Instrumentalising Property
An Analysis of Rights in the EU Emissions Trading System

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Declaration

I certify that the thesis I have presented for examination for the MPhil/PhD degree of the London School of Economics and Political Science is solely my own work other than where I have clearly indicated that it is the work of others (in which case the extent of any work carried out jointly by me and any other person is clearly identified in it).

I declare that my thesis consists of 89,242 words.

I can confirm that earlier versions of chapter 2 and sub-part 5.6.4 of chapter 5 of this thesis appeared as S. Manea. "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System" in Transnational Environmental Law 1 (2012), pp. 303–323.

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Abstract

The thesis examines the nature of the legal interests in emissions allowances (emissions entitlements), the tradable instruments created by the European Union Emissions Trading System (EU ETS). The potential categorisation of emissions entitlements as private property impacts significantly on the environmental success of the EU ETS and, more widely, on the conceptualisation and functionality of property rights. The current silence of the EU ETS on the nature of the entitlements has caused problems in the emissions market, as illustrated by a case study and an analysis of the commercial contracts constituting this market. In turn, the public policy goals of the EU ETS depend on the success of the private market. The thesis puts forward an analytical framework designed to articulate a construction of emissions entitlements that reconciles the multiple and potentially conflicting goals of the regime. The framework consists of two parts. The first part examines legal theories of property and establishes that the elements required to constitute a property right are exclusion, transfer and use. The second part examines three legislatively created rights regimes, namely intellectual property rights, milk quotas and spectrum rights, which are compared to emissions entitlements from the viewpoint of the identified requisite elements[1]. This exercise further reveals instructive insights into the evolutionary nature of property rights in a regulatory environment. For private property to act as an effective tool of regulation, it needs to be specifically conceptualised as instrumental property, a new category which is put forward by the thesis. The notion of instrumental property is defined by the public policy goals of the regulatory regime and also by the particular context in which the rights operate. Instrumental property must necessarily be balanced against extraneous public or private interests which the law regards as deserving of protection.

[1]See S. Manea. "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System". In: *Transnational Environmental Law* 1 (2012), pp. 303–323, part 5.

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Contents

Chapter 1

Introduction

> In an increasingly urgent environmental situation, the Emissions Trading System is not delivering emissions cuts. Policymakers can make fundamental changes to the way the EU ETS [European Union Emissions Trading System] works: excluding offsetting, stopping free permits to polluters, setting a much tighter cap, and preventing the use of banked permits from earlier phases of the scheme. But they must also consider a return to other important policy mechanisms which are currently being overshadowed by carbon trading, such as budgetary reform, tougher renewable and energy saving targets, CO_2 taxation, efficiency standards and national legislation. Only by doing so can Europe bring down its emissions in line with scientific evidence and historical responsibility.
>
> (Friends of the Earth Europe)[1]

This damning assessment labels the EU's flagship emissions reducing programme to fight climate change as "not fit for purpose"[2]. Friends of the Earth are not alone in highlighting the failure of the EU ETS to deliver

[1] *The EU Emissions Trading System: failing to deliver*. Friends of the Earth Europe, 2010. URL: `http://ec.europa.eu/clima/consultations/0005/registered/9825553393-31_friends_of_the_earth_europe_en.pdf`, p. 9.

[2] Ibid., p. 9.

significant levels of emissions abatement that can make a real difference to climate change policy. In a 2010 report, Sandbag ominously warned that, in the absence of considerable improvements, the EU ETS risked "becoming an emissions trap and an increasingly redundant tool in European climate policy"[3]. Improvements could include legislative provisions "to correct caps in light of exogenous emissions reductions such as those brought about by the recession"[4]. An additional recommendation was that companies be incentivised by way of tax advantages to cancel unused emissions allowances (also called emissions permits), the tradable regulatory instruments created by the EU ETS. The following statement, made in the context of cancellation, is particularly interesting:

> Once companies are given *a legal property right* to an emissions permit the vast majority of permits in circulation can then only be removed through *voluntary* cancellation[5]. [emphasis added]

This statement gives rise to important and (so far) unanswered questions. Has EU environmental policy (perhaps inadvertently) created private property rights in regulatory instruments? If so, what are the wider implications of this legal status for the conceptualisation and functionality of property rights?

These two lines of enquiry form the starting point of the thesis. Thus far, neither issue has been satisfactorily addressed by either policymakers or scholarship. These issues matter for two distinct reasons. Firstly, their resolution can determine the success or demise of the EU ETS as a valuable weapon in the regional and global fight against climate change and an important helping hand for the Union in making the transition to a progressively greener, less fossil fuel-dependent economy. The success (or failure) of the EU ETS as a market-based instrument of environmental regulation will also act as a benchmark for assessing the likelihood of success of rapidly proliferating tradable permit regimes in other jurisdictions. Secondly, the lines

[3] *Cap or trap? How the EU ETS risks locking-in carbon emissions*. Sandbag, 2010. URL: `http://www.sandbag.org.uk/site_media/pdfs/reports/caportrap.pdf`, p. 11.

[4] Ibid., pp. 11, 48-49.

[5] Ibid., p. 51.

of enquiry put forward by the thesis reveal important findings about the evolutionary nature of property rights in a regulatory environment. Specifically, the lines of enquiry unveil the complexity of crafting an analytical construction of these rights that can achieve multiple and potentially conflicting public policy goals and adapt to contexts which may even require taking into consideration interests other than such goals.

The EU ETS, principally through the EU ETS Directive[6], has created a market in emissions allowances and emissions-based financial instruments which are freely tradable between a wide range of participants, both regulated (for instance industrial installations) and non-regulated (such as banks, hedge funds and other financial institutions, and even individuals)[7]. The EU ETS aims to reduce CO_2 emissions by 21% from 2005 levels by 2021, and is divided in three Phases: Phase I (2005-2007), Phase II (2008-2012) and Phase III (2013-2020). Each Phase sees the imposition of a gradually reducing total cap on EU-wide emissions. Within the respective caps, emissions allowances can be traded, so that regulated entities can achieve the mandated reductions at the lowest possible cost, whether by investing in new technologies to abate emissions, or purchasing more allowances in the market[8]. The EU ETS therefore combines a command and control mode of regulation (as embodied by the cap) with a market-based mechanism of tradable instruments to achieve the set levels of emissions reductions in the most cost-efficient manner.

As a system of regulation which employs tradable instruments to achieve its public policy goals, emissions trading in general has emerged as a persuasive solution to the global problem of climate change. It has been persuasively argued that the flexibility of the trading element and its translatability across different legal systems has equipped emissions trading with significant advantages in the climate change sphere over available alternatives, such as standards-based regulation or taxation mechanisms[9]. On the other hand,

[6] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32.*

[7] Ibid., arts. 12(1), 19(2).

[8] *The EU Emissions Trading System (EU ETS).* European Commission Climate Action. URL: `http://ec.europa.eu/clima/policies/ets/index_en.htm`.

[9] J. Baert Wiener. "Global Environmental Regulation: Instrument Choice in Legal Con-

significant areas of contention exist in respect of the use of tradable permit regimes to counteract air pollution. For instance, the objectives pursued by this mechanism have been criticised, in that it only aims for a given emissions target to be reached at the lowest possible cost, rather than to reduce emissions *per se*[10]. Moreover, it has been remarked that the supposed innovatory effect of tradable permit regimes may not be what it seems, since such regimes may in fact stifle innovation by effectively compelling firms to keep reducing emissions at the facilities with the lowest abatement costs[11]. The fairness of tradable permit regimes has also been questioned. They may disadvantage developing countries by disincentivising them from improving their industries, and instead encourage them to maintain more rudimentary, low-emission industries and sell permits to developed countries, which in turn can continue to pollute and increase their profits[12].

The critiques outlined above highlight the existence of a very legitimate and important debate about the desirability of tradable permit regimes from an environmental and public policy perspective. The thesis certainly does not aim to underplay the relevance of this debate, but it does start from the premise that such a regime has been chosen as the regulatory path in the EU (as well as in other jurisdictions which are soon to follow suit). The aim of the thesis is to offer a means of improving the workability of the EU ETS as it is currently conceptualised, namely as an economically efficient regulatory regime of permits which can be freely traded by any market participants, whether or not regulated by the EU ETS. The thesis follows the view that trading beyond the purpose of compliance within the EU ETS is pivotal to maintaining market viability and thereby achieving the set environmen-

text". In: *Yale Law Journal* 108 (1999), pp. 677–800, carries out a comprehensive comparative analysis; D. Dudek and J. Palmisano. "Emissions Trading: Why Is This Thoroughbred Hobbled?" In: *Columbia Journal of Environmental Law* 13 (1988), pp. 217–256, at 219, discusses the suitability of emissions trading to address major environmental problems such as climate change.

[10]R. Baldwin. "Regulation Lite: The Rise of Emissions Trading". In: *Regulation and Governance* 2 (2008), pp. 193–215, at 197.

[11]D. Driesen. "Is Emissions Trading an Economic Incentive Program? Replacing the Command and Control/Economic Incentive Dichotomy". In: *Washington and Lee Law Review* 55 (1998), pp. 289–350, at 332-336.

[12]Baldwin, "Regulation Lite: The Rise of Emissions Trading", at 202-203.

tal goals. The thesis argues that the achievement of the environmental goals pursued by a tradable permit regime such as the EU ETS depends on the continued viability of the market in emissions allowances. Such viability requires liquidity in the market, which, to exist, in turn requires a sufficient number of trading parties. "A functional market is first and foremost a liquid market, with the following requirements: continuous sufficient supply and demand; enough market parties; and minimal market restrictions..."[13]. In particular, "[e]nsuring a deep market with multiple participants (in particular, beyond those solely with compliance obligations) [enhances] the likelihood that the price signal generated by trading is a reliable indicator for investment decisions"[14]. Broad participation in the allowance market, meaning the inclusion of participants trading for investment and speculatory purposes rather than for compliance reasons, is said to assist with minimising the cost of complying with the emissions cap by increasing liquidity and thereby lowering trading costs for participants. "In a more liquid market, regulated firms that wanted to buy or sell allowances, particularly in large numbers, could more quickly identify another party with whom to trade without affecting the market price of allowances"[15]. An experiment-based analysis has shown that non-regulated entities (meaning entities not subject to environmental regulation such the EU ETS) trading in the emissions market "directly enhance the liquidity of the permit market, thereby favoring investments in low pollution-emitting technologies"[16].

