature on trust will be considered.

Trust plays a key role in processes where the tasks are too complex for individuals to manage themselves.⁶ It has been argued that trust is important for sustaining “individual and organizational effectiveness”.⁷ Both the psychological and sociological approaches argue that trust is necessary for effective societal interaction.⁸ Psychologists argue that:

“People who trust more are less likely to lie and are possibly less likely to cheat or steal. They are more likely to give others a second chance and to respect the rights of others. The high truster is less likely to be unhappy, conflicted, or maladjusted, and is liked more and sought out as a friend more often, both by low-trusting and high-trusting others.”⁹

It has been argued in the e-commerce sector that a lack of trust can lead to a disengagement with e-commerce.¹⁰ Whilst this is a vastly different sector to the environment, this chapter will argue that a positive relationship of trust between the Environment Agency remains to be crucial for sustaining an effective regulator/ regulatee relationship. This, in turn, makes regulatees more willing to engage with

² Joanne Hawkins, ‘The Legitimisation of Hydraulic Fracturing Regulation: Power, Prejudice and Public Participation’ (PhD Thesis, University of Bristol, 2012) available at <http://ethos.bl.uk/OrderDetails.do;jsessionid=802E776BF2CD561228DDE1122B41E0F0?did=1&uin=uk.bl.ethos.702939> accessed 11/10/2017. Some of her work has since been published: Joanne Hawkins, ‘Fracking: Minding the Gaps’ (2015) 17(1) ELR 8.

³ Ibid, Chapter Three.

⁴ Risks of fracking include but are not limited to: impacts on climate change; groundwater contamination; air pollution from the flaring of gas; and damage to property from seismic activity (earth tremors). See: DECC, ‘Fracking UK Shale: Planning Permission and Communities’ (DECC, 2014), p4.

⁵ See also Chapter Four on stability which also discusses how stability can affect investment.

⁶ Wouter Poortinga and Nick Pidgeon, ‘Trust in Risk Regulation: Cause or Consequence of the Acceptability of GM Food?’ (2005) 25(1) Risk Analysis 199, 199.

⁷ Daniel McAllister, ‘Affect- and Cognition-Based Trust as Foundations for Interpersonal Cooperation in Organizations’ (1995) 38(1) Academy of Management 24, 24.

⁸ Roger Kasperson, Dominic Golding and Seth Tuler, Social Distrust as a Factor in Siting Hazardous Facilities and Communicating Risks (1992) 48(4) Journal of Social Issues 161, 167.

⁹ Julian Rotter, ‘Interpersonal Trust, Trustworthiness, and Gullibility’ (1980) 35(1) American Psychologist 1, 1.

¹⁰ D Harrison McKnight, Vivek Choudhry and Charles Kacmar, Developing and Validating Trust Measures for e-Commerce: and Integrative Typology (2002) 13(3) Information Systems Research 334, 335.

the regulation, and not attempt to cheat, the regulation. In the case of the CRC, this affects the general levels of engagement with the scheme, and in particular, as raised by interviewees, a trust in the scheme's enforcement and audit mechanism.

The literature on trust is varied, and can be found within psychology, sociology, and economics.¹¹ In sociology, trust "has long been recognised by sociologists as an essential and somewhat taken-for-granted element of social relations";¹² and work here considers the relations among people rather than any one individual psychological state.¹³ The definition of trust varies and is rarely well set out,¹⁴ with most scholars tailoring the definition of trust according to their subject discipline.¹⁵ Examples of definitions can be seen with the following:

"a person's expectation that an interaction partner is able and willing to behave promotively toward the person even when the interaction partner is free to choose among alternative behaviors that could lead to negative consequences for the person."¹⁶

And;

"the degree of confidence you feel when you think about a relationship."¹⁷

Attempts to define trust have been described as a "confusing pot pourri";¹⁸ and each approach to trust has different elements and considerations.¹⁹ It is not the purpose of this chapter to come to a definitive conclusion on the correct definition of trust. However, as trust will form the lens of analysis, some of the approaches will be considered.

A distinction has been made by McAllister between cognition based trust and affective trust.²⁰ Cognition based trust is a choice to trust based on good reasons, which constitutes evidence of

¹¹ See, for example: Morton Deutsch, *The Resolution of Conflict: Constructive and Destructive Processes* (Yale University Press 1973); Rotter (n 9); Bernard Barber, *The Logic and Limits of Trust* (Rutgers University Press 1983); J D Lewis, Andrew Weigart, 'Trust as a Social Reality' (1985) 63(4) *Social Forces* 967; Roger Blackeney, 'A Transactional View of the Role of Trust in Organizational Communication' (1986) 16(2) *Transactional Analysis Journal* 95; D Harrison McKnight et al, (n 10).

¹² Brian Wynne, *May the Sheep Safely Graze? A reflexive View of the Expert-Lay Knowledge Divide in Risk, Environment and Modernity: Towards a New Ecology* (Sage 1998).

¹³ J Lewis and Andrew Weigart, 'Trust as a Social Reality' (1985) 63 *Soc. F.* 967, 968.

¹⁴ Kasperson et al. (n 8), 164.

¹⁵ Harrison McKnight et al. (n 10), 336.

¹⁶ Michael Koller, 'Risk as a Determinant of Trust' (1988) 9(4) *Basic and Applied Social Psychology* 265.

¹⁷ John Rempel and John Holmes, 'How do I trust thee?' (Feb 1986) *Psychology Today* 28, 28.

¹⁸ Harrison McKnight et al. (n 10), 335; Shapiro (n 1), 625.

¹⁹ For a useful visual on the composition of key approaches to trust, see: Harrison McKnight et al. (n 10), 338.

²⁰ McAllister (n 7).

trustworthiness.²¹ Therefore, competence and responsibility (which are said to be easily evidenced) have traditionally been “central” to an understanding of trust.²² On the other hand, affect based trust considers the emotional bonds between individuals and organisations.²³ It consists of people investing emotionally, and expressing genuine care and concern for others.²⁴ These emotional bonds can also form the basis for trust.²⁵ McAllister et al. conducted a study looking at the extent of cognitive-based and affect-based trust where they discovered that some level of cognitive-trust was required in order to allow affect-based trust to then develop.²⁶

The elements of cognitive and affect-based trust can be seen in Kasperson et al’s consideration of social trust; which comprises the following four elements.²⁷ First is ‘competence’. In my study, this correlates to the ability of the Environment Agency to regulate the CRC. Whilst Kasperson et al acknowledge that mistakes are made; consistent failures (or the perception thereof) will demonstrate a lack of competence. The second element is ‘caring’, as it is important for the Environment Agency to demonstrate a caring attitude towards the participants of the CRC. This is particularly important when there is a power imbalance in the relationship, as is the case in the regulator/ regulatee relationship. Third, is the element of ‘predictability’. Here, it is important that CRC participants’ expectations are fulfilled. Whilst complete consistency would be contradictory, complete inconsistency “nearly always results in distrust”.²⁸ The final element is commitment, which is the commitment to a goal and the fulfilment of any obligations. In my study, this is the commitment to both regulating the CRC and a commitment to energy reduction.

Kasperson et al argue that trust operates simultaneously at a cognitive, emotional (see the discussion on affect-based trust above) and behavioural level.²⁹ The four elements of trust above form the foundations of these three types of trust, which they argue, must be fulfilled for the maintenance of trust.³⁰

First, a brief introduction to the CRC Helpdesk, which is the main point of contact between the Environment Agency and CRC participants, will be provided. It will be argued that these four factors, as applied previously in legal scholarship,³¹ resonate with the interview data and the CRC. These

²¹ McAllister (n 7), 25-26; Lewis and Weigart (n 11), 971.

²² McAllister, *ibid*, 25.

²³ *Ibid*, 26.

²⁴ *Ibid*.

²⁵ *Ibid*.

²⁶ *Ibid*, 51.

²⁷ Kasperson et al. (n 8), 170.

²⁸ *Ibid*.

²⁹ *Ibid*, 171.

³⁰ *Ibid*.

³¹ Hawkins (n 2), Chapter 3.

factors provide a much wider definition of trust than cognitive trust alone and are necessary in order to develop trust between the regulator and regulatee. Without trust, it is difficult for a positive regulator/ regulatee relationship to develop, which in turn leads to disengagement on the part of the regulatee.

5.2 The CRC Helpdesk

The CRC has a helpdesk, staffed by the Environment Agency, which is available to contact should the taxpayers have any questions regarding the CRC. This help is advertised clearly on the gov.uk website, which provides an email address and telephone number which taxpayers may use to get in touch with the helpdesk.³² In addition to the helpdesk being advertised on the government website, the CRC helpdesk regularly contacts taxpayers via email in a CRC newsletter. This newsletter, which provides updates on the law and reminders for important CRC deadlines,³³ also sets out contact details on how to contact the helpdesk in the future.

Interviewees were asked about their contact with the Environment Agency, and in particular, how much contact they had with the CRC helpdesk each year. The general consensus from the interviewees was that taxpayers generally had little contact with the Environment Agency each year. The contact that was made between taxpayers and the regulator was concentrated in bursts around the main compliance dates for the CRC year:

“In terms of the CRC, well it’s one of these annual things isn’t it, so you have a mad moment when it comes to submission when things don’t quite work right on the website or whatever and then you don’t speak to them again for another six months.” (CRC M1)

“Amy: So, in terms of the CRC, do you get in touch with the EA at all?”

Interviewee: Maybe once a year if there is a specific question that I’ve got regarding the CRC admin, but because we are into the third or fourth year of doing it now, it’s fairly settled down.” (CRC M11)

³² <https://www.gov.uk/guidance/crc-energy-efficiency-scheme-qualification-and-registration#contact-crc> accessed 22/05/2017.

³³ For instance, reminders are sent out to remind taxpayers to purchase and surrender allowances before the deadline.

Some interviewees did not contact the Environment Agency at all:

“I don’t think we’ve actually contacted them. We just carry on and do our own little thing, really. So, we don’t really need the Environment Agency” (CRC M13)

In general, contact with the CRC Helpdesk was generally quite sporadic, and focussed on specific questions regarding compliance with the scheme. This infrequent contact was not reflected in the interview with the regulator, who claimed that at peak times the Environment Agency was receiving 400-500 emails a week regarding the CRC. It could be that my largely self-selecting sample of interviews is a potential explanation for this difference in appearances. What was consistent between the interviewees was the subject matter of the queries. The regulator was mainly dealing with administrative questions of compliance, such as password resets, questions relating to the registry, and changing the name of the CRC contact in the organisation. The questions asked of the regulator were therefore important in terms of securing compliance with the CRC, but were not complex, and were procedural rather than substantive. With this in mind, the rest of this chapter will consider this contact in more depth. How taxpayers perceived this contact with the regulator raised questions of competence, or lack thereof, on the part of the Environment Agency.

5.3 Trust and the CRC

5.3.1 Competence: Issuance of competence

This chapter has already considered the use of Kasperson et al’s work in Hawkins’ thesis. As I have set out above, Kasperson et al argue that trust occurs at the cognitive, emotional and behavioural levels at the same time.³⁴ This, in turn, leads to a hierarchy of situations where trust occurs:

“Thus, general societal processes, situation-specific experiences, and continuing validation affect the levels of trust or distrust in institutions, and by extension, influence the possibility of developing or recovering trust.”³⁵

Thus, it is not only the individual-individual communications between the Environment Agency and the participant which have the ability to affect trust. More general group social interactions and institutional interactions also contribute to trust. The Environment Agency therefore has the

³⁴ Kasperson et al. (n 8), 171.

³⁵ Ibid.

opportunity to demonstrate its competence on three levels with the CRC: first, in how it responds to specific participant queries; second, in its group communications to all participants; and third, in its general publications as an institution (for instance, via formal guidance documents and web guidance). These three forms will all be considered to explore how they potentially affect the perceived competence of the Environment Agency.

The CRC helpdesk provides community update emails to keep participants in the loop of key changes and key deadlines. The regulator sends these emails on a semi-regular basis, when there is something to say (CRC R1); and they are used as both an information tool and enforcement tool. In its interview, the regulator (CRC R1) talked about using these emails to identify when emails were bouncing back because the email address was no longer valid (if the CRC contact had left the organisation for instance). They would then use this as a starting block to approach participants to update their registry and ensure they were on track for compliance (CRC R1). In general, these emails were positively received by participants. CRC P2 found these updates useful:

“Yeah, they send through what are called participant updates very regularly and those are basically telling you when the deadlines and what should be done next all that kind of things. I mean it's quite difficult to fall out of the loop really.”
(CRC P2)

The emails allow the Environment Agency to provide all the information that is needed for participants to comply with the scheme (CRC P3). These emails also help to build a relationship (discussed below) between the Environment Agency and participants of the CRC.

The Environment Agency has also issued guidance for each phase of the CRC, as well as website guidance for the various compliance stages of the scheme.³⁶ This guidance has been described as “plentiful”, but difficult to find since the guidance moved onto the gov.uk website (CRC M14). The quality of this guidance was questioned by CRC P8:

“The EA guidance I felt was very poor for CRC. Interestingly, it's actually quite good for EU ETS. And I do remember filling in a survey from the Environmental Agency at one time, which was asking about both schemes and basically saying to CRC was very, very poor and EU ETS was quite good.” (CRC P8)

This interviewee also considered the CRC guidance too in-depth and over complex (CRC P8). This perceived complexity of guidance actually creates further queries and contact with the regulator:

³⁶ For example Environment Agency, CRC: Guidance for Participants in Phase 2 (December 2013).

“Yeah [we have been in touch with the Environment Agency]. Definitely for understanding the guidance. We've spent a lot of time over the years back and forth reinterpreting, getting one answer from one individual compared to another answer from another. I've built some good relationships. [My colleague] especially has built a number of good relationships with people [example given], who's helped write the legislation and the guidance, and [another employee of EA] and quite leading people who at the time in the EA were leading on that.” (CRC M10)

This is a positive experience of to-ing and fro-ing between regulatees and the regulator building a stronger relationship through query communication. In that sense, therefore, the guidance has provided a launch pad for discussion. It is interesting that what is considered to be bad guidance has led to communications between the regulatee and regulator which in turn lead to good relationships. The attitudes of the Environment Agency have also been picked up on as a positive:

“When I phoned them, they were incredibly helpful I have to say. So, if I've ever had to phone them they've been really helpful, if I've emailed them you get a response back.” M2

This positive, “caring” attitude will be discussed in more depth below but is conducive to a positive regulator/ regulatee relationship. The Environment Agency is not perceived as an absent regulator; they do communicate with their regulatees.

However, not all queries raised by participants have resulted in such a positive relationship. In fact, a number of interviewees questioned the ability of the Environment Agency to answer these queries: “There isn't that many people around on the EA side who actually understand it [the CRC]” (CRC M7). This was repeated by CRC M11:

“When you phone up the EA telephone number, you speak to people who don't know anything about the CRC and so they basically say: ‘oh, I'll have to find out about that and get back to you’. I get the impression that there are perhaps only two people from the EA who know how [the CRC] works and what you are supposed to be doing.” (CRC M11)

In addition, whilst the Environment Agency is “helpful”, they are not seen as being “particularly knowledgeable” or “the authority on all things CRC” (CRC M3). This is, effectively, the regulatee questioning the competence of the regulator. One interviewee talked about the responses they had received from the CRC and described them as very “standard emails” (CRC M2); whilst another

discusses how expertise, in the form of experienced staff, has been moved away from the CRC following the introduction of ESOS (i.e. staff from the CRC have moved onto ESOS) (CRC M7). One solicitor questions the ability of the Environment Agency to regulate the CRC at all:

“To me, the CRC, because it essentially functions as a tax, the environment agency is not the best regulator for it because they don’t have the understanding of complex corporate structures, they don’t understand how large international group companies work, and they just simply don’t have sufficient understanding to be able to effectively regulate it.” (CRC S1)

The helpdesk (the public facing, CRC branch of the Environment Agency) is therefore perceived by some of the interviewees as providing generic responses to queries. Communications between the regulator and the regulatee have therefore called into question the ability of the EA to competently respond to regulatees. Next, I will explore the attitude of the regulator in more depth, in order to consider whether it could be deemed to be caring.

5.3.2 Caring: The regulator/ regulatee relationship

A caring attitude on the part of the regulator is especially important where “dependent individuals rely upon others with greater control or authority”.³⁷ In the case of the CRC, the Environment Agency has the role of the regulator, which clearly creates a power imbalance between the Agency and participants of the CRC. In addition to a caring attitude being essential for the growth of trust, this section will also argue that a de minimis, active relationship needs to be established between the EA and the CRC taxpayer. At the moment, there are a number of interviewees who claim to have no relationship with the EA, and this makes it difficult for the regulator to convey a caring attitude.

A by-product of how regulatees perceive communications, and whether the regulatees trust the regulator, is the impact that this has on the overall regulator/ regulatee relationship. The literature around this relationship is well established. Ayres and Braithwaite have helped to define and explore the fluidity of regulator/ regulatee interactions in their work on ‘Responsive Regulation’.³⁸ They have also helped to emphasise the complexity of these relationships, with multiple compliance motivations

³⁷ Kasperson et al. (n 8), 170.

³⁸ Julien Etienne, ‘Ambiguity and Relational Signals in Regulator-Regulatee Relationships’ (2013) 7 Regulation and Governance 30, 30.

on the part of the regulatee and the regulator.³⁹ The regulator/ regulatee relationship is therefore fluid and complex, and requires a respectively flexible approach to enforcement (see below for an exploration of regulatory enforcement literature). Beyond enforcement interactions, however, this complexity continues into other regulatory encounters.⁴⁰ A range of factors can easily affect the regulator-regulatee relationship, and these include formality in interactions,⁴¹ as well as the involvement of third parties.⁴²

Hutter discusses this in terms of environmental regulation:

Inspectors interpreted the reception they received from the regulated according to the nature of their relationship. For instance, difficulties in parking could be interpreted as a company being awkward or as an understandable pressure on parking. Being asked to sign a visitor's book would be seen either as a sensible precaution in case of fire or as obstructionist and rude. Inspectors also reacted differently to offers of coffee and lunch according to the social distance they wished to maintain between themselves and the regulated. Where there was a close and co-operative relationship inspectors would expect to be offered coffee and possibly lunch.⁴³

In the passage above, a number of seemingly insignificant exchanges have taken place between the regulator and regulatee. Yet, it is clear that the regulator has drawn some deeper meaning from these encounters. There is somewhat of an ambiguity in regulatory literature on the meaning of regulatory encounters.⁴⁴ This ambiguity is also echoed in associated empirical literature, which argues that there is ambiguity for both regulatees and regulators in regulatory interactions.⁴⁵ Etienne argues: "What it means to have a cooperative rather than a conflictual relationship is not always clear".⁴⁶ How regulatees and the regulator "make sense" of this relationship is closely linked to motivation.⁴⁷ For

³⁹ Ibid.

⁴⁰ See studies in: Bridget Hutter, *Compliance: Regulation and Environment* (OUP 1997); Michael Herzfeld, *The Social Production of Indifference* (Chicago University Press 1992); Fiona Haines, *Corporate Regulation: Beyond "Punish or Persuade"* (Clarendon Press 1997).

⁴¹ Keith Hawkins, *Law as a Last Resort: Prosecution Decision-Making in a Regulatory Agency* (OUP 2002)

⁴² Neil Gunningham and Darren Sinclair, 'Regulation and the Role of Trust: Reflections from the Mining Industry' (2009) 36 *Journal of Law and Society* 167.

⁴³ Hutter (n 40), p188.

⁴⁴ Etienne (n 38).

⁴⁵ Keith Hawkins, 'Compliance Strategy, Prosecution Policy, and Aunt Sally: A Comment on Pearce and Tombs' (1990) 30 *British Journal of Criminology* 444; Hans de Bruijn, Ernst ten Heuvelhof and Marieke Koopmans, *Law Enforcement: The Game between Inspectors and Inspectees* (Universal Publishers 2007).

⁴⁶ Etienne (n 38), 32.

⁴⁷ Ibid, 33; AW Kruglanski, 'Motivated Social Cognition : Principles of the Interface' in ET Higgins and Arie Kruglanski (Eds) *Social Psychology: Handbook of Basic Principles* (Guildford Press 1996).

example, Etienne highlights the example of self-interest, whereby a regulatee will interpret interactions in terms of gains and losses if they are driven by self-interest.⁴⁸ As the regulator and regulatee may not always be driven by the same interests, there are quite often motivational inconsistencies.⁴⁹ As such, regulators may attempt to alter these motivations, especially in situations where regulatory exchange and interaction is frequent and ongoing – allowing for the regulator to influence the regulatee on more than one occasion.⁵⁰

The work here refers to these repeated interactions as “relational signals”, whereby the regulatees and the regulator can come to understand one another and their interactions, even if their motivations are different.⁵¹ These repeated interactions are therefore important, and are even more important for an understanding of enforcement to be established between the regulator and regulatee.⁵² The use of relational signals during these repeat encounters can be used positively (to express satisfaction with the relationship) or negatively (to express a lack of satisfaction). Hutter demonstrates this range of possible signals:

“An Industrial Air Pollution Inspector explained to a newly registered business that he would use first names and be known by his first name while he was satisfied with their environmental control. But if he had cause for dissatisfaction he would refer to the regulated by their formal titles and expect to be similarly addressed by them.”⁵³

Hutter therefore explains how the use of formality (or lack of) can help communicate positive or negative signals to regulatees. In addition, regulatees are quite able to perceive these relational signals.⁵⁴ The use of these signals during the repeated encounters of a regulator-regulatee relationship can therefore help each party understand a common goal. As both parties become aware of the different positive and negative signals, they are both more able to manage the relationship.⁵⁵ They can also start to control one another. Etienne argues, “in relationships built on trust, threats or actual

⁴⁸ Etienne (n 38), 33.

⁴⁹ Ibid.

⁵⁰ Ian Ayres and John Braithwaite, *Responsive Regulation: Transcending the Deregulation Debate* (OUP 1992).

⁵¹ Siegwart Lindenberg, ‘It Takes Both Trust and Lack of Mistrust: The Workings of Cooperation and Relational Signalling in Contractual Relationships’ (2000) 4 *Journal of Management and Governance* 11; Frederique Six, ‘Building Interpersonal Trust within Organisations: A Relational Signalling Perspective’ (2007) 11 *Journal of Management and Governance* 285.

⁵² Keith Hawkins, *Environment and Enforcement: Regulation and the Social Definition of Pollution* (Clarendon Press 1984), p144.

⁵³ Hutter (n 40), p188.

⁵⁴ Etienne (n 38), 34.

⁵⁵ Stephen Fineman and Andrew Sturdy, ‘The Emotions of Control: A Qualitative Exploration of Environmental Regulation’ (1999) 52 *Human Relations* 631.

sanctions are perceived negatively”.⁵⁶ As such, prosecution is only used as a last resort by regulators.⁵⁷ The use of these relational signals potentially poses the risk of regulatory capture, where the regulator becomes controlled and/ or dominated by its regulatees.⁵⁸ This is because the “features of regulatory encounters that foster the evolution of cooperation often also encourage the evolution of capture and corruption”.⁵⁹ However, whilst capture should be borne in mind;⁶⁰ the risk of capture does not detract from the importance of also establishing a meaningful regulator/ regulatee relationship.

The interaction between regulator and regulatee therefore frames the messages that regulatees receive from the regulator. The regulator-regulatee relationship defines much of what happens under a regulatory scheme. The rest of this chapter will consider how interviewees view the regulator-regulatee relationship under the CRC, and how this affects their engagement with the scheme.

As mentioned above, the Environment Agency exhibits a positive attempt to respond to and help participants. More than this, some participants have perceived a genuine desire on the part of the regulator to help regulatees.

“And I think early on... I think there was a genuine...I think even now there’s a genuine attempt to help us through the process. I don’t think anybody’s leaving us on our own to sink or swim or anything like that.” (CRC M12)

This gives the perception that the Agency has the capacity to show concern for the participants of the CRC, which is important for the portrayal of a caring attitude.⁶¹ One interviewee also identified the fact that a positive relationship with the regulator was of mutual benefit to both the regulator and the regulatee:

“So, it is a two-way thing, they benefit, we benefit. It’s a sensible approach and I’d say it’s a good example of where regulators and industry should be working well together, and I think they do on the CRC.” (CRC M16)

M16 perceives the working relationship between the Environment Agency and participants to be successful under the CRC. CRC M11 describes the Environment Agency as an “invisible regulator” where “as a professional, [they] feel that [they] could be there and the [Environment Agency] be here”

⁵⁶ Etienne (n 38), 35; see also Hawkins (n 41), p128.

⁵⁷ Ayres and Braithwaite (n 50). This is also the case for the CRC. As of March 2016, the EA had not brought any prosecutions under the CRC. Freedom of Information request NR6994 dated 9th March 2016, see Appendix 7.

⁵⁸ See for example: Ian Ayres and John Braithwaite, ‘Tripartism: Regulatory Capture and Empowerment’ (1991) 16 *Law and Society* 435.

⁵⁹ *Ibid*, 435.

⁶⁰ Ian Ayres and John Braithwaite put forward some suggested solutions to capture, *ibid*.

⁶¹ Kasperson et al. (n 8), 170.

– i.e. that the Environment Agency felt like one of them in the professional sphere. Having a positive, successful regulator/ regulatee relationship under the scheme would facilitate the sharing of expertise in a two-way flow between the Environment Agency and the CRC participants.

This positive attitude to help participants expressed by M16, M12 and others is somewhat ajar to alternative interviewee views. Namely, a number of interviewees raised the fact that they thought the Environment Agency used communications as a starting point for audits. That is to say, that if a participant approached the regulator with a query on compliance, for example, they would then be far more likely to be audited as a result. This view is not the perception of a caring regulator and is not beneficial to the building of trust. It is, however, difficult to see how this view could be dispelled without making the audit process more transparent to the regulatees. It is also perhaps just part and parcel of the use of intelligence in a risk-based system of regulation. The use of audits by the Environment Agency will be considered in further depth during the below discussion of the predictability of the regulator.

Moreover, it is hard to establish a caring regulator when some regulatees have no active relationship with the Environment Agency at all, despite the fact that all participants receive the community emails (providing they have an up-to-date email address on the CRC registry) and have access to the online guidance. This would indicate that for some taxpayers, this broad-brush contact is not enough. A distant and/ or absent regulator is hard to portray as a caring regulator. Participants may only feel the need to contact the regulator if they are audited (CRC M5) or may not contact the Environment Agency at all (CRC M14). This lack of relationship was not perceived by the regulator, who described their relationship with regulatees as “on the whole pretty good” (CRC R1).

Examples of relationships which are strong under the CRC can be seen in the number of working groups that have been set up in some sectors (for example, logistics) and liaise more frequently with the Environment Agency (for example, they are specifically consulted before changes). These working groups are usually organisations in the same sector grouping together. The interviewees participating in working groups were positive and talked about a strong relationship with the regulator:

“Also, my colleague I passed on - she's our compliance director - she sits on the operations liaison board with the Environment Agency. I think she's the only consultant, or one of two consultants, to be there. I guess it's testament to the relationship that we've built up with them around CRC, ESOS and wider compliance requirements.” (CRC M10)

And;

“Yeah, we have a good relationship with the Environment Agency. I sat on the LLG for five years so I know, I’ve seen three or four different Chairs from the Environment Agency, so I know all the people really well and I have their personal emails, so if they want a question answered, if they say, “We’re thinking of doing it this way, what do you think?” they’ll ask the LLG.” (CRC M16)

Whilst the use of groups to forge stronger regulator/regulated relationships could be a way forward, it would be impossible to use this as a basis to improve relationships on a large scale given the number of regulated entities (which now stands at 1935 for Phase Two).

5.3.3 Predictability: the audit example

Interviewees specifically raised audits by the Environment Agency in the context of predictability. As such, the audit process for the CRC will be used as a lens in which to frame the predictability discussion to follow. The audit forms part of the enforcement procedure for the CRC scheme, and so enforcement literature will first be explored to provide some context to how regulatory schemes are enforced. In Chapter One, an introductory overview of regulatory literature was provided, and the following section builds on this.

5.3.3.a The enforcement context

The predictability of how a regulated entity is going to be treated is important for creating a trusting relationship.⁶² The Environment Agency has the power to audit participants’ records,⁶³ and participants are required to maintain evidence packs ‘just in case’ an audit is carried out.⁶⁴ The audit is a tool for enforcement under the CRC as it allows the regulator to identify any non-compliance.

⁶² Ibid, 170.

⁶³ The CRC Energy Efficiency Scheme Order 2013, SI 2013/1119, Article 42.

⁶⁴ Environment Agency, CRC Energy Efficiency Scheme guidance for participants in Phase Two (2015) pages 52-53, available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/507731/LIT_9008.pdf accessed 10/10/2017.

Effective enforcement has been described as being “vital” for an effective piece of legislation.⁶⁵ By way of context, the literature on regulatory enforcement has been developed and built upon in a number of landmark ideas: responsive regulation; smart regulation; and really responsive regulation. Macrory has also done extensive work on the enforcement of environmental regulation.⁶⁶ Here, he looks at the use of sanctions and argues that they are “an essential feature of a regulatory enforcement toolkit and are central to achieving compliance by signalling the threat of punishment”.⁶⁷

The idea of responsive regulation was first introduced by Ayres and Braithwaite and is based on three core ideas: 1) a tit-for-tat strategy should be adopted meaning that regulation is both tough and forgiving;⁶⁸ 2) there should be access to a hierarchical range of sanctions, and; 3) the height of the enforcement pyramid is important.⁶⁹ In particular, the hierarchical range of sanctions was illustrated in Ayres and Braithwaite’s enforcement pyramid,⁷⁰ and comprises of a base made of the lesser sanctions (such as persuasion and letters) which increase with severity as you proceed up the pyramid.⁷¹

The CRC would appear to take a responsive approach to regulation. During its interview the regulator (CRC R1), outlined the pathway for enforcement. First a number of letters (which became increasingly more strongly worded) would be sent to participants before any notices were issued. This would then be followed up with civil penalties or prosecution if necessary. Following a Freedom of Information Request that I submitted to the EA dated the 9th March 2016,⁷² a total of 439 enforcement notices were issued in phase one,⁷³ and 131 notices (up to March 2016) in phase two.⁷⁴ Throughout the whole scheme up to March 2016, 22 civil penalties have been issued, and no criminal prosecutions have been brought. The number of civil penalties and prosecutions (which would be towards the top of the Ayres and Braithwaite pyramid) is therefore vastly lower than the number of reminder emails, letters and notices that have been issued by the regulator.

⁶⁵ Neil Gunningham, ‘Enforcement and Compliance Strategies’ in Robert Baldwin, Martin Cave and Martin Lodge (Eds) *The Oxford Handbook of Regulation* (OUP 2010), p120.

⁶⁶ Richard Macrory, *Regulation, Enforcement and Governance in Environmental Law* (Cameron May 2008).

⁶⁷ *Ibid*, 37.

⁶⁸ John Braithwaite, ‘Convergence in Models of Regulatory Strategy’ (1990) *Current Issues in Criminal Justice* 59, 59.

⁶⁹ Ayres and Braithwaite (n 50).

⁷⁰ *Ibid*, p35.

⁷¹ *Ibid*.

⁷² Freedom of Information request NR6994 dated 9th March 2016. This FOI is limited to data on England and Wales only.

⁷³ However, of this number, all were issued for a failure to surrender allowances and largely in the final year before the end of phase 1 (267 notices). See Appendix 7.

⁷⁴ Again, the issue of notices was largely for a failure to surrender allowances (124 notices). See Appendix 7.

In the taxation arena, there has been a noticeable shift from traditional command and control approaches to responsive regulation approaches in a number of jurisdictions.⁷⁵ This shift was driven by challenges to the legitimacy of taxation schemes (via increasing amounts of tax evasion);⁷⁶ and the failing integrities of tax authorities which were seen to have a “culture of fear and punishment” under command and control regimes.⁷⁷ The shift away from command and control regulation for taxes has encountered challenges specifically with the adoption of responsive regulation to take its place.⁷⁸ Responsive regulation was met with resistance when it was first introduced, as the very nature of responsive regulation required a culture change within a sector that “stifles innovation”.⁷⁹ The adoption of responsive regulation in the tax arena does not diminish the significant criticisms that responsive regulation has encountered. For instance, Gunningham has argued that one of the shortcomings of responsive regulation is that the enforcement pyramid only allows for a relationship between regulator and regulatee, and does not allow for third party interaction.⁸⁰ In addition, Black argues that the pyramid does not rank sanctions in terms of context – for some, naming and shaming may be more of a sanction than a fine.⁸¹

An alternative to command and control regulation and responsive regulation is smart regulation. Here, Gunningham attempts to correct some of the criticisms of responsive regulation. As such, smart regulation incorporates five ideas: 1) A mix of policies and instruments is preferential; 2) using less interventionist instruments is preferential; 3) a three-dimensional enforcement pyramid, “which considers the possibility of regulation using a number of different instruments implemented by a number of parties”;⁸² 4) the use and empowerment of third parties as regulators, and; 5) a maximisation of opportunities for regulatees.⁸³ Black argues, however, that this approach still does not deal fully with real life problems of regulatory enforcement,⁸⁴ and proposes an alternative approach. Her ‘really responsive regulation’ approach requires the consideration of five criteria for enforcement:

- 1) The “attitudinal settings” of the regulatee;

⁷⁵ See for example Jenny Job, Andrew Stout, and Rachael Smith, ‘Culture Change in Three Taxation Administrations: From Command and Control to Responsive Regulation’ (2007) 29(1) Law and Policy 84.

⁷⁶ Ibid, 88.

⁷⁷ Ibid, 89.

⁷⁸ The examples of Australia, New Zealand and East Timor were considered: *ibid*.

⁷⁹ Ibid, 93.

⁸⁰ Gunningham (n 65), p265.

⁸¹ Julia Black, Really Responsive Regulation (2008) 71(1) MLR 59, 86.

⁸² Gunningham (n 65), 266.

⁸³ Neil Gunningham and Peter Grabosky, *Smart Regulation* (Clarendon Press 1998), Chapter 6.

⁸⁴ Ibid, p61.

- 2) The institutional setting of the regulatory scheme;
- 3) The different logics of the tools and strategies available under the scheme;
- 4) The assessment of the scheme's own performance; and
- 5) The modification of any of the above criteria.⁸⁵

Black's work on really responsive regulation resonates with Macrory's work on the role of the regulator which he argues should encompass seven characteristics:

"Seven characteristics (regulators should): 1) publish an enforcement policy; 2) measure outcomes not just outputs; 3) justify their choice of enforcement actions year on year to stakeholders, Ministers and Parliament; 4) follow-up enforcement actions where appropriate; 5) enforce in a transparent manner; 6) be transparent in the way in which they apply and determined administrative penalties; and, 7) avoid perverse incentives that might influence the choice of sanctioning response."⁸⁶

It is beyond the scope of this thesis to determine the regulatory approach that should be taken for the enforcement of the CRC. At present, the CRC adopts a somewhat responsive approach to regulation, as indicated by both the regulator and the enforcement statistics. This chapter will now consider how the predictability in the use of the audit process can impact on trust.

5.3.3.b Predictability and the CRC

Predictability in this scenario is linked to two things: a) the quality of audits, and b) the frequency of audits. Interviewees expressed uncertainty as to the depth and competence of the Environment Agency auditor demonstrated when an audit is carried out, and those that had not been audited expressed uncertainty as to when and why they would be audited. This combination could have considerable impacts on taxpayer engagement with the scheme, and how it is complied with. In terms of rigour and competence, one interviewee talked about how they felt they could have cheated the audit process (CRC P3).

⁸⁵ Criteria taken and paraphrased from: Black (n 81), 61.

⁸⁶ Macrory (n 66), pp40-41.

In addition to the quality of audits, the interviewees also questioned their frequency. Whilst there is no mention of the frequency of audits in the phase two CRC guidance, interviewees were under the impression that audits were to be carried out every couple of years for all participants. Instead, only two interviewees out of the participant interviews had been audited (the consultants had all come across audits in some fashion, but this perhaps makes sense if they were advising the bigger CRC participants). CRC M14 stated that they had expected to be audited by this point (2016) in the scheme, but had still not been. As such, there is a lack of predictability in terms of the frequency of audits. This unpredictability was termed as a “worry” for CRC M2; whilst CRC M5 did not think that there were enough audits. A practical consequence of this unpredictability is that participants are less inclined to keep their evidence packs up to date. For instance, CRC M11 kept their evidence packs up to date during phase one, but has decided that the risk of being audited is now too low to continue with updating. CRC M4 now does the evidence pack “as fast as [they] possibly can” and now maintains a “poor quality” evidence pack. Thinking in terms of ‘really responsive regulation’, this is perhaps a useful indication of the scheme’s own performance from the eyes of the interviewee (here, that resource limitations meant that the EA were not able to audit as much as initially planned (CRC R1)).

Building on the frequency of audits is the linked point on how audits are triggered. As set out earlier, interviewees voiced concerns that the Environment Agency was using communications and interactions as the basis for conducting audits. This view obviously impacted on participants’ willingness to forge a relationship with the Environment Agency:

“One of the challenges of the CRC is that organisations tend to not want to make themselves too visible – so you tend to get, the relationship you keep as brief as possible [...] there is no point in raising your head above the parapet and inviting another audit because it just means more time doing that activity. So even if it is as simple as that, there is no point in inviting that [...] It’s kind of a risk thing as in you’re not sure that there is a risk there, so you think that unless you need to do it [contact the Environment Agency] you might as well pretend there is a risk there and not do it.” (CRC M9)

“Yeah. And a lot of people I know don’t contact the EA anymore with questions because they feel that the EA has got a tick list somewhere. And the more times you phone up and ask questions, the more it puts you in the pot of, “You don’t know” as opposed to the pot, “Oh my God I’ve got lots of complicated questions because I’ve got lots of complicated clients and I’m trying to do right by them in

asking for clarification.” And that should be seen as a positive not as a negative.”

(CRC M7)

This “tick list” also triggers when errors in compliance are voluntarily sent to the regulator so that they can be rectified. CRC M7 also discussed how they knew “that the EA has mostly audited people who have re-submitted”, that is after the EA was aware that there were errors in the original submission. This is the negative side of predictability, and demonstrates that communication and the perception of a routine tick list can actually disengage participants and reduce levels of trust. It encourages participants to keep a low profile, reduce communications with the regulator and so minimise any relationship with the Environment Agency in order to reduce the risk of an audit and possible associated enforcement actions.

Whilst interviewees discussed this audit “tick list” in a negative way, this process has been previously communicated to participants by the Environment Agency. The process of selection for audits is listed in the phase two CRC guidance as including the following factors:⁸⁷ risk of non-compliance, complexity of organisational structure, and compliance history.⁸⁸ Some attempt has been made by the EA to bring transparency to the risk-based process in this guidance. However, the three bullet-point list is buried in 176 pages of guidance and may not have been taken on board by the participants/ interviewees. This part of the guidance was not raised by the interviewees during the interviews.

Overall, in the interviewees’ eyes, a significant amount of uncertainty surrounds the audit process. Interviewees have expressed concerns over the quality, but more often the quantity of these audits. Practical ramifications of this could be the belief that it is possible to cheat the audit process, which is a significant disengagement with the CRC scheme. Whilst interviewees did not discuss cheating the audit process per se, they have begun to identify that this lack of predictability can be used to their advantage.

5.3.4 Commitment: Wider issues

In terms of commitment, the interviewees attributed some of the lack of expertise and relationship with the Environment Agency to wider problems affecting the regulator. Namely, the lack of resources at the disposal of the Environment Agency. Interviewees were aware of the cuts made to the

⁸⁷ Note that this is also in the Phase One guidance. Environment Agency, CRC Energy Efficiency Scheme guidance for participants in Phase 1 (2013), p60.

⁸⁸ Phase Two Guidance (n 64), p55.

Environment Agency, and they attributed these cuts to a loss of resources which then affected the relationship between the regulator and regulatees. This lack of resource was perceived to have limited the powers of the Environment Agency as a regulator of the CRC (CRC M2).

In particular, interviewees noted the loss of the CRC Helpdesk telephone line, and the move to email focussed contact for the CRC helpdesk. The phone line was considered to be a key resource to participants:

“I used to phone in an awful lot, and they used to explain over the phone, which helped massively. But that arm doesn’t exist anymore; you can’t actually phone in anymore. So, anybody new coming in, trying to explain I think would be very difficult if they had a query. If there are people there in their work teams who don’t understand something and they’re not able to explain it there will be a chance there will be missed reporting.” (CRC M5)

And;

“Yes. I’ve spoken to them a lot over the last few years. They’ve been pretty good; pretty responsive. I understand that they changed recently to not allowing telephone contact, and instead requested emails to be sent [...] it would have been a lot more helpful if we’d had a human being to speak to. But I understand that they’ve probably been cut massively, like other government departments, and they don’t have that resource there.” (CRC M3)

The phone line was seen as “a help” (CRC P3) to participants who had queries, and its removal has a correlating potential to impact on the understanding of CRC participants and the regulator-regulatee relationship. This loss of the phone line was also attributed to the wider cuts to the Environment Agency by CRC M3. As such, the lack of expertise of the regulator in terms of the ability for participants to access that expertise is not blamed on the Environment Agency. Nonetheless, the loss of the phone line has wider repercussions.

The shift to email communication gives the perception that the CRC helpdesk is now poorly manned: “They’ve already reduced the number of people on the CRC helpdesk to like one person, or something ridiculous for the entire country” (CRC P2). This also impacts on the perceived waiting time for a response which was quoted by one interviewee as ten working days (CRC M3), but in reality, may well be much shorter. Indeed, the regulator stated that the average response time for emails was one and a half days (CRC R1).

In terms of justifying the move to email based communication, the regulator stated:

“We actually set up a help desk both on phone and e-mail in the first few years. We’ve taken the phone line away. We are just doing e-mail; we found it’s more efficient and more effective. At times, we were probably getting – at the peak period we were getting four or five hundred [queries] a week.” (CRC R1)

The EA was confident in its ability to deal with the volume of emails sent to the CRC helpdesk. There is therefore a disparity between what the interviewees have perceived by the loss of phone line, and the Environment Agency’s logic behind the move. In the regulator’s eyes, the removal of the phone line was an efficiency move and helped them to deal with higher volumes of queries than the phone lines. There was therefore at least some issue of poor communication regarding the change, as the interviewees have viewed the changes in a negative light and perceive the changes to be cutbacks to the scheme. It could be a question of marketing, in the sense that the EA did not ‘sell’ the move to emailing. Or, it could be that the interviewees see the move to email as a drop in the standard of service that the EA provides as regulator.

Linking this idea to the financial incentives, which will be seen in Chapter Seven, one solution to this was put forward by two interviewees: reinvestment of some revenues back into the resources of the Environment Agency. CRC P7 stated:

“Possibly supporting organisations like the Environment Agency and Defra which are getting severely cut the government at the moment, perhaps some money could be funded back into there; because I do think they’re an important resource for things like that.”

And;

“So, beef up the Environment Agency, take the liability away from local authorities and I think you might see more effective regulation. There’s nothing wrong with the regulations, the regulations are only good as those who enforce them.” (CRC S4)

This may appear to be a case of turkeys voting for Christmas, as a bigger, more powerful regulator is then a bigger force to contend with for regulatees. However, when coupled with the fact that the interviewees wanted the support and competence of the EA, a better resourced EA seems less of a death wish. This approach would work hand in hand with tax hypothecation discussed alongside incentives. By investing the revenues of the CRC back into the regulator, it gives the Environment Agency more resources. This in turn, allows them to provide services to participants; which in turn provides the regulator more opportunities to provide expertise to participants. This would potentially

allow for a higher level of trust between the participant and the regulator. It gives the perception of a more “effective regulator”, which is key to effective environmental regulation (CRC S4).

It is important, therefore, to consider how taxpayers and regulatees perceive a regulator which is struck with wider issues such as resource cuts, which impact on its ability to provide expertise. In the case of the CRC, the cuts to the Environment Agency, and more specifically to the CRC Helpdesk, have given participants the impression that the regulator is now more inaccessible. When this is combined with the perception that the helpdesk provides only generic advice to queries, and is not authoritative on the CRC, we are left with a regulator that is seen to lack both expertise and resources.

5.4 Concluding Remarks

Kasperson et al explore a framework for trust which resonates well with the interview data from the CRC study. This framework is one of many frameworks available for trust.⁸⁹ As such, it is not the only approach that could be taken. However, the data from my CRC study raises questions of commitment, competence, caring-ness and predictability, and as such, Kasperson’s model fits the interview data best:

1. Competence – It is through the communications between the Environment Agency and the participants, that the incompetence of the Environment Agency was perceived. This communication includes guidance issued by the regulator, community emails and responses to enquiries.
2. Caring – Interviewees talked of the generally helpful attitude of the Environment Agency. CRC M12 stated: “I think even now there’s a genuine attempt to help us through the process”.
3. Predictability – A manifestation of predictability was raised through the use of the audits procedure.⁹⁰ More specifically, participants believed that contacted the Environment Agency raised a flag against their name which then resulted in an audit.
4. Commitment – Interviewees drew upon wider issues of commitment such as lack of resources and commitment to policy.

⁸⁹ For a useful overview of the different possible approaches, see Harrison McKnight et al. (n 10).

⁹⁰ The Environment Agency has the power to audit participants under Article 65 of the 2013 Order (n 63).

Not all of these factors raise questions of a lack of trust for the CRC. Indeed, some of these factors were seen as positives (and so building blocks of trust) by interviewees. In addition, building trust through one factor may come at the expense of another,⁹¹ and as such, the factors are for guidance only.

By applying this framework, this chapter has highlighted some areas which could be improved in order to strengthen the levels of trust between the Environment Agency and the participants of the CRC. Namely these are: the quality of responses provided by the EA to participant queries to demonstrate competence; and, the perceived resources of the regulator, whether that is experienced staff with a working knowledge of the CRC, or the resources to carry out a more systematic and thorough auditing of regulatees. At the same time, this chapter has also highlighted the areas in which the participants are already content with the Environment Agency such as the general helpful attitude of the EA towards regulatees. By continuing to build on these areas, as well as by improving on areas of concern, this chapter argues that the regulator will be able to foster a stronger regulator- regulatee relationship. In addition to the above discussion, this chapter has also highlighted key relevant areas of literature including regulatory literature on enforcement and literature on regulator-regulatee relationships. By drawing on a Freedom of Information request, this chapter has also begun to paint the enforcement and compliance picture for the CRC.

Overall, this chapter has focussed on the four key areas of social trust as put forward by Kasperson et al: competence, caring, predictability and commitment.⁹² The data from my study would appear to confirm the importance of these four elements in establishing a meaningful relationship of trust between regulator and regulatee. This echoes the work of Hawkins, who also applied and confirmed Kasperson's concept of social trust in her work.⁹³ In terms of competence, regulatees questioned the quality of online guidance and the ability of the EA to respond to specific queries relating to the scheme. Communications between the regulator and regulatee have, in the eyes of the interviewees, called into question the competence and commitment of the EA. On the other hand, a number of the interviewees did consider the EA to have a caring attitude, once a meaningful relationship had been established. This was demonstrated by interviewees discussing the fact that the EA wasn't 'out to get them' in terms of enforcement. Where the regulator struggles with the CRC is the apparent lack of a meaningful relationship between the regulator and regulatees of the scheme. This lack of relationship (despite regular community email updates) could impact on regulatees' perceptions of enforcement. Here, interviewees raised the issue of predictability through the example of the CRC audit.

⁹¹ Kasperson et al. (n 8), 171.

⁹² Ibid, 170

⁹³ Hawkins (n 2), Chapter Three.

Interviewees questioned the frequency and quality of the audits. Whilst the audit process has been communicated to regulatees, this did not seem to prevent some from doubting the integrity of the process.

Finally, interviewees did not attribute any perceived lack of commitment to the regulator. Instead, interviewees considered the EA to lack resources, and that this lack of resources links back to a bigger policy picture. As such, there is the possibility that interviewees see a shift of resources and resource cuts as a lack or drop in commitment to the environment by the government. The next chapter will shift the focus back to CRC participants, and will consider whether nudging could be used to increase CRC engagement.

Chapter Six: Nudging and Behavioural Change

This chapter will consider the role of incentives in changing taxpayer behaviour. As one of the aims of the CRC is to reduce energy consumption, by effectively taxing each linked tonne of carbon emissions, the CRC aims to change behaviour.¹ In its current form, it does this through a negative incentive – that is, by attaching an additional cost to the use of energy. The more energy that is consumed, the higher the cost will be. The increased cost provides an incentive in reducing the burden of the CRC, by lowering the amount of energy consumed.

In addition to more traditional incentives, many of my interviewees raised the ideas of reputation and information during their interviews.² Reputation in this sense, as they are businesses, means widespread public opinion; whilst information referred to the provision of performance and enforcement information by the regulator. These concepts flagged up the potential for the use of social nudges (an intervention that seeks to influence choice rather than remove choice) to change participant behaviour in addition to (and not instead of) the cost incentive already offered by the CRC.

This chapter will consider, through the lens of the CRC study data, the role that nudging could have to play in an environmental tax scheme. This chapter will begin by outlining the literature and theoretical framework which form the basis of nudging. This will include a consideration of libertarian paternalism, as well as what constitutes a nudge. Following on from an understanding of what a nudge is, this chapter will apply the literature to the CRC to analyse how nudging could be useful in effecting behavioural change. Overall, it will be argued that there is a secondary role for nudging alongside a tax. By harnessing the power of reputation, a social nudge can drive behavioural change through competition and collaboration. Taxpayers can compete with their fellow taxpayers in a bid to be ‘seen to be green’,³ and sectors come together to collaborate and pool resources. As the CRC targets

¹ The CRC was described as “an important enabling tool for the public sector to deliver its carbon reduction targets” in HM Government, Meeting the Energy Challenge: A White Paper on Energy (May 2007), p278. The 2010-2015 Government website also states that the CRC aims to “improve energy efficiency” in larger organisations - <https://www.gov.uk/government/publications/2010-to-2015-government-policy-energy-demand-reduction-in-industry-business-and-the-public-sector/2010-to-2015-government-policy-energy-demand-reduction-in-industry-business-and-the-public-sector> accessed 19/09/2017.

² Reputational drivers have also been considered as important and described as a “strong driver” by government; although only constitute 13% of the drivers for energy efficiency under the CRC (cost being the largest): DECC, CRC Energy Efficiency Scheme Evaluation: Final Synthesis Report (July 2015), pp10, 38.

³ Compare this to competition-based regulation, as seen in Wendy Wagner, ‘Using Competition-Based Regulation to Bridge the Toxics Data Gap’ (2008) 83 Indiana Law Journal 629. Here, Wagner explains

businesses and not individuals, reputation can only really drive change if the harmful behaviour resonates with the public.

6.1 Nudging Literature

In the seminal work of Cass Sunstein and Richard Thaler,⁴ the concept of nudging was introduced as an alternative to command and control regulation and economic market instruments. Richard Thaler has recently won the Nobel Prize for economics for his work on the subject.⁵ The concept of nudging seeks to influence choices to change unwanted behaviour, rather than stopping behaviour through mandates; as whilst laws and regulations have been historically good at *stopping* unwanted behaviour, they have been less effective at *starting* wanted behaviour.⁶ As the CRC is aiming to improve energy efficiency and not curb the use of energy full stop, it is argued that the CRC is, in a way, attempting to start a new behaviour: energy efficiency.⁷

Work on nudging is growing and has been since 2009 when Sunstein and Thaler introduced the concept of a nudge. Since then, a wealth of literature on the subject has developed. A google scholar search of 'nudging AND sunstein' brings up nearly 13,000 results from a wide range of areas including:

competition-based regulation as follows: "in competition-based regulation, regulators provide a venue for the "better" chemicals to prosper at the expense of the "worse" (untested or unnecessarily risky) chemicals by adjudicating claims of environmental superiority", 640. Nudging is subtler than this and would not entail the regulator producing specific certificates of "environmental superiority" for products (641). The notion of competition is, however, similar here.

⁴ Richard Thaler and Cass Sunstein, *Nudge: Improving Decisions about Health, Wealth and Happiness* (UK: Penguin 2009).

⁵ <https://amp.theguardian.com/world/2017/oct/09/nobel-prize-in-economics-richard-thaler> accessed 11/10/2017.

⁶ David Halpern, *Inside the Nudge Unit: How small changes can make a big difference* (WH Allen 2015), p21.

⁷ The alternative view to this is, of course, that the CRC is trying to stop *some* energy use. However, as the amount of energy reduction is not specifically mentioned in the CRC, it makes sense that it is trying to promote energy efficiency rather than stop energy consumption.

ethics,⁸ health,⁹ and finances.¹⁰ Sunstein himself has written prolifically on the subject, with 71 articles on nudging.¹¹ This has become a rich field in a short amount of time.

In addition, the topic has received considerable political attention. In 2009, President Barack Obama signed a memorandum with the aim of exploring the role which behavioural sciences could have in the development of regulatory policy.¹² Following this, Cass Sunstein headed up the regulatory division of the Office of Information and Regulatory Affairs (in the US Whitehouse), between 2009 and 2012.¹³ In the UK, former Prime Minister David Cameron set up the Behavioural Insights Team (BIT), known better as the 'nudge unit', and which is now a separate company that researches and tests nudges.¹⁴ On a more international scale, the OECD has also published a policy document on nudging;¹⁵ and the European Commission has shown an interest in the subject.¹⁶

Relevant to this thesis, there has been a keen academic interest in nudging for the environment.¹⁷ The first link between nudges and the environment dates back to the start of the field, with Thaler and Sunstein dedicating a chapter to "saving the planet".¹⁸ Now, nudging has a presence in core Environmental Law textbooks.¹⁹ More specifically, the role of nudging, individuals and 'green consumerism' has also been considered by Quigley and Stokes.²⁰ These 'green nudges' aim to promote

⁸ For example, Cass Sunstein, 'The Ethics of Nudging' (2015) 32 *Yale Journal on Regulation* 413.

⁹ Obesity is an often used example, see: Paul Rozin et al, 'Nudge to nobesity I: Minor Changes in Accessibility Decrease Food Intake' (2011) 6(4) *Judgment and Decision Making* 323; Theresa Marteau, 'Judging Nudging: Can Nudging Improve Population Health?' (2011) 342 *British Medical Journal* 263; Geof Rayner and Timothy Lang, 'Is Nudge an Effective Public Health Strategy to Tackle Obesity? No' (2011) 342 *British Medical Journal* (Online).

¹⁰ Morris Altman, 'Implications of Behavioural Economics for Financial Literacy and Public Policy' (2012) 41(5) *Journal of Socio-Economics* 677; Sue Lewis and Anne-Flore Messy, 'OECD Working Papers on Finance, Insurance and Private Pensions' (OECD July 2012); Schlomo Banartzi and Richard Thaler, 'Behavioral Economics and the Retirement Savings Crisis' (2013) 339 *Science* 1152.

¹¹ Based upon a google scholar search dated 21st September 2017.

¹² Office of the Press Secretary, Presidential Memorandum Regarding Regulatory Review, 23rd April 2009.

¹³ Although his time there was not without criticism, see:

<http://www.nytimes.com/2012/08/04/science/earth/cass-sunstein-to-leave-top-regulatory-post.html> accessed 21/09/2017.

¹⁴ Albeit in partnership with the Cabinet Office. See <http://www.behaviouralinsights.co.uk/about-us/> accessed 01/09/2017.

¹⁵ OECD, Behavioural Economics and Environmental Policy Design (OECD July 2012).

¹⁶ http://ec.europa.eu/consumers/archive/conferences/behavioural_economics2/programme_en.htm accessed 21/09/2017.

¹⁷ Robert Lee, 'Regulation and localism' (2011) 23 *ELM* 166; Rachel Croson and Nicolas Treich, 'Behavioural Environmental Economics: Promises and Challenges' (2014) 58 *Environmental and Resource Economics* 335, 337. Further environmental nudge literature can be seen in footnotes 19-23.

¹⁸ Thaler and Sunstein (n 4), Chapter 12.

¹⁹ Stuart Bell et al, *Environmental Law* (9th Edition) (OUP 2017), pp259-260.

²⁰ Murieann Quigley and Elen Stokes, 'Nudging and Evidence-Based Policy in Europe: Problems of Normative Legitimacy and Effectiveness' in Alberto Alemanno and Anne-Lise Sibony (eds), *Nudge and the Law: A European Perspective* (Hart 2015).

environmentally friendly behaviour amongst individuals.²¹ The interplay between environmental taxation and nudging has also been considered at an individual level (that is, on taxes on individuals rather than businesses).²² The academic focus on nudges in the environmental field has centred on the role of defaults,²³ which are mechanisms that aim to change the default option, that is, the status quo if a proactive decision is not made.²⁴ However, this thesis is primarily concerned with the use of social norms, in particular reputational elements, to drive behavioural change in environmental regulation.

This section will first explore the theoretical hurdles to nudging, which are anti-paternalism and the Harm Principle. Next, this section will delve deeper into the concept of nudging itself. Finally, the use of nudges in the UK, and their potential use in the CRC will be explored.

6.1.1 Theoretical framework: Libertarian Paternalism

Sunstein and Thaler label nudging as a form of libertarian paternalism.²⁵ Paternalism can be loosely defined as:

“The interference with a person's liberty of action justified by reasons referring exclusively to the welfare, good, happiness, needs, interests or values of the person being coerced.”²⁶

A policy or piece of regulation is therefore paternalistic if it aims to influence the choices of a class of persons for their own good.²⁷ Delving deeper, this can be further characterised into pure and impure paternalism. Pure paternalism is where the class of people whose liberty has been restricted is the

²¹ Rachel Croson and Nicolas Treich, ‘Behavioural Environmental Economics: Promises and Challenges’ (2014) 58 *Environmental and Resource Economics* 335.

²² Dora Costa and Matthew Kahn, ‘Energy Conservation “Nudges” and Environmentalist Ideology: Evidence from a Randomized Residential Electricity Field Experiment’ (2013) *Journal of the European Economic Association* 680.

²³ See for example: Aristeidis Theotokis and Emmanouela Manganari, *The Impact of Choice Architecture on Sustainable Consumer Behavior: The Role of Guilt* (2015) 131 *Journal of Business Ethics* 423; Johan Egebark and Mathias Ekstrom, *Can indifference make the world greener?* (2016) 76 *Journal Environmental Economics and Management* 1.

²⁴ For more information on status quo and defaults, see Thaler and Sunstein (n 4), pp37-38.

²⁵ Halpern (n 6), p21.

²⁶ Gerald Dworkin, ‘Paternalism’ (1972) 56(1) *Philosophy and Public Policy* 64, 65.