[13]C. de Jong and K. Walet. "Compliance Strategies in the US Acid Rain Program". In: *A Guide to Emissions Trading: Risk Management and Business Implications*. Ed. by C. de Jong and K. Walet. London: Risk Books, 2004, pp. 201–218, at 204.

[14]A. Hedges. "The Secondary Market for Emissions Trading: Balancing Market Design and Market Based Transaction Norms". In: *Legal Aspects of Carbon Trading: Kyoto, Copenhagen and Beyond*. Ed. by D. Freestone and C. Streck. Oxford: Oxford University Press, 2009, pp. 310–334, at 311.

[15]T. Dinan and A. Stocking. "U.S. Cap-and-Trade Markets: Constraining Participants, Transactions, and Prices". In: *Review of Environmental Economics and Policy* 6 (2012), pp. 169–189, at 172.

[16]L. Taschini M. Chesney and M. Wang. *Regulated and Non-Regulated Companies, Technology Adoption in Experimental Markets for Emission Permits, and Options Contracts*. Centre for Climate Change Economics, Policy, Working Paper No. 51; Grantham Research Institute on Climate Change, and the Environment, Working Paper No. 41, 2011. URL: http://eprints.lse.ac.uk/37577/1/Regulated_and_non-regulated_companies%2C_technology_adoption_in_experimental_markets_for_emission_permits%

The value of the EU emissions market reached €106 billion in 2011, with transaction volumes of 7.9 billion tonnes of CO_2 equivalent[17]. Despite this level of growth, emissions prices have fallen dramatically, as evidenced by the lowest point (below €6) in 2012[18]. The fall in price has been caused by a surplus of allowances in the market. The reasons for the surplus are an over-allocation of emissions allowances to regulated installations in Phase I of the EU ETS[19] and the permitted carry-over of unused allowances from Phase II to Phase III[20], coupled with a general slowdown in production (and thus a corresponding reduction in emissions) caused by the worldwide economic crisis[21]. The price depression in the market seriously threatens the environmental credentials of the EU ETS as an effective tool of climate change policy in the EU's drive towards a low-carbon economy, as the following part demonstrates. In October 2012 the UK Energy Secretary called for the cancellation of over 1 billion allowances created under the EU ETS. The hope was that such a move would boost the flagging emissions price and resurrect the emissions market[22].

But what of the "legal property right" in emissions allowances? If such a right exists, can allowances simply be cancelled under the current legal framework of the EU ETS? If the legal framework requires amendment before the regulator can cancel valid allowances in the market, what boundaries (if indeed any) should be placed on this discretion? The UK's position serves to

2C_and_options_contracts%28lsero%29.pdf, especially at p. 4 and pp. 13-16.

[17] *State and Trends of the Carbon Market*. World Bank, 2012. URL: http://siteresources.worldbank.org/INTCARBONFINANCE/Resources/State_and_Trends_2012_Web_Optimized_19035_Cvr&Txt_LR.pdf, pp. 9-10.

[18] "UK proposes canceling EU CO_2 allowances to raise carbon price". In: Bloomberg News. 8 October 2012.

[19] M. Pohlmann. "The European Union Emissions Trading Scheme". In: *Legal Aspects of Carbon Trading: Kyoto, Copenhagen and Beyond*. Ed. by D. Freestone and C. Streck. Oxford: Oxford University Press, 2009, pp. 336–349, at 353; D. Ellerman and B. Buchner. "The European Union Emissions Trading Scheme: Origins, Allocation, and Early Results". In: *Review of Environmental Economics and Policy* 1 (2007), pp. 66–87, at 69-70.

[20] *Analysis of options to move beyond 20% greenhouse gas emission reductions and assessing the risk of carbon leakage. COM(2010)265 final*. European Commission Communication. 2010. URL: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0265:FIN:en:PDF, pp. 3-4.

[21] *State and Trends of the Carbon Market*, p. 9.

[22] "UK proposes canceling EU CO_2 allowances to raise carbon price".

illustrate a key tension between certainty in the emissions market and flexibility in regulation. Excessive regulatory intervention[23] to reduce supply in a private market can be both counterproductive and destabilising: compliance with the EU ETS will become more expensive as emissions prices rise at a time of economic difficulty, and increased market volatility decreases investor confidence. On the other hand, a continued substandard emissions price discourages investment in green technologies and significantly undermines the EU's low-carbon trajectory.

The thesis explores the role of property rights in managing the tension of market certainty versus regulatory flexibility in the market-based system of regulation that is the EU ETS. It is crucial to determine whether property rights can successfully resolve this tension, and, if this is the case, exactly what type of property right is required, and with what characteristics and limitations. The thesis posits that two elements are required to strike the correct balance between the two variables of market certainty and regulatory flexibility, so that the EU ETS can achieve its environmental goals. The two requisite elements are an analytical construction of the legal interests created in emissions allowances (emissions entitlements), and an understanding of the public policy goals that the EU ETS seeks to achieve. The two elements are themselves interlinked: the success of the public policy goals is dependent on the analytical construction of emissions entitlements[24]. Without such a construction, it is contended that the EU ETS as an effective tool of environmental policy will ultimately fail because it will not be able to accommodate its various and potentially conflicting goals.

Providing a construction of emissions entitlements in order to enable the

[23]K. Gray. "Can Environmental Regulation Constitute a Taking of Property at Common Law?" In: *Environmental and Planning Law Journal* 24 (2007), pp. 161–181. URL: `http://www.trin.cam.ac.uk/show.php?dowid=865`, at 3, 7, highlights the two meanings of regulatory intervention, namely the importance of the distinction between the possibility that emissions allowances may be cancelled or otherwise expropriated, and mere regulation of use. The thesis is specifically concerned with the former, not the latter. The distinction is relevant, for instance, to the question as to whether or not compensation is payable. Mere regulatory interference with use would generally not attract compensation, but expropriation would.

[24]Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", especially at 323, part 2.

achievement of environmental goals is important beyond the confines of the case study provided by the EU ETS. Market-based regulation in the shape of tradable permit regimes is growing in popularity, particularly in the context of environmental and conservation policy. An Australian emissions trading scheme is set to launch in 2015[25], preceded by a similar regulatory system in the US state of California in 2013[26]. New Zealand has been considering the idea of a tradable deforestation permit regime to regulate land use[27]. Further afield, suggestions have been made for the introduction of tradable whale catch quotas to reduce the numbers killed[28]. The thesis therefore speaks, firstly, to the environmental community, to regulators, economists, scientists, lawyers and campaigners: to all those who are preoccupied with the effectiveness of environmental policy.

Since the analytical construction of emissions entitlements affects the environmental success of the EU ETS, this construction necessarily involves drawing a dividing line between regulatory flexibility (as to the scope of intervention in the emissions market) and market certainty (in the shape of the protection afforded to traders). The connection between the analytical construction of entitlements and the success of regulatory systems of tradable permits has wider implications which provide rich opportunities for future research beyond the focus of the thesis. How do we craft new, effective tradable permit regimes which can achieve ambitious public policy goals? Is it always possible to define the resulting entitlements in such a way as to enable the

[25] *Clean energy legislation*. Australian Government Department of Climate Change and Energy Efficiency. URL: http://climatechange.gov.au/government/clean-energy-future/legislation.aspx.

[26] *Cap-and-Trade Program*. California Environmental Protection Agency Air Resources Board. URL: http://arb.ca.gov/cc/capandtrade/capandtrade.htm.

[27] *Design Options for A Tradeable Deforestation Permit Regime: A supplementary discussion document for the Sustainable Land Management and Climate Change Consultation*. New Zealand Ministry of Agriculture and Forestry. 2006. URL: http://www.mpi.govt.nz/news-resources/publications.aspx?title=Design%20Options%20for%20a%20Tradeable%20Deforestation%20Permit%20Regime, p. 6, "Under a tradeable permit regime any party that deforested an area of land would be required to relinquish a suitable number of permits..., or make a cash payment to cover the cost of the carbon released".

[28] C. Costello, S. Gaines, and L. Gerber. "Conservation Science: A Market Approach to Saving the Whales". In: *Nature* 481 (2012), pp. 139–140.

achievement of these goals? Or are there circumstances where other types of regulation are to be preferred? Should we follow the advice to consider returning to "other important policy mechanisms" which have been sidelined by the recent fashion for tradability – such as taxation or standards-based regulation[29] ? And, if alternative modes of regulation may be more appropriate, is there any possibility of combining them with tradable permit regimes in order to harness as many advantages as possible to achieve the public policy goal? These questions offer a few examples of available avenues which merit further investigation.

Secondly, the thesis speaks to property lawyers and theorists. The exercise of crafting an analytical construction of emissions entitlements in a way that can effectively achieve public policy goals reveals new, highly instructive insights into the complexity and fragmentation of property rights. The entitlements created by market-based regulatory systems of tradable instruments test the boundaries of property in ways that have not been comprehensively and comparatively analysed to date. The thesis gathers together and compares selected regimes that exemplify an instructive variety of property rights, and can offer useful parallels with emissions entitlements. In the first instance, this exercise helps to articulate a construction of emissions entitlements. It also more generally demonstrates the fluidity of the legal interests created by regulatory regimes to achieve public policy goals. A generic definition of these kinds of legal interests as private property rights does not accurately portray their precise scope and contents. Consequently, in the UK for example, the judgment in *Armstrong v. Winnington*[30], which holds that emissions entitlements represent private property, is not the end of the matter, and serves to highlight the continued importance of determining specifically what sort of property these entitlements represent, and with what contents[31]. Legal interests created for regulatory purposes emerge as a special category of private property, whose characteristics are shaped by the regulatory goal which they have been created to pursue. Instead, the

[29] *The EU Emissions Trading System: failing to deliver*, p. 9.

[30] *Armstrong DLW GmbH v. Winnington Networks Ltd [2012] EWHC (Ch) 10*, discussed in more detail in chapter 3.5.