²⁷ Richard Thaler and Cass Sunstein, ‘Libertarian Paternalism’ (2003) 93(2) *The American Economic Review* 175, 175.

same as the class of people who are intended to benefit from the restriction.²⁸ In impure paternalism, the class of persons who benefit from the interference is different.²⁹ Taking the CRC as an example, a tax is being imposed upon larger emitters only to benefit all (the idea being that this helps to mitigate climate change, which affects everyone), making it an example of impure paternalism. This is echoed in nudging, which includes examples of nudges which are aimed at benefiting others, and not just the person being nudged.³⁰

John Stuart Mill expressed objections to the idea and use of paternalism:

“Neither one person, nor any number of persons, is warranted in saying to another human creature of ripe years, that he shall not do with his life for his own benefit what he chooses to do with it.”³¹

Therefore, power should not be exercised over members of a civilised society to influence or change their life decisions. The quality of their decision is independent of the ability to make the decision and the preservation of choice should prevail regardless of whether the chooser then makes a bad decision.³² The exception to this, as put forward by Mill, is to “prevent harm to others”.³³ In general, the approach adopted by Mill can be labelled as anti-paternalistic; and an “objection to paternalistic interferences with a man's liberty”.³⁴ The absolute opposition to paternalism has been labelled the Harm Principle, and has been heavily criticised as the following text illustrates.

The main criticism of Mill's work is that it is premised on the lack of proof that humans are so aware of their own interests that “no compulsion or restraint put upon them by any others for the purpose of promoting their interest can really promote them”.³⁵ Following Mill's Harm principle, there was a general decline “in the belief that individuals know their own interest best”.³⁶ Thaler and Sunstein reiterate this point in their more recent literature. They justify paternalism by stating that whilst there has been no evidence that human choices are rational, there *has* been evidence that they are potentially irrational:

²⁸ Dworkin (n 26), 68.

²⁹ Ibid, 68.

³⁰ See the “Don't Mess with Texas” anti-littering campaign discussed in Thaler and Sunstein (n 4), p60; and Daniel Hausman and Brynn Welch, ‘Debate: To Nudge or Not to Nudge’ (2010) 18(1) *Journal Political Philosophy* 123, 125.

³¹ John S Mill, *On Liberty* (Longmans, Green, Reader, and Dyer 1869), p136.

³² Dworkin (n 26), 75.

³³ Mill (n 31), p22.

³⁴ Dworkin (n 26), 64.

³⁵ James F Stephen, *Liberty, Equality, Fraternity* (Smith, Elder 1874), p26.

³⁶ HLA Hart, *Law, Liberty, and Morality* (Stanford University Press 1963), p32.

“The presumption that individual choices should be free from interference is usually based on the assumption that people do a good job of making choices, or at least that they do a far better job than third parties could do. As far as we can tell, there is little empirical support for this claim. Research by psychologists and economists over the past three decades has raised questions about the rationality of the judgments and decisions that individuals make.”³⁷

This research³⁸ is coupled with the argument that some form of paternalism is always inevitable.³⁹ If the world is not rational, then simply the use of a ‘default setting’ (for example, in England, the default is that you are not an organ donor unless you opt to be)⁴⁰ will affect choice and be a form of paternalism.⁴¹ These arguments form the basis of Thaler and Sunstein’s justification for libertarian paternalism,⁴² which is paternalism modified by liberalism.⁴³ The libertarian aspect is the “insistence that, in general, people should be free to do what they like”.⁴⁴ As such, the focus is on preserving choice and liberty, whilst acknowledging that it is “legitimate for choice architects to try to influence people’s behaviour” to improve their lives.⁴⁵ Nudging is therefore based in the idea of libertarian paternalism.

Universal agreement with Thaler and Sunstein’s interpretation of libertarian paternalism does not exist. Hanson for example, argues that whilst literature treats nudges and libertarian paternalism as one and the same,⁴⁶ this is not necessarily the case. Hanson further argues that without defining the line between nudges and libertarian paternalism, nudging leaves itself open to “accusations of slippery-slopes, claims of conceptual inconsistency, and warnings that nudges may quickly turn into shoves”.⁴⁷ Hausman and Welch also question the role of libertarian paternalism. They argue that if a

³⁷ Thaler and Sunstein 2003 (n 27), 176.

³⁸ See, for example: Daniel Kahneman and Amos Tversky (eds), *Choices, values, and frames* (Cambridge University Press 2000); James Choi et al., ‘Defined Contribution Pensions: Plan Rules, Participant Decisions, and the Path of Least Resistance’ in James Poterba (Ed), *Tax policy and the economy, Vol. 16*. (MIT Press 2002) pp. 67-113; and, Ted O’Donoghue and Matthew Rabin, ‘Studying Optimal Paternalism, Illustrated by a Model of Sin Taxes’ (2003) 93(2) *American Economic Review* 186.

³⁹ Thaler and Sunstein 2003 (n 27), 176.

⁴⁰ Although Wales was the first country in the UK to adopt an opt-out system – i.e. the default is that everyone is an organ donor from the 1 December 2015. For more information, see:

<http://organdonationwales.org/Organ-Donation-is-changing-in-Wales/Who-will-the-system-change-apply-to/?lang=en> accessed 09/03/2017.

⁴¹ Thaler and Sunstein 2003 (n 27), 176-177.

⁴² This is covered in more detail, with arguments relating to welfare and autonomy in: Cass Sunstein, ‘Why Nudge?’ (Yale University Press 2014).

⁴³ Thaler and Sunstein (n 4), p5.

⁴⁴ Ibid.

⁴⁵ Ibid.

⁴⁶ Pelle Hanson, *The Definition of Nudge and Libertarian Paternalism: Does the Hand Fit the Glove?* (2016) *EJRR* 1, 2.

⁴⁷ Ibid, 3.

policy is paternalistic only if it limits the choice of what people can choose, then no nudges are paternalistic.⁴⁸ Unhelpfully, a relationship between nudging and libertarian paternalism has not yet been determined.⁴⁹

It is not the purpose of this thesis to dive into a debate on the exact definitions and boundaries between nudging and libertarian paternalism. It suffices to say that Thaler and Sunstein base their original concept of nudging in libertarian paternalism, but that this approach is not accepted by all scholars.

6.1.2 The concept of nudging

While behavioural psychology has talked of the same concept for much longer, the concept of a 'nudge' was first labelled as such by Thaler and Sunstein in 2009. Halpern argues that Thaler and Sunstein's work has advanced the work on nudging in three ways: 1) as Thaler and Sunstein are not psychologists, it helped to push nudging out of the realms of pure psychology; 2) they blended the ideas from psychology with concepts from 'behavioural economics'; and, 3) their ideas directly engaged with policy.⁵⁰

Thaler and Sunstein define a nudge as follows:

“A nudge, as we will use the term, is any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates.”⁵¹

It is a “means of encouraging or guiding behaviour” without “heavy financial incentives or sanctions”.⁵² Nudging therefore uses choice architecture to alter decisions to a more preferred choice without removing any of the choices from the decision-maker.⁵³

Therefore, this chapter does not consider the pure, financial incentive that is the tax of the CRC (i.e. the payment made to the Treasury for the purchase of allowances) as there is no choice involved in

⁴⁸ Hausman and Welch (n 30), 128.

⁴⁹ Hanson (n 46), 16.

⁵⁰ Halpern (n 6), p39.

⁵¹ Thaler and Sunstein (n 4), p6.

⁵² Halpern (n 6), p22.

⁵³ Cass Sunstein, *Simpler, The Future of Government* (Simon and Schuster 2013), page 39. For more on the two systems, see: Daniel Kahneman, *Thinking Fast and Slow* (Penguin 2012), Part 1.

paying the tax. Instead, both nudging and this chapter will be considering more subtle methods of changing behaviour which will run *alongside* the CRC and form part of the regulatory package of the CRC. It is a consideration of behavioural changing mechanisms which are above and beyond the payment of a tax.

A choice architect “has the responsibility for organizing the context in which people make decisions”.⁵⁴ A nudge is therefore the influencing of choices in a way which prioritises a choice, which, in the eyes of the architect, is a better choice for the chooser. The basis of their idea lies in the fact that humans make errors. They split the world into “humans” and “econs”.⁵⁵ “Econs” can think through all possibilities and information, in order to come to an informed decision.⁵⁶ “Econs” are driven by incentives rather than emotion.⁵⁷ Life decision makers are human:⁵⁸

“Human beings can be myopic and impulsive, giving undue weight to the short term (perhaps by smoking, or texting while driving, or eating too much chocolate). What is salient greatly matters. If an important feature of a situation, an activity, or a product lacks salience, people might ignore it, possibly to their advantage (perhaps because it is in the other room, and fattening) and possibly to their detriment (if it could save them money or extend their lives) [...] they are greatly affected by default rules, which establish what happens if they do nothing.”⁵⁹

This builds upon the criticisms of Mill’s work, in the sense that humans do not make perfect decisions.

In the UK, the concept of introducing psychology into policy is not an entirely novel one. A cabinet office discussion paper published in 2004 explored the different theories of behavioural change, which included criticisms of the ‘Rational Man’ model (which, like Mill’s work, assumes that humans “rationally seek to maximise their own welfare”).⁶⁰ The paper also started to explore where these theories could start to be applied in the areas of health, crime, employment and education. As a report

⁵⁴ Thaler and Sunstein (n 4), p3.

⁵⁵ Ibid, p7.

⁵⁶ Ibid.

⁵⁷ Ibid, p9.

⁵⁸ Ibid, p14.

⁵⁹ Sunstein (n 42), p9.

⁶⁰ David Halpern et al., ‘Personal Responsibility and Changing Behaviour: the State of Knowledge and its Implications for Public Policy’ (Cabinet Office 2004), p15.

which predates ‘Nudge’, it draws upon Thaler and Sunstein’s earlier work on ‘libertarian paternalism’.⁶¹

In 2010, the Institute for Government published ‘MINDSPACE’, which provided a checklist to policymakers,⁶² to ensure that they take into account the most “robust effects” on human behaviour when making policy.⁶³

Messenger	We are heavily influenced by who communicates information
Incentives	Our responses to incentives are shaped by predictable mental shortcuts such as strongly avoiding losses
Norms	We are strongly influenced by what others do
Defaults	We „go with the flow” of pre-set options
Salience	Our attention is drawn to what is novel and seems relevant to us
Priming	Our acts are often influenced by sub-conscious cues
Affect	Our emotional associations can powerfully shape our actions
Commitments	We seek to be consistent with our public promises, and reciprocate acts
Ego	We act in ways that make us feel better about ourselves

Source: Institute for Government and the Cabinet Office, MINDSPACE: Influencing behaviour through public policy (2010), page 8

The Institute for Government draw upon the previous work of DEFRA in the field and DEFRA’s ‘4 Es’ framework (Enable, Engage, Encourage, Exemplify),⁶⁴ to create a framework for ‘MINDSPACE’. The ‘4 Es’ are actions that should underpin any attempt by the government to change behaviour.⁶⁵ The MINDSPACE report builds upon this by adding two further Es – Explore (before the 4 Es) and Evaluate (after the 4E s).⁶⁶ This provides the framework within which the tools provided by MINDSPACE may be applied.

⁶¹ Cass Sunstein and Richard Thaler, ‘Libertarian Paternalism Is Not an Oxymoron’ (2003) 70(4) The University of Chicago Law Review 1159.

⁶² Institute for Government and the Cabinet Office, ‘MINDSPACE: Influencing Behaviour through Public Policy’ (2010).

⁶³ Ibid, Executive Summary.

⁶⁴ HM Government (DEFRA), Securing the Future: Delivering UK Sustainable Development Strategy (2005), p26.

⁶⁵ MINDSPACE (n 62), p9.

⁶⁶ Ibid.

The Behavioural Insights Team (BIT) (also known as the ‘Nudge Unit’) was created in 2010 by the then Conservative/ Liberal Democrat coalition government. Originally a team within the cabinet office, the BIT team is now a private company,⁶⁷ and has been labelled “the global poster child for the latest behavioural turn in policy and regulation”.⁶⁸ The Nudge Unit had three objectives: 1) to make public services more cost-effective and accessible; 2) to introduce more realistic models of human behaviour into policy; and, 3) to enable people to make “better choices”.⁶⁹ The Nudge Unit in the UK developed and built upon Thaler and Sunstein’s work in ‘*Nudge*’, UK policy documents,⁷⁰ and wider academic literature;⁷¹ and developed the following acronym: E – Easy; A – Attract; S – Social; T – Timely (otherwise known as EAST).⁷² The concept of ‘Easy’ relies on the use of defaults (much like in Nudge) to change behaviour.⁷³ The use of images of personalisation can be useful in attracting attention, as humans are more likely to change their behaviour if they are ‘Attracted’ to it.⁷⁴ It is ‘Social’ if you can show that most people behave in a certain way.⁷⁵ It is also important to time any influence for when people are most receptive.⁷⁶

As has been previously set out, the CRC forms part of the UK regulatory toolkit for climate change, and the CRC aims to change behaviour to help the UK meet its international climate change commitments. Whilst this chapter does not consider the role of the financial incentive under the CRC; it will consider the role of secondary tools which can complement the tax and further behavioural change. During my interviews, interviewees often referred to the performance of others under the scheme – and, more importantly, a desire to perform better than their competitors under the scheme. As the CRC previously had a reputational element (in the form of the publicly available Performance League Table), it is interesting that participants engage with and seek to know how others are performing under the scheme. It is this social side to the CRC which will be considered in this chapter, to argue that exploiting the social nature of the CRC could be important to enhance the positive behavioural

⁶⁷ <https://www.gov.uk/government/news/government-launches-competition-to-find-a-commercial-partner-for-the-behavioural-insights-team> accessed 19/09/2017.

⁶⁸ Quigley and Stokes (n 20), p61.

⁶⁹ <http://www.behaviouralinsights.co.uk/about-us/> accessed 13/03/2017.

⁷⁰ MINDSPACE (n 62).

⁷¹ See for example Robert B Cialdini, *Influence: The Psychology of Persuasion* (Revised Edition) (Collins Business, 2007).

⁷² Behavioural Insights Team, EAST: Four Simple Ways to Apply Behavioural Insights (2014), p4. Available at <http://www.behaviouralinsights.co.uk/publications/east-four-simple-ways-to-apply-behavioural-insights/> accessed 16/03/2017.

⁷³ Ibid.

⁷⁴ Ibid, p5.

⁷⁵ Ibid.

⁷⁶ Ibid, p6.

change impacts that the CRC could have. This chapter will now consider the interview data in light of nudging literature.

6.2 Nudging and the CRC

6.2.1 Reputational element of the CRC

In the environmental context, nudges have often been bypassed for more interventionist measures to control pollution and other environmentally harmful behaviours.⁷⁷ Whilst Sunstein and Thaler's work focusses largely on the use of defaults,⁷⁸ the data from the CRC study indicate the potential role for social norms. Here, the idea is that the "social environment influences behaviour".⁷⁹ The concept of social norms was initially split into two categories by Thaler and Sunstein: 1) Information, where if enough people take a certain approach this will convey the idea that it is the way to do things; and, 2) peer pressure, which is particularly important if the human cares what others think.⁸⁰ With the CRC, my interview data suggests that it is the second form of social nudging which is primarily at play.

Social norms "matter for individual choices",⁸¹ "as people are constrained by reputational forces and concern about the perception of others".⁸² They help us not only to understand behaviour, but also its regulation.⁸³ In later literature, building on Thaler and Sunstein's work, the concept of social norms has been developed to include further considerations. The first category relates to social norms and the choices that other people are making. Sunstein and Reisch argue that if a chooser is aware that most other people are choosing green energy (for example), then they are far more likely to follow

⁷⁷ Thaler and Sunstein (n 4), p193.

⁷⁸ As explained above, this default rule is the status quo – it is the decision that applies if the human does not make any further decisions.

⁷⁹ Sunstein (n 42), p118.

⁸⁰ Thaler and Sunstein (n 4), pp58-59.

⁸¹ Anne-Lise Sibony and Alberto Alemanno, 'The Emergence of Behavioural Policy-Making' in Alberto Alemanno and Anne-Lise Sibony (eds), *Nudge and the Law: A European Perspective* (Hart 2015), p4; Cass Sunstein, 'Nudges.gov: Behavioural Economics and Regulation' in E Zamir and D Teichman (eds), *Oxford Handbook of Behavioural Economics and the Law* (OUP 2014).

⁸² Alberto Alemanno and Alessandro Spina, 'Nudging Legally: On the Checks and Balances of Behavioural Regulation' (2014) 12(2) *International Journal of Constitutional Law* 429, 430.

⁸³ Sibony and Alemanno (n 81), p4. See also M Vandebergh et al, 'Regulation in the Behavioural Era' (2011) 95 *Minnesota Law Review* 715.

suit.⁸⁴ Sunstein and Reisch also tackle the question of expression, arguing that, for some, their decisions are based upon a desire to express certain values (in this case being green – they want to “make a statement”).⁸⁵ Finally, signalling could drive behaviour, or, as Sunstein and Reisch explain, people act if it improves their social status.⁸⁶ Here, they point out:

“Socially visible actions, such as driving electric sports cars, are naturally more useful for status signalling than switching to green electricity, installing a high efficiency heat pump in the basement, or opting for car sharing. “Buying green” is often done for status reasons, while “behaving green” is usually less visible and status-laden.”⁸⁷

This is problematic for using signalling under the CRC as behaving green is not as visible as, for example, buying a shiny new wind turbine. Under the scheme, participants are required to reduce energy consumption, but this has no status value unless this is publicised and engaged with.

Criticisms have been raised against nudging by the advocates of more traditional regulation. Baldwin argues that nudging lacks the transparency that is seen in the process of introducing more traditional forms of regulation.⁸⁸ There is also a trade-off in autonomy when using nudging in favour of the desired behaviour, as the decisions are shaped for the decision-maker to bypass conscious individual judgment. Nudges can therefore be an expression of the capacity of individuals and their ability for “autonomous and responsible decision-making”.⁸⁹ In addition, I am conscious that nudging and behavioural economics might be being stretched “to solve problems it wasn’t meant to address”.⁹⁰

The concept of nudging targets “individual behaviour”, rather than behaviour in an organisational setting.⁹¹ If interpreted at face value, it would mean that the concept of nudging would translate poorly into the business context. However, during the main stage of interviews, I asked participants: *Is it just you working on CRC, or do you have a team?* For most interviewees, they (usually with the job

⁸⁴ Cass Sunstein and Lucia Reisch, ‘Automatically Green: Behavioural Economics and Environmental Protection’ (2014) 38(1) Harvard Environmental Law Review 127, 129.

⁸⁵ Ibid.

⁸⁶ Ibid, 130.

⁸⁷ Ibid.

⁸⁸ Robert Baldwin, ‘From Regulation to Behaviour Change: Giving Nudge the Third Degree’ (2014) 77(6) MLR 831, 844.

⁸⁹ Karen Yeung, ‘Nudge as Fudge’ (2012) 75(1) MLR 122, 146; see also Karen Yeung, ‘The Forms and Limits of Choice Architecture as a Tool of Government’ (2016) 38(3) Law and Policy 186, 191-193.

⁹⁰ George Loewenstein and Peter Ubel, ‘Economics Behaving Badly’, New York Times, 14 July 2010 available at <https://www.nytimes.com/2010/07/15/opinion/15loewenstein.html> accessed 01/03/2018.

⁹¹ Martin Lodge and Kai Wegrich, *Managing Regulation: Regulatory Analysis, Politics and Policy* (Palgrave MacMillan 2012) 114

title of energy manager, or similar)⁹² were working alone or in a team of two. The biggest CRC team was a team of four (CRC P8). A solicitor also added:

“With many larger clients, there tends to be a person that is responsible for sustainability that deals with CRC and related things, so it tends to be quite a centralised function rather than something that many people are involved in. Most clients tend to have their expert which is usually one or two people.” (CRC S2)

CRC staff units in the businesses involved in the scheme tend to be very small. Their job roles are specifically linked to the environment. These are the people that are steering the environmental and energy efforts of the firm and they are individuals.⁹³ In addition, the very limited role of senior management in participants of the CRC means that all substantive decisions relating to the CRC (except for the financial sign off for the purchase of allowances by the Finance Director) are taken by the energy managers. As such, any nudges that were introduced under the CRC (or a similar scheme) would, de facto, be targeting an individual (or limited number of individuals) rather than the whole business. Therefore, nudges have the potential to have some behavioural changing effect in businesses as well as individuals. This potential to nudge the powerful (i.e. business rather than the individual) is a unique concept that is not found within nudging literature.

The CRC used to have a reputational element in the form of the Performance League Table (PLT). Another potential use of nudging can be seen in the publication of offences and civil penalties by the Environment Agency.⁹⁴ The rest of this section will consider these nudges, as well as whether nudging has a future role to play in environmental taxation.

6.2.1.a Performance League Table

The PLT was introduced at the start of the CRC scheme, and ranked participants in terms of their performance under the scheme.⁹⁵ The PLT created a public reputational element to the scheme,

⁹² See Chapter Two (Methods and Methodology) for more on participant demographics.

⁹³ With the caveat that they have to get funding through their finance director/ board.

⁹⁴ There is therefore an interesting intersection here between nudging and the use of sanctions. The use of informational nudges is probably a blend of a nudge and punitive function. Naming and shaming will be discussed in more depth later on in this chapter.

⁹⁵ <http://crc.environment-agency.gov.uk/pplt/web/plt/public/2011-12/CRCPerformanceLeagueTable20112012> accessed 10/08/2014.

whereby participants could compare and contrast their performance with others. The government concluded that there was “some evidence” that the PLT acted as a reputational driver.⁹⁶ It should be noted here that this was originally coupled with an economic incentive: those that did well under the scheme in terms of the PLT stood to gain their CRC payment plus 10% back.⁹⁷

In 2012, the government proposed the abolition of the PLT.⁹⁸ The PLT received two main criticisms from interviewees: 1) that the table was not presented in a format that easily allowed for comparison; and 2) that the table did not accurately portray information (i.e. the table was easily skewed).⁹⁹ These criticisms were reflected in the interview data:

“The [League Table] has to be tempered a little bit with, ‘Yes, but we’ve been able to exclude this group and we’ve been able to exclude that group and maybe other people can massage their figures as well’.” (CRC M13)

And;

“I think the existence of a League Table was a good idea, the League Table as it stood didn’t provide, wasn’t usable, but I think that instead of just scrapping it they should have tried to improve it. But I think they thought it was too big of a challenge, so they gave up.” (CRC P3)

Interviewee M13 explicitly highlights that the table could be skewed through the ‘massaging’ of data, whilst P3 accepts that the table in its original format was not useable. CRC M9 described the PLT as “a distortion which created anomalies that were not really fair on organisations”. Some interviewees never bothered to look at the table (CRC P7); or only looked once or twice (CRC M11). The PLT was therefore not ‘easy’, it was not simple enough that participants could engage with the table.¹⁰⁰ An easy nudge, reduces any “hassle factor” and “simplifies messages”.¹⁰¹ There was the underlying concern that the data within the table could be tinkered with, meaning that participants could not take the table at face value.

What is interesting, is that P3, along with a few other interviewees saw the removal of the PLT as having a negative impact on the scheme. Whilst the table as it stood was not viable, once removed, CRC M8 believed that the purpose of the scheme had also been removed, indicating that the

⁹⁶ DECC (n 2), p62.

⁹⁷ This economic incentive will be discussed in Chapter Seven. For now, it is the reputational element which will be explored.

⁹⁸ DECC, Consultation on simplifying the CRC Energy Efficiency Scheme (March 2012), p66.

⁹⁹ DECC, Simplification of the CRC Energy Efficiency Scheme: Report of Stakeholder Events (2012), p24-25.

¹⁰⁰ BIT EAST (n 72).

¹⁰¹ Ibid, p4.

reputational element of the scheme had the potential to drive behavioural change. The reputational element of the scheme was lost (CRC M12). This sense of loss is developed below, in how the ‘social’ element could be exploited.

6.2.1.b Publication of offences

Any civil penalties or convictions under the CRC scheme are published.¹⁰² The publication contains the name of the participant, the reason why the civil penalty was issued, and the penalty amount. By way of initial observation, only 16 penalties are currently (March 2017) published on the gov.uk website. To put this figure into context, there are over 2000 participants of the CRC. The penalties are often published long after the year to which they relate (for instance, Aquaterra Leisure received a penalty of £250 for failure to surrender sufficient allowances for the 2013/2014 compliance year – this was published in January 2017).¹⁰³ The publication is therefore not “timely” – people are more responsive to costs and benefits that take immediate effect.¹⁰⁴ The delay in receiving a penalty can affect the manner in which people respond to it especially if the penalty is received months or years before it was published. This creates a potential disconnect between the penalty, the publication and its potential social influence.

Whilst the publication of offences was argued to be “particularly important” (CRC R1); the disconnect between publication and its impact has been noted by interviewees:

“I cannot recall any article whereby it's indicated that a certain entity has been prosecuted for failure to partake or register or submit annual reports or what's necessary to comply with the CRC.” (CRC M14)

Whilst the penalties are published, they are not always obvious to participants. One interviewee recalled an email communication from the regulator, stating that ‘fines had been issued’, but that it was still “really hard to judge” who and how many were receiving penalties (CRC M10). In addition to the EAST framework, Sunstein argues that as a ‘rule of thumb’, any disclosure should be “concrete,

¹⁰² Civil penalties: <https://www.gov.uk/government/publications/climate-change-regimes-civil-penalties-imposed/crc-energy-efficiency-scheme-civil-penalties> accessed 21/03/2017. To date, no criminal prosecutions have been pursued against a CRC participant.

¹⁰³ <https://www.gov.uk/government/publications/climate-change-regimes-civil-penalties-imposed/crc-energy-efficiency-scheme-civil-penalties#aquaterra-leisure> accessed 21/03/2017.

¹⁰⁴ BIT EAST (n 72), p6.

straightforward, simple, meaningful, timely and salient”.¹⁰⁵ In the case of the CRC, it is primarily the last two criteria, which are an issue. It is important for a nudge to be salient to those being nudged.¹⁰⁶ Indeed, “sensible regulatory policies, especially those that involve disclosure, are attentive to the importance of salience.”¹⁰⁷ Without salience, people might ignore the feature that the regulator is trying to highlight: in this case, the regulator is trying to draw attention to non-compliance, yet it is not being engaged with.¹⁰⁸ Participants are therefore not ‘attracted’ to the publications.

Though the PLT and the publication of offences may not have been explicitly labelled as nudges, they appear to be attempts to alter the behaviour of CRC participants without mandating or providing a concrete incentive. However, the nudges were not effective in relation to the government frameworks provided for nudging: they were not easy, attractive or timely. What they did however harness was the power of ‘social’. This chapter will now consider the potential benefits of introducing another social nudge into the CRC scheme, and into environmental taxation schemes more generally.

6.2.1.c Alternatives raised by interview

An alternative social nudge was raised during interview:

“You can almost give them like a, you know, like a washing machine type rating, you know, an A, a B, a C – you know, something like that.” (CRC R1)

Informing people of what others are doing is a useful method to help change behaviour.¹⁰⁹ A washing machine type rating would potentially provide an easy (people have come across this type of ranking before, and have been awarded letter grades throughout school), and attractive (especially if this energy efficiency ranking was required to be displayed, as this would mean shareholders would view the ranking, and potentially the public if on a website) social nudge. However, giving a letter grade rating is arguably no longer a nudge, but a paternalistic measure, as you have the government making substantive judgments on who gets what letter.¹¹⁰ Instead, Thaler and Sunstein suggest the following nudge for climate change:

¹⁰⁵ Sunstein (n 81), Chapter 28.

¹⁰⁶ Ibid; BIT EAST (n 72), p19; Thaler and Sunstein (n 4), p107; Sunstein (n 42), p9.

¹⁰⁷ Sunstein (n 81).

¹⁰⁸ Sunstein (n 42), p9.

¹⁰⁹ Thaler and Sunstein (n 4), p71.

¹¹⁰ Sunstein (n 42), pp65-66.

“With this example in mind, we can now sketch an initial, low-cost nudge for the problem of climate change. The governments of many nations should be creating a Greenhouse Gas Inventory (GGI), requiring disclosure by the most significant emitters. The GGI would permit people to see the various sources of greenhouse gases in the relevant nation and to track changes over time. Seeing that list, governments could respond by considering legislative measures.”¹¹¹

This alternative approach to climate change also relies on the disclosure of information – or the use of social norms. It is different from the PLT, as the PLT ranked participants on both their emissions and other variables. It is similar, however, to the ARP (which replaced the PLT) which publishes the raw emissions data annually. The ARP is limited to the CRC, however, and so is linked to the profile of the scheme.

The use of social norms more generally could have several positive impacts on behaviour. Sectors could work together to achieve a sector wide ranking and/ or pool resources. Businesses would want to be the same letter/ grade or better than their competitors. It also acts as a connection between the public and the behaviour: the layman in the street would be able to understand that an A-grade company is greener than a C-grade company. These ideas of collaboration, competition and connection also came up during interview and will be explored below. Whilst a social nudge should fulfil the EAST framework,¹¹² it should also facilitate collaboration, instigate competition, and, connect the behaviour to be changed with the general public.

6.2.2 Collaboration

Humans left to their own devices do not cooperate.¹¹³ Yet, there are many positives to be gained from such cooperation; which tends to arise through stable policy (see Chapter Four) and incentives for people to work together.¹¹⁴ A social nudge, which has reputational consequences, has the potential to act as this incentive. Interviewees highlighted the start of a collaborative movement amongst participants in certain sectors, suggesting that the CRC may have prompted participants to come together. A difficulty with collaboration arises where it is challenging to relate to the different organisations, because they are all different, with different reasons behind their emissions figures (CRC

¹¹¹ Thaler and Sunstein (n 4), p203.

¹¹² BIT EAST (n 72).

¹¹³ Peter John, *Making Policy Work* (2011 Taylor and Francis), p89.

¹¹⁴ Ibid.

P5). Indeed, collaboration does appear to be limited by sector, as there is “no point comparing apples with oranges” (CRC P2).

Collaboration can create a sense of community, however, with sectors coming together and working together:

“And also I suppose the collaborative point is important, so **we've talked to other companies**, the other water companies; we do talk to each about the CRC and how it affects us and we **come up with common points of feedback** that get fed through the Water UK response. So that's another area where we've invested time to **try and understand it between ourselves.**” (CRC M15)

The water company example shows that they have worked together to understand the CRC scheme. This collaboration was also seen in other sectors (logistics, hospitality and education). This practical observation builds upon existing psychological literature: that people are more influenced by the behaviour of those who are similar.¹¹⁵ That is, if sectors come together and collaborate, they would further be influenced by the behaviour of their fellow sector members, above the general influence of others in the CRC scheme.

Sharing ideas will also help engage and create behavioural change. The sense of community is an important one. In the agricultural sector, there appears to be a strong sense of community, with farmers knowing “exactly what their neighbouring farmers are up to” (CRC R1). This sense of community could provide a stronger foundation for the use of disclosures – i.e. the publication of offences. What affects an individual in terms of reputation, might also affect a sector, facilitating further collaboration.

If the trading scheme element of the CRC had continued and worked as a trading scheme, this would also have enabled collaboration between organisations (CRC M6). This may suggest that the abolition of the CRC by the government was premature.

¹¹⁵ Cialdini (n 71), p140; Halpern (n 6), p114.

6.2.3 Competition

A social nudge may, according to the interview data, also have the potential to improve performance and energy reduction through competition. This echoes wider literature on corporate social responsibility, which argues that:

“There are characteristics of the industry in which the corporation is embedded, such as the level of competition therein, which can make corporations more likely to imitate what others are doing with respect to some set of policies.”¹¹⁶

Businesses change their behaviour to preserve their reputation.¹¹⁷ Competition in itself can help “fracture these high stakeholders and pit them against one another”.¹¹⁸ Participants strive to improve when compared against others, and this desire to improve equates to a behavioural change in terms of energy reduction. This is because, as a starting block, behaviour is greatly influenced by the perceived behaviour of other people;¹¹⁹ and “describing what most people do encourages others to do the same”.¹²⁰ As well as being able to see the behaviour of others, a reputational element also casts eyes onto the participant’s own behaviour – and even just the suggestion that someone is watching has the potential to change behaviour.¹²¹ Any reputational element may also be used as a signalling device. Just as a reputational element (such as performance tables, or the publication of performance information for example) allows one to perceive the behaviour of other people, it can also be used to demonstrate trends in behaviour and signalling what “most people do”.¹²²

A social nudge that allows participants to compare their performance to others (like a PLT, or other ranking system) was deemed “worthwhile” (CRC M13). It also enables participants to track the progress of their own performance: “it’s useful for me to talk to my members and say, “Yeah. Yeah. We’ve moved so far up the league table”” (CRC M13). The ability to compare progress, in turn, allows for competition between participants; with “companies going against other companies trying to compete in how efficient they are” (CRC M8).

¹¹⁶ Sarah Soule, *Contention and Corporate Social Responsibility* (CUP 2009), p45.

¹¹⁷ Although “the importance of reputation varies across companies and sectors”. See work on corporate social responsibility: David Vogel, *The Market for Virtue: The Potential Limits of Corporate Social Responsibility* (Brookings Institution Press 2007), p.53.

¹¹⁸ This concept, found within competition-based regulation, resonates here: Wagner (n 3), 658.

¹¹⁹ Sunstein (n 81).

¹²⁰ BIT EAST (n 72), p5.

¹²¹ Halpern (n 6), p119.

¹²² Ibid, p21.

This competition drives participants to want to be the best in their field:¹²³

“Some companies it’s a big differentiator for them, so, for example, we do a lot with (another organisation), and I know, for them, they want to be a leader in this area because they are actually advisors on sustainability and energy efficiency, so they want themselves to be a leader in it, so it’s a reputational thing for them.” (CRC S1)

“Certainly, amongst the real estate investor clients that I work with, there is a massive drive always to be top quartile of whatever it is that is being looked at. So, any CRC league table that had existed, all my clients would have wanted to be top quartile in it and, more importantly, they would all want to be able to say that they were higher than each other. So, I think that would have driven a lot of competition amongst people to actually generate savings and things.” (CRC S6)

It was perceived that this is especially important for larger organisations that are captured by the CRC who “like to showcase themselves as being the best” (CRC M4). This desire to be better than their peers is the foundation of a reputational element, as they are presenting an image when eyes are on them.¹²⁴ Interviewees valued some form of reputational element, such as the PLT, being introduced into the scheme:

“But it was better news when they thought that they could put themselves on a league table and have a better reputation as a consequence of the action they were taking. But there we are.” (CRC M12)

The removal of this reputational element was perceived as a negative by M12 in the sense that organisations now do not have the incentive to change their behaviour in terms of reputation. The reputational drivers that came out of the PLT cannot be “under-estimated” (CRC S6). Following on from this sentiment, it is potentially a shame that the PLT (and ergo the CRC) was abolished.

However, this reputational element holds very little value if it is not understood by the wider, general public. As such, an understandable connection needs to be forged between the environmentally unfriendly behaviour and the public. If the public understand and value the reduction in energy, then a company that does not engage in energy reduction could negatively affect their public image.

¹²³ Just like businesses wanted to create the best chemical in competition-based regulation: Wagner (n 3), 658.

¹²⁴ Halpern (n 6), p119.

6.2.4 Connection

“If we get all hot under the collar about something that the public don’t care about, you are not really going to get the support.” (CRC R1)

A reason why social norms can work is that people “think that others are closely paying attention to what they are doing”; and as such, that their behaviour is under scrutiny and judgement from others.¹²⁵ This is why Thaler and Sunstein argue that if choice architects are seeking a change in behaviour, then they could “simply” publish the performance of others.¹²⁶ This is all well and good in inciting competition amongst the participants (who all hopefully understand the CRC), but this publication could have a wider impact on the reputation of the participant. If an organisation is concerned about its reputation, then a nudge will not be able to affect that reputation unless there is a connection between the behaviour to be changed and the public.

In this case, energy reduction and/ or emissions reductions need to be “socially relevant”; it needs “to be an issue that people are worried about” (CRC R1). This poses a problem when dealing with the participants of the CRC. Whilst a number are high profile organisations, the rest either report under an organisation name that is different to their high-street trading name,¹²⁷ or they are middle sized, unknown-to-the-public organisations:

“Who cares whether a particular hospital has high emissions or who cares if a company that only sells to business has high emissions. So, I think it depends whether you’re likely to be affected by publicity or not.” (CRC M2)

It is difficult to incite a public emotional response to energy reduction when most of the companies are not public facing. Instead, it is possible to draw upon one advantage highlighted by CRC S6: who said that his/ her organisation was “driven by our own desire to tell clients in our tenders and pitches that we were doing this kind of thing”. Placing an emphasis on energy efficiency in winning work could make the connection between energy reduction and reputation for some.

For those CRC participants that are public facing, the emphasis needs to be on public disclosure (CRC M10). Any information that builds a picture of how the company works can provide the public with a

¹²⁵ Thaler and Sunstein (n 4), p65.

¹²⁶ Ibid, p71

¹²⁷ For example, Kingfisher PLC actually includes B&Q, a well-known high street name. Kingfisher PLC is not a well-known high street name. Yet, Kingfisher PLC emitted 183 933 tCO₂ in the 2013-2014 ARP (39th largest emitter (in terms of raw data) out of over 1935).

better understanding of how that organisation works (CRC P3). However, a hurdle to this is still a public understanding of the information being presented to them. In terms of the CRC, “most people don’t even know what it is” (CRC M1). Every single interviewee stated that they did not believe the layperson in the street would be aware of the CRC.¹²⁸ The CRC therefore has a low profile. A resolution to this is to work towards “one version of the truth”:

“I talked about if I designed a new scheme I would have clarity and a high level of disclosure. **‘One version of the truth’** is a term we often use, is really important, and that’s what we should be aiming for.” (CRC M10)

Letting go of specific scheme disclosure (in terms of public disclosure only) and simplifying disclosure into one understandable figure that translates across all energy efficiency schemes could take a step towards allowing the public to get to grips with energy efficiency. It is unclear whether the government intends to take this step in the short or long-term, but a single reporting mechanism and publication mechanism could improve public engagement.

If there was one method of portraying energy efficiency data, it would still be difficult to get the public to engage with that information. This is where technology, and specifically social media, could play a bigger role in nudging:

“Brand and reputation which can be particularly damaged, as with social media, it is far easier to portray negative impressions for relatively small misdemeanours, so that’s become much more important.” (CRC S5)

Beyond the scope of the CRC, social media has a role to play in all energy efficiency schemes and taxes. The Environment Agency can publish offences and publish performance data on a readily accessible platform, which already has a wide audience.¹²⁹ This is already done for other ‘big offences’ (notably involving rivers),¹³⁰ yet, a search of the Environment Agency’s tweets shows no such publication for any penalties issued under the CRC or even tweets on energy.¹³¹

¹²⁸ CRC M12 built on this with: “It doesn’t always mean anything to the person in the street. But they don’t know what a kilowatt hour of energy is either. So, I don’t think it really matters.” This would indicate that public awareness on energy full stop still has some way to go.

¹²⁹ The Environment Agency has almost 500 000 followers on Twitter; over 30 000 likes on Facebook; and even has an Instagram account. Figures accurate on 24th March 2017.

¹³⁰ See for example a tweet from 22nd March 2017 by the Environment Agency: “#ThamesWater ordered to pay record-breaking £20 million for polluting #River Thames with 1.4 billion litres of raw sewage.” <https://twitter.com/EnvAgency/status/844526162848239616> accessed 24/03/2016.

¹³¹ Search conducted on 24/03/2017 and looked back through February and March 2017’s tweets. Separate searches of relevant hashtags (#CRC, #carbonreductioncommitment) showed a limited engagement in the private sphere, but no input from the Environment Agency.

6.2.4.a Naming and Shaming

If a connection is made between energy reduction and the reputation of the organisation, then naming and shaming can be a powerful social nudge. Linked to the competition element of a social norm, the connection to reputation brings the possibility of damage to a brand image. It brings an additional 'nudge' to the table, above and beyond the tax already in place:

“I think originally, when they were going to name and shame everybody and all of that, I thought it would have been good. But it's just a tax now, short and simple.” (CRC P5)

Even with a connection to reputation, naming and shaming still relies on the organisation's views on publicity – “some organisations will be unconcerned by bad publicity” (CRC P7). In terms of the PLT, there was some scepticism regarding the larger emitters: “You know who the big polluters are and they will always be that way” (CRC P5). Although, anomalies in the table can cause publicity:

“I go back to the first year the company I worked for did its early action metrics and ended up as one of the top 22 companies and I remember there was a big hoo-ha because was it Virgin was right at the bottom?” (CRC M2)

It is possible for participants to engage in a social nudge and pay attention to how other organisations are performing. This will especially be the case in a social nudge that incites collaboration, competition and connects the behaviour to the organisation's reputation. The competition engages participants in a reputational element, which gives them something additional to gain from good performance. By inciting collaboration, participants are working together as sectors to share ideas, which also promotes energy reduction. Any form of disclosure needs to make that link back to the reputation (be that to the public or other businesses), for without this, organisations have nothing to gain from an improved performance.

6.3 Concluding Remarks

This chapter has explored the concept of nudging and where this literature sits in academic scholarship. What is perhaps equally interesting is the fact that nudging has also received significant

political attention. Resources from both the US and the UK have gone into setting up policy units which consider the potential role of nudging in modern regulation.

Nudging itself aims to influence choice without mandating behaviour through choice architecture. Nudges can, for the purposes of this thesis, be separated into two camps: defaults and social norms. This chapter has been concerned with exploring the potential role of the latter alongside more traditional economic measures. Social norms are the need to be seen to be doing the right thing, as well as the concern for how our behaviour is perceived by others. Whilst the literature focusses on individual behaviour, this thesis sees no reason why these principles cannot be translated across to business – at least in terms of social norms.

Interviewees raised the PLT and the publication of offences as current and potential means of driving change. As these measures both impact on reputation, there is the potential for the use of social nudges under the CRC. This is built upon by interviewees discussing how the PLT instilled a level of competition between participants of the scheme; and how the scheme could benefit from something similar now that the PLT has been abolished. In addition, my data speaks of sector collaboration and the pooling of resources to achieve energy reductions. A social nudge which utilises reputation has the potential to drive additional change (above and beyond that achieved by a tax alone) by encouraging competition and collaboration amongst participants. This competition and collaboration would not be possible, however, unless the social nudges had the potential to damage reputation. For this to happen, there needs to be a connection built between the harmful behaviour, the public, and the business' reputation. If the public do not perceive a high consumer of energy to be a bad thing, then being a high energy consumer will not affect reputation. More specifically, the public may not judge performance under a specific scheme (in this case the CRC) unless they are aware of the CRC. The profile of the CRC, and the number of discrete carbon reporting mechanisms may render it virtually impossible for a member of the general public to even be aware that the scheme exists; let alone consider the performance of a business under the CRC. The chapter that follows builds on the ideas of nudging and considers the wider role that incentives could play under the CRC scheme.

Chapter Seven: Incentives

The previous chapter considered the use of nudges as a way of engaging taxpayers with the Carbon Reduction Commitment. These nudges are subtle ways of influencing choices. Another, more direct, measure was highlighted by interviewees. During interviews, the word “incentive” was mentioned 229 times, and at least once by every single interviewee; highlighting it as an important matter for CRC regulatees. In addition, seven interviewees further discussed the notion of “reward” in terms of an incentive. This chapter will consider the role of incentives in changing taxpayer behaviour. As we know, one of the aims of the CRC is to reduce energy consumption by effectively taxing each linked tonne of carbon emissions. In its current form, it does this through a negative incentive – that is, by attaching an additional cost to energy, the more energy that is consumed, the higher this cost will be. This therefore gives the incentive of reducing the burden of the CRC, by reducing the amount of energy consumed.

First, this chapter will introduce the idea of incentives more generally. Second, and by engaging with my data, this chapter will consider the use of negative incentives under the CRC and whether this has been well received by taxpayers. Third, the role of positive incentives will be explored. Specifically, this will include a consideration of the role of hypothecated taxes, as well as the provision of financial reward for taxpayers.

Overall, this chapter will argue that whilst it is acknowledged that the negative financial incentives already provided for by the CRC (in the form of a tax) have some impact on driving behavioural change, this could be improved by introducing positive incentives under environmental taxes like the CRC. If the CRC’s primary focus is to reduce carbon emissions, participants of the CRC appear to be more willing to engage with positive mechanisms as opposed to negative mechanisms. It would appear that the use of positive incentives is also capable of communicating a deeper commitment to the environment, rather than just having the revenue raising function of the tax. One such positive incentive is the ring-fencing of revenues. This chapter will consider a range of suggested incentives, in order to argue that how the revenues are labelled is important. My data suggests that if taxpayers see that the revenues of an environmental tax are, in some way helping to improve the environment (notably, this does not need to be all of the revenues, and does not require a strict hypothecation of revenues), then taxpayers are more willing to engage with the tax.

7.1 Incentives Literature

“If men were angels, no government would be necessary.”¹

“So if you’re trying to force change, you have to give people a reason for change, and I don’t think being a good citizen and saving the planet, frankly, is a big enough reason for most people. Most people just want to have some money in their pocket.” (CRC M16)

Financial and fiscal incentives are not classed as nudges as they introduce specific economic incentives on certain behaviours.² As such, anything that goes beyond the nudges discussed in the previous chapter is counted as an incentive rather than a nudge. The CRC in its current form consists of an incentive through the additional financial burden which is introduced with the purchasing of allowances. This places a cost on each unit of carbon dioxide emissions, which is a financial driver to reduce emissions.³ There is a distinction to be made between incentives that discourage behaviour (negative incentives or penalties), and incentives that encourage behaviour (positive incentives or rewards).⁴ Taxes and fines are examples of the former, whilst subsidies and grants fall under the latter type of incentive.⁵ The CRC, as a tax, is therefore a negative incentive – it discourages the emission of carbon dioxide.

Taxes can be used to penalise polluters.⁶ For smaller businesses, these taxes could constitute a significant incentive in themselves.⁷ However, Feld and Frey argue that this should be coupled with further incentives in order to uphold what they say is the psychological tax contract.⁸ This tax contract comprises of the idea of tax morale, which is a “complicated interaction between taxpayers and the

¹ Alexander Hamilton, James Madison and John Jay, *The Federalist Papers* (ebook) (2009 Yale University Press), p264.

² Richard Thaler and Cass Sunstein, *Nudge: Improving Decisions about Health, Wealth and Happiness* (UK: Penguin 2009), p6.

³ David Driesen, Alternatives to regulation? Market Mechanisms and the Environment in R. Baldwin, M. Cave, and M. Lodge (eds), *The Oxford Handbook of Regulation* (Oxford, 2010), p206.

⁴ Behavioural Insights Team, *EAST: Four Simple Ways to Apply Behavioural Insights* (2014), p4. Available at <http://www.behaviouralinsights.co.uk/publications/east-four-simple-ways-to-apply-behavioural-insights/> accessed 16/03/2017, p25.

⁵ Ibid.

⁶ R Baldwin, M Cave and M Lodge, *Understanding regulation: Theory, strategy and practice* (2nd Edition) (OUP 2012), p111.

⁷ Neil Gunningham, ‘Regulating Small and Medium Sized Enterprises’ (2002) 14(1) *Journal of Environmental Law* 3, 21.

⁸ Lars Feld and Bruno Frey, ‘Tax Compliance as the Result of a Psychological Tax Contract: The Role of Incentives and Responsive Regulation’ (2007) 29(1) *Law and Policy* 102.

government establishing a fair, reciprocal exchange that involves the giving and taking of both parties".⁹ They argue that without further incentives, tax payers with low morale will not pay their fair share.¹⁰ Therefore, incentives are needed to enforce taxation and ensure tax compliance.¹¹

The BIT team, which was set up in 2010 to research the role of behavioural economics (and specifically nudges, see chapter six) in policy have commented on the role of incentives for future policy. They state:

"There is also a case for considering 'incentives' more broadly than we normally do. The processes for carrying out a behaviour can make it more or less attractive, quite apart from the end reward on offer. For example, it has been shown that people are more honest when responding to survey questions about their drinking through text messages than a phone interview."¹²

There is therefore a potential need to consider and research incentives more often as an alternative to traditional regulatory approaches. The field of regulatory literature is vast, as is the literature which discusses the use of alternatives to command and control regulation. Here, advocates of the use of incentives claim that an incentive-based regime is cheaper to administer than more traditional command-and-control regulation.¹³ In terms of specific fields, the use of incentives has been considered in health care,¹⁴ policing,¹⁵ business,¹⁶ and the environment,¹⁷ to name a few.

However, legal scholarship on incentives still remains a sparse field compared to other work on regulation. For example, incentives are covered in less than half a page in 'An Introduction to Law and Regulation';¹⁸ and is only mentioned in passing in key regulatory textbooks.¹⁹ There are two key

⁹ Ibid, 104.

¹⁰ Ibid, 106.

¹¹ Ibid, 105.

¹² BIT EAST (n 4), p27.

¹³ Baldwin et al. (n 6), p112.

¹⁴ Edward Norton, 'Incentive Regulation of Nursing Homes' (1992) 11(2) *Journal of Health Economics* 105; John Braithwaite, Toni Makkai and Valeri Braithwaite, *Regulating Aged Care: Ritualism and the New Pyramid* (Edward Elgar 2007).

¹⁵ Adrian Cherney, Juani O'Reilly and Peter Grabosky, 'Networks and Meta-Regulation: Strategies at Governing Illicit Synthetic Drugs' (2006) 16(4) *Policing and Society* 370; Julie Ayling, Peter Grabosky and Clifford Shearing, 'Harnessing Resources for Networked Policing' in J Fleming and J Wood (Eds), *Fighting Crime Together: The Challenges of Policing and Security Networks* (University of New South Wales Press 2006), pp60-86.

¹⁶ Michael Clarke, *Regulation: The Social Control of Business between Law and Politics* (Springer 1999), Chapter 5.

¹⁷ Neil Gunningham, 'Reconfiguring Environmental Regulation' in Pearl Eliadis, Margaret Hill and Michael Howlett (eds), *Designing Government: From Instruments to Governance* (McGill-Queen's University Press 2005), pp333-352.

¹⁸ Bronwen Morgan and Karen Yeung, *An Introduction to Law and Regulation* (CUP 2007), pp114-115.

¹⁹ Baldwin et al. (n 6).

articles on the use of incentives in regulation by Braithwaite and Grabosky,²⁰ and these will form the foundation of this chapter's analysis. The lack of legal scholarship in applying the ideas put forward by Braithwaite and Grabosky, particularly in the environmental field, should be noted. This chapter therefore goes some way to building on their work, by applying their key concepts to the CRC.

7.2 Negative incentives (financial drivers)

This section will consider the role of negative incentives, and specifically, financial drivers. The cost of the CRC has been highlighted as the scheme's biggest driver for behavioural change.²¹ The participants of my study have expressed seemingly mixed and contradicting messages on the cost of the CRC, the cost of energy, and whether the tax has drawn their attention to energy reduction. The message to take away from this section is that the CRC has not been the clear cut financial incentive that it was perhaps hoped to be by government. The rest of this section will now consider how the tax element of the CRC has been perceived by its participants, as well as whether they think that the rate of the CRC has been high enough to drive behavioural change.

7.2.1 The 'Carrot and Stick' Analogy: The Financial Stick

A 'carrot and stick' analogy was referred to by over a third of interviewees,²² and provides a good imagery for the discussion below. The concept derives from the idiom which makes reference to the cart driver who uses both a carrot (dangling in front of a donkey pulling the cart) and a stick to motivate the donkey. It also forms part of motivation theory, first attributed to Jeremy Bentham, which identifies that some individuals act for reward, whilst others from fear.²³

²⁰ Peter Grabosky, *Regulation by Reward: On the use of Incentives as Regulatory Instruments* (1995) 17 *Law and Policy* 257; John Braithwaite, *Rewards and Regulation* (2002) 29(1) *Journal of Law and Society* 12.

²¹ DECC, *CRC Energy Efficiency Scheme Evaluation: Final Synthesis Report* (July 2015), p38.

²² CRC P1, P3, P4, M1, M7, M9, M12, M13, M15, M16, S3, S6.

²³ This forms one of three main motivation theories. The other two are Hierarchy of Needs (put forward by Abraham Maslow) and Motivation-Hygiene Theory (attributed to Frederick Herzberg). For the purposes of this chapter, only the Carrot and Stick theory will be considered due to its prevalence in the interview data.

“Nature has placed mankind under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we ought to do, as well as determine what we shall do.”²⁴

Translating the concepts to the carrot and stick theory, the pain represents the stick, whilst the pleasure, the carrot. Bentham argues that these concepts are the only way in which behaviour can be changed.²⁵

Building upon this, the carrots and sticks represent extrinsic motivational factors from the activity/behaviour to be changed. Intrinsic motivation is different and links to the activity itself – it is intrinsic if the activity is “is undertaken for one’s immediate need satisfaction”.²⁶ This motivation of the individual may not always align with the needs of the organisation. As such, “to discipline the effects of undesirable intrinsic motivation, external interventions via carrots and sticks are needed”.²⁷ However, the use of extrinsic motivational tools has been argued to then undermine intrinsic motivation, or the attitude of the individual.²⁸ That is to say that once rewards have started, humans will continue with the desired behaviour only whilst they believe rewards will follow, creating an expectation of reward.²⁹

This section will initially consider the use of sticks as motivation for behavioural change. Both Braithwaite and Bentham have made the argument that sticks (or punishments) are more effective at changing behaviour than rewards.³⁰ The CRC in its current form already makes use of sticks, in the sense that there is a tax to pay, with sanctions for non-compliance. Interviewees engaged with the use of this stick, and explicitly refer to the tax element of the CRC as the stick of the scheme:

“It is an interesting one because people always go, “Oh, the CRC, that tax. We need to reduce our energy use to avoid that tax.” And I always say, “Well no, you need to reduce your energy use, full stop. Whether you are avoiding tax or not is irrelevant.” So all the tax does is it focuses people, **it is a useful stick for**

²⁴ Jeremy Bentham, ‘From An Introduction to the Principles of Morals and Legislation’, in John Stuart Mill and Jeremy Bentham, *Utilitarianism and Other Essays* (1987 Penguin), p65.

²⁵ Ibid, p83.

²⁶ Margit Osterloh and Bruno Frey, Motivation, Knowledge Transfer, and Organizational Forms (2000) 11(5) *Organization Science* 538, 539.

²⁷ Ibid, 540.

²⁸ Bruno Frey and Reto Jegen, ‘Motivation Crowding Theory’ (2001) 15(5) *Journal of Economic Surveys* 589. For more detail see Mark Lepper and David Greene (Eds), *The Hidden Costs of Reward: New Perspectives on the Psychology of Human Motivation* (1978 John Wiley and Sons).

²⁹ Edward Deci and Joseph Porac, ‘Cognitive Evaluation Theory and the Study of Human Motivation’ in Mark Lepper and David Greene (Eds), *The Hidden Costs of Reward: New Perspectives on the Psychology of Human Motivation* (1978 John Wiley and Sons), pp154-155.

³⁰ Braithwaite (n 20); Jeremy Bentham, *The Rationale of Reward*, eds. J. and H.L. Hunt (1825), pp6, and 51-52.

someone like me, who is always going to the operations and saying, “What are you doing to reduce your fuel consumption? What are you doing to reduce your electricity consumption?” M16 [own emphasis]

Here, CRC M16 explains that the tax allows them to approach more senior managers in the company and tackle the question of energy efficiency; it provides them with additional weight to their energy efficiency argument. This is one of the key benefits of the financial stick; it has allowed those with responsibility for operationalising the CRC to approach more senior management and propose energy efficiency projects. It “has given an additional incentive to say, ‘this is why you should do it’” (CRC M3). It creates engagement at board level (CRC M10), and the cost has helped keep the carbon management on senior management’s agenda (CRC M12). It is an additional cost which has to be factored into new projects, which promotes energy efficiency (CRC M14).

Interviewees suggested that the cost of the CRC also had some impact on their decision to reduce energy consumption. This is based on the simple idea that if they reduce their energy consumption, they pay less under the CRC (CRC P6, CRC M1):

“So, it's a way of pricing carbon pollution, so the more energy you use, the more carbon you release into the atmosphere and the more you get taxed for it. So there's a direct financial incentive to reduce the amount that you use so that you'll be taxed less.” (CRC P2)

The CRC adds a salient cost which is “on top of our bills” and which helps drive energy reduction (CRC M12). This cost can be quite significant for the larger emitters, which adds to the drive to reduce energy consumption (CRC M2, CRC M15, CRC M16). The CRC also has the advantage that, because it is an additional figure on top of energy bills, it provides a supplementary sum which needs to be signed off higher up in an organisation (CRC M2). This, coupled with the concern that energy prices are rising more generally, adds further weight to the cost of the CRC (CRC P7, CRC S1).

This is the “financial stick” of the CRC – it promotes behaviour by charging more if an organisation consumes more energy, or less if there is a reduction in energy consumption. It creates a behaviour that could be perceived as largely “money driven” (CRC M8). This is perceived as fundamental for changing the behaviour of private organisations: “Private sector yeah, they definitely are engaged because at the end of the day they just see it as money” (CRC M4). One disadvantage of this financial driver is that it potentially focusses the attention too narrowly on the costs of the CRC:

“So when you’re looking at the CRC tax, people get really bent out of shape because it’s a tax and they really pay attention when you talk about it. The reality

is that if they're paying £1,000 in CRC tax, they're paying £10,000 in energy, so surely the biggest opportunity is the £10,000, not the £1,000! And yet people don't see it like that, they just focus on the tax, which is good for me, it's easy for me to get their attention, but it's bloody daft, because they're only attacking 10% of the problem." (CRC M16)

The costs of the CRC therefore detract from the principle of reducing energy more generally. This contrasts with the idea above that the costs of the CRC *do* drive a reduction in energy consumption, and suggests that while the CRC does open the eyes of organisations, the scheme has not managed to penetrate deeper into the culture of reducing energy to reduce energy costs. As such, the CRC has indirectly drawn attention to the issue of energy consumption by drawing attention to the costs of the CRC. When discussing an alternative with no costs attached, CRC M10 opined:

"The fact that there's no monetary value attributed to what you are reporting in these other schemes, there's less reason to have it as accurate. So, I've always seen that a strength of the CRC, is that it has created amongst the participants in CRC a real, better understanding of their energy consumption and their energy performance."

The fact that there is a tax attached to the CRC drives engagement with the CRC. There is generally a desire to save money by reducing energy (as discussed above), which also has the indirect consequence of improved data collection (CRC M15) as regulatees are required to collect data on and report on their energy consumption in order to calculate how many allowances they need to buy.

The financial stick of the CRC is therefore an incentive because of the costs that are attached to the CRC. This drives organisations to reduce energy, and keeps energy on the agenda at a more senior level. However, for some of the interviewees, this cost is only "marginal" (CRC P8). The rate at which the CRC is levied (i.e. the price that is attributed to each allowance) has the potential to increase or decrease the size of the stick. How carbon pricing impacts on negative, financial incentives will now be explored.