[31] See further chapter 4.1.

kind of analysis that is better suited to defining such legal interests necessarily involves a type-by-type examination of the different contexts where the interests are of relevance. How are the interests to be treated in insolvency? Can they form the subject of a trust? Can security rights be created therein, and can such rights be adequately enforced and protected? These are examples of questions which are particularly relevant in the context of commercially valuable tradable instruments created for a regulatory purpose. This incremental approach serves to comprehensively elicit the characteristics of the entitlements in situations where a generic private property rights categorisation, without further elaboration, would be overly simplistic.

This kind of pragmatic approach also illustrates the changing nature of property in the regulatory state, where its subordination to the achievement of public policy goals has the potential to disrupt the traditional conceptualisation and functionality of property rights. The rights-based analysis of entitlements created by tradable permit regimes put forward by the thesis illustrates the dramatic transformation of property beyond the limited conceptualisation customarily employed by lawyers to date. Property in law generally means private property[32]. In addition, some commentators speak of the new category of "regulatory property"[33], also called "hybrid property"[34]

[32]Unless it is expressly stated that we are referring to, for instance, state property, or public property which is accessible to all. For the purposes of the thesis, property is taken to mean private property, unless specified otherwise. This is because emissions entitlements cannot be regarded as either state or public property, due to their being held and traded in a private market.

[33]K. Anttonen, M. Mehling, and K. Upston-Hooper. "Breathing Life into the Carbon Market: Legal Frameworks of Emissions Trading in Europe". In: *European Environmental Law Review* 16 (2007), pp. 96–113, at 97; B. Yandle and A. Morriss. "The Technologies of Property Rights: Choice Among Alternative Solutions to Tragedies of the Commons". In: *Ecology Law Quarterly* 28 (2002), pp. 123–168, at 129; B. Yandle. "Grasping for the Heavens: 3-D Property Rights and the Global Commons". In: *Duke Environmental Law and Policy Forum* 10 (1999), pp. 13–44; Wiener, "Global Environmental Regulation: Instrument Choice in Legal Context", at 800.

[34]C. Rose. "Expanding the Choices for the Global Commons: Comparing Newfangled Tradable Allowance Schemes to Old-Fashioned Common Property Regimes". In: *Duke Environmental Law and Policy Forum* 10 (1999), pp. 45–72, especially at 51-52; C. Rose. "The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems". In: *Minnesota Law Review* 83 (1998), pp. 129–182, especially at 164-166; R. Stewart. "Privprop, Regprop, and Beyond". In: *Harvard Journal of Law and Public Policy* 13 (1990), pp. 91–96, especially at 93-94.

or "statutory property"[35], whose primary function is not the protection of right holders (which traditional private property does), but rather, in effect, the protection of the object of property itself. Emissions entitlements are ultimately intended to protect a certain composition of the atmosphere. The entitlements are not in the atmosphere itself, but are rights to pollute, whose aim is to safeguard the atmosphere[36].

It is submitted that the notion of regulatory property merely scratches the surface of analysing the nature and operation of entitlements created for public policy purposes. The goals of the EU ETS are to achieve cost-effective emissions reductions to levels scientifically required to tackle climate change and to support the Union-wide transition to a low-carbon economy. At the same time, the EU ETS needs to maintain the viability of the private emissions market, which is both a self-standing goal and the means of achieving the aforementioned public policy objectives[37]. The analytical construction of emissions entitlements that can best achieve these goals requires more than a purely generic conceptualisation of property. Instead, it requires an analysis of the nature of property according to the various contexts in which it appears. The thesis therefore introduces the new notion of instrumental property, which has been created to reconcile and achieve multiple and potentially conflicting regulatory goals, and whose characteristics shift according to the different contexts in which it operates. In a wider sense, the thesis opens possibilities for future exploration of other types of instrumental property. The implications of the proposed analytical exercise could well stretch the boundaries of property even further than emissions entitlements have done already.

The thesis thus weaves together the two themes: the need to craft an analytical construction of legal interests which can achieve the public policy goals of a regulatory regime, and the evolutionary nature of property rights

[35]K. Gray. "Regulatory Property and the Jurisprudence of Quasi-Public Trust". In: *Sydney Law Review* 32 (2010), pp. 221–241.

[36]M. Wemaere, C. Streck, and T. Chagas. "Legal Ownership and Nature of Kyoto Units and EU Allowances". In: *Legal Aspects of Carbon Trading: Kyoto, Copenhagen and Beyond*. Ed. by D. Freestone and C. Streck. Oxford: Oxford University Press, 2009, pp. 35–58, at 39.

[37]The goals of the EU ETS are discussed in further detail in this chapter and the next.

in a regulatory environment which has been unveiled by this exercise. The analytical framework devised by the thesis for emissions entitlements is intended to serve as a blueprint for deciding how to treat things of value for which we do not yet have a legal construction, where those things of value have been created for a regulatory purpose. The laissez-faire approach taken by emissions trading, whereby the EU ETS has created allowances and left them to be defined and valued by the private market, extends to an absence of a central construction of emissions entitlements[38]. This gap is problematic, since the environmental success of the EU ETS is premised on the success of the emissions market, which in turn depends on the analytical construction of emissions entitlements, for reasons which are discussed in more depth below.

1.1 Emissions trading in neoclassical economic theory and beyond

To conceptualise and legitimate tradable permit regimes, commentators typically rely on economic theory. Environmental economics has provided the dominant model for crafting regulatory approaches to environmental protection since the 1960s[39]. This branch of economics has its foundations in the "standard paradigm of neoclassical economics"[40], as it applies the "standard economic tool kit" to environmental problems[41]. The notion of tradable permits as instruments of regulation was notably articulated by Coase in 1960. He posited that the effects of economic actors on one another were

[38]Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 303-304, 306, part 3.

[39]R. Hahn. "The Impact of Economics on Environmental Policy". In: *Journal of Environmental Economics and Management* 39 (2000), pp. 375–399, at 375-376, notes the influence of environmental economics in the sphere of environmental regulation.

[40]T. Tietenberg and L. Lewis. *Environmental and Natural Resource Economics*. Boston: Pearson/Addison Wesley, 2009, p. 7.

[41]K. Turner, C. Perrings, and C. Folke. "Ecological Economics: Paradigm or Perspective". In: *The Centre for Social and Economic Research on the Global Environment* (1996). URL: `http://www.cserge.ac.uk/sites/default/files/gec_1995_17.pdf`, p. 1.

reciprocal[42], and consequently argued that interparty bargaining in a market context (as opposed to centralised regulation) could achieve the most efficient outcome in addressing unwanted effects such as environmental degradation[43].

Coase's approach was subsequently employed by commentators such as Crocker[44], Dales[45], Montgomery[46], and Baumol and Oates[47] to apply the notion of tradable permits to environmental regulation. Regulated entities trade such permits as they see most economically viable, so that their production costs are kept as low as possible while the overall goals (such as emissions targets) set by public authorities are complied with. This system creates an incentive to trade the permits until the marginal costs of abatement are equal to the market price of the permits. If costs exceed price, more permits are bought. If costs are lower than price, the allowances can be sold and the proceeds can be used for abatement[48]. On the basis of the Coasean model, efficiency in the allocation and use of resources is the primary goal of tradable permit regimes. In neoclassical economic theory, the success of such mechanisms in achieving the regulatory goal is measured according to the extent to which they lower the costs of achieving this goal. Emissions trading reduces the costs of reducing emissions by allowing polluters to choose between the cheaper of two possible avenues of action[49]. The choice is between abating

[42]R. Coase. "The Problem of Social Cost". In: *Journal of Law and Economics* 3 (1960), pp. 1–44, at 1-2, 28-42.

[43]Ibid., at 2-8.

[44]T. Crocker. "The Structuring of Atmospheric Pollution Control Systems". In: *The Economics of Air Pollution*. Ed. by H. Wolozin. New York: W. W. Norton, 1966, pp. 61–86.

[45]J. Dales. *Pollution, Property and Prices*. Toronto: University Press, 1968.

[46]W. Montgomery. "Markets in Licenses and Efficient Pollution Control Programs". In: *Journal of Economic Theory* 5 (1972), pp. 395–418.

[47]W. Baumol and W. Oates. "The Use of Standards and Prices for Protection of the Environment". In: *Swedish Journal of Economics* 73 (1971), pp. 42–54, propose the use of a pollution tax, but this instrument would be crafted so as to induce polluters to reduce emissions to a certain, pre-set level.

[48]R. Turner, D. Pearce, and I. Bateman. *Environmental Economics: An Elementary Introduction*. Hemel Hempstead: Harvester, 1994, pp. 278-279.

[49]T. Tietenberg. *Emissions Trading: Principles and Practice*. Washington, DC: Resources for the Future, 2006, especially chapter 2; R. Stavins. "What Can We Learn from the Grand Policy Experiment? Lessons from SO_2 Allowance Trading". In: *The Journal of Economic Perspectives* 12 (1998), pp. 69–88, at 78-79, 84-85; R. Stewart. "United States Environmental Regulation: A Failing Paradigm". In: *Journal of Law and Commerce* 15

emissions by, for instance, developing greener technologies, and buying additional emissions allowances in the market if productivity needs require the maintenance or increase of emissions levels.

Despite the dominance of the neoclassical economic model in the sphere of environmental protection regulation, this model exhibits two significant types of problem: it does not provide a comprehensive analytical construction of emissions entitlements, and it does not take into account certain social and ethical aspects which are crucial to how the public policy goals of regulatory systems are crafted.

1.1.1 The nature of emissions entitlements in the neoclassical economic model

Firstly, the neoclassical economic model cannot assist with articulating an analytical construction of the entitlements created by tradable permit regimes. This is principally due to certain assumptions regarding the nature of rights in valuable resources that the model relies on. A tradable permit has been referred to general terms as "a transferable right to a common pool resource", or, in narrower terms, as "a transferable right to emit a substance that can create pollution"[50]. Environmental economists generally view this entitlement as a property right[51]. In economic theory, certainty in the understanding of entitlements is a recognised prerequisite for a viable market, and well-delineated property rights are considered fundamental to market exchange[52].