7.2.2 Size Matters – Carbon Pricing

Many interviewees raised the price of carbon under the CRC during interviews. Literature on optimal taxation dates back to Pigou and his theory of externalities.³¹ Applied to environmental taxation, Pigou's work equates to: a "tax (subsidy) per unit on the externality-generating activity equal to its marginal external damage (benefit)".³² In practice, this is difficult to achieve, especially on the first try.³³ As such Baumol and Oates considered the "standards and pricing" approach, which looks at increasing the tax rate incrementally until the desired rate has been reached.³⁴ In the case of the CRC, this would mean slowly increasing the allowance price until it was high enough to achieve carbon emissions reduction. As it stands, the price of carbon under the CRC increased in line with the Retail Pricing Index only.³⁵

For many, the CRC is simply not "a vast amount of money" when considering that other business spending is in the millions or billions (CRC M13). In part, this could be a result of how the emissions are calculated under the scheme. Whilst allowance prices continue to rise, this can be offset by lower emissions factors,³⁶ meaning that, in real terms, more energy can be consumed for the same price. This has an impact on organisations' motives to reduce their energy consumption (CRC M6). For the rest, it is the allowance price that has the biggest impact on the size of the financial incentive – that is to say, the higher the allowance price, the higher the tax, and the bigger the financial stick.

At the moment, this financial stick is not perceived by interviewees as being big enough:

"I think that the costs that we see at the moment are very low and the costs associated with the CRC are tiny." (CRC P1)

There is the perception that the carbon price is currently too low to change behaviour (CRC P1, CRC P4, CRC P7, CRC M1, CRC S2): "in the scheme of things it's £90 000 and the budget [of the entire company] is £60 or £70 million you know" (CRC P1). The price attached to carbon is arguably more

³¹ Arthur Pigou, *The Economics of Welfare* (4th Edition) (Palgrave Macmillan 2013).

³² Michael Skou Andersen, *Governance by Green Taxes: Making Pollution Prevention Pay* (Manchester University Press, 1994), p36.

³³ Kaalle Määttä, *Environmental Taxes: An Introductory Analysis* (Edward Elgar 2006), p46.

³⁴ W Baumol and W Oates, 'The Use of Standards and Prices for Protection of the Environment' (1971) 73(1) *The Swedish Journal of Economics* 42.

³⁵ Chancellor of the Exchequer, 'Autumn Statement to Parliament 2012' (December 2012), p71.

³⁶ See Chapter Three. The kWh of energy consumed needs to be converted to tCO₂, and this is done by multiplying the raw energy consumption figures by an emissions factor. This has fluctuated throughout the life of the CRC, and has dropped. This means that whilst an allowance may be pricier, fewer need to be bought.

symbolic than a substantial financial stick.³⁷ CRC M11 talks about how the costs of the CRC are factored into business models:

“The cost element in terms of the additional price that you are paying because of the CRC - I’ve never seen that factored into any project. I have never seen a project that is either taken on or not taken on because of the upside or the downside regarding the CRC. It tends to be: ‘oh we have got this project, we are building some new pubs for instance – we want to build new pubs – that is going to increase our total energy as a group, oh yes, we have to pay more CRC too’. It doesn’t influence our decisions about whether or not those projects are still going to go forward.” (CRC M11)

As it stands, the CRC cannot be the driving force in new projects, when the CRC costs are low enough that more money can be saved through by simply selling a building rather than reducing energy (CRC M13). “At the moment, it’s too cheap” (CRC M1).

An issue that compounds the cost of carbon is the cost of energy and, in particular, the recent lower costs of energy. For instance, between 2014 and 2015, the cost of energy dropped 3.7%;³⁸ and between 2015 and 2016, energy prices dropped a further 4.4%.³⁹ The lower costs of energy have “lessened” the impact of the CRC (CRC M2), as the aggregate cost of energy remains similar to previous years even with the costs of the CRC factored in. The costs of the CRC generally only form a small part of the overall energy costs; as such, if energy prices are low, then this is the bigger opportunity (CRC M16) and the costs of the CRC get swallowed up into the “costs of doing business” (CRC M6).

As such my interviewees suggested that the only method to increase the effect of the negative incentive alone, is to increase the cost of carbon (CRC P2, CRC M1, CRC M7, CRC M15, CRC M16). CRC M9 calls for the costs under the CRC to be based on an “accurate assessment of what the cost of carbon is”. As the price of carbon increases, the price of energy also increases (CRC P1), and investment into energy efficiency becomes more viable (CRC P3):

“I think it is, because as energy generally costs more you reach a tipping point where people start to do things about it. I think the downside of it is it does attract a lot of criticism because generally energy costs are going up anyway, so

³⁷ For more on symbolism, see Chapter Nine.

³⁸ Department of Energy and Climate Change, ‘Quarterly Energy Prices’ (September 2015), p4.

³⁹ Department for Business, Energy and Industrial Strategy, ‘Quarterly Energy Prices’ (September 2016), p6.

you would expect companies to do something about it before being taxed.” (CRC M3)

CRC M15 argues that raising the tax on carbon is a “good approach”; if the unit price of carbon is increased, then this will focus everyone’s mind onto the issue of carbon (CRC M1). However, a CRC that is constantly raised may be perceived as a “losing battle” (CRC M8), whereby participants struggle to keep up with energy reduction in line with the increasing costs. In turn, this would lead to a sense of exasperation on the part of these participants and lead to a level of disengagement with the scheme, as participants give up the struggle to reduce more than the increasing costs. Overall, the consensus amongst interviewees is that the price needs to be higher, to draw more attention to the CRC. “If there’s a monetary incentive, and it’s a large one, then that’s the only time you can get their engagement” (CRC M4). This would require a change in policy from the government, who are currently pro-business.⁴⁰ Interviewees are sceptical about policy shifting to a higher tax, arguing that the government is not willing to go far enough in this area.

Reliance on a negative financial driver, such as a tax that is trying to alter behaviour (as in the case of the CRC), is dependent upon taxpayers engaging with that cost and trying to reduce it. Whilst an additional cost draws attention to a behaviour and starts to create engagement, this has not been completely successful. With lower energy costs, and the perceived low cost of the CRC, the CRC cannot currently provide a driver for change with a tax alone. Any negative financial driver therefore needs to be a significant cost. It is not within the scope of this thesis to try and calculate what that cost may be; however, an alternative approach may be to couple the negative incentive with a positive incentive. Here, and notwithstanding the potential for a large, financial stick to change behaviour; interviewees expressed concern over the sole use of negative financial incentives to change behaviour. Interviewees respond much “better to carrots than [they] do to sticks” (CRC P4). This chapter will now turn to the potential use of carrots alongside the tax scheme.

⁴⁰ As demonstrated by their most recent green tax consultation entitled “Reforming the business energy efficiency tax landscape”, which looked at streamlining policy in the area to a single tax.

7.3 Positive incentives

7.3.1 The Salient Carrot

The majority of interviewees that raised the carrot and stick analogy did so in reference to carrots rather than sticks. Even those that did not specifically raise the idea of “carrots” spoke of rewards and incentives – which are the same thing. Those that raised the idea of carrots etc. spoke of combining the CRC tax with a positive incentive:

“I think you need to again provide both a stick and a carrot. You need to have regulation that will penalise those who are not prepared to do even the bare minimum but you also need to provide incentives for those who are prepared to go further.” (CRC P4)

CRC P4 refers to going beyond compliance here, and states that in order for organisations to take that step beyond compliance, positive incentives are required. This does not displace the need for a stick “to shove people in the right direction” (CRC P1), but rather suggests that the emphasis should be on “incentivising change not penalising” (CRC P3). This chapter will therefore consider the potential use of carrots alongside the CRC in order to “make things happen” (CRC M1).⁴¹

Some of the interviewees suggested that a positive incentive provides much more freedom to business to achieve change in their own way (CRC S3).⁴² Whilst the stick focusses participants, the carrot gives the freedom for participants to get creative. For example, CRC M15 discusses the incentives provided for renewables and how this has had an impact on the organisation:

“Our renewable energy generation has exploded since 2002 and that has been the positive incentives that renewables have been subject to, so that's the reward side rather than the ‘stick’ side. So because renewables are growth, it's

⁴¹ Or “incentives for behaviour”. Such incentives have been considered in taxation before: Ann Mumford, ‘Marketing Working Mothers: Contextualizing Earned Income Tax Credits within Feminist Cultural Theory’ (2001) 23(4) *Journal of Social Welfare and Family Law* 411, 414.

⁴² Note that inflexibility is one of the key arguments against the use of command-and-control regulation, and one of the key advantages of economic instruments: Neil Gunningham, ‘Environment Law, Regulation and Governance: Shifting Architectures’ (2009) 21(2) *JEL* 179, 183. See also; Robert Baldwin, Martin Cave and Marton Lodge, ‘Introduction: Regulation – The Field and the Developing Agenda’ in Robert Baldwin, Martin Cave and Martin Lodge, *The Oxford Handbook of Regulation* (OUP 2010). For an argument of the benefits of economic instruments over command-and-control regulation, see: Richard Stewart, ‘Economic Incentives for Environmental Protection: Opportunities and Obstacles’ in Richard Revesz, Phillippe Sands and Richard Stewart (eds), *Environmental Law, the Economy and Sustainable Development: The United States, the European Union and the International Community* (CUP 2008).

doing something, it's growing the company, you're getting a reward and a positive revenue stream from that work, that I think has proven more effective than the stick side.” (CRC M15)

This would equally apply to energy efficiency. A financial incentive here would provide that positive revenue stream; in addition, the push to reduce energy consumption provides an additional reward by reducing energy bills (above and beyond any energy cost fluctuations). Energy efficiency projects could regenerate old buildings or bring in new technology which is also a reward for the business. There is therefore a reward-reward, or win-win, culture. Without this, unless energy efficiency is already built into a building, you simply cannot change behaviour – you “can’t get them to turn the lights off”, or manage buildings correctly, and “you don’t get the maximum benefit” (CRC M13).

An initial point to be made, and which forms the backdrop of the discussion below, is that any incentives which are introduced need to be clear and apparent to the taxpayer. This means that they are obvious, clearly labelled, and understandable to the taxpayer. For instance, M14 discussed how they had considered making use of government incentives to reduce their energy consumption, but that they were unable to do so because the incentives were not well publicised. Another got “into a right fuddle” due to the complexity (M16) of incentives. Incentives therefore need to be clearly available and understandable to taxpayers.

7.3.1.a Revenue recycling element of the scheme

When the CRC was first introduced, it was designed to be a revenue neutral scheme which recycled the revenues generated from allowance sales back to participants.⁴³ How much money a participant got back out of the scheme depended on their performance on the Performance League Table – so the top performers would get back the money they paid under the CRC, as well as an additional 10%.⁴⁴ P4 describes the original CRC as follows:

“When it first came in it was quite a novel instrument in the sense that it provided a stick and a carrot. So it encouraged you to not only monitor and

⁴³ HM Government, ‘A White Paper on Energy: Meeting the Energy Challenge’ (May 2007), p53. The Spending Review in 2010 also states: “Revenues from allowance sales totalling £1 billion a year by 2014-15 will be used to support the public finances, including spending on the environment, *rather than recycled to participants*” (emphasis added). HM Treasury, ‘Spending Review 2010’ (March 2010), paragraph 2.108.

⁴⁴ CRC R1. The original White Paper does not provide an exact figure for how much will be recycled back as a bonus or penalty.

report on your energy use but there were some incentives there that if you made some savings then you might actually get some money back out of the scheme to invest in energy efficiency.” (CRC P4)

Most interviewees saw the revenue recycling as an incentive, and as a positive of the scheme. The “ethos” of the scheme was perceived as being right (CRC M12, CRC P8). It provided the opportunity for some people do better out of the scheme, and some people to do worse (CRC P1). The effect of this is twofold: 1) participants have a direct positive incentive to do well (i.e. to perform well enough to get additional money out of the scheme), and 2) an incentive which is tied to a ranking system provided the opportunity for participants to compare their own performance with others.

In terms of the positive incentive, this provided the opportunity for participants to engage with the scheme in order to improve their performance under the scheme to receive the positive financial reward. It allowed for consultants to provide support, in terms of energy efficiency ideas, to business in order to get the most out of the scheme (CRC M4). The potential for money to be coming back to participants was deemed “a very good incentive” (CRC P8). The transition from revenue neutral to revenue raising was perceived as the CRC’s transition to a tax. As such, it is now perceived as “just a tax” (CRC P4, CRC M2, CRC M3) rather than an energy efficiency scheme with environmental aims as its primary focus. Following its removal in 2010, any positive incentive under the scheme was deemed to have been removed by some interviewees (CRC P4, CRC P8, CRC M3), which meant that regulatees disengaged with the scheme.

The CRC therefore started its life with a positive incentive. This was well received by participants, but was removed by the government after just one year of the CRC – as such, no recycled payments were ever made to participants. This coincided with, and was published less than a month after, the 2010 change in government from Labour to the Conservative – Liberal Democrat Coalition. This builds upon the link that participants made between the changes to the CRC and policy.⁴⁵ Now that participants view the CRC as just a tax which raises revenue for government, and one without incentives, participants suggested that they are less likely to change their behaviour.

My data suggests that positive incentives have an important role to play in the CRC, in order to get participants to go beyond compliance and change their behaviour. This is potentially taking the data at face value, as it is only logical that regulatees want to see more positive incentives under a scheme. However, the consistent narrative throughout this thesis that the CRC is perceived by interviewees as ‘just a tax’ would indicate that just a tax is not good enough for regulatee engagement. The use of

⁴⁵ See Chapter Four for more on stability and the CRC.

positive incentives is therefore one way in which policymakers could improve regulatory engagement. This chapter will now consider a number of incentives that were raised by interviewees, and how they may help to contribute to the overall engagement with the scheme, and behavioural change.

7.3.2 Food for thought: proposals for the CRC

According to the interviewees, there is no point in the CRC scheme only being a tax. "You can't just tax people to death if you don't give them another option" (CRC P1). Positive incentives, as it has been discussed above, have a role to play in engaging taxpayers to change their behaviour. In this case, incentives would be trying to reduce energy consumption. Interviewees discussed the potential incentives that they would like to have seen introduced with the CRC.

7.3.2.a Ringfencing revenues – earmarked taxes

Interviewees often highlighted the fact that the revenues from the sale of allowances goes to the Treasury and are not dedicated to environmental issues. This is referring to what is otherwise known as hypothecated, or earmarked taxes. The modern concept of an earmarked tax was first raised by James Buchanan in 1963: "Earmarking" is defined as the practice of designating or dedicating specific revenues to the financing of specific public services.⁴⁶ It provides a "means for compartmentalizing fiscal decisions" and allows for the individual to participate in how tax revenues are spent.⁴⁷ Buchanan argues that earmarking allows the individual to have a say in how specific services are funded, in contrast to general funding (where all tax revenues go to the Treasury), where the individual only has a say in the aggregate spending.⁴⁸

Whilst the academic literature in this area is relatively sparse, the theory of hypothecation has been built upon and developed since 1963.⁴⁹ Margaret Wilkinson differentiates between strong and weak

⁴⁶ James Buchanan, 'The Economics of Earmarked Taxes' (1963) 71 *Journal Political Economics* 457, 457

⁴⁷ *Ibid*, 458.

⁴⁸ *Ibid*; see also Charles Goetz, 'Earmarked Taxes and Majority Rule Budgetary Processes' (1968) 58 *American Economic Review* 128, 129.

⁴⁹ See for example: Dieter Bos, 'Earmarked Taxation: Welfare Versus Political Support' (2000) 75(3) *Journal of Public Economics* 439.

hypothecation.⁵⁰ Strong hypothecation is where the revenue from the tax fully determines the spending.⁵¹ By way of example, if a road tax raises £1 billion, and its revenues are hypothecated for roads in the strong sense, then exactly £1 billion will be spent on roads. In the weak sense, the hypothecation is more of a formality; an exercise to make the tax system more transparent and to inform taxpayers of the costs of certain services.⁵² It is the latter type of hypothecation that this chapter is concerned with, and at no point will this chapter argue that the CRC revenues should form the sole basis for environmental spending. As will be explored below, strong hypothecation creates more constraints than benefits to the environment.⁵³

A historic example of a hypothecated tax can be seen in the “Ship Money” tax, raised by Charles I between 1634-38, where money raised was earmarked for the Royal Navy.⁵⁴ The tax was seen in a negative light, and was even argued to have contributed to the English civil war, and Charles I’s beheading.⁵⁵ In general, the UK policy on earmarked taxes has remained constant over the years, with a general unwillingness to engage in tax hypothecation.⁵⁶ Despite this, hypothecation has been advocated in two, separate, policy-related documents. In 1993, the think tank Demos published a pamphlet advocating the use of tax hypothecation.⁵⁷ Their goal was to “bring tax raising closer in line with service provision by hypothecating funds wherever possible”.⁵⁸ In 2011, the Environmental Audit Committee made the following statement:

“There is a pressing need for Government to take a more coherent approach to environmental taxation. A clear strategy should be adopted, setting out their objectives and rationale, the basis on which rates are set, and how their impact will be evaluated. **Even partially hypothecating revenues** from environmental taxes for environmental ends can also help to build greater acceptance, whilst

⁵⁰ Margaret Wilkinson, ‘Paying for Public Spending: Is there a Role for Earmarked Taxes?’ (1994) 15(4) *Fiscal Studies* 119.

⁵¹ *Ibid.*

⁵² *Ibid.*

⁵³ *Ibid.*, 122; House of Commons Environmental Audit Committee, Fourth Special Report of Session 2008-2009 (June 2009) available at

<https://www.publications.parliament.uk/pa/cm200809/cmselect/cmenvaud/563/563.pdf> accessed 10/05/2017 accessed 03/07/2017, p8.

⁵⁴ Samuel Brittan, ‘Time to Know What You Pay For’, *Financial Times*, 15 December 1994.

⁵⁵ *Ibid.*

⁵⁶ Michael Spackman, ‘Hypothecation: A view from the Treasury’ in Timothy O’Riordon, *Ecotaxation* (1997 Earthscan), p45.

⁵⁷ Geoff Mulgan and Robin Murray, *Reconnecting Taxation* (Demos 1993).

⁵⁸ *Ibid.*, p41.

also providing much needed funding for the low-carbon transition.”⁵⁹ (Own emphasis).

This report drew criticisms from the Institute for Fiscal Studies (which is routinely against tax hypothecation),⁶⁰ and the UK government has not yet adopted any widespread tax hypothecation policy.

This standpoint is echoed in the government’s dealings with the CRC. In the 2010 spending review, the government announced that revenues from the CRC would go to the Treasury and be spent on public spending. Whilst this may include public spending on the environment, the revenues are not labelled as such. This has been picked up, unprompted by me, by some of the interviewees. In their minds, the revenues from the CRC should be ringfenced for the environment:

"But I think you need to be very clear about what you’re trying to achieve and where the money goes that you collect for it. So, if the money goes into general taxation, to the Treasury, and just into the general pile of money that you’ve got, then I think there’s a risk that companies will think, “Well, hang on a minute, we’re paying a lot of money for our energy and we’re not even seeing improvements to the National Grid or improvements to our generating capacity,” those type of things. So, I think as long as you can show the that the money that is being collected by a tax is going towards better power infrastructure that is going to help us meet our UK obligations as far as climate change is concerned, then I think you can make it stand up." (CRC M16)

It is the idea that taxpayers see some link between the money that they are paying in taxes and a benefit. This link between the tax and the revenues was emphasised by Demos, because there is a clear link between “action and effect”.⁶¹ According to interviewees, the effect could be capital improvements to energy infrastructure; or, better received, would be the investment of revenues into energy efficiency projects:

"So, some of the money being generated by CRC income to then go back into energy efficiency projects, either in terms of grant or match funding or even

⁵⁹ House of Commons Environmental Audit Committee, Budget 2011 and Environmental Taxes: Sixth Report of Session 2010-2012 (June 2011), p3.

⁶⁰ Arun Advani, Andrew Leicester and Peter Levell, ‘IFS Observations: Hying Hypothecation: Should Green Tax Revenues be Earmarked?’ (July 2011) available at <https://www.ifs.org.uk/publications/5622> accessed 14/05/2017.

⁶¹ Demos (n 57), p23.

carbon trust loans that used to exist, loans for energy efficiency equipment, I think should return." (CRC M3)

This would label the revenues of the CRC as green money. As it will be seen in Chapter Eight, how regulation is packaged is important. It is often argued that hypothecated taxes garner more public support than unhypothecated taxes. For instance, in 2007, the Green Fiscal Commission commissioned a poll which looked at public attitudes to green taxes.⁶² The results of the poll suggest a general 51 per cent support of green taxes, which rises to 73 percent when the revenues are hypothecated to be spent on emissions reduction projects.⁶³ However, this use of hypothecated taxes to gain public support could result in HM Treasury "being deluged with petitions" for taxes that the public no longer want to pay.⁶⁴ On balance, this does not appear to be likely with the CRC, as the tax is not paid by the public at large (and it is also being abolished). What hypothecation of the CRC revenues could achieve is to make the CRC taxpayers more willing to pay the tax,⁶⁵ and so more likely to engage with the scheme.

In addition to hypothecation being able to improve public support for taxation, it can also play "an expedient role in getting a specific project" off the ground.⁶⁶ It is particularly important in getting the right message across to taxpayers in the early stages of a tax's development.⁶⁷ The fact that the CRC does not ringfence its revenues sends a signal to taxpayers: one that is focussed on raising revenues, rather than trying to improve the environment. As P3 states, "I think if the CRC was to try to encourage companies to reduce, it would reinvest that money into energy efficiency". As such, my interviewees view the CRC as a revenue raising tool as well, and the CRC is labelled as a tax, rather than a tool to protect the environment:

"[T]here doesn't seem to be any sort of a feedback on revenues that are ring fenced for anything particularly on energy or environment or anything like that, you know, so it's just a billion-pound carbon tax." (CRC P7)

The sentiment, that "it's just a tax" (CRC M12) resonated through all the interviews. It is the very opposite of positive incentives, and led to a level of disengagement; with a "it's one of those where

⁶² Green Fiscal Commission, 'Public Opinion on a Green Tax Shift: Briefing Paper Three' (June 2009) available at http://www.greenfiscalcommission.org.uk/images/uploads/GFC_Briefing_3_Final.pdf accessed 10/05/2017.

⁶³ Ibid, p2; relied upon in Environmental Audit Committee (n 59), p14.

⁶⁴ House of Commons, 'Hypothecated Taxation Standard Note' (SN01480) (September 2011) available at <http://researchbriefings.files.parliament.uk/documents/SN01480/SN01480.pdf> accessed 10/05/2017.

⁶⁵ IFS, 'The IFS Green Budget: Commentary 80' (January 2000) available at <https://www.ifs.org.uk/comms/comm80.pdf> accessed 10/05/2017, p109.

⁶⁶ Wilkinson (n 50), 133.

⁶⁷ Demos (n 57), p19.

you've got to pay it so you've got to pay it" attitude. This attitude is not particularly conducive to going beyond compliance and reducing energy consumption. It was argued that revenues from environmental taxation "should go towards providing incentives, so encourage change" (CRC S5). Indeed, taxpayers were of the opinion that it was "reasonable" for the government to earmark any environmental tax revenue for investment into energy efficiency measures (CRC S1).

My work suggests that by not ringfencing the revenues of the CRC, the government has seriously undermined the intentions and aims of the CRC. This has led to a disengagement with the scheme, and has even led to one interviewee questioning the legitimacy of the scheme:

"Yes, I do. I think in order for it to have legitimacy the tax has to have a purpose rather than just being a revenue raiser and the income that that tax generates should therefore be used for that purpose. So for instance, I go back to my example about generation, I think if there were a tax on electricity supplies through the grid that were then used to subsidise people in producing local generation, that would incentivise valuable behavioural change." (CRC S6)

Whilst a tax does not need "a purpose" in order for it to be a legitimate tax,⁶⁸ this does provide an invaluable insight into how taxation is perceived. Earmarking revenues from environmental taxes can be used as a legitimacy strategy for policy makers.⁶⁹ The ideas additionally link to Adam Smith's canon that a tax should not be arbitrary;⁷⁰ the interviewees have clearly implied that an environmental tax without an environmental purpose is arbitrary. However, the use of earmarking to create legitimacy is still subject to the traditional criticisms of tax hypothecation.⁷¹

In addition, the lack of ringfencing also has an impact on the tax morale of the taxpayers as they cannot make a link between the tax they are paying and any benefit. When taxpayers can make the link between the action and the effect, in this case the tax and the revenues, this has a profound effect on taxpayer attitude:⁷²

"As long as the money from it is invested and then people know where it's going, because at the end of the day people are quite happy to pay generally tax and things like that, as long as they can see where it's going and it's actually achieving something." (CRC M1)

⁶⁸ See Chapter One for the legal definition of a tax.

⁶⁹ Määttä (n 33), p32.

⁷⁰ Adam Smith, *Wealth of Nations* (1776, Electric Book Company 2001), pp1103-1105.

⁷¹ Määttä (n 33), p32.

⁷² Demos (n 57), p23.

“My firm view is if any political party was upfront and said: “we’re going to charge you more tax but this is what we’re going to spend it on”, and kept to their promise, people would be prepared to pay more tax. But the trouble is that isn’t how it works in practice.” (CRC S4)

The ringfencing of revenues is therefore important not only because it sends important signals to taxpayers about the CRC, but also because it can fundamentally affect tax morale. Critics of hypothecations argue that making this link between action and effect does not necessarily equate to understanding on how the revenues are spent in practice.⁷³ Ringfencing also introduces rigidities in terms of how revenues are spent – i.e. if the CRC revenues are ringfenced for energy efficiency programmes, they can only be spent on this.⁷⁴ It is for this reason that strong hypothecation (where revenues = spending) would not be appropriate. The aim of the CRC is to reduce carbon emissions, and should, theoretically be a tax that diminishes over time in line with reducing emissions. As such, these lower revenues would lead to lower spending,⁷⁵ which is not logical for a problem as enduring as climate change. However, weak hypothecation or even partial, weak hypothecation (where only some revenues would be ringfenced) would be enough to convey a link between revenues and spending, and which could improve tax morale.

Happy taxpayers are engaged taxpayers. Existing literature on tax morale clearly states that happy and engaged taxpayers are less likely to try to avoid the tax.⁷⁶ I would argue that my study builds on this, in the sense that happy taxpayers are more likely to *engage* with the tax – and this means going beyond compliance and reducing energy consumption.

This chapter will now consider the energy efficiency measures that CRC taxpayers would like the CRC revenues to be spent on.

⁷³ Standard Note (n 64), p3.

⁷⁴ Wilkinson (n 50), 122; House of Commons Environmental Audit Committee, Fourth Special Report of Session 2008-2009 (June 2009) available at <https://www.publications.parliament.uk/pa/cm200809/cmselect/cmenvaud/563/563.pdf> accessed 10/05/2017, p8.

⁷⁵ IFS Green Budget (n 65), p110.

⁷⁶ Feld and Frey (n 8), 105.

7.3.2.b Positive incentives under the CRC

Regardless of whether revenues from the CRC are hypothecated for the environment, the following positive incentives raised by interviewees shed a light on how engagement with an environmental tax could be improved.

Interviewees were clear that there needed to be a positive incentive that went beyond the inherent incentive of the tax, in order to get them “switching off” energy (CRC M14). This positive incentive ranged, they suggested, from tax rebates to investment of the revenues into big, energy efficiency schemes. It is perhaps not surprising that the majority of the suggestions raised by interviewees were focussed on positive, financial incentives. The financial incentives raised by interviewees can be generally grouped into two camps: (i) wider investment into energy efficiency measures (more indirect incentives); and (ii) direct investment into grants and rebates for CRC taxpayers.

More specifically, interviewees were looking for energy efficiency grants and/ or loans which are available for those under the CRC to improve their energy efficiency.⁷⁷ Making use of these grants or loans would afford taxpayers the flexibility and freedom to spend the money to best fit the organisation.⁷⁸ This is one of the advantages of incentives: “positive incentives allow freedom of choice; penalties do not”.⁷⁹ A grant or loan to be spent on energy efficiency would provide a positive incentive, as it would allow the investment into new technologies and management processes which reduce energy consumption – this has the twofold benefit of reducing energy costs and reducing CRC liability. Especially when considering the use of a grant, this would not have to be repaid, and so is an instant, clear incentive to taxpayers. The use of loans would provide the opportunity for organisations that do not have the initial capital to invest in energy efficiency, to invest and improve their organisation.

Closely linked to the administration of the CRC itself were the incentives of tax rebates (CRC M4) and tax holidays.⁸⁰ These fall under the camp of tax incentives, which have been defined as “all measures

⁷⁷ Subsidies in particular are described as the “mirror image of various kinds of taxes”, Robert Hahn and Robert Stavins, ‘Incentive-Based Environmental Regulation: A New Era from an Old Idea?’ (1991) 18(1) *Ecology Law Quarterly* 1, 11. See more generally: Adam Jaffe and Robert Stavins, ‘Dynamic Incentives of Environmental Regulations: The Effects of Alternative Policy Instruments on Technology Diffusion’ (1995) 29(3) *Journal of Environmental Economics and Management* 43; Andrew Green, ‘You Can’t Pay them Enough: Subsidies, Environmental Law and Social Norms’ (2006) 30 *Harvard Environmental Law Review* 407.

⁷⁸ Grabosky (n 20), 262.

⁷⁹ *Ibid.*

⁸⁰ Tax incentives such as tax holidays and rebates have been analysed in tax literature but largely under the umbrella of tax competition, for example: OECD, ‘Corporate Tax Incentives for Foreign Direct Investment’

that provide explicitly for a more favorable tax treatment of certain activities or sectors compared to what is granted to general industry”.⁸¹ Here, the idea that good performance under the scheme (linked to the reputational element, which also has the ability to change behaviour)⁸² would be rewarded with tax rebates (having tax returned to the taxpayer) or tax holidays (breaks from paying the tax). Links were also made with Climate Change Agreements, which are voluntary agreements between the regulator and the regulatee, and which allow for a reduction in the Climate Change Levy if certain targets are met.⁸³ Interviewees argued that a similar mechanism could be put in place under the CRC:

“I think the whole concept of the climate change agreements. This is not obviously good for the government revenue generation, but if you’re really trying to incentivise people to save energy, there has to be some reward for saving energy. So the climate change agreement is whereby if you can demonstrate that you’re going to reduce your consumption over a given period, then it allows you to keep your exemption certificate, to me I think has worked really well...” (CRC M7)

This would combine a voluntary agreement with a financial incentive. It also requires taxpayers to engage with the scheme in a positive way, by making them demonstrate an energy reduction. This is something that would require far more engagement, than say, simply paying a tax. It is useful to note here that when the CRC comes to an end in 2019, it will be replaced by the CCL (or something very similar). This positive opinion of CCAs is therefore a useful take away point forward for post-CRC in 2019.

Whilst most interviewees wanted more positive incentives, financial incentives have been criticised by some interviewees and academics. For instance, CRC P6 argues that while taxpayers would take advantage of financial incentives at the start, they would quickly lose their appeal. Another criticism highlighted was the fact that taxpayers would begin to try to cheat the tax, in order to maximise the incentive received:

(OECD 2001); Alexander Klemm, *Causes, Benefits and Risks of Business Tax Incentives* (International Monetary Fund 2009); (and, for an updated version) Alexander Klemm, ‘Causes, Benefits and Risks of Business Tax Incentives’ (2010) 17(3) *International Tax and Public Finance* 315; Alexander Klemm and Stefan van Parys, *Empirical Evidence on the Effects of Tax Incentives* (International Monetary Fund 2009); Sebastian James, ‘Tax and Non-Tax Incentives and Investments: Evidence and Policy Implications’ (2009) SSRN paper available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1540074.

⁸¹ Klemm 2010, *ibid*, 315.

⁸² See Chapter Six on nudging.

⁸³ Finance Act 2000, Schedule 6, Part IV.

“So yeah, I think tax incentives on that basis are fine, but again, the only thing that worries me about tax, I’m a little bit cynical and I do think that when tax gets involved people start to distort the way they approach things because they’re just trying to maximise the incentive rather than do the right thing.” (CRC M16)

This is a criticism that has been echoed in academic literature. Financial incentives tied to performance could lead to a “narrow accounting mentality, and may ultimately defeat the spirit of the incentive programme”.⁸⁴ Braithwaite also argues that when an incentive is introduced for something such as energy reduction here, then the businesses that are already in a strong position to claim these incentives will compete to retain these incentives.⁸⁵ The problem arises with those that are in a poorer position to claim the incentives. These businesses do whatever they can to stop the stronger businesses from gaining an advantage by using the incentives.⁸⁶ This can include lobbying to delay incentives, manipulating compliance data, and bribing regulators.⁸⁷ A more common term to describe this consequence of the use of incentives is referred to as “creative compliance”.⁸⁸

Braithwaite highlights creative compliance in their study of nursing homes in the US.⁸⁹ In this study, where care homes were given incentives to involve residents in extra activities, they noted that sleeping residents were “being wheeled in to the room [...] so they could be recorded on the head count as participating”.⁹⁰ Overall, they found that the bigger the incentive provided to them, the more creative the creative compliance becomes.⁹¹ Whilst M16 admitted to having a cynical view when it comes to incentives, this was not echoed throughout the rest of the interviews. It raises the question of the efficacy of the audit process (covered briefly in Chapter Five), as the mechanism that would be responsible for catching any creative compliance. There is not the scope in this thesis to answer this question; however, my study data would indicate that creative compliance was not a primary concern for interviewees.

⁸⁴ Grabosky (n 20), 269-270.

⁸⁵ Braithwaite (n 20), 14.

⁸⁶ Nathaniel Keohane, R Revesz and Robert Stavins, ‘The Choice of Regulatory Instruments in Environmental Policy (1998) 22 Harvard Environmental Law Review’ 313, 351-353.

⁸⁷ Braithwaite (n 20), 14.

⁸⁸ Doreen McBarnet and Chris Whelan, *Creative Accounting and the Cross-Eyed Javelin Thrower* (John Wiley and Sons 1999).

⁸⁹ John Braithwaite, *The Nursing Home Industry* in Michael Tonry and Albert Reiss (Eds) *Beyond the Law: Crime in Complex Organisations* (University of Chicago Press 1993)

⁹⁰ Braithwaite (n 20), 15.

⁹¹ *Ibid.*

Another potential pitfall of incentives is money: with financial incentives comes financial cost. It is argued that the cost of incentivising everyone far outweighs the cost of punishing those who transgress the rules.⁹² The extension of incentives to all citizens would be too costly and administratively difficult to be effective.⁹³ In the case of the CRC, the scheme deals with a limited pool of taxpayers to be rewarded (i.e. only those that fall under the scheme), which would limit the costs of administering these incentives. However, considering the future policy objectives of the government, and their move away from individual energy efficiency schemes to one single energy efficiency tax,⁹⁴ an automatic rebate or financial payment for all taxpayers depending on their performance is unlikely to be feasible. The taxpayer pool will be considerably larger.⁹⁵

Looking beyond financial and reputational (covered in Chapter Six) incentives, only one additional suggestion was made by one interviewee. This suggestion was improved, free support for taxpayers:

“And again, an incentive could, for example, be free support. That would be nice, but within lots of organisations they’re too busy or stretched or whatever to utilise that. And an example in point is that we’ve been offered free support from (an organisation) to come and do some interesting energy audit work. That would be great if we had the time to get them in and then respond to the actions; it’s not always the case that you can do that. So I think other incentives, again, and I think there was talk about it, or originally there was, within the CRC, kind of that league table or that name and shame.” (CRC P6)

CRC P6 would like to see further support for energy efficiency, but questions whether organisations would have the time and resources to take up this support. This interviewee criticises incentives in the fact, that quite often, one type of incentive is not enough to engage behaviour. This mirrors the general regulatory concept that a mixture of measures should be combined in a regulatory scheme.⁹⁶

⁹² Grabosky (n 20).

⁹³ Ibid, 268.

⁹⁴ This policy is clearly demonstrated in their 2015 consultation entitled: Reforming the business energy efficiency tax landscape.

⁹⁵ This is because the CCL (which already has a revenue stream which is similar to the CRC), will also encompass CRC participants from 2019.

⁹⁶ See for example, Neil Gunningham and Darren Sinclair, ‘Regulatory Pluralism: Designing Policy Mixes for Environmental Protection’ (1999) 21(1) Law and Policy 49. See also literature on ‘meta-regulation’, a summary of ‘meta-regulation’ and similar approaches can be found in: Sharon Gilad, ‘It Runs in the Family: Meta-Regulation and its Siblings’ (2010) 4 Regulation and Governance 485, 486. See also literature on ‘new governance’ which explains “a range of processes and practices that have a normative dimension but do not operate primarily or at all through the formal mechanism of traditional command-and-control-type legal institutions”: Grainne de Burca and Joanne Scott (eds), *Law and New Governance in the EU and the US* (Hart 2006), p2; Charles Sabel and Jonathan Zeitlin, *Experimentalist Governance in the European Union: Towards a*

7.4 Concluding Remarks

“Carrots and sticks need not be inextricably linked. Nor are they invariably independent. Their respective use, alone or in combination, will vary according to the risk which they are intended to control, the target of the incentive in question, and the wider regulatory context in which they exist.”⁹⁷

This chapter has considered the interplay between positive and negative incentives. In terms of negative incentives, these can be useful in getting the attention of the taxpayer. With the CRC, this negative incentive is the tax to be paid on each tonne of carbon dioxide. Interviewees were almost unanimous in arguing that the cost of this negative incentive was not high enough. In addition, interviewees argued that a negative incentive alone was not enough to change behaviour, but that a positive incentive was also required.

Positive incentives have been criticised in academic literature. A significant number of interviewees called for the revenues of the CRC to be ringfenced and invested into positive incentives. This thesis does not argue for strong ringfencing of CRC revenues, but a weaker ringfencing of revenues could provide a positive image for participants – rather like a labelling exercise – where participants can see that the CRC is aiming to improve the environment by spending on the environment. By making the link between the revenues of the CRC and *some* environmental spending, the government would add legitimacy to the scheme in the eyes of the taxpayers. This partial ringfencing would, in turn, be able to fund some financial positive incentives for energy efficiency. Whilst a tax wide financial incentive under the CCL is likely to be unworkable once the CRC comes to an end (as the CCL covers a far greater number of taxpayers than the CRC), the traditional advantages found in the literature, of providing low interest green loans, or grants (say to those who demonstrate an engagement with energy efficiency through an application process) could apply. In addition, the labelling process achieved by partially ringfencing revenues would be strengthened by spending on a scheme which further helps achieve energy reduction.

A tax is traditionally used to discourage certain behaviour, through the use of a negative incentive. Under the CRC, the government is trying to discourage high emissions and making organisations pay for those emissions. Considering the aim of the CRC, it would perhaps be more effective to frame the

New Architecture (OUP 2010); and Grainne de Burca, Claire Kilpatrick and Joanne Scott, *Critical Legal Perspectives on Global Governance* (Hart 2014).

⁹⁷ Grabosky (n 20), 270.

CRC in a more positive light: that is, encouraging energy efficiency rather than discouraging high energy consumption. As P4 states:

“[B]ut since that incentive has been taken away, since it’s become just a pure tax it’s become very frustrating because the reporting is still very onerous for what it is and completely unnecessary. And it’s – it’s not having an impact; all it’s doing is actually taking money out of my budget and not allowing me – it’s not providing me any incentive to do further energy efficiency.” (CRC P4)

Because no incentives are provided through the CRC, participants find the scheme a burden for what it is. That is to say that they believe the scheme should be streamlined if it is only a revenue raising tool (i.e. a tax). As such, the CRC could be perceived to be inefficient in its current form. Chapter Eight will now go on to consider regulatory efficiency more generally, in order to analyse the CRC in its current form.

The chapter that follows is the final, substantive chapter in this thesis. Chapter Eight will now consider how the complexity of the CRC scheme has affected its efficiency and how regulatees engage with the CRC.

Chapter Eight: Efficiency and Symbolism

In the previous chapters, different themes emerging from the data were explored. To recap, this thesis has considered the role of stability in green tax policy; the regulator/ regulatee relationship and the role of trust; the power of nudging in green taxes; and the role of incentives in taxation.

This chapter will consider one final theme that arose from the data: the complexity of the CRC. During interviews, interviewees were specifically asked: “how complex do you find the CRC?”. My data suggests that the CRC is considered to be a complex tax.¹ The complexity of the CRC had previously been highlighted by government during the 2012 reforms to the CRC, and so the subject of complexity seemed to be worth exploring. The complexity of a regulatory scheme will be tied into the overall efficiency of the CRC, in order to discover how regulatees engage with a complex scheme. As such, this chapter offers, on the basis of my data, some learning experiences for regulators when it comes to regulatory design and operationalisation.

This chapter will first consider the literature on regulatory efficiency before moving onto the complexity of the CRC. There, I will outline a number of the perceived complexities of scheme including mechanical complexities, the problem of regulatory overlap, and administrative complexities. Drawing on interview data, this section will consider the practical impacts of complexity, including understanding and engagement with the CRC scheme and how these can impact on the overall efficiency of the scheme. I begin by looking at concepts of ‘good’ regulation.

8.1 Regulatory efficiency: complexity

The pool of regulatory literature is vast. However, the literature on taxation and regulation is less so. Taxation regulates market activity,² and the author Arthur Pigou made the link between taxation and externalities (environmental harm, for example, is an externality).³ In his seminal work, the *Economics of Welfare*, Pigou argues that an optimal tax taxes the externality-creating activity at a rate that is

¹ Of course, there are many other complex taxes. See, for example Ann Mumford’s discussion of the complexity of the US Tax Code in Ann Mumford, *Taxing Culture: Towards a Theory of Tax Collection Law* (Routledge 2017), Chapter 6.

² Valerie Braithwaite, ‘Responsive Regulation and Taxation: Introduction’ (2007) 29(1) Law and Policy 3, 3.

³ Arthur Pigou, *The Economics of Welfare* (4th Edition) (Palgrave Macmillan 2013) Part II, Chapter 11, p223.

equal to the damage caused by the externality.⁴ Despite this foundational work, Braithwaite argues that traditionally the link has not been made between taxation and the wider regulatory arena.⁵ Braithwaite argues:

“If regulation entails directives to act in certain ways but not others, backed by enforcement practices, formalized as law and justified in terms of protecting the public interest, taxation should be at the center of the regulatory stage.”⁶

There is very little by way of discussion on the interplay between regulatory efficiency and taxation in the academic field.⁷ This chapter will primarily focus therefore on wider regulatory theory literature, drawing on taxation and economics literature where available.

“Well designed” and “properly implemented” regulation can help policymakers achieve environmental aims, but what constitutes ‘good’ regulation is difficult to pinpoint.⁸ Within the regulatory field, a number of theoretical approaches have been taken to describe “good regulation”. Baldwin et al reject the idea that ‘good’ regulation is regulation that maximises wealth,⁹ although it is a factor that can be taken into account when looking at regulation.¹⁰ The reasoning behind this objection lies in the fact that regulation impacts upon individual rights, and wealth distribution cannot explain or justify an interference with individual rights.¹¹ Instead, Baldwin et al propose five key tests which should be considered when deciding whether regulation is ‘good’ regulation:¹²

- 1) “Is the action or regime supported by legislative authority?”

⁴ Ibid.

⁵ Braithwaite (n 2), 3.

⁶ Ibid.

⁷ Although Posner does argue that many of the legal doctrines and institutions are “best understood and explained as efforts to promote the efficient allocation of resources”. Richard Posner, *Economic Analysis of Law* (2nd Edition) (Little, Brown and Company 1977), p17.

⁸ Fiona Haines, *The Paradox of Regulation: What Regulation Can Achieve and What it Cannot* (Edward Elgar 2011), p7.

⁹ Robert Baldwin, Martin Cave and Martin Lodge, *Understanding Regulation: Theory, Strategy and Practice* (2nd Edition) (OUP 2012), p25.

¹⁰ Ibid, 26.

¹¹ Ibid.

¹² The five factors put forward by Baldwin et al. feature in relatively few papers in their entirety. Papers that cite this work include: Sanford Berg, *Sustainable Regulatory Systems: Laws, Resources and Values* (2000) 9 United Policy 159; Ivandro Campos, *Health-Care System Regulation in Brazil and in Great Britain* (2013) *Legal and Forensic Medicine* 223; the MSc work of Valeriy Tsaplin, *An Evaluation of the Efficiency of Energy Regulation in Ukraine* (2001) available at www.kse.org.ua/uploads/file/library/2001/Tsaplin.pdf accessed 20/04/2018; and the doctoral work of Anastasia Verra, *Achieving Regulatory Efficiency: A Study of the Greek Telecommunications Authority* (2008) available at <https://qmro.qmul.ac.uk/jspui/handle/123456789/384> accessed 20/04/2018. These works cite the five factors but do not really explore exactly *what* efficiency is.

- 2) Is there an appropriate scheme of accountability?
- 3) Are procedures fair, accessible, and open?
- 4) Is the regulator acting with sufficient expertise?
- 5) Is the action or regime efficient?¹³

These five questions are based in real-life debates on regulatory reform, and collectively, they set a benchmark for assessing regulation.¹⁴ As for the first three questions in relation to the CRC, the first can easily be answered in the affirmative (i.e. the CRC is supported by legislative activity). The second and third questions are outside the ambit of this thesis. In relation to the fourth question, this thesis has already considered the role of expertise when looking at the regulator/ regulatee relationship in Chapter Five. In that chapter, we saw that where regulatees perceived the regulator to be lacking in competence, then this lack of faith had wider ramifications on the scheme as a whole. In the case of the CRC, this has led to a general disengagement with the scheme by regulatees, and specific problems of enforcement through the audit process. However, it is only really point number five, which considers the efficiency of regulation, which speaks to the rationality of a piece of regulation. It is this fifth point which will form the point of focus for this chapter.

The concept of regulatory efficiency is not covered in much depth by key authors on regulation¹⁵ – that is, whilst regulation should be “efficient”, there is little that follows by way of definition of what “efficient” is. Efficiency more broadly has been considered by Vilfred Pareto, who describes efficiency as the efficient distribution of resources; which is achieved when it is no longer possible to improve one person’s situation without making another person worse off.¹⁶ This applies equally to preference criteria as to individuals. This definition of efficiency can be seen in government policy, which states that efficiency is where “nobody can be made better off without someone else being made worse off”.¹⁷

¹³ Baldwin et al. (n 9), p27.

¹⁴ Ibid, p32.

¹⁵ For instance, Baldwin et al. (n 9).

¹⁶ D Gale, ‘Efficiency’ in M Hazewinkel and A Rinnooy Kan (eds), *Current Developments in the Interface: Economics, Econometrics, Mathematics* (Springer 1982). For a discussion on the relationship between Pareto and Pigou see: Ian Dobbs, ‘Externality, Efficiency and the Pareto Principle’ (1981) *International Review of Law and Economics* 167.

¹⁷ HM Treasury, ‘The Green Book: Appraisal and Evaluation in Central Government’ (2003, as amended in 2011), p51.

An alternative approach splits efficiency under two headings: First, productive efficiency, where the regulation is being “implemented at the least possible level of inputs or costs”;¹⁸ second, outcome efficiency, where an efficient piece of regulation is one which produces efficient results.¹⁹ These approaches to efficiency both describe what regulation should be, but does not really inform the reader as to what efficient regulation *looks like*. Below, I will apply these concepts to what the interviewees said about the regime and its complexity.

8.1.1 The complexity of the CRC

During interviews, one of the most recurring criticisms of the CRC related to its complexity. Those who have read Chapter Three of this thesis may agree. Whilst the link between the issues of complexity and efficiency may not be immediately obvious, this section will discuss how the practical impacts of the CRC’s complexity have impacted on its efficiency. The complexities to be covered include mechanical complexities of the CRC (in terms of setting up and integrating the CRC into an organisation; regulatory overlap (the fact that the CRC overlaps with a number of other environmental regimes); and finally, the administrative burdens of the CRC. We will now turn to the first of these complexities.

8.1.1.a Mechanical complexities of the CRC

“In our business, we still refer to it but we call it Complicated Really Complicated. It's an acronym obviously for CRC, but historically it's been extremely complicated.” (CRC M10)

All but two interviewees made a reference to the complexity of the CRC and/or the evolution of this complexity through the CRC reforms (for more on the reforms to the CRC, see chapter Four). Interviewees refer to what this chapter will label the “mechanical complexity” of the CRC – that is to say, the overarching principles of the CRC are not complex, but that their application in the real world is complex. This perceived unnecessary complexity leads to confusion amongst participants, as well as the opinion that the CRC is “tiresome” (CRC M1). If the regulatees are unsure as to what their

¹⁸ Baldwin et al. (n 9), p31.

¹⁹ Ibid.

obligations are under the scheme, then this requires further resources and time from regulatees to come to grips with the scheme.

In terms of productive efficiency,²⁰ this would render the CRC inefficient. Furthermore, not only does this make the CRC less efficient in practice, but these inefficiencies are also felt by the regulatee – here, the complexities of the CRC have been labelled by interviewees as “unnecessary”. The disadvantages of complexity are therefore twofold: a productive inefficiency; and a perceived inefficiency. That is to say, regulatees are *aware* that the CRC is inefficient. The later part of this chapter will consider the role of symbolic legislation to explore how the CRC has been packaged to regulatees. Obvious inefficiencies that are perceivable by those regulated form part of this package – i.e. they form part of the visible attributes of the CRC – and impact on how the scheme is approached as a whole.

The CRC was often described as “complex” by interviewees.²¹ A distinction needs to be made in terms of the overarching ideas underpinning the CRC, and the mechanical processes that constitute the CRC and how it functions. It is only the latter that has been perceived to be complex by interviewees:

“I think it is very complex. I think a lot of the rules are very complex. I think the broad-brush structure of the scheme isn’t that complex, but nothing is simple. So, I think it’s very difficult. There are always going to be lines that have to be drawn that make it complicated. There are always going to be complicated corporate structures and ownership of entities and so on that require a rule book for them to be dealt with within the scheme. But it is a very complicated scheme.” (CRC S3)

“Well in its principle it is not complicated at all, it is quite straightforward. But in its application, it is actually very complex.” (CRC S6)

What is interesting, is that these two quotes come from two interviews with solicitors with extensive experience in working in environmental and property law – and as such, have experience dealing with technical pieces of legislation across the wider field of environmental law. A different solicitor described the CRC as “one of the most complex things we advise on” (CRC S2). Even in the eyes of the professionals, therefore, the CRC is viewed to be complex on a micro level. Exploring these complexities in more depth, a number of specific complexities were highlighted during interviews. Whilst it is not the purpose of this chapter to tackle these complexities head on, and suggest

²⁰ Ibid.

²¹ CRC M2, M4, M6, M14, M15, S2, S3, S6.

alternatives, these complexities will be raised to illustrate how the CRC is perceived by regulatees and those who advise regulatees.

First, interviewees discussed the initial difficulties of setting up the CRC as a scheme in their organisation and preparing for compliance. One interviewee, CRC P5, discusses the set up in their organisation:

“I don’t find it particularly onerous now we’ve got a good idea of what all our meters are doing and we’ve got procedures in place. It’s not particularly onerous now, but if I was on my own, I would find it very difficult, because to get all those processes in place has taken us a couple of years really.” (CRC P5)

The CRC is now well established, being in its second phase, and as such, the CRC is an embedded scheme in many organisations which have learnt how to “deal with the grey areas” (CRC M12). However, the complexity of the CRC can still be experienced by those who are newcomers to the scheme (for example through participant staffing changes). For these people, “it’s incredibly complex for them to get their head around a lot of the mechanisms” (CRC M4). This is due to both the base complexity of the scheme (i.e. the scheme as it stands), and the numerous reforms that the CRC has been through (see chapter Four for more on stability) (CRC M13, M15).

Interviewee M6 compared their experience with setting up the CRC to their experience of the EU Emissions Trading Scheme. Here, they discuss the fact that whilst the CRC is difficult to set up, it is not as complex as the EU ETS:

“In terms of complexity, I think it’s complex to set up. It’s more complex than just mandatory carbon reporting, which is very straight forward, it’s basically just like use a recognised methodology and help and compliance. But obviously it’s not as complicated as things like the EU ETS. So sometimes it’s really just carbon reporting, but definitely not EU ETS.” (CRC M6)

Overall, there were mixed views on the CRC set up, with some interviewees talking about the “faff” of the process of setting the scheme up (CRC M1), to the sentiment that the scheme was very much well established now. This included negative feedback from interviewees on the abolition of the scheme (CRC M3); there was, for some interviewees, some consistency and stability to be found in the fact that the CRC had now been around for a number of years and become a familiar face in organisations (See Chapter Four for more on stability and the CRC).

8.1.1.b Regulatory Overlap

Second, a complexity highlighted in interviews was where the CRC fits into the regulatory landscape. There are currently a number of different green taxes that all have different rates,²² and regulatees need to navigate this landscape. In regulatory literature, where there are a number of different instruments targeting the same area, this is referred to as regulatory pluralism. The regulatory literature tends to take quite a positive approach to regulatory pluralism, arguing that there is too much focus on “single instrument” approaches.²³ Instead, a multiple-instruments based approach, as well as a broader range of regulatory actors, is said to produce better regulation.²⁴ It has also been argued that it is useful to use multiple instruments for the same approach, including a mix of command and control with other forms of regulatory instrument.²⁵ Regulation is therefore “a toolbox from which the optimal tools are (or should be) selected”.²⁶

When considering the more tax specific literature, however, the viewpoint on regulatory pluralism is much more negative. Here, authors argue that while pollution control instruments can be combined with other instruments (such as information policies to overcome information asymmetry),²⁷ international tax overlap with national taxes results in inefficiencies. In the case of the CRC, this plurality can be seen with the overlap seen between the CRC, CCL and EU ETS.

Interviewees discussed the complexities that are created if they also have to deal with EU ETS supplies or have a Climate Change Agreement in place (CRC M5). This regulatory overlap is a point on which solicitors are asked to provide advice (CRC S3), and is a source of complexity with the CRC (CRC S3):

“The complexity of the legal regulatory fiscal landscape for energy is very complex. Because there’s a number of schemes we have to interact with, which overlap. I think the CRC were overlapping with them.” (CRC P8)

²² Note in particular potential overlap with the CCL; and also, the EU ETS, which, whilst not a tax, is an economic instrument with some overlap.

²³ Timothy Swanson, ‘Review of Economic Incentives and Environmental Policies: Principles and Practice’ (1995) 4(1) *Review of European Community and International Environmental Law* 85; Neil Gunningham and Darren Sinclair, ‘Regulatory Pluralism: Designing Policy Mixes for Environmental Protection’ (1999) 21(1) *Law and Policy* 49, 50.

²⁴ See Neil Gunningham and Darren Sinclair, ‘Integrative Regulation: A Principle-based Approach to Environmental Policy’ (1999) 24 *Law and Social Inquiry* 853.

²⁵ Baldwin et al. (n 9), p63.

²⁶ Kieron Flanagan et al., ‘Reconceptualising the ‘Policy Mix’ for Innovation’ (2011) 40 *Research Policy* 702, 706.

²⁷ Paul Lehmann, ‘Using a Policy Mix for Pollution Control - A Review of Economic Literature’ (2008) Helmholtz Centre for Environmental Research - UFZ Leipzig, available at https://mpr.ub.uni-muenchen.de/21354/1/MPRA_paper_21354.pdf accessed 01/08/2017.

More specifically, the overlap creates administrative burdens in terms of data collection, and reporting. With multiple schemes overlapping, regulatees often have multiple reporting obligations which are all different, and such are not resource efficient. CRC P5 argues that: “The trouble is, there are lots of very similar reporting mechanisms, but just slightly different, and they’re just a burden really”. This “massive duplication” is therefore something that should be avoided in a green tax scheme (CRC P1).

With its roots in Smart Regulation (the idea that a mix of policy instruments should be used with a three-dimensional enforcement pyramid),²⁸ Gunningham et al. argue that the full range of policy instruments available to a task should be considered, before employing a mix of these instruments to achieve the task.²⁹

Gunningham and Sinclair argue that whilst there is too much focus on single instrument approaches, it cannot always be assumed that multiple instruments “will be better”.³⁰ They then categorise multiple instrument approaches into the following groups:

“1) mixes that are inherently complementary; 2) mixes that are inherently incompatible; 3) mixes that are complementary if sequenced; and 4) mixes whose complementarity or otherwise is essentially context specific”.³¹

They then consider the compatibility of different mixes of command and control, economic instruments, self-regulation, and voluntary agreements.³² The current situation with the CRC resonates with the fourth group more than the others, in the sense that we are dealing with a mix of instruments in the set context of emissions control. However, what is not considered is the compatibility of multiple economic instruments which are broadly covering the same (but slightly different) emissions. In the case of the CRC, for example, the CRC targets organisations that could also be covered by the CCL and the EU ETS for some of their energy consumption. In this scenario, regulatees are required to identify the different energy supplies by each regime, in order to exclude

²⁸ Neil Gunningham and Peter Grabosky, *Smart Regulation: Designing Environmental Policy* (OUP 1998), Chapter 6.

²⁹ Ibid; also see: Michael Howlett and Jeremy Rayner, ‘Design Principles for Policy Mixes: Cohesion and Coherence in ‘New Governance Agreements’’ (2007) 26(4) *Policy and Society* 1, 4. For use outside pollution control, see Irene King and Christoph Schroeter-Schlaack (editors), *Instrument Mixes for Biodiversity Policies* (POLICYMIX, 2011), p10.

³⁰ Gunningham and Sinclair (n 23), 50.

³¹ Ibid, 53.

³² Ibid, 55 onwards.

them from the CRC. This pluralism is viewed negatively by regulatees as an administrative burden and additional complexity.

This is echoed in various of the EU ETS literature,³³ which considers the impact of domestic tax regimes on the efficiency of the EU ETS. Here, it is argued that the EU ETS is affected by national tax regimes, rendering a multiple regime approach “at best redundant and at worst counterproductive”.³⁴ This literature focusses on the situation where the EU ETS emissions are subject to a second tax, the proponents for which argue that there would be an additional incentive for emissions reductions.³⁵ In a study by Boehringer et al. they dismiss the use of additional taxation in conjunction with the EU ETS as “environmentally ineffective”, raising the costs of compliance with the EU ETS.³⁶ This is particularly pertinent when the multiple instruments have one single policy objective, with the potential for “costly overlaps”, and therefore inefficiencies.³⁷ In a more recent study, Godal and Holtsmark also argue that the efficiencies of permit trading are also lost when additional taxes come into play.³⁸

However, again, this is not the case with the CRC. Energy supplies which are already covered by the EU ETS and the CCL fall out of the scope of the CRC.³⁹ There is therefore a lacuna in the regulatory literature which considers the situation where the regulatory instruments overlap in the sense that there is the *possibility* of pluralism (i.e. in theory the EU ETS and the CRC can cover the same emissions); but that in practice, there is no pluralism. Whilst an organisation can fall under both the CRC and the EU ETS, one supply of energy would not be covered by both regimes at the same time. Therefore, organisations can have emission X which is covered by the EU ETS, and emission Y which is covered by the CRC. Both regulatory regimes (while targeting different emissions) are therefore both part of an overall package of climate change regulatory responses that target, to a degree,⁴⁰ the same organisations. As such, the regulatees are instead required to wade through the complex regulatory

³³ Nick Johnstone, ‘The use of Tradeable Permits in Combination with other Environmental Policy Instruments’ (OECD 2003) available at <http://www.oecd.org/env/tools-evaluation/32427205.pdf> accessed 01/08/2017; Christoph Boehringer, Henrike Koschel and Ulf Moslener, ‘Efficiency Losses from Overlapping Regulation of EU Carbon Emissions’ (2008) 33 *Journal Regulatory Economics* 299; Odd Godal and Bjart Holtsmark, ‘Permit Trading: Merely an Efficiency-Neutral Redistribution away from Climate Change Victims?’ (2011) 113(4) *Scandinavian Journal Economics* 784.