(1996), pp. 585–596; R. Stewart. "Models for Environmental Regulation: Central Planning Versus Market-Based Approaches". In: *Boston College Environmental Affairs Review* 19 (1992), pp. 547–562, especially at 552-555, 558-559; C. Sunstein. "Administrative Substance". In: *Duke Law Journal* 1991 (1991), pp. 607–646, at 634-637; R. Hahn and G. Hester. "Marketable Permits: Lessons for Theory and Practice". In: *Ecology Law Quarterly* 16 (1989), pp. 361–406, at 363; B. Ackerman and R. Stewart. "Reforming Environmental Law". In: *Stanford Law Review* 37 (1985), pp. 1333–1365, especially at 1341-1351; R. Hahn and R. Noll. "Barriers to Implementing Tradable Air Pollution Permits: Problems of Regulatory Interactions". In: *Yale Journal on Regulation* 1 (1983), pp. 63–91, at 65-66.

[50]D. Ellerman. "A Note on Tradeable Permits". In: *Environmental and Resource Economics* 31 (2005), pp. 123–131, at 124.

[51]Ibid., at 126, 130.

[52]B. Field and M. Field. *Environmental Economics: An Introduction*. Boston: McGraw-Hill Irwin, 2009, p. 203; D. Cole and P. Grossman. "The Meaning of Property Rights: Law

However, when economists speak of property rights, they do not always mean the same as what is recognised as property in law[53]. For instance, a key strand of legal theory asserts that property rights exhibit certain requisite characteristics which place them in this particular legal category, such as the right to exclude others and the right to use the resource in question[54]. Economists do recognise some of the attributes which are required in law to make particular entitlements property rights: for example, De Alessi views the rights to transfer and use as part of private property[55], while Demsetz[56] and Alchian[57] recognise the importance of the right of exclusion (or non-interference).

Other economists, however, adopt conceptualisations which have moved substantially further from legal notions of property. Coase views property rights as entitlements against other parties. In the absence of transaction costs, it does not matter which of the parties holds the right[58]. Where transaction costs do exist, it is generally regarded as more efficient if the legal framework decides on the allocation of property rights[59]. In its widest form, the economic understanding of property rights can encompass "virtually every device – public or private, common law or regulatory, contractual or governmental, formal or informal – by which divergences between private and social costs or benefits are reduced"[60]. Barzel, for example, has been criticised for "throw[ing] around the word "right" casually and without clear

versus Economics?" In: *Land Economics* 78 (2002), pp. 317–330, at 317; T. Tietenberg. "Ethical Influences on the Evolution of the US Tradable Permit Approach to Air Pollution Control". In: *Ecological Economics* 24 (1998), pp. 241–257, at 253.

[53]Cole and Grossman, "The Meaning of Property Rights: Law versus Economics?", at 317.

[54]J. Penner. *The Idea of Property in Law*. Oxford: Oxford University Press, 1997, especially at pp. 68-69, 71, 74-75, 152; T. Merrill. "Property and the Right to Exclude". In: *Nebraska Law Review* 77 (1998), pp. 730–755, at 731, 740-752, 754.

[55]L. De Alessi. "Property Rights, Transaction Costs, and X-Efficiency: An Essay in Economic Theory". In: *American Economic Review* 73 (1983), pp. 64–81, at 67.

[56]H. Demsetz. "Toward a Theory of Property Rights". In: *American Economic Review* 47 (1967), pp. 347–358.

[57]A. Alchian. "Some Economics of Property Rights". In: *Il Politico* 30 (1965), pp. 816–829.

[58]Coase, "The Problem of Social Cost", at 2-8.

[59]Ibid., at 15-19.

[60]T. Merrill and H. Smith. "What Happened to Property in Law and Economics". In: *Yale Law Journal* 111 (2001), pp. 357–398, at 358, quoting R. Posner.

definition"[61]. He distinguishes between "economic rights" and "legal rights" to property: a thief, for instance, can have the former, but not the latter[62]. However, unless validated in law, a mere ability to make use of a particular resource is not a property right as such[63]. Barzel also regards contract as the principal means and first point of call for the allocation of property rights, with government (legal) protection being available as a default mechanism where voluntary, private contracting would not be able to adequately allocate the rights. For Barzel, contractual rules have primacy and are of the utmost importance, and legal property rights are subordinate to them and only apply where contract has failed: "[a]t the heart of the study of property lies the study of contracts"[64]. The perception of property rights in economics therefore lacks consistency: "[e]conomists have not been able to agree among themselves, let alone with legal scholars, on a common, consistent definition of property rights"[65].

Even those economics scholars who recognise some of the key characteristics of property required in law do not explore in depth why these characteristics are so crucial to the constitution of property rights, and in particular what kind of limitations on these characteristics can tip an interest from the property category to a different (and potentially weaker) type of right. These two avenues of investigation are, by contrast, of significant interest to lawyers. A high level of precision in the construction of property is necessary in order to be able to proceed to analysing new types of entitlements (such as those in EU emissions allowances).

[61]Cole and Grossman, "The Meaning of Property Rights: Law versus Economics?", at 324-325.

[62]Y. Barzel. *Economic Analysis of Property Rights*. Cambridge: Cambridge University Press, 1997, p. 110.

[63]Cole and Grossman, "The Meaning of Property Rights: Law versus Economics?", at 324-325; M. Heller. "The Boundaries of Private Property". In: *Yale Law Journal* 108 (1999), pp. 1163–1223, at 1192-1193.

[64]Barzel, *Economic Analysis of Property Rights*, at 3-4, 7-9, 11-13, 33, 39-40, 141.

[65]Cole and Grossman, "The Meaning of Property Rights: Law versus Economics?", at 328.

1.1.2 The objectives of tradable permit regimes: cost-efficiency and beyond

Secondly, the neoclassical economic model has been criticised for missing certain social and ethical perspectives which are crucial to the conceptualisation of regulatory systems. The absence of these wider perspectives throws an obstacle in the path of comprehensively articulating the public policy goals that such systems seek to achieve. Understanding the goals of tradable permit regimes beyond the cost-benefit analysis prescribed by the neoclassical economic model is an exercise that has been carried out using a number of approaches. The ones that have been selected for discussion here are of most relevance of the concerns of the thesis, in the sense that they illustrate the need to view emissions trading in the wider context of EU environmental policy and also from a social perspective, namely that of traders participating in the emissions market.

Ecological economics provides a notable critique of the efficiency-focused approach of environmental economics. It borrows the principal tenets of the traditional neoclassical economic model and infuses them with ideas from the natural sciences, notably ecology[66]. Ecological economics focuses on the physical viability of ecosystems and the consequent need to protect them against unbridled economic growth. The aim of environmental regulation thus becomes more than the cost-effective allocation of resources, and includes placing physical limits on economic development in order to protect endangered resources[67]. The views of ecological thinkers range from seeking to devise a way of harmonising economic growth with environmental protection[68], to favouring the resolution of environmental problems through an increased closeness to nature and the fostering of an ethical relationship based

[66]R. Costanza et al. *An Introduction to Ecological Economics*. Boca Raton, Florida: St Lucie Press, 1997, for an authoritative account of ecological economics.

[67]S. Baumgärtner et al. "Relative and Absolute Scarcity of Nature: Assessing the Roles of Economics and Ecology for Biodiversity Conservation". In: *Ecological Economics* 59 (2006), pp. 487–498, at 490-492.

[68]M. Sagoff. "Ethics, Ecology, and the Environment: Integrating Science and Law". In: *Tennessee Law Review* 56 (1989), pp. 77–229, at 110.

on respect for the environment (the so-called "deep ecology" approach)[69]. With emissions trading, policymakers have sought to address the issue of the maximum permissible levels of atmospheric pollution by means of the aggregate cap on emissions levels. However, it cannot realistically be envisaged that there will ever be a total prohibition on emissions even if it were unsustainable to continue to emit. This would most likely not be socially acceptable, as human life would not be able to continue without economic growth.

Linked to the view of physical resources as finite is the idea that emissions trading may not be able to continue indefinitely. Neoclassical economics, with its neutral approach to scarcity, assumes that a price can be put on climate stability and that this good can subsequently be traded in a market (which is what emissions trading does by pricing the entitlement to emit greenhouse gas pollution). The next assumption is that, even if the climate degrades at a given time, it can always be priced and traded again later. The normative issue of the inherent undesirability of climate change which is presupposed by the environmental policy behind emissions trading is absent from the neoclassical economic model, according to which the climate can continue to be traded *ad infinitum*, irrespective of its ever decreasing quality. This absence causes potential conflict in the context of emissions trading, namely between maintaining a viable emissions market and achieving the requisite levels of emissions reductions.

Aside from ecological economics, other strands of critique have persuasively argued that an area of public concern such as environmental protection necessitates the taking into account of social and normative factors, which may not be quantifiable within a standard exercise of cost-benefit analysis. For instance, the notion of distributional fairness requires that tradable permit regimes take into consideration the need to achieve environmental justice, particularly for less privileged, low-income communities[70]. In a wider sense,

[69]E. Louka. *International Environmental Law: Fairness, Effectiveness, and World Order*. Cambridge: Cambridge University Press, 2006, pp. 16-17.

[70]D. Kysar. "Law, Environment and Vision". In: *Northwestern University Law Review* 97 (2003), pp. 675–729, at 685; R. Toshiyuki Drury et al. "Pollution Trading and Environmental Injustice: Los Angeles' Failed Experiment in Air Quality Policy". In: *Duke*

the idea of distributional fairness also highlights the importance of the social and participatory nature of tradable permit systems of environmental regulation. The interests to be accounted for and reconciled with one another necessarily include those of market participants (whether polluters which are regulated by the said system, or entities trading purely for investment purposes), public authorities and society at large. Furthermore, Heinzerling and Ackerman propose a revised type of cost-benefit analysis, which is more holistic and takes into account elements which are crucial to areas of public interest such as environmental protection, for example scientific information, the nature of the risks involved and the importance of providing for future generations[71]. Their approach links in with the need to take into account the wider picture of EU environmental policy when crafting an analytical construction of emissions entitlements.

Moreover, the emissions market differs from markets in other types of instrument from the point of view of regulatory involvement. The degree of such involvement, due to the primarily environmental goals of emissions trading, is substantially greater than in other markets. In other words, although it has been persuasively argued that all markets are shaped by the characteristics of the social and institutional environment which they inhabit, the influence of these characteristics is of particular importance in the case of the emissions market.

The conventional neoclassical economic account of how markets function generally is based on the forces of supply and demand, which are constituted by the rational, self-interested behaviour of market participants. The constitution and operation of markets are therefore little affected by social relationships: parties have access to perfect information, and the function-

Environmental Law and Policy Forum 9 (1999), pp. 231–289, at 271-273; L. Chinn. "Can the Market Be Fair and Efficient? An Environmental Justice Critique of Emissions Trading". In: *Ecology Law Quarterly* 26 (1999), pp. 80–125; R. Lazarus. "Fairness in Environmental Law". In: *Environmental Law* 27 (1997), pp. 705–739, especially at 712-714, 725; H. Gorovitz Robertson. "If Your Grandfather Could Pollute, So Can You: Environmental "Grandfather Clauses" and Their Role in Environmental Inequity". In: *Catholic University Law Review* 45 (1995), pp. 131–179, at 139.

[71] B. Ackerman and L. Heinzerling. *Priceless: On Knowing the Price of Everything and the Value of Nothing*. New York: The New Press, 2004, chapter 9.

ality of markets does not require prolonged human or social contact[72]. This view has been challenged by insights from sociology. Specifically, writers such as Fligstein and Granovetter have argued that the role of social and political interactions in shaping markets is much more significant than the minimal impact assumed by the neoclassical economic account.

The idea that "market structures include a wide variety of elaborated social structures"[73] is discussed by Fligstein, who argues that the constitution of markets is not determined universally, but instead depends on the nature of the relationships and interactions between participants in a given social set-up[74]. He devises a so-called political-cultural approach, which states that social action takes place in fields (also known as organised social spaces) that are governed by formal and informal rules of participation and functionality. Markets are thus a type of field, and reflect the social understandings and rules existent in a particular culture: they are "social constructions that reflect the unique political-cultural construction of their firms and nations"[75]. Moreover, "governments as a set of fields interact with markets as a set of fields"[76], and devise rules intended to promote the stability of markets, such as competition regulation[77]. States thus "intervene, regulate and mediate"[78], and range from interventionist regimes making direct substantive decisions for markets, to regulatory regimes that enforce market rules through inter-

[72]A. Alchian and H. Demsetz. "The Property Rights Paradigm". In: *Journal of Economic History* 33 (1973), pp. 16–27; M. Granovetter. "Economic Action and Social Structure: The Problem of Embeddedness". In: *American Journal of Sociology* 91 (1985), pp. 481–510, at 481, 484.

[73]N. Fligstein. *The Architecture of Markets: An Economic Sociology of Twenty-First-Century Capitalist Societies*. Princeton and Oxford: Princeton University Press, 2001, p. 7.

[74]Ibid., p. 7.

[75]Fligstein, *The Architecture of Markets: An Economic Sociology of Twenty-First-Century Capitalist Societies*, pp. 15-17, 97; N. Fligstein. "Markets as Politics: A Political-Cultural Approach to Market Institutions". In: *American Sociological Review* 61 (1996), pp. 656–673, at 670-671.

[76]Fligstein, *The Architecture of Markets: An Economic Sociology of Twenty-First-Century Capitalist Societies*, p. 19.

[77]Fligstein, *The Architecture of Markets: An Economic Sociology of Twenty-First-Century Capitalist Societies*, p. 19, also pp. 42, 73; Fligstein, "Markets as Politics: A Political-Cultural Approach to Market Institutions", at 657, 660-661.

[78]Fligstein, *The Architecture of Markets: An Economic Sociology of Twenty-First-Century Capitalist Societies*, p. 42.

mediary agencies[79].

Granovetter presents another type of sociological argument and suggests that markets exist within the context of social relations: this is the so-called embeddedness of markets in social networks[80]. Actors' actions are said to be "embedded in concrete, ongoing systems of social relations"[81]. This social structure thus affects economic outcomes as it affects the flow and quality of information, it is a source of reward and punishment and provides the environment for the emergence of trust between market participants[82]. The social structure is constituted to a significant extent of non-economic activity (such as culture, politics and religion), which therefore affects economic activity[83]. Granovetter gives the example of trust and malfeasance: believing that others will behave morally and honestly, as well as behaving dishonestly and deceitfully are not likely to happen due to a generalised view of morality. Rather, they depend on the particular make-up of every set of social relations between economic actors (and arguably more so than on the internal organisational forms of those actors)[84].

It seems logical to suppose that all markets are to some extent social and political creations, and not driven exclusively by the rational behaviour of market participants, which can be universalised irrespective of the particular social and institutional set-up. It is argued, however, that this social and political make-up lies on a spectrum: the social and political aspects of some markets are more pronounced than those of other markets. In particular, public authorities and the influence of public policy play a role in markets to differing degrees[85]. The regulatory function of an emissions market (such as

[79]Fligstein, *The Architecture of Markets: An Economic Sociology of Twenty-First-Century Capitalist Societies*, p. 42; Fligstein, "Markets as Politics: A Political-Cultural Approach to Market Institutions", at 661.

[80]Granovetter, "Economic Action and Social Structure: The Problem of Embeddedness", at 481-482.

[81]Ibid., at 487.

[82]M. Granovetter. "The Impact of Social Structure on Economic Outcomes". In: *Journal of Economic Perspectives* 19 (2005), pp. 33–50, at 33.

[83]Ibid., at 35.

[84]Granovetter, "Economic Action and Social Structure: The Problem of Embeddedness", at 487-493, 502-503.

[85]Fligstein, *The Architecture of Markets: An Economic Sociology of Twenty-First-*

that created by the EU ETS) is its primary feature. The existential purpose of such a market is to achieve certain public goals (notably to reduce emissions to scientifically acceptable levels and support a low-carbon economy). Such public objectives are not present in other markets, for instance those in traditional commodities such as oil or gas. The emissions market has been created entirely artificially, at regulatory level. The regulatory framework allows the market to function by creating its instruments and permitting tradability.

Specifically, the EU ETS contains detailed provisions on the mechanisms envisaged to achieve emissions reductions and support a low-carbon economy, for instance on the contents of the emissions permit to be held by a regulated entity[86], and on the working details of monitoring and surrendering emissions allowances[87]. This focus reflects the primary purpose of the EU ETS, namely the reduction of emissions in accordance with a pre-determined, decreasing cap[88]. By contrast, the EU ETS does not prescribe any particular rules on the trading of allowances, which is open to both regulated and non-regulated entities[89]. There is consequently a gap between regulating the reduction of emissions (the ultimate purpose of the EU ETS) and regulating emissions trading (the means employed by the EU ETS to achieve the desired levels of emissions reductions, and effectively an intermediate purpose of the regulatory regime). While the behaviour of installations in terms of how they may carry out their emitting, EU ETS covered activities is regulated in detail, participants in the emissions market (which include those regulated installations) are left to develop their own framework of rules as

Century Capitalist Societies, pp. 11-13.

[86] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, arts. 4-7.

[87] Ibid., arts. 12, 14.

[88] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, art. 1; Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 303-304.

[89] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, arts. 12(1), 19(2).

regards the trading of allowances. The emissions market thus has a particular social and collective nature. It is constituted by the interactions of different actors and organisations. It is originally a regulatory construct, and its public policy aspect remains its primary and defining characteristic, but its continued functionality is dependent on participants' involvement in the trading process[90].

A prime example of where the cost-effectiveness goal does not paint the full picture of what tradable permit regimes aim to achieve is the issue of low emissions prices in the EU market. "Low or highly volatile prices have the potential to reduce incentives for investment in low-carbon technologies", which the EU ETS has undertaken to support as part of a general, Union-wide move towards a low-carbon economy[91]. At the same time, on the basis of the neoclassical economic model, low prices simply indicate that the EU ETS is functioning as it should: purchasing allowances in the market is cheaper than abatement. However, the model does not take into account the reality that EU ETS does not exist in a "regulatory void", where cost-efficiency in emissions reductions is all that matters. The EU ETS is part of a greater regulatory scheme, the EU Climate and Energy Package, whose aims are to reduce emissions and increase the use of renewable energy, so that Europe can transform itself into "a highly energy-efficient, low-carbon economy"[92]. Furthermore, the EU ETS can play an important role in an international move towards a low-carbon society, which forms part of tackling complex environmental issues at the global level, for instance the effects of climate change on global health[93]. The wider issue of low-carbon development

[90] J. Knox-Hayes. "The Architecture of Carbon Markets: Institutional Analysis of the Organizations and Relationships that Build the Market". In: (2009). URL: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1395312, especially p. 18.

[91] Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 304, 314.

[92] *The EU Climate and Energy Package*. European Commission Climate Action. URL: http://ec.europa.eu/clima/policies/package/index_en.htm; Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", pp. 313-314.

[93] A. Costello et al. "Managing the Health Effects of Climate Change". In: *Lancet* 373(9676) (2009), pp. 1693–1733, especially at 1695-1696, 1719, 1723, 1729, highlights the importance of combined social and institutional commitment to moving towards a low-carbon economy.

mandates that additional goals must be ascribed to the EU ETS, such as promoting greener technologies, which can be done by way of an adequate emissions price level.

The common denominator of these social and ethical concerns is the submission that there is a fundamental and underappreciated difference between the creation of a market as a means to achieve most effectively certain publicly defined regulatory objectives (namely reducing emissions and decarbonisation) on the one hand, and the more conventional situation in which a market is created solely to provide an ostensibly neutral space where individuals can pursue their respective interests and where collective social preferences are thereby revealed rather than centrally defined. Whilst neoclassical economic theory is well equipped to conceptualise the latter type of market, it is less capable of providing an accurate narrative of the former type. This is because the application of the neoclassical economic model to social and regulatory phenomena necessarily involves normative choices which cannot be ignored; it can never be a neutral, technical or mechanical exercise. The absence of space for normative choices in the neoclassical economic model and its insistence on efficiency[94] as the yardstick for measuring the environmental performance of emissions trading may therefore render this mechanism less effective as a regulatory tool of environmental protection than hitherto assumed. An example where economic incentives cannot, on their own, address the environmental impact of pollution is offered by the suggestion that a synergy could be achieved in the EU ETS between economic efficiency and tortious liability, so as to address the physical as well as the economic consequences of emissions[95].