³⁴ Johnstone, *ibid.*

³⁵ Boehringer et al. (n 33), 300.

³⁶ *Ibid*, 311.

³⁷ Christoph Boehringer et al., *Good Things do not always come in Threes: On the Excess Cost of Overlapping Regulation in EU Climate Change Policy* (2016) 94 *Energy Policy* 502, 503

³⁸ Godal and Holtsmark (n 33).

³⁹ The CRC Energy Efficiency Scheme Order 2013, SI 2013/1119, Schedule 1, Paras 28 and 29.

⁴⁰ There is not a total overlap, because not all CRC captured emissions are also captured by the EU ETS/ CCL and vice versa.

landscape to navigate this potential pluralism. I consider this situation to be a question of efficiency, and an additional administrative burden on regulatees.

This raises questions about the broader regulatory landscape in which the CRC sits. This difficulty was also highlighted in the 2015 consultation on the business energy tax landscape:

“The government believes there is potential to streamline taxes in a way that reduces variations in tax rates faced by different users, simplifies the tax system and strengthens the price signal. This consultation proposes doing this by replacing the CRC and CCL with a new energy consumption tax based on the CCL.”⁴¹

This proposal was subsequently adopted by the government in their response to the consultation:

“The government is responding by abolishing the CRC energy efficiency scheme (CRC) – a burdensome and bureaucratic tax. Instead, we will move to a single tax, the existing Climate Change Levy (CCL), and consult on a new streamlined reporting framework.”⁴²

Therefore, whilst the regulatory overlap was identified by interviewees as a source of complexity of the CRC, steps have already been taken by the government to mitigate this overlap. The exact logistics of how the CCL single tax will replace the CRC is yet to be published, but will hopefully tackle the problems of regulatory overlap which the CRC has experienced.

8.1.1.c Administrative complexities

Finally, more specific bureaucratic complexities have been raised by interviewees. These include the numerous deadlines under the scheme:

“And there wasn’t this deadline after deadline after deadline [in reference to another scheme], that with CRC is almost intended to trip you up and make you realise, ‘Oh, I’ve forgotten to do something and now I’m going to be subjected to an enforcement notice’.” (CRC M3)

⁴¹ HM Treasury, ‘Consultation: Reforming the Business Energy Efficiency Landscape’ (September 2015), p14.

⁴² HM Treasury, ‘Reforming the Business Energy Efficiency Landscape: Response to the Consultation’ (March 2016), Foreword.

This is linked to the preparation of the evidence packs which include all the consumption data in preparation for an audit (see Chapter Three),⁴³ which has been described as “over complicated” (CRC M14). The preparation for compliance is therefore seen as a burden by some interviewees. Other technical complexities can be found in the use of corporate structures for the scheme. The CRC requires organisations to separate their organisation into group structures,⁴⁴ and use this as a basis to calculate their energy consumption. The rules surrounding this process are incredibly complex, and solicitors often face queries about structuring and the CRC (CRC S3).

CRC M10 explains the difficulty as follows:

“The biggest complications would be around interpretation of organisational structure, highest parent primary member’s participant equivalence. Specifically trust funds, investment vehicles and larger multinational organisations, there are quite a lot of queries and support that we can give organisations around that.” (CRC M10)

Overall, there are a number of complexities that surround that CRC. However, these complexities are generally focussed on the mechanical implementation and operation of the CRC. The overarching principles underpinning the CRC are not contested – that is, the idea of using a tax to lower energy consumption – and are not considered complex. This shows, therefore, that it is the process of putting a tax into practice that causes the complexities in the eyes of the regulatee.

8.1.2 Efficiency and complexity

In terms of efficiency, interviewees themselves identified that a complex scheme is not an efficient one. For example, CRC P3 stated:

“I would say an effective piece of environmental legislation is that it is easy to understand, and is easy to understand why it was created as well.” (CRC P3)

This is echoed by CRC S2:

“Environmental regulation has to be effective, I’m not sure the CRC is, it needs to be as simple to understand as possible.” (CRC S2)

⁴³ CRC Order 2013 (n 39), Article 40.

⁴⁴ Ibid, Chapter 4.

The CRC should therefore be understandable to be effective. A piece of regulation should be effective in achieving its aims to be efficient. Therefore, taxpayers should be able to follow and understand a green tax regime; so that they can comply and change their behaviour in line with the CRC's aims.

One of the more light-hearted consequences of this inefficiency is the difficulty that interviewees had in defining the CRC:

“You need to be able to say what the scheme is or what the goal is, what the regulation is, what the legislation is in 30 seconds. I can't say what CRC is in 30 seconds beyond saying it's a tax for carbon. If I go any more than that, I take five minutes to explain what it is. Or if I don't take five minutes and I take one minute, I haven't said everything that I need to say. The regulation has to be something you can say in 30 seconds, and then from that, there is a simple set of rules around it.” (CRC M8)

All interviewees were asked to explain, in their own words, what the CRC was. No answer was the same, and varied from a one line “it's a tax” (CRC M1), to a page long explanation of how the scheme works. Even in the longer answers, not all aspects of the scheme were covered. It was argued by one solicitor, that this is the tell-tale sign of a bad piece of regulation:

“I think, a sign of a poorly drafted piece of legislation when law firms have to be brought in to advise clients on how it works and what it means. If it's a good piece of legislation it shouldn't be that difficult. I think it's very complex, I think it applies, sometimes, in a way that doesn't really make sense.” (CRC S1)

The CRC is therefore a complex scheme which is difficult to explain – a characteristic which favours consultants (CRC M3) and solicitors (CRC S2) who make money by selling specialist advice to regulatees.⁴⁵ In general, the CRC requires far too much “lawyer time” to be efficient (CRC S7).

Building on from the above is a more serious consequence of complexity: a lack of understanding of the regulation. Drawing on tax literature, this is referred to as tax salience. Within the pool of tax literature, there are both empirical studies and theoretical papers on tax salience.⁴⁶ Definitions of tax salience in literature include “the extent to which taxpayers account for the costs imposed by taxation

⁴⁵ And as such, potentially acting as “transaction cost engineers” where the role of environmental lawyers is corporatised. See, Robert Lee and Steven Vaughan, ‘The Contaminated Land Regime in England and Wales and the Corporatisation of Environmental Lawyers’ (2010) 17(1) *International Journal of the Legal Profession* 35.

⁴⁶ For relatively recent empirical studies see: Raj Chetty, Adam Looney and Kory Kroft, ‘Salience and Taxation: Theory and Evidence’ (2009) 99(4) *American Economic Review* 1145; Amy Finkelstein, ‘E-ZTAX: Tax Salience and Tax Rates’ (2009) *The Quarterly Journal of Economics* 969.

when the taxpayers make decisions or judgments”.⁴⁷ However more recent literature frames the concept of tax salience in terms of understanding. Mumford argues that tax salience refers “essentially, to the capacity of taxpayers to understand legislation”.⁴⁸

In tax literature, tax salience overlaps with and has been confused with the concepts of ‘complexity’ and ‘transparency’.⁴⁹ However, salience is very similar to the idea of complexity, with the literature arguing that “low tax salience by taxpayers generally may be related to greater levels of tax complexity”.⁵⁰ Whilst tax complexity has been considered above, the focus here is on salience – i.e. the ability of the CRC participant to understand the CRC. This tax salience is broken down into what is termed high and low tax salience:

“High tax salience indicates that taxpayers have an accurate understanding of the law, whereas the description ‘low tax salience’ refers to a significant gap between a taxpayer’s impression of legal obligations and those that actually exist, whether or not the taxpayer is aware of this gap.”⁵¹

The importance of a high tax salience is contested in academic scholarship. The obvious problem linked to low tax salience is that it has potential negative impacts on taxpayers’ ability to comply with the tax.⁵² There is also evidence arguing that high tax complexity can result in “taxpayer confusion and error”,⁵³ or an environment of uncertainty.⁵⁴

This confusion is reflected in the interview data. Interviewees discussed a general confusion that surrounds the CRC – with statements such as “it’s so confusing” (CRC M1) and “it was a bit perplexing when it all started” (CRC M12). CRC P1 did not understand the process of the CRC, and CRC P8 felt sorry for lots of organisations “because they didn’t know what they were doing”.

Consultants and solicitors talk about the confusion of their clients:

⁴⁷ David Gamage and Darien Shanske, ‘Three Essays on Tax Salience: Market Salience and Political Salience’ (2011) 65 *Tax Law Review* 19, 23.

⁴⁸ Ann Mumford, ‘Tax Complexity, Tax Salience and Tax Politics’ (2015) 24(2) *Social and Legal Studies* 185, 185.

⁴⁹ John Snape, ‘Tax Law: Complexity, Politics and Policymaking’ (2015) 24(2) *Social and Legal Studies* 155, 156.

⁵⁰ Tamar Budak, Simon James and Adrian Sawyer, ‘International Experiences of Tax Simplification and Distinguishing between Necessary and Unnecessary Complexity’ (2016) 14(2) *eJournal of Tax Research* 337, 347.

⁵¹ Mumford (n 48), 186.

⁵² Andrew Cuccia and Gregory Carnes, ‘A Closer Look at the Relation Between Tax Complexity and Tax Equity Perceptions’ (2001) 22(1) *Journal of Economic Psychology* 113, 113 and 131.

⁵³ Gamage and Shanske (n 47), 33.

⁵⁴ Sol Picciotto, ‘Constructing Compliance: Game Playing, Tax Law, and the Regulatory State’ (2007) 29(1) *Law and Policy* 11, 15.

“I think a lot of clients are confused by it. I think the climate change levy, the stuff that gets added onto electricity bills, I think, makes more sense to clients, and is much less administratively onerous for them.” (CRC S1)

“Now, they didn’t understand what it was; they mostly saw it as just a tax to them. So, they literally said, “Look can you deal with all our CRC?” and that’s it. And they didn’t really want to know anything otherwise; they just wanted for me to let them know when it was all done and over. So, they never really engaged from the onset.” (CRC M4)

As M4 highlights, clients were willing to pass the responsibility of the CRC onto a consultant because they did not understand what it was. The data suggests that not only is there a lack of understanding because of the complexity of the CRC, but that this complexity results in a disengagement with the scheme. The purpose of the scheme becomes lost on the regulatee:

“Sometimes people get into a right fuddle with things and the way that they name things becomes really complicated, and the essence of the new regulation or the incentive or the tax gets lost a little bit, and I think a little bit more clarity around why something is being done and how it fits in with lots of other taxes.” (CRC M16)

This links to how the regulatee perceives the environmental tax that they are paying. It has been argued in tax literature that a clear green policy equates to a clear tax scheme.⁵⁵ The interview data appears to take this further. As in Chapter Four, the role of stable tax policy was discussed as being key to how regulatee’s perceive the motives behind a green tax; here, if a tax is so complex that the regulatee does not understand it, then the motives are lost once again. The complexity of the CRC therefore detracts from its supposedly clear aim: to reduce energy consumption.

Tax salience needs to be balanced with other priorities when designing tax regimes. Gamage and Shanske argue that whilst salience is important, it is but one of a list of priorities when drafting legislation, and not necessarily at the top of that list.⁵⁶ In addition, Mumford argues that another source of complexity can be found in the unrealistic expectations of the taxpayer.⁵⁷ That is to say that perhaps regulatees “place unreasonable demands upon the capacity of written legislation to

⁵⁵ Adrian Sawyer, *Moving on from the Tax Legislation Rewrite Projects: A Comparison of the New Zealand Tax Working Group/ Generic Tax Policy Process and the United Kingdom Office of Tax Simplification* (2013) 3 *British Tax Review* 321, 321

⁵⁶ Gamage and Shanske (n 47); Mumford (n 48), 187.

⁵⁷ Mumford (n 48), 191.

communicate, effectively, what at first glance might appear to be simple concepts”.⁵⁸ Building on from Chapter Four on a stable green tax policy, it has been argued that clear legislation stems from clear policy.⁵⁹ In terms of the CRC, I argue that the instability of the CRC over the years has led to the perception that the underlying policy behind the CRC is also unstable. Not only does this have the effect of creating disengagement (Chapter Four), but associated literature would also indicate that it has consequences for the salience of the tax.

This is echoed further in tax literature. Picciotto argues that if taxpayers disengage with a tax system due to its complexity, and as such its uncertainty (as seen with the CRC), then avoidance could increase.⁶⁰ In the case of the CRC, my data suggests that its complexity could have led to further disengagement with the scheme. Mumford argues that should uncertainty create a change in the psychology of taxpayers – for instance, mistrust in the state – then tax complexity should potentially be placed higher on the list of priorities when designing tax schemes.⁶¹ Considering, therefore, the confusion that complexity has created; and linking this to the negative emotive reaction that can be seen through the disengagement with the CRC, my data suggests that the CRC is too complex to achieve its aims.

This is particularly pertinent where regulatees view the complexities of the regime as unnecessary; and this is the case with the CRC. CRC S2 labelled the CRC as “unduly complex”, whilst CRC M2 stated that it is “more complex than it needs to be”. Interviewees were of the opinion that if the CRC is just a tax, then it is too complex. Complexity appeared to be acceptable for the CRC whilst it retained its *perceived* dual purpose: raising revenue *and* as a tool to reduce energy consumption.⁶²

CRC P4 argued:

“I think it’s a missed opportunity because I think when it was first brought in it was quite complicated but it was complicated for a reason and it did provide incentives. So I think it was quite – I was okay about it, I was quite willing to put in the effort, but, since that incentive has been taken away...” (CRC P4)

Therefore, with the incentives, regulatees are more willing to accept complexity – this perhaps strikes back to the regulatees being able to see the motive behind the regulation. In the eyes of the

⁵⁸ Ibid.

⁵⁹ Sawyer (n 55), 321.

⁶⁰ Picciotto (n 54), 23.

⁶¹ Mumford (n 48), 196.

⁶²Note the use of *perceived* here. The CRC still does have a dual purpose, but this is potentially no longer recognised by interviewees.

interviewees, incentives reflect a positive policy message in terms of the environment. As the CRC is perceived as ‘just a tax’, any undue complexity is not tolerated.⁶³

“In terms of the complexity of the actual process, I don’t think there’s any real upside to that. Once they decided it was going to be a tax, I think they should have perhaps done the work to make it a tax and take away all these different, what I was outlining about submit the annual report and buy your allowances, pay your allowances, surrender your allowances, all those different milestones, I just don’t really see that that’s absolutely necessary. A bit of thought and you could have got rid of all that stuff.” (CRC M16)

“If it’s going to continue down the taxation route, it would be easier if it came out of a point of billing; and it was then on all consumption.” (CRC P3)

As such, the complexity of the CRC is seen as too high for what it is trying to achieve as a tax (CRC M1). A number of interviewees advocated that if the CRC was just a tax, then the tax should simply be levied at the point of billing (i.e. the energy supplier will collect the tax on behalf of the consumer and this would be added onto the energy bill, as seen with the CCL).⁶⁴ However, whilst this is a possible alternative, the data does also indicate that there is some acceptance for a more complex scheme which outwardly appears to be tackling energy consumption. The distaste for complexity appears to stem from the fact that the CRC is viewed as a *mere* tax, rather than because the CRC is complex *per se*.

8.2 Concluding Remarks

The CRC is known for being a complex scheme. In 2012, the initial complexities of the scheme were highlighted by the government as a reason for significant reform.⁶⁵ Despite significant reforms in 2013, some complexities from before the reform, as well as continued complexities of the CRC, have been highlighted as an issue by interviewees. These include problems of integrating the CRC into organisations, issues with regulatory overlap, and administrative burdens under the scheme.

⁶³ This point in particular builds upon the work which was commissioned by the government in 2015 where they also acknowledged that the CRC was seen as ‘just a tax’ and, as such, too complex. DECC, ‘CRC Energy Efficiency Scheme Evaluation: Final Synthesis Report’ (July 2015), p13, p76.

⁶⁴ CRC M14, M16, P3, P5.

⁶⁵ DECC, ‘Consultation on simplifying the CRC Energy Efficiency Scheme’ (March 2012), Executive Summary.

Regulatory complexity impacts on the regulatees' ability to understand the regulation, and therefore engage with it. In the case of the CRC in particular, the complexities are viewed by regulatees as unnecessary, and, in their eyes, this undue complexity detracts from one of the CRC's aims: to help reduce carbon emissions. This, in addition to the policy discussions seen in Chapter Four on stability, makes interviewees question the policy underlying the CRC.

The complexities of the CRC are visible and are perceived by regulatees. Complexity therefore forms part of the visible package of the CRC and can affect how regulatees engage with the scheme. The next part of this chapter will consider how regulatory symbolism can potentially be used to embed the values of environmental protection and greener policy into the package of the CRC. My data suggests that if regulatees perceive the CRC to be green, they are potentially more willing to engage with, and go beyond compliance with the scheme.

This chapter has considered the role of complexity and efficiency in terms of how the former can impact on the ability or desire for regulatee to engage with the CRC. The resources required to gain an understanding of the CRC have a negative impact on its productive efficiency (i.e. it is not regulation that operates at minimum cost; see also Pareto efficiency and the efficient distribution of resources). This, in turn, impacts on how participants engage with the CRC – creating a negative effect on the CRC's outcome efficiency – as participants engage less with the CRC, and so potentially engage less with energy reduction. As discussed above, these complexities are perceived by regulatees. Regulatees can identify complexities and this affects how they perceive the CRC as a whole. Because of this, it is useful to consider regulatory symbolism and how the CRC has been packaged as a whole. Chapter Nine will bring together the themes of this thesis and explore the regulatory package of the CRC in more detail.

Chapter Nine: Conclusion

This thesis has shed light on one of the major environmental taxes in the United Kingdom. The CRC is an environmental tax that targets larger businesses and public-sector bodies and aims to reduce energy consumption (and, by proxy, carbon dioxide emissions) by placing a fixed charge on energy consumption. This fixed charge is generated by the requirement for participants to purchase and surrender one allowance per tonne of carbon dioxide emitted. What is interesting is the lack of literature to date on the CRC, and the little that does exist is lacking depth of analysis. This thesis plays a significant role, therefore, in plugging a gap in legal scholarship. Throughout this thesis, various aspects of the CRC have been explored including its complexity, reforms (very much in the plural), reputational elements, the regulator, and its incentives. The aim of this concluding chapter is to summarise and tie together the themes that have flowed throughout, in order to argue that while each of the above aspects can affect the efficiency and effectiveness of the CRC in their own right, together (and with all other perceivable aspects not covered in this thesis), they form part of the regulatory package which shapes the perception of regulatees. How an environmental tax is packaged is therefore very important for regulatee engagement.

The previous eight chapters have told the story of how the CRC has been communicated to its regulatees through various regulatory aspects. As such, there are a number of practical take away points for policy-makers. First, without some level of stability, regulatees get bored and disengage with regulation. Furthermore, in the case of the CRC, instability also conveys negative policy messages to regulatees about the government's wider commitment to the environment. Chapter 5 explored how the Environment Agency has been perceived by CRC regulatees. Interviewees in my study have questioned the competence of the EA, but attribute this to a lack of regulator resources. Policy-makers could consider the policy messages that a poorly-resourced regulator sends out to regulatees. Policy-makers could and should also consider the role that the reputation of regulatees can play alongside more traditional methods of regulation. Interviewees indicated that there could be a role for the use of social norm nudges to encourage further behavioural change. Positive incentives for behavioural change could also have benefitted the CRC. Most of these incentives (for instance tax hypothecation and green investment) could be construed as a demonstration, on the part of the government, of their commitment to the environment. As such, multi-modal approaches to regulation may have some benefit in using different types of carrots and sticks to achieve end goals (here, reduced energy consumption and reduced GHG emissions). The overriding narrative from the previous chapters is that the CRC is perceived as *'just a tax'*. A result of this is that the CRC

is perceived to be far too complex for purpose. My data suggests that a higher level of complexity could be tolerated had the CRC been perceived as something 'more'. The data thus suggests a balancing between resources, aims, regulatory approaches and, ultimately, on whether and how regulatees have faith in the government doing things for the reasons they say they are doing them.

My study on the CRC is based, in part, upon raw emissions data published by the Environment Agency in the CRC's Annual Report Publications. Using quantitative methods, Chapter Three undertook a statistical analysis of the CRC data. Initially, descriptive statistics (averages) were presented to provide an initial view of how the raw emissions data had changed over the six years of reporting. These statistics all demonstrated a drop in emissions on a yearly basis with the exception of one year (2012/2013). By using t-tests and a repeated measures test, this thesis was able to look at the relationship between the emissions data for each year of the CRC. In so doing, it was possible to determine whether there had been a reduction in emissions under the scheme. Whilst this approach does not take into account other variables (such as changing business size through the acquisition or sale of assets), it was useful to start to paint a broader picture of the CRC and its effectiveness. These tests showed that the emissions under the CRC decreased, statistically significantly, on an annual basis for all but one of the years (2012/2013) since the CRC has come into force. As such, it is arguable that the CRC has had *some* effect in reducing emissions.¹

The content of this thesis also draws upon an original study of the CRC comprised of 31 semi-structured interviews with: the regulator; participants of the CRC; solicitors; and, consultants. By combining the findings from both the qualitative and quantitative methods, this thesis is able to paint a broader picture of the CRC than one method alone. The themes that arose from the interview data influenced the themes raised in each chapter. As such, this thesis therefore represents the talking points for participants under the CRC.

In short, regulatees are perceptive. They engage (and disengage) with the whole package of the scheme, and its regulatory backdrop. As such, how a piece of regulation is packaged to regulatees is important. This may seem somewhat self-evident, but it is only through the data offered up in this thesis that such self-evidence is grounded. Given the importance of regulatee perception, it is useful to consider regulatory symbolism alongside the content of the regulatory package. Legislation can have symbolic qualities which convey values above and beyond the legislation itself. This chapter will consider how conveying environmental values through the CRC package could be beneficial for regulatee engagement. My data suggests that if regulatees perceive a positive underlying

¹ In line with the government claim that the CRC has at least had some impact on emissions in: DECC, CRC Energy Efficiency Scheme Evaluation: Final Synthesis Report (July 2015), p9.

environmental goal behind aspects of regulation (for instance, stability, incentives and so forth), they appear to be more willing to engage with the regulation and go beyond compliance.

In what follows, I unpack in further depth the regulatory package and its perception before turning to the literature on regulatory symbolism to consider how environmental values can be embedded and communicated to regulatees. My argument here is simple: that by tailoring the regulatory package of the CRC, and other such schemes, policymakers can achieve a greater level of engagement from regulatees. The CRC will come to end in 2019 and will be replaced by the Climate Change Levy (CCL). Whilst this thesis focuses on the CRC journey, interviewees did talk about this future change and shift to the CCL. These opinions will be presented in this chapter with calls for future research.

9.1 The Regulatory Package, Symbolism and the CRC

9.1.1 The Regulatory Package of the CRC

At the beginning of this project, I did not set out with a particular image of the CRC in mind. The journey through this thesis has painted a picture of the scheme in terms of its stability; its regulator; its incentives and drivers; and its complexity. By exploring these features of the CRC, this thesis has set out that various regulatory aspects of a scheme are perceivable by regulatees, and that this perception has the ability to alter how those regulatees engage with a scheme. Whilst this thesis has focussed on the strongest themes that have emerged from the interview data, I do not think that regulatee perceptions are limited to these particular features, but rather that all aspects of a regulatory scheme feed into its regulatory package. Or, how regulation is packaged to regulatees.

From this regulatory package regulatees are able to draw meaning on the underlying environmental values (or lack thereof) that underpin environmental schemes. Reflecting on the different themes throughout this thesis, it becomes clearer that these features of the scheme feed into how regulatees have responded to the CRC. Since its introduction in 2009, the CRC was substantially reformed in 2013 and has been “tinkered with” in smaller ways by an almost annual legislative change during its first phase (2010-2014). Chapter Four considered these changes in light of economic and regulatory

literature to argue that constant change is perceived negatively by regulatees, and that a stable front, or stable regulatory domain,² needs to be presented to regulatees.

The regulatory domain is the overall continuity of a regulatory regime and is coupled with regulatory dexterity, which represents change. Whilst dexterity is useful in remedying specific problems with a piece of regulation, this thesis argues that regulatory domain is extremely important for also portraying a stable policy which underlies the regulatory field. If regulatory dexterity, and therefore change, is the predominant image in participants' minds, then this will have an adverse impact on the scheme's credibility. This, in turn, leads to a negative change in participant behaviour and engagement. Overall, whilst there is a role for dexterity in regulation to alter and amend inefficient regulation, the number of changes under the CRC portrays a lack of consistent, green policy to participants of the CRC. Therefore, the government could present a more consistent and committed green policy in the form of more stable regulation in the energy reduction field. This stability will allow participants to engage and invest into the CRC (or indeed what comes to replace it) with confidence.

In addition, the competence of the regulator can also feed into how the CRC has been perceived. Chapter Five questioned the ability of the Environment Agency to respond to regulatees and to have a meaningful dialogue with them about the scheme. This chapter relied on the scholarship of Kasperson et al,³ adopting a definition of trust that incorporates both elements of cognitive trust and social trust. Kasperson et al discussed four elements of trust which include: competence; caring (the demonstration of a caring attitude); predictability; and commitment. In particular, the issue of commitment was attributed by my respondents to wider policy considerations, rather than as a negative of the EA. Interviewees questioned the commitment of the government here to the CRC and to the EA. They spoke specifically of the limited resources of the EA in carrying out their role as regulator. It was suggested that by ring-fencing the revenues of the CRC and reinvesting them to bolster the resources of the EA, then this would strengthen the position of the EA as a regulator and potentially allow for an improved level of trust.

The next two chapters (Chapter Five and Six) considered the various incentives provided or not provided by the CRC. How the CRC operated and tried to change behaviour was explicitly identified by regulatees, and how regulatees engaged with those incentives varied. Chapter Five demonstrated that there is an appetite amongst business for reputational drivers to further environmental goals. The interview data raised concerns surrounding the Performance League Table (PLT) and the publication

² Elen Stokes, 'Regulatory Domain and Regulatory Dexterity: Critiquing the UK Governance of 'Fracking'' (2016) 79(6) MLR 961.

³ Roger Kasperson, Dominic Golding and Seth Tuler, 'Social Distrust as a Factor in Siting Hazardous Facilities and Communicating Risks' (1992) 48(4) Journal of Social Issues 161.

of offences. For the former, interviewees were largely disappointed over the abolition of the PLT in the sense that a reputational element under the scheme had been lost. They also perceived the publication of offences to be too slow and not obvious enough to both participants and the public. This concept of reputation and the potential damage to reputation aligns with the concept of a social nudge.⁴ Nudges which rely on social norms are based on the idea that people care about what people think of them, and that they are seen to be doing the right thing. This sentiment, I argue, can be transferred to businesses as environmental decisions are generally taken by individuals. Moreover, businesses do care about their reputation – this is demonstrated by a large number displaying environmental achievements on websites and in buildings – and in being seen to be green. A social nudge harnesses the power of reputation to change behaviour.

Chapter Six looked at how regulatees have engaged with the existing financial drivers under the CRC. Whilst discussing the costs of the CRC, interviewees also expressed a desire to see more positive incentives under the regime. This provides an opportunity for policymakers to tailor the incentives package that accompanies environmental schemes such as the CRC to improve regulatee engagement and commitment. In particular, interviewees raised the power of ring-fencing revenues for environmental projects to help them make the link between what they are paying and the environment. Ring-fencing the revenues (tax hypothecation for taxes) is problematic and is not a practice much adopted by government. It has the potential to confine and limit government spending on environmental projects and removes flexibility for the money to be used elsewhere. However, I would argue that some partial ring-fencing, or at least informing regulatees what the money is being spent on, could be beneficial for tax morale and so engagement with the scheme. The existing literature argues that taxpayers like to make a link between what they are paying and some benefit, and partially ring-fencing the revenues would provide this link to taxpayers. If tax hypothecation is politically unacceptable, then listing environmental projects that the CRC has helped to fund (i.e. a labelling exercise) could otherwise increase morale and engagement.

Finally, the interviewees perceived the CRC to be unnecessarily complex for what it is trying to achieve. This *unnecessary* complexity also forms part of the regulatory package of the CRC. Chapter Eight highlighted three areas of complexity that were raised most frequently by interviewees: mechanical complexities (in integrating the CRC into the organisation); regulatory overlap (in the sense that there are a number of schemes in the UK which target large consumers of energy); and administrative burdens. When describing the complexity of the CRC, interviewees were particularly negative and

⁴ See Richard Thaler and Cass Sunstein, *Nudge: Improving decisions about health, wealth and happiness* (UK: Penguin 2009).

disdainful – with a number specifically labelling the complexity of the CRC as “unnecessary”. In particular, the complexity was seen as too high for an instrument that is now perceived by regulatees as *just* a tax. This would indicate that regulatees are willing to tolerate a level of complexity if this is backed up by an environmental aim.

Throughout this thesis, it has become clear that at least some of the CRC’s regulatees would like to see a different regulatory package presented to them. Whether that is: more stability; a better-resourced regulator; a different package of incentives (comprising of negative incentives, positive incentives and nudges); and/or, lower levels of complexity. Interviewees have drawn negative conclusions on the environmental aims of the CRC as a result of these features and there has been a lower level engagement with the CRC as a result. This thesis therefore calls for policymakers to think about how the regulation they introduce or amend sends deeper policy messages to regulatees. The concept of embedding values in legislation is not novel. Here, work on regulatory symbolism specifically argues that these values can be incorporated into regulation. This thesis will now draw upon this final pool of literature to argue that wider environmental messages can and should be built into regulatory schemes such as the CRC.