At the same time, the importance of the neoclassical economic model in environmental policy and, more specifically, EU climate change policy must not be underestimated. The neoclassical economic model remains the

[94]Dudek and Palmisano, "Emissions Trading: Why Is This Thoroughbred Hobbled?", at 218-219; Hahn and Hester, "Marketable Permits: Lessons for Theory and Practice", at 361-362; Stavins, "What Can We Learn from the Grand Policy Experiment? Lessons from SO_2 Allowance Trading", at 70-72; Hahn, "The Impact of Economics on Environmental Policy", at 378.

[95]M. Lee. "Safety, Regulation and Tort: Fault in Context". In: *Modern Law Review* 74 (2011), pp. 555–580, at 576.

dominant account of how regimes of environmental protection are crafted. Articulating the goals of the EU ETS does necessitate employing this model, since under a tradable permit regime, by definition, regulated entities reduce their emissions by assessing the cost-efficiency of purchasing allowances versus abatement.

Critics of the dominant model therefore need to engage with the tradable permit regimes that this model has legitimised. Such critics can deploy their lines of questioning of the dominant model to assist in articulating clear and comprehensive goals that regimes such as the EU ETS should be striving to achieve. These goals are likely to go beyond the cost-effectiveness element prescribed by the neoclassical economic model, so as to take into account the wider social and institutional context in which the EU ETS exists, in particular the wider goals of EU environmental policy. That cost-benefit analysis is fundamentally capable of engaging with wider social and ethical considerations (provided that the challenges of quantifying these considerations in the economic model can be overcome) has been recognised by commentators such as Lee[96]. The goals can include reducing emissions to lower levels than a cost-effectiveness assessment would recommend, and supporting the EU's centralised move towards a low-carbon economy. The principal role that can most usefully be played by the social and ethical perspectives which are missing from the dominant model is to enrich the vision of the regulatory goals of the EU ETS beyond pure economic efficiency. Emissions trading should entail an effective strategy which correlates with and supports the rest of EU environmental policy, while adequately protecting market participants so as to enable the trading element to support the regulatory goals.

In consequence, a comprehensive legal analytical construction of emissions entitlements must necessarily be crafted in a way which accommodates the multiple and potentially conflicting objectives revealed by the neoclassical economic model and its critiques. In effect, this legal construction is tasked with the implementation of a (modified) economic model. The exercise of crafting such a construction illustrates the instrumentalisation of law: in particular, property law is employed in a regulatory context in order to pursue

[96]Lee, "Safety, Regulation and Tort: Fault in Context", at 577.

public policy goals which are dictated by an economic model. As noted earlier in the chapter, this instrumentalisation indicates that the nature of property is much more adaptable to various contexts than traditionally portrayed. It remains to be seen what the consequences of this adaptability are for the conceptualisation and functionality of property law, an issue which is addressed in particular in the final chapter.

1.2 An analytical construction of the legal entitlements created by emissions trading

Crafting an analytical construction of the legal interests created by tradable permit regimes, particularly emissions trading systems, is an issue of considerable practical importance. Trading regimes are proliferating in air pollution regulation across the world, with significant differences in the understanding of emissions entitlements. The United States (US) Acid Rain Program, which served as a source of inspiration for the EU ETS[97] and involves the trading of sulphur dioxide (SO_2) allowances, views these instruments as limited authorisations to emit SO_2, and therefore not property rights. Moreover, the government has the authority to terminate or limit such authorisations[98]. At the same time, US case law has established that the allowances exhibit many characteristics of property rights as between private parties, though not against the government. By contrast, Australia's emissions trading scheme has specifically designated emissions entitlements as property[99].

It is consequently imperative to provide an authoritative legal analysis "that can assist in determining why such different classificatory outcomes have been reached, and why these differences matter" for the success of envi-

[97] F. Convery. "Origins and Development of the EU ETS". In: *Environmental and Resource Economics* 43 (2009), pp. 391–412, at 397, 407.

[98] *1990 Clean Air Act Amendments, 42 United States Code*, §7651b(f).

[99] *Clean Energy Act 2011 (Commonwealth)*, s. 103; Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 307-308, 315.

ronmental regulation[100]. The analytical approach followed in the thesis (and elaborated below) provides a rigorous evidentiary path which serves to ensure the legal coherence and persuasiveness of the construction of EU emissions entitlements. The approach is more systematic, comprehensive and unitary than the strands of discussion that have concerned themselves with the nature of emissions entitlements thus far. The approach is intended to serve as a working blueprint that enables the construction of any type of new legal interest created by a regulatory regime of trading, whether in air pollution regulation, other areas of environmental regulation, or beyond. For instance, biodiversity offsetting is being pioneered as a new market-based mechanism of environmental protection, and works by requiring developers to offset activities that damage conservation habitats by delivering equivalent biodiversity units in other locations[101].

The scholarship discussing the nature of emissions entitlements has to date focused on three interconnected, overlapping areas of concern. The first is the legal categorisation of the entitlements as property, which has been put forward by some commentators. The second explores views that question this categorisation and point to certain characteristics of emissions entitlements which do not fit with notions of property. The third illustrates the challenge as well as the urgency of crafting an analytical construction of emissions entitlements that can accommodate multiple and potentially conflicting regulatory goals.

1.2.1 The legal categorisation of emissions entitlements as property

For some commentators, the draw of the property categorisation of emissions entitlements remains strong, even beyond the realm of neoclassical economic

[100] Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 307.

[101] *Technical Report for European Commission DG Environment, The Use of Market-based Instruments for Biodiversity Protection – The Case of Habitat Banking.* Economics for the Environment Consultancy and Institute for European Environmental Policy *et al.* 2010. URL: `http://ec.europa.eu/environment/enveco/pdf/eftec_habitat_technical_report.pdf`, especially pp. 3-4.

theory. Welch writes that tradable permit entitlements belong to the category of property rights, which encompasses common property (which "can be used by anyone"), usufruct (a non-transferable right to exclude) and full ownership (which means both the right to exclude and the right to transfer)[102].

Cole similarly considers SO_2 entitlements in the US Acid Rain Program to be property. The SO_2 entitlements are "akin to a usufruct, a leasehold or a defeasible fee to the environmental goods. These are certainly valuable property rights, though they amount to something less than fee-simple ownership"[103]. Cole's explanation delves into the potential limitations on the scope of emissions entitlements, but employs a single view of property (as a "bundle of sticks") and automatically concludes that the particular bundle (meaning the characteristics) constituting the entitlements amounts to property. This conclusion leaves open the possibility that any set of characteristics of a legal interest could potentially render it categorisable as a property right. The reality is that, in law, not all rights are property rights; some are categorised as purely personal (for instance contractual) rights. A more detailed and nuanced discussion of other views of property, beyond the "bundle of sticks" analysis, is therefore needed before a firm pronouncement on the categorisation of emissions entitlements can be made.

In the specific context of the EU ETS, Spash notes that:

> [a]llocating permits is equivalent to attributing polluters a property right... Once permits systems are established, and permits have been allocated, a Government has created property rights for pollution which the courts may well protect. Subsequent attempts to reduce the number of permits (that is, tighten the cap) could then require the Government to buy back permissions ini-

[102] W. Welch. "The Political Feasibility of Full Ownership Property Rights: The Cases of Pollution and Fisheries". In: *Policy Sciences* 16 (1983), pp. 165–180, at 166.

[103] D. Cole. "New Forms of Private Property: Property Rights in Environmental Goods". In: *Encyclopaedia of Law and Economics*. Ed. by B. Bouckaert and G. De Geest. Cheltenham: Edward Elgar, 2000, pp. 274–314, at 284; D. Cole. "Clearing the Air: Four Propositions about Property Rights and Environmental Protection". In: *Duke Environmental Law and Policy Forum* 10 (1999), pp. 103–130, at 113-114.

> tially given away for free. Countries subject to a carbon cap and wishing to establish an ETS must therefore decide how to distribute permits knowing the potential for a shift in property rights[104].

Other commentators view emissions entitlements as property whose primary purpose is that assigned to it by neoclassical economic theory, namely attaining cost-effectiveness. Rolph explores the design characteristics of emissions entitlements; they are said to be transferable, long-term, and allocated based on historic use[105]. These entitlements are classified in the category of programmes to control externalities, and their characteristics are consequently explained based on this objective. Transferability, for instance, is said to be granted in order to "accommodate new entry into the industry", as the regulator's intention in placing limitations on the use of a resource is to continue such limitations permanently[106]. The notion that the role of air pollution regulation is to control externalities is derived from the neoclassical economic model of environmental protection, and implies a view of environmental problems (such as climate change) as resolvable through the efficient allocation of resources.

Another efficiency-based assessment is offered by Pennings *et al* in respect of emissions entitlements (which they call environmental rights) and EU milk quotas (termed production rights). Specifically, they assess transferability and so-called "property characteristics" (referring to the possibility of withdrawal of the right by public authorities). The benchmark used in this assessment is referred to as a "full right". This is deemed to be a hypothetical right with "optimal characteristics in the sense of efficiency – that is, implementing a policy that is efficient for the affected firms as well as for society"[107].

[104]C. Spash. "The Brave New World of Carbon Trading". In: *New Political Economy* 15 (2010), pp. 169–195, at 180.

[105]E. Rolph. "Government Allocation of Property Rights: Who Gets What?" In: *Journal of Policy Analysis and Management* 3 (1983), pp. 45–61, at 49.

[106]Rolph, "Government Allocation of Property Rights: Who Gets What?", at 51-53, especially at 53; Wiener, "Global Environmental Regulation: Instrument Choice in Legal Context", at 677, also highlights transferability as a key characteristic.

[107]J. Pennings, W. Heijman, and W. Meulenberg. "The Dimensions of Rights: A Clas-

The attributes of exclusion and transfer are also considered vital to the constitution of property rights by Yandle. Quoting Anderson and Leal[108], Yandle speaks of so-called "3-D rights", by which he means rights which are definable, defendable (meaning that third parties can be excluded) and divestible (or transferable)[109]. This stance has been labelled free market environmentalism[110]. Scholars such as Anderson, Leal, Yandle and Morriss are preoccupied with the evolution of property rights: why such systems have developed to protect certain resources, including the environment, and how they compare with command and control systems of regulation[111]. The reduction of transaction costs is considered an important part of the explanation as to the choice of a particular form of property-based regulatory solution over another[112]. The element of use has been identified as an additional requisite of tradable permit entitlements, alongside exclusion and transfer. Colby further argues that tradable permit regimes should define the duration of the entitlement and the scope of use, namely whether the entitlement is forfeited for lack of use or bankable for future use[113].

sification of Environmental Rights and Production Rights". In: *European Journal of Law and Economics* 4 (1997), pp. 55–71, at 64-65, 68.