9.1.2 The Regulatory Package and Regulatory Symbolism

The themes raised by my interviewees point towards the fact that they would like to see something more than *just* a tax. Using the broad definition of regulation, which includes all forms of social influence,⁵ how the CRC is packaged is therefore important in terms of regulatory pluralism – i.e. the argument that the use of multiple regulatory instruments will always be better than the use of a single instrument.⁶ Gunningham argues:

“This will allow the implementation of complementary combinations of instruments and participants tailored to meet the imperatives of specific environmental issues, and will result in a **more flexible, efficient and effective**

⁵ Robert Baldwin, Martin Cave and Martin Lodge, *Understanding Regulation: Theory, Strategy and Practice* (2nd Edition) (OUP 2012), p2; Neil Gunningham, *Environment Law, Regulation and Governance: Shifting Architectures* (2009) 21(2) JEL 179, 181.

⁶ See Neil Gunningham, *Environment Law, Regulation and Governance: Shifting Architectures* (2009) 21(2) JEL 179, 200.

approach to environmental regulation than has so far been adopted in most circumstances.”⁷ (Emphasis added)

Chapter Eight considered how the complexity of the CRC affects its efficiency. However, the bigger picture on how different elements of the scheme work together, or could work together, also has an impact on the scheme’s efficiency. Whilst regulatory pluralism often looks at the use of multiple instruments (i.e. multiple bits of regulation), I argue that combining multiple types of approach in one instrument (in this case the CRC) can also be better than one approach alone. By combining the tax, incentives, nudges, stable policy, and trust; the government is presenting regulatees with a multi-modal package that comprises a number of social influences. Whilst alone, it is unlikely that these ‘extras’ would work without being underpinned by the tax, the plurality of instruments allows “the state to steer not row”.⁸ What is meant by this, is that the broader package proposed in this thesis drives behaviour change with less intervention by the government – nudging, for example, could start a game of competition and/or collaboration between regulatees in which the government would not directly intervene.

It should be acknowledged here that the blend of features highlighted in this thesis is obviously not the only possible combination, nor does this thesis cover all important aspects of a regulatory regime. What this thesis does highlight are key aspects of the CRC package that regulatees were not satisfied with and raised during interview. This thesis therefore forms a starting block for how regulation could be better packaged in regulatees’ eyes. A combination of tools and instruments is generally more efficient than a single instrument alone. This combination of features also forms part of a regulatory package that is perceptible. As well as efficiency, the makeup of this package can also send symbolic signals to regulatees.

The remainder of this chapter will draw together the themes of this thesis alongside regulatory symbolism literature, in order to argue that how the CRC has been packaged to regulatees has had an important impact on how the CRC has been perceived by regulatees; and, perhaps more importantly, how the CRC has been approached. This chapter will conclude by arguing that the CRC needs to be packaged as simply as possible; with a competent administrator; incentives to drive engagement beyond compliance; and a stable policy backdrop which demonstrates the motives of government which underlie the CRC. On a deeper level, the CRC needs to embody a commitment to the environment; a higher symbol which can be drawn from the scheme itself.

⁷ Ibid.

⁸ Ibid, 208.

In literature, a law is considered symbolic if its primary purpose is to function as a symbol.⁹ That is to say that the law has another meaning beyond its literal meaning; which is generally more general and indeterminate than its literal meaning.¹⁰ A symbol refers to a “body of social values, knowledge and practices which offer guidance for interpreting, processing and coping with specific issues or situations”.¹¹ Also referred to as ‘symbolic politics’, it is a term which criticises both the insufficiency of policies and those who create them.¹² In summary, a symbolic piece of legislation is an ineffective one:

“The enactment of symbolic legislation reflects a breakdown of the legislative policymaking machinery, a system that all too frequently addresses real social problems in an unrealistic fashion. It also creates a dilemma for regulators and judges. While they generally are reluctant to usurp the legislature’s policymaking prerogatives by substituting their own version of appropriate public policy, they also are loath to implement and enforce a statute whose costs are grossly disproportionate to its benefits.”¹³

Symbolic legislation often has ambitious intentions and goals, but is said by some to be designed to be ineffective in practice – and, as such, is unable to attain these ambitious aims.¹⁴ The antonyms for symbolic legislation have been described as ‘serious’ and ‘functional’ legislation;¹⁵ and, ‘substantive’ and ‘strong’ legislation.¹⁶

The traditional symbolic politics approach regards almost all laws to be “primarily symbolic”.¹⁷ Indeed, Newig argues that “all legislation is symbolic (to a certain extent), and that almost all symbolic laws are also effective”.¹⁸ It is important to contrast partly symbolic laws with those that are ‘merely

⁹ Bart van Klink, ‘Symbolic Legislation: An Essentially Political Concept’ in Bart van Klink, Britta van Beers and Lonneke Port (Eds), *Symbolic Legislation Theory and Developments in Biolaw* (Springer 2016).

¹⁰ Ibid, 21.

¹¹ Ingolfur Blühdorn, ‘Sustaining the Unsustainable: Symbolic Politics and the Politics of Simulation’ (2007) 16(2) *Environmental Politics* 251, 255.

¹² Ibid, 252.

¹³ John Dwyer, ‘The Pathology of Symbolic Legislation’ (1990) 17 *Ecology LQ* 233, 234; see also: Ian Bache et al., ‘Symbolic Meta-Policy: (Not) Tackling Climate Change in the Transport Sector (2015) 63 *Political Studies* 830, 847.

¹⁴ Jens Newig, ‘Symbolic Environmental Legislation and Societal Self-Deception’ (2007) 16(22) *Environmental Politics* 276, 277.

¹⁵ Dwyer (n 13).

¹⁶ W Witteveen, ‘Significant, symbolic and symphonic laws’, in Hanneke van Schooten (ed.), *Semiotics and Legislation. Jurisprudential, Institutional and Sociological Perspectives* (Charles 1999); Newig (n 14), 277.

¹⁷ Newig (n 14), 277.

¹⁸ Ibid, 278.

symbolic'. These 'merely symbolic' laws are ineffective, nearly impossible to enforce,¹⁹ and place the regulatory burden on the agencies that enforce them, creating a regulatory distortion.²⁰ 'Merely symbolic' laws are known to be ineffective from the outset by the legislature.²¹ This is what distinguishes merely symbolic legislation from legislation that proves later to be ineffective.²² Symbolic laws are often introduced to tackle environmental problems, which have high stakes, and often require rapid responses by the legislature.²³ Indeed, symbolic legislation is a "real and present danger" for climate change regulation as public concern on the subject is mounting.²⁴ However, Bowen argues that some level of "symbolic greening" is to be expected from policy-makers – and indeed, this symbolic greening forms part of their role as they focus on deliberate "political strategies".²⁵

The CRC is not a piece of symbolic legislation in the pure sense. It is, on some level, effective. CRC R1 discussed the drop-in emissions that have been seen following the introduction of the CRC. This would appear to correspond with the statistical findings of this thesis in Chapter Three. As set out above (and found in Chapter 8 in more detail), paired t-tests for each year of the CRC showed (with significance) that there had been a drop in emissions under the scheme in all but one year of the scheme. This result was echoed in the repeated measures test. Whilst this statistical analysis is only indicative, and does not take into account the wide range of variables that could also account for this drop, it would appear to indicate that the CRC has been at least partly effective. What the interview data has demonstrated throughout this thesis, however, is a desire by regulatees to see 'more' from the CRC.

When considering stability, interviewees perceived instability as a physical manifestation of the policy underlying the regulation. In the case of the CRC, this was felt to be a demonstration of a lack of commitment on the part of the government to the environment. In terms of trust, the interviewees perceived the regulator to lack competence. The Environment Agency, here, is not perceived to an authority, but, this is tied by interviewees to the resources the Environment Agency has been allocated by government. In terms of nudges, interviewees expressed a desire to see some form of reputational element in the scheme; with incentives, this was echoed with a desire for positive incentives. The

¹⁹ Van Klink (n 9).

²⁰ Dwyer (n 13), 283-284.

²¹ Ibid, 248-249.

²² Newig (n 14), 278-279.

²³ Robert Lee and Elen Stokes, 'Material Uncertainty: Nanomaterials, Regulation and Symbolic Legislation' in Bart van Klink, Britta van Beers and Lonneke Port (Eds), *Symbolic Legislation Theory and Developments in Biolaw* (Springer 2016), 241; Sander Happaerts, 'Sustainable Development and Subnational Governments: Going Beyond Symbolic Politics?' (2012) 4 *Environmental Development* 2, 4; Loren Cass, 'The Symbolism of Environmental Policy: Foreign Policy Commitments as Signaling Tools in Paul Harris (ed) *Environmental Change and Foreign Policy* (Routledge 2009), Chapter 3.

²⁴ Clive Splash, 'The Brave New World of Carbon Trading' (2010) 15(2) *New Political Economy* 169, 187.

²⁵ Frances Bowen, *After Greenwashing: Symbolic Corporate Environmentalism and Society* (CUP 2014), p246.

absence of both nudges and incentives was blamed on the government; and led interviewees to consider the CRC as just a tax. Considered above, the complexity of the CRC was considered to be too high for what the CRC was trying to achieve.

As such, the intentions behind the CRC, and the motives of the government are important for the effectiveness of the scheme. However, regulatees read and lift these intentions and motives from the scheme itself. A stable scheme demonstrates stable policy. Incentives demonstrate a commitment to behavioural change. In this sense, the CRC needs to take on a symbolic meaning which goes beyond the scheme in its literal sense, and embodies its greener aim: a commitment to the environment and the reduction of carbon emissions. This approach can be loosely found within the symbolic legislation literature, as non-symbolic legislation can have symbolic qualities:

“Conversely, non-symbolic legislation commonly has ‘symbolic’ qualities. This apparent paradox can be resolved by separately considering an issue-related substantive and a political-strategic dimension of legislation.⁶ The former refers to a manifest, explicit end which the legislative act serves as a means. This end is in the first place legal effectiveness, but ultimately to change certain real-world (e.g. ecological) conditions.”²⁶

In addition, symbols have been argued to be necessary for politics,²⁷ and as such, symbolic legislation can have positive effects.²⁸ A symbol, could for example, express “collectivism and a shared intention”.²⁹ Blühdorn highlights other positives of symbolic legislation including: 1) a tool of ‘political integration and mobilisation’; and, 2) a strategy for complexity reduction.³⁰ Van Klink discusses the difference between negative and positive symbolism – here, symbolism can form a communicative approach with regulatees:

“According to this communicative or interactive approach, a law can be called ‘symbolic’ in a positive sense, if a law has acquired an extraordinary meaning within the legal and political community. The law is not merely a set of rules, but also a symbol for something higher, more valuable. It gives expression to values which are fundamental for the community, for example human dignity, equality or environmental protection.”³¹

²⁶ Newig (n 14), 279.

²⁷ Blühdorn (n 11), 254.

²⁸ Newig (n 14), 278.

²⁹ Lee and Stokes (n 23), 238.

³⁰ Blühdorn (n 11), 255.

³¹ Van Klink (n 9), 24.

It is possible for climate change, therefore, to form the basis for something 'more valuable' than is embodied by the CRC. This commitment needs to be seen from the offset, at the design stage of a piece of regulation, in order for the scheme to embody the important features highlighted throughout this thesis. For the CRC, it needs to be packaged as simply as possible; with a competent administrator; incentives to drive engagement beyond compliance; and a stable policy backdrop which demonstrates the motives of government which underlie the CRC.

To conclude, the CRC is not a symbolic piece of legislation in the 'merely symbolic sense', despite its perceived lack of effectiveness and inefficiencies by those regulated by the CRC. However, the CRC needs to symbolise energy efficiency and environmental goals, as well as being a tax per se.

9.1.7 How regulation is perceived by regulatees forms part of the regulatory package

The themes running through this thesis are all visible traits and features of the CRC that are capable of being perceived by regulatees. These traits and features form part of the regulatory package for the CRC. As such, regulatees are capable of drawing deeper meanings from the different aspects of the scheme, and more specifically, identify an environmental commitment (or lack thereof).

Legislation that is introduced to be 'merely symbolic' is largely ineffective regulation. It would appear, from the statistical analysis in Chapter Three and the regulator's comments, that the CRC has been effective on some level at reducing energy consumption and carbon emissions. However, the fact that the CRC is not a symbolic piece of legislation in the 'merely symbolic' sense, does not stop it from retaining (or introducing) some symbolic properties. In this sense, a piece of legislation could symbolise public concerns and values whilst still being an effective piece of legislation. The interviewees have made it clear throughout this thesis that they are concerned with the government's commitment to environmental values.

Despite David Cameron's and Theresa May's assertions that they are a green government, interviewees have not perceived the CRC to be an instrument with underlying environmental values. Interviewees have labelled the CRC as *just* a tax. How policy maker's package regulation could be important in terms of embedding these values and communicating these values to regulatees. Interviewees have expressed a level of disengagement with an environmental tax that does not embody these values, and so policy makers can potentially increase this engagement by how they package environmental regulation in the future.

9.2 Concluding remarks

Whilst the CRC has now been abolished, this thesis contains wider regulatory lessons to be considered by policy makers. The CRC has had a relatively turbulent life as part of the UK's regulatory response to climate change, and has been criticised by participants and the government alike. Despite this criticism, it is encouraging to see some positive views towards the CRC. The constructive comments and criticism seen during interviews demonstrate that businesses are willing to engage in an environmental tax or scheme aimed at reducing carbon emissions. This thesis tells the story of how the CRC has evolved over time, and how the changes to the scheme have been perceived by regulatees. It tells a tale of a scheme introduced with the best of intentions but which was complex to implement. As such, the CRC has been simplified, but this may have been at the expense of the message it is trying to convey: to reduce carbon emissions. What we are left with towards the end of its life is a scheme that is perceived as *just* a tax. In its current form it is unlikely that too many people will be sad to see it go.

9.2.1 The future of the CRC

The CRC will end in 2019, but this is not the end of the story. Following the abolition of the CRC, a new tax will take its place: the CCL. By way of reminder, the CCL is a levy on energy supply which targets businesses. It is levied by the energy supplier and therefore is added to the energy bill. All but three interviewees raised the CCL at some point during their interview. Views on the shift to the CCL were mixed amongst interviewees, with some being grateful for the reduction in administrative burdens:

“If that’s all it is, is just a tax and it’s just moving from one scheme to the other, but financially it adds up to the same thing; I think it’s going to make very little change other than it’s going to free up some of my time so I can actually do some proper energy efficiency work.” (CRC P4)

“Yeah, certainly I think if it was bundled up into the Climate Change Levy then it would be a lot easier for everybody involved.” (CRC P6)

“I think that’s a sensible change. I think – the devil is always in the detail of course and quite how they do it remains to be seen. But I think that putting a straight line charge on electricity and gas consumption makes practical sense.

Administratively it is much easier, which will free up resource for the Environment Agency. And it is much easier for the people who actually pay it to be in control of what they pay because you reduce your energy consumption you directly reduce what you pay.” (CRC S6)

Interviewees talk about simplifying their tax obligations and removing administrative burdens that exist under the CRC and which they perceive will no longer exist under the CCL.³² This corresponds with the government’s desire to streamline the business energy tax landscape,³³ and also with the fact that the CRC was considered to be too complex as ‘just a tax’:

“it is a shame it [the CRC] hasn’t achieved as much as we would like because the minute we started talking about it as a tax people were saying: ‘oh well why don’t they just stick it on the bill as a straightforward tax and then we don’t have to worry about all this energy management stuff’. So, that was the moment in which it started to lose its impact as a good thing to do.” (CRC M9)

The fact that the CRC has been perceived as an overly complex tax has therefore perhaps paved the way for the CCL to take its place – which is a more straightforward tax on an energy bill. How the CCL is being perceived by interviewees therefore needs to be framed in light of their negative perceptions of the CRC. In addition, CRC M9 argued that the CCL is perceived more favourably than the CRC because of the possibility of tax relief under a Climate Change Agreement:

“The difference is that all of the participants wanted the CCAs because they were going to get cash back from them. The CCL relief. So, as a result, they wanted them and I think that is the biggest single factor here between the reputation of the CRC and the CCAs/ CCL. The CRC was just seen as something we don’t want and so we are going to moan about it, whereas CCAs we will support as there is a financial benefit to it.” (CRC M9)

The role of incentives under the CRC was considered in Chapter Seven, where it was outlined that the CRC has no visible positive incentives. Further research into how the CCL has been perceived by CCL participants is needed before conclusions on the CCL can be drawn. It is possible that the opinions on the CCL outlined above are tainted/ biased by interviewees’ experience and perceptions of the CRC.

³² This echoes with the DECC study on the CRC; DECC (n 1), p42.

³³ See 2015 Consultation on Reforming the Business Energy Landscape: HM Treasury, ‘Reforming the Business Energy Efficiency Tax Landscape’ (September 2015).

Comparatively, the CRC has no visible incentives as seen with the CCAs and is, at least in the eyes of interviewees, more complex than the CCL.

I can draw, however, a couple of initial observations on potential obstacles that the CCL will face. First, the shift away from the CRC to the CCL is the final change that the CRC will see. Much in the same way that the constant changes to the CRC were perceived as a negative thing by interviewees, there is a danger that the abolition of the CRC will also be perceived negatively. Policymakers should ensure that the CCL does not become the “political football” that the CRC was (CRC M9).

Second, a number of interviewees questioned the ability of the CCL to change behaviour. In particular, the regulator highlighted the loss in visibility that the CCL would bring:³⁴

“Largely because the people who matter -the Finance Directors - they don’t see CCL. It’s integrated into the fuel bill so they don’t actually see it. They won’t see – unless they actually look at the fuel bill itself they don’t see it as a CCL. What they get is, this is your energy cost. The CRC they get, this is your energy cost and this is your CRC bill, you’ve got to sign separately and that’s the key thing, that’s the key difference. CCL doesn’t do that.” (CRC R1)

This was echoed by participants:

“I think there’s more of a chance of it [the CRC] actually doing something like that, than like the climate change levy and all those which are just sort of tagged on to the...you know, and there’s lots of things that just go onto the bill, and just people just saying well, that’s another cost...” (CRC P7)

There is therefore a balance to be struck between the administrative burdens of the CRC (and lack of burdens for the CCL) and the visibility of the cost and scheme to organisations (the CRC provides a higher amount of visibility than the CCL). If anything, this thesis raises a potential missed opportunity for the government in terms of the CRC, but also the potential opportunity to learn from the mistakes made with the CRC going forward to the CCL.

³⁴ See also: DECC (n 1), p42.

9.3 Calls for future research

More widely, this thesis has demonstrated that there is still a long way to go before policymakers design regulation that is fully engaged with by regulatees. The CRC has been a case study to show why it is still important to better understand how regulatees respond to different aspects of regulation. It would be useful, therefore, for further research to explore regulatees' motivations and what 'regulatory package' should be presented to regulatees to encourage engagement and behavioural change. This greater understanding would enable policymakers to combine a more optimal mix of measures alongside environmental taxation; in order to engage regulatees to change their environmentally harmful behaviour, whilst retaining some level of revenue stream from such taxes. Further research into nudging businesses and the use of a wider range of incentives would be useful in this regard. It is particularly important that we understand the way in which regulatees interact with green taxes. If lessons can be taken away from the CRC and brought to the CCL, then a more positive engagement with environmental taxation could be achieved.

As this thesis has focused on the CRC and has not covered the CCL in any depth, this naturally opens the door to future research in this field. As the environmental tax that will replace the CRC, further empirical research on how regulatees have reacted to the CCL would be timely and would help to paint a fuller picture on how lessons from the CRC could be brought forward after its abolition. This additional research, drawing on the themes and findings in this thesis, would help inform policy makers on how better to present the CCL to achieve environmental aims and would therefore be useful for informing a policy change. This thesis has begun to tell the story of the CRC Energy Efficiency Scheme from regulatees' point of view. It is now time to broaden the scope of this research and look at how policymakers can use environmental taxes and schemes to achieve environmental goals.

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APPENDIX 6 – EXPORTED LIST OF NODES FROM NVIVO

Name	Sources	References	Created On	Created By	Modified On	Modified By
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Attitude	27	54	12/05/2016 09:58	AL	13/01/2017 11:52	AL
Education	3	3	12/05/2016 09:53	AL	01/12/2016 11:34	AL
Engagement	28	121	12/05/2016 12:44	AL	13/01/2017 13:58	AL
Experience	29	38	12/05/2016 09:53	AL	13/01/2017 11:27	AL
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Organisation Attitude	25	66	12/05/2016 12:21	AL	13/01/2017 13:33	AL
Organisation Performance	7	10	12/05/2016 09:55	AL	28/11/2016 13:54	AL
Awareness	25	103	12/05/2016 10:00	AL	13/01/2017 13:47	AL
Compliance	22	49	12/05/2016 11:33	AL	13/01/2017 14:09	AL
Enforcement	21	51	16/05/2016 13:51	AL	13/01/2017 13:45	AL
Incentives	25	82	12/05/2016 10:58	AL	13/01/2017 14:04	AL
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Obstacles	16	31	12/05/2016 12:47	AL	13/01/2017 13:48	AL
Regulator Relationship	20	56	17/05/2016 13:44	AL	13/01/2017 13:41	AL
Reporting	12	15	12/05/2016 11:16	AL	13/01/2017 11:52	AL
Software	5	6	12/05/2016 11:34	AL	28/11/2016 15:40	AL
Financial drivers	29	159	12/05/2016 10:01	AL	13/01/2017 13:58	AL
Carbon price	12	20	12/05/2016 10:54	AL	13/01/2017 11:56	AL
Policy	18	48	12/05/2016 11:00	AL	13/01/2017 14:06	AL
Deregulation	4	5	12/05/2016 11:14	AL	05/12/2016 16:30	AL
Politics	12	19	12/05/2016 10:53	AL	13/01/2017 14:06	AL
Trust	26	71	12/05/2016 09:56	AL	13/01/2017 14:00	AL

Revenue	20	54	16/05/2016 13:46	AL	13/01/2017 14:08	AL
Tax	24	52	17/05/2016 12:59	AL	13/01/2017 14:08	AL
Tax Morale	18	39	16/05/2016 13:43	AL	13/01/2017 14:08	AL
Alternatives	26	65	12/05/2016 11:02	AL	13/01/2017 11:55	AL
Renewables	2	2	12/05/2016 10:59	AL	30/11/2016 14:53	AL
Big Guns	4	6	29/11/2016 15:27	AL	06/01/2017 13:19	AL
Burden	11	25	16/11/2016 15:46	AL	11/01/2017 14:21	AL
CCL Opinion	20	43	11/10/2016 12:43	AL	13/01/2017 14:09	AL
CRC Staff	9	9	05/10/2016 09:51	AL	28/11/2016 14:58	AL
Culture	15	35	25/11/2016 15:18	AL	13/01/2017 14:08	AL
Disengagement	22	86	17/10/2016 13:51	AL	13/01/2017 13:58	AL
Efficiency	26	93	12/05/2016 10:52	AL	13/01/2017 14:04	AL
Complexity	29	113	17/05/2016 14:08	AL	13/01/2017 14:09	AL
Understanding	3	3	12/05/2016 10:04	AL	06/01/2017 13:18	AL
Confidence	5	9	12/05/2016 10:31	AL	06/01/2017 11:41	AL
Understanding (CRC)	13	25	12/05/2016 10:05	AL	13/01/2017 13:58	AL
Training	19	33	12/05/2016 10:29	AL	13/01/2017 11:35	AL
Understanding (green taxes)	5	10	12/05/2016 10:28	AL	16/11/2016 11:06	AL
Consistency	21	39	16/05/2016 13:10	AL	11/01/2017 14:41	AL
Regulatory consistency	7	9	12/05/2016 10:57	AL	30/11/2016 13:36	AL
Regulatory overlap	14	30	12/05/2016 12:17	AL	13/01/2017 14:04	AL
ESOS	12	29	28/11/2016 13:40	AL	13/01/2017 14:01	AL
EU ETS	2	2	01/12/2016 15:47	AL	13/01/2017 11:25	AL
Flexibility	3	3	25/11/2016 11:58	AL	25/11/2016 17:00	AL
Global engagement	5	7	22/11/2016 09:53	AL	11/01/2017 11:37	AL
Green Investment	3	5	22/11/2016 09:48	AL	01/12/2016 12:54	AL
Inertia	7	8	06/10/2016 14:40	AL	13/01/2017 11:56	AL
Linkage	7	10	11/10/2016 12:32	AL	13/01/2017 11:25	AL
Lobbying	6	8	22/11/2016 13:33	AL	13/01/2017 14:06	AL
Mechanical process	9	15	16/11/2016 11:26	AL	07/12/2016 14:38	AL

NIMBY	6	7	22/11/2016 10:11	AL	13/01/2017 11:54	AL
Polluter Pays	4	5	16/05/2016 13:29	AL	25/11/2016 16:55	AL
Social Nudge	17	40	05/10/2016 10:04	AL	13/01/2017 11:40	AL
Tax Certainty	11	20	05/10/2016 10:25	AL	11/01/2017 11:19	AL
Tax Complexity (Nodes)	4	6	16/11/2016 15:44	AL	05/12/2016 16:00	AL
Tax Rate	17	40	05/10/2016 10:12	AL	13/01/2017 13:58	AL
Tax Salience	15	25	05/10/2016 10:37	AL	11/01/2017 11:20	AL
Third Parties	8	15	12/05/2016 11:37	AL	13/01/2017 13:36	AL
Influence	3	4	12/05/2016 11:38	AL	01/12/2016 12:55	AL
Visibility	21	47	12/05/2016 10:55	AL	11/01/2017 12:00	AL
Profile	21	50	12/05/2016 11:34	AL	13/01/2017 13:57	AL
Publicity	4	5	12/05/2016 10:58	AL	30/11/2016 13:40	AL
Senior Management	22	43	12/05/2016 11:35	AL	13/01/2017 13:58	AL
Publication	8	12	12/05/2016 12:24	AL	11/01/2017 12:00	AL
Publicity	7	9	17/05/2016 13:51	AL	19/12/2016 15:15	AL

APPENDIX 7 – FREEDOM OF INFORMATION REQUEST NR6994

<u>NR6994</u>	<u>CRC ENFORCEMENT ACTIONS</u>				
			<u>Number of Notices issued</u>		
<u>Non-Compliance:</u>	Phase	Compliance year	Enforcement Notice	Notice of Intent	
Failure to submit an annual report	1	2011-12	0	3	
		2012-13	0	1	
		2013-14	0	7	
TOTAL FOR PHASE 1			0	11	
Failure to surrender allowances		2011-12	135		
		2012-13	37		
		2013-14	267	11	
TOTAL FOR PHASE 1			439	11	
<u>PHASE 2</u>					
Failure to register by the registration deadline	2		7	6	
Failure to submit an annual report		2014-15	0	8	
Failure to surrender allowances		2014-15	124	3	
TOTAL FOR PHASE 2 to MARCH 2016			131	17	

<u>Civil Penalties issued and published</u>		<u>(March 2016)</u>				
<u>Non-Compliance:</u>	Phase	CRC Reg. No.	Name of organisation	Amount	Published	Status
Footprint Report	1	CRC4704005	Saur Services (Glasgow) Limited	£20,500	2012	Paid
Annual Report	1	CRC4704005	Saur Services (Glasgow) Limited	£20,500	2012	Paid
Footprint Report	1	CRC5959337	Henkel Limited	£19,000	2012	Paid
Annual Report	1	CRC5959337	Henkel Limited	£19,000	2012	Paid
Footprint Report	1	CRC6892135	Criterion Capital Limited	£25,000	2012	Paid

Annual Report	1	CRC6892135	Criterion Capital Limited	£25,000	2012	Paid
Footprint Report	1	CRC7481939	SPTS Technologies UK Limited (<i>formally SPP Process Technology Systems Limited</i>)	£5,000	2012	Paid
Footprint Report	1	CRC7010111	BI Group PLC	£5,000	2012	Paid
Annual Report	1	CRC7010111	BI Group PLC	£5,000	2012	Paid
Footprint Report	1	CRC2351236	Rocco Forte and Family Limited	£5,000	2012	Paid
Annual Report	1	CRC2351236	Rocco Forte and Family Limited	£5,000	2012	Paid
Footprint Report	1	CRC5476594	Tomkins PLC	£5,000	2012	Paid
Annual Report	1	CRC5476594	Tomkins PLC	£5,000	2012	Paid
Annual report	1	CRC0939753	Aptuit (Glasgow) Limited	£3,500	2013	Paid
Annual report	1	CRC0428280	Harbour Exchange Management Company Limited	£179,952	2013	Paid
Annual report	1	CRC6878507	Mansfield College	£2,500	2013	Paid
Annual Report	1	CRC8772457	RB Investments/ PSC Nominee 1 Ltd (Paig Investments)	£4,740	2015	Paid
Annual Report	1	CRC20173788	Geraud (UK) Limited	£5,000	2015	Paid
Annual Report	1	CRC7164753	Pentair SSC UK Limited (formerly Pentair Flow Control (UK) Limited)	£13,500	2015	Paid
Failure to Register	2	CRC0718856	Poundworld Retail Limited	£45,000	2015	Paid
Annual Report	1	CRC 9911785	The Planning Inspectorate	£2,850	2015	Paid
Inaccurate Report	1	CRC1502651	Merkur Casino UK Ltd	£3,466	2015	Paid
Inaccurate Report	1	CRC4781854	Stobart Transport and Distribution Limited (formerly Stobart Holdings Limited)	£2,957	2015	Paid