[108]T. Anderson and D. Leal. *Free Market Environmentalism*. New York and Basingstoke: Palgrave, 2001, p. 22.

[109]Yandle, "Grasping for the Heavens: 3-D Property Rights and the Global Commons", especially at 15, 19-21, 29-30; T. Anderson and J. Bishop Grewell. "Property Rights Solutions for the Global Commons: Bottom-Up or Top-Down?" In: *Duke Environmental Law and Policy Forum* 10 (1999), pp. 73–101, at 76, also espouse this view.

[110]S. Eagle. "The Common Law and the Environment". In: *Case Western Reserve Law Review* 58 (2008), pp. 583–620, at 609-610; Yandle and Morriss, "The Technologies of Property Rights: Choice Among Alternative Solutions to Tragedies of the Commons", at 131-132; A. Thompson. "Free Market Environmentalism and the Common Law: Confusion, Nostalgia, and Inconsistency". In: *Emory Law Journal* 45 (1996), pp. 1329–1372, especially at 1333-1339.

[111]Yandle, "Grasping for the Heavens: 3-D Property Rights and the Global Commons", at 30-36; Anderson and Leal, *Free Market Environmentalism*.

[112]Yandle and Morriss, "The Technologies of Property Rights: Choice Among Alternative Solutions to Tragedies of the Commons", at 139-141.

[113]B. Colby. "Cap-and-Trade Policy Challenges: A Tale of Three Markets". In: *Land Economics* 76 (2000), pp. 638–658, at 648-650.

1.2.2 Questioning the property categorisation of emissions entitlements

Some scholars do, however, qualify the categorisation of tradable permit entitlements as property. Young and McColl note that, for accuracy's sake, tradable permit systems should be described as "tradable permit, entitlement or allocation systems and not... as tradable property right systems", as the notion of property has "different connotations in different audiences and disciplines"[114]. That emissions entitlements are not necessarily property rights is also recognised by Pennings *et al*, who use the example of the limitations on the definition of allowances in the US Acid Rain Program[115]. Hahn and Noll describe the nature of the entitlement created by tradable systems of air pollution regulation as amounting to "an implicit property right in the emissions permitted"[116], though they also qualify this statement by noting that it is "a limited property right"[117].

Other commentators also note that emissions allowances exhibit the characteristics of definability, enforceability and transferability, which are necessary for market functionality. Instead of concluding that these characteristics warrant the property categorisation, they refer to allowances as "regulatory rights", whose limits are created by the trading system: they are "somewhere between an administrative grant and private property"[118]. Similarly, Anttonen *et al* identify the key characteristics of EU ETS allowances as transferability and economic value, two aspects which enable a market to function. They also refer to allowances as "regulatory property", which means that some public authority is retained over the emissions market[119].

[114]M. Young and J. McColl. "Defining Tradable Water Entitlements and Allocations: A Robust System". In: *Canadian Water Resources Journal* 30 (2005), pp. 65–72, at 66.

[115]Pennings, Heijman, and Meulenberg, "The Dimensions of Rights: A Classification of Environmental Rights and Production Rights", at 59-60.

[116]Hahn and Noll, "Barriers to Implementing Tradable Air Pollution Permits: Problems of Regulatory Interactions", at 67.

[117]Ibid., at 70.

[118]Wemaere, Streck, and Chagas, "Legal Ownership and Nature of Kyoto Units and EU Allowances", at 44.

[119]Anttonen, Mehling, and Upston-Hooper, "Breathing Life into the Carbon Market: Legal Frameworks of Emissions Trading in Europe", at 97-98.

The Financial Markets Law Committee (FMLC) at the Bank of England notes that allowances "have aspects of both administrative grants or licences and of private property", and that there is no EU-level categorisation of emissions entitlements: instead, it is left at the latitude of individual Member States to choose whether they wish to define the legal nature of these entitlements[120]. In the UK, for example, the FMLC opines that it is likely that allowances will be considered property[121]. The FMLC views the clarification of the nature of emissions entitlements as important to encourage the viability of the market, whose effectiveness can be impeded by lack of certainty in the legal categorisation of the entitlements, contrary to the purpose for which the EU ETS was established[122].

That emissions entitlements contain both private property and regulatory elements has also been expressed as follows:

> [i]n sum, the EU Allowance does not fit easily in any legal system of the EU Members. It can be deemed as a right '*sui generis*' in many jurisdictions, carrying the following features: (i) transferable permit; (ii) an administrative public right; (iii) an intangible good or a commodity; and (iv) a security or a financial instrument. It will also depend on the legislative purpose for how the property rights (and obligations) to the allowance will be defined[123].

Button further asserts that "a carbon unit is a *sui generis* right which... exhibits characteristics of both a commodity and a currency"[124]. She notes that trading systems such as the EU ETS generally define what the unit enables holders to do, rather than provide a legal characterisation of the

[120] *Emissions Allowances: Creating Legal Certainty*. Financial Markets Law Committee. 2009. URL: `http://www.fmlc.org/Pages/papers.aspx`, pp. 5, 7-8.

[121] Ibid., p. 11.

[122] Ibid., pp. 15-16.

[123] Wemaere, Streck, and Chagas, "Legal Ownership and Nature of Kyoto Units and EU Allowances", at 52; Pohlmann, "The European Union Emissions Trading Scheme", at 350-351.

[124] J. Button. "Carbon: Commodity or Currency? The Case for an International Carbon Market Based on the Currency Model". In: *Harvard Environmental Law Review* 32 (2008), pp. 571–596, at 572-573.

unit (for instance emit one tonne of CO_2 equivalent)[125]. She also notes that a previous draft of the EU ETS Directive had defined emissions allowances as administrative authorisations, but was rejected by the European Commission Legal Service as it conflicted with the subsidiarity principle, and instead the adopted version avoided a legal characterisation of the unit[126]. Button warns that the increase in investment-motivated trading in the emissions market means that "the use of bureaucratic, legalistic language like "administrative approvals" or "quasi-property rights" to refer to units of trade will not be tolerated by the industry". She points out that the proliferation of investment trading poses new challenges in the shape of ensuring that emissions trading can still achieve its environmental goal efficiently and cost-effectively[127].

Another, more pragmatic approach suggests that emissions entitlements may be best construed according to the particular context in which it becomes necessary to elucidate their legal nature. Reporting on the conclusions of a workshop on the legal nature of emissions reductions organised by the Foundation for International Environmental Law and Development (FIELD) and Baker & McKenzie in 2004, Mace concludes that a number of the characteristics of allowances which are necessary for a viable emissions market exist already, such as transferability and a system of registration. Moreover, he notes that the nature of allowances depends on the context, for instance where there is a situation of insolvency, and that, therefore, the key features of allowances for the operability of the market are irrevocability and transferability, rather than express categorisation as a particular type of right[128]. This view is supported by Anttonen *et al*, who observe that, for instance, English law does not generically categorise emissions entitlements, but instead leaves it to the courts to determine whether this type of instrument

[125]Button, "Carbon: Commodity or Currency? The Case for an International Carbon Market Based on the Currency Model", at 574.

[126]Button, "Carbon: Commodity or Currency? The Case for an International Carbon Market Based on the Currency Model", at 575; Wemaere, Streck, and Chagas, "Legal Ownership and Nature of Kyoto Units and EU Allowances", at 49.

[127]Button, "Carbon: Commodity or Currency? The Case for an International Carbon Market Based on the Currency Model", at 583.

[128]M. Mace. "The Legal Nature of Emission Reductions and EU Allowances: Issues Addressed in an International Workshop". In: *Journal for European Environmental and Planning Law* 2 (2005), pp. 123–134, at 125.

can constitute "property" in specific scenarios, such as insolvency[129].

1.2.3 The importance of crafting an analytical construction of emissions entitlements for the attainment of regulatory goals

The imperative need to craft an analytical construction of emissions entitlements which enables the EU ETS to achieve its environmental goals is recognised by Button:

> it is important for governments to seek consensus as to the legal characteristics of the basic unit of exchange in [the emissions] market, and the related issue of which market model to adopt. The model ultimately adopted should reflect the economic substance of international emissions trading, while not compromising the environmental integrity of the system[130].

The success of tradable permit regimes of regulation is closely linked to articulating an analytical construction of emissions entitlements that goes beyond using economic efficiency as the sole or principal benchmark. Emissions entitlements in the EU ETS may well require the presence of the elements of exclusion, transfer and use in order to provide a cost-effective way of reducing emissions. Viewing efficiency as paramount[131], however, leaves open the important question of whether any limitations are needed on the scope of these elements, if the EU ETS is to pursue additional, wider goals. In particular, it has been asked how strong emissions entitlements are as against the regulator, and whether allowances can be put to crucial commercial uses in the

[129]Anttonen, Mehling, and Upston-Hooper, "Breathing Life into the Carbon Market: Legal Frameworks of Emissions Trading in Europe", at 98-99; M. Wilder. "Nature of an Allowance". In: *Climate Change: A Guide to Carbon Law and Practice*. Ed. by P. Watchman. London: Globe Business Publishing, 2008, pp. 93–109, at 101-102.

[130]Button, "Carbon: Commodity or Currency? The Case for an International Carbon Market Based on the Currency Model", at 572.

[131]Cole, "New Forms of Private Property: Property Rights in Environmental Goods", at 275, 283-284; Cole, "Clearing the Air: Four Propositions about Property Rights and Environmental Protection", at 111.

market (namely whether security interests over allowances can be protected and enforced effectively)[132].

Dennis points out that emissions trading regimes such as the US Acid Rain Program may have (inadvertently) given rise to "two independent and contradictory goals": making the air cleaner versus creating a viable emissions market[133]. The potential conflict between market certainty and regulatory flexibility elicits a key limitation on the scope of emissions entitlements: that they may be susceptible to regulatory intervention, in particular to cancellation or withdrawal from the market, should circumstances arise where the urgency of achieving increased environmental protection (meaning greater levels of emissions reductions than originally envisaged) so requires.

Cole remarks that:

> "The less secure property rights are, the less likely potential buyers will be to invest in them... there is every reason to suspect that defeasible pollution rights would have lower market value than absolute pollution rights. Of course, if the market value of the rights falls too low, the market for them will simply disappear"[134].

Cole, however, argues that, in the US Acid Rain System, the absence of security in the rights does not seem to have impeded trading, given that the US Environmental Protection Agency (EPA) will most likely treat allowances as if they were property rights, save in exceptional circumstances[135]. Dennis, on the other hand, recognises that the EPA needs to reserve some degree

[132]See chapter 4.3 for a discussion as to how the creation of security interests constitutes a use of a resource.

[133]J. Dennis. "Smoke for Sale: Paradoxes and Problems of the Emissions Trading Program of the Clean Air Act Amendments of 1990". In: *UCLA Law Review* 40 (1993), pp. 1101–1144, at 1137-1138.

[134]Cole, "New Forms of Private Property: Property Rights in Environmental Goods", at 285; Wemaere, Streck, and Chagas, "Legal Ownership and Nature of Kyoto Units and EU Allowances", at 50; Cole, "Clearing the Air: Four Propositions about Property Rights and Environmental Protection", at 114; Dennis, "Smoke for Sale: Paradoxes and Problems of the Emissions Trading Program of the Clean Air Act Amendments of 1990", at 1118, 1133, 1139-1140.

[135]Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 317; Cole, "New Forms of Private Property: Property Rights in En-

of authority to intervene in the emissions market to reduce emissions if so required, but if this authority is too extensive, regulated entities could decide that the risk of allowance confiscation is too great to justify market participation[136].

Hahn and Hester are of the view that tradable permit systems would benefit from increased economic efficiency and therefore cost savings if "uncertainties over the definition of property rights" were addressed, as such uncertainties lower the value of the allowances[137]. They do, however, also recognise that full property rights (enforceable against the issuing authority) would not be helpful in achieving environmental goals, as they would reduce regulatory discretion to amend emissions reduction goals as necessary[138].

The need for a trade-off between flexibility in regulation and certainty in the market is also recognised by Rose: tradable permit systems need to be sufficiently flexible to deal with "future ecological change", and at the same time sufficiently certain so as not to discourage investment[139]. Providing regulated entities with "increased flexibility" must necessarily be balanced against "offering environmentalists continuing progress toward environmental quality goals"; this means that the entitlements granted in permits must not be "too clear a property right", so as to reconcile these conflicting interests[140]. It is worth noting that, in US law, the view that certain limitations

vironmental Goods", at 292; Cole, "Clearing the Air: Four Propositions about Property Rights and Environmental Protection", at 114; Dennis, "Smoke for Sale: Paradoxes and Problems of the Emissions Trading Program of the Clean Air Act Amendments of 1990", at 1137.

[136]Dennis, "Smoke for Sale: Paradoxes and Problems of the Emissions Trading Program of the Clean Air Act Amendments of 1990", at 1124, 1137.

[137]R. Hahn and G. Hester. "Where Did All the Markets Go? An Analysis of EPA's Emissions Trading Program". In: *Yale Journal on Regulation* 6 (1989), pp. 109–153, at 116-117, 149; Cole, "New Forms of Private Property: Property Rights in Environmental Goods", at 295; Cole, "Clearing the Air: Four Propositions about Property Rights and Environmental Protection", at 115.

[138]Hahn and Hester, "Where Did All the Markets Go? An Analysis of EPA's Emissions Trading Program", at 150-151; Cole, "New Forms of Private Property: Property Rights in Environmental Goods", at 295-296; Hahn and Hester, "Marketable Permits: Lessons for Theory and Practice", at 378-379.

[139]Rose, "Expanding the Choices for the Global Commons: Comparing Newfangled Tradable Allowance Schemes to Old-Fashioned Common Property Regimes", at 62.

[140]R. Hahn. "Economic Prescriptions for Environmental Problems: How the Patient Followed the Doctor's Orders". In: *The Journal of Economic Perspectives* 3 (1989), pp. 95–

on the entitlement are deemed necessary is significantly influenced by the factor of compensation: if the entitlements were deemed property rights, the government would have to compensate their holders for cancellation or expropriation[141]. The concern regarding compensation may not directly translate (or at least not to the same significant extent) into the EU legal framework.

In the context of the EU ETS, Mace considers whether uncertainties in the legal nature of emissions entitlements could negatively impact on the functioning of a liquid market. He notes that, upon issue by the regulator, allowances are effectively administrative grants, but they assume property characteristics once they are held by market participants. There is consequently a difference of opinion between market participants, who feel that property rights are required to facilitate transferability and protect allowances against state confiscation, and public representatives, who wish to retain the flexibility to withdraw or cancel units as necessary for the purposes of environmental policy[142]. In respect of the reservation of discretion on the part of the regulator, Winter, for instance, calls for more ambitious emissions reduction targets for the EU ETS (40-50% by 2020) to reflect ecological necessity, and opines that installations that hold excess, unused allowances allocated for free should not be permitted to keep them[143].

Furthermore, the uncertainty as to the legal nature of emissions entitlements has given rise to practical questions relevant to the development of the emissions market, notably whether security interests can subsist in allowances. Anttonen *et al* opine that the creation of security over allowances is possible in the UK, which allows the nomination of an "additional authorised representative" in the allowances register[144]. The importance of establishing whether EU allowances can support the existence of security rights

114, at 101.

[141]M. Breger et al. "Providing Economic Incentives in Environmental Regulation". In: *Yale Journal on Regulation* 8 (1991), pp. 463–495, at 480.

[142]Mace, "The Legal Nature of Emission Reductions and EU Allowances: Issues Addressed in an International Workshop", at 123-124.

[143]G. Winter. "The Climate Is No Commodity: Taking Stock of the Emissions Trading System". In: *Journal of Environmental Law* 22 (2009), pp. 1–25, at 22, 24.

[144]Anttonen, Mehling, and Upston-Hooper, "Breathing Life into the Carbon Market: Legal Frameworks of Emissions Trading in Europe", at 98-99.

for the functionality of the emissions market has also been highlighted by the FMLC[145]. In the UK, the judgment in *Armstrong v. Winnington*[146] provides authority that third party interests such as security interests can be created over emissions allowances. However, significant uncertainties remain over whether such security interests can be adequately protected and enforced, so as to lend them genuine legal and commercial value[147].

The areas of concern discussed above serve to emphasise the importance of clarification on two fronts. Firstly, how susceptible are emissions allowances to regulatory intervention? Secondly, can allowances be put to important commercial uses which enhance the viability of the emissions market, notably can security interests created over allowances for the benefit of third parties be adequately protected and enforced? The answers to these two questions are closely linked to the goals that the EU ETS has set out to pursue: the scope of regulatory intervention and the range of uses to which allowances can be put will necessarily be determined by the fact that the EU ETS is primarily a tool of environmental regulation, designed to achieve certain scientifically mandated levels of emissions reductions in order to effectively address climate change and assist the EU in its move towards a low-carbon economy. Answering the two questions will provide the answer as to how best to resolve the tension between market certainty (which entails certainty as to the strength of the entitlement as against the regulator and as to the uses to which allowances can be put) and regulatory flexibility to intervene in the market in order to ensure the success of EU climate change as well as wider environmental policy. In turn, exploring (and resolving) this tension reveals the two key findings of the thesis: an analytical construction of emissions entitlements which can achieve the public policy goals of a regulatory regime such as the EU ETS, and the evolutionary nature of property rights in a regulatory environment.

[145] *Emissions Allowances: Creating Legal Certainty*, especially pp. 5, 8, 19.

[146] *Armstrong DLW GmbH v. Winnington Networks Ltd [2012] EWHC (Ch) 10*, discussed in more detail in chapter 3.5.

[147] *Emissions Allowances: Creating Legal Certainty*, especially pp. 5, 8, 19; see also chapter 3.5 and 3.6.

1.3 The contribution of the thesis: a new analytical framework to craft a construction of the legal interests created by tradable permit regimes of regulation

The focus of the thesis on crafting a comprehensive analytical construction of emissions entitlements in the EU ETS serves a dual purpose.

Firstly, the practical question of the nature of these entitlements needs to be resolved as a matter of urgency, otherwise the emissions market is at substantial risk of failing, which would be a considerable set-back for the tradable permit regimes which are proliferating in other areas of environmental protection. It is of course recognised that tradable permit regimes have met with considerable and legitimate criticism as regards their environmental effectiveness. However, it remains the reality that this regulatory path has been chosen at the EU level, and has further inspired similar approaches in other jurisdictions. Consequently, the thesis aims to assess and improve the workability of the EU ETS as it is currently conceptualised. The thesis analyses the EU ETS as a market-based regime of regulation which aims to lower the costs of reducing emissions and facilitate a EU-wide transition to a low-carbon economy. These environmental goals are pursued by means of a market in emissions allowances, open to both regulated and non-regulated entities so as to assist with achieving sufficient liquidity for this market to remain viable[148].

Secondly, the analysis of EU emissions entitlements provides a springboard for the conceptual exploration of the contemporary nature of property, the traditional understanding of which needs to be revisited in order to enable such rights to meet the requirements of new, and specifically regulatory, contexts. The analysis conducted by the thesis thus highlights the complexity of regulatory innovation: the effects of tradable permit regimes reverberate far beyond the public policy (and notably environmental) goals which they

[148]See the introduction to the thesis for a discussion of the need for broad participation by both regulated and non-regulated entities in the emissions market.

have been primarily designed to pursue. This type of entitlements-based approach to environmental regulation triggers a host of new questions which are not traditionally associated with such regulation, in particular how the legal nature of the entitlements impacts on the achievement of the regulatory goals, and how the analysis of this legal nature affects the conceptualisation of property in general.

The thesis puts forward an analysis which goes significantly further than the dominant neoclassical economic model and its critiques in identifying the goals of emissions trading, and uses the EU ETS as its case study. The innovation of the proposed analysis lies in the direct link made between the identification of the regulatory goals and the construction of the legal interests created in the tradable permits under the EU ETS. The fact that, in English law for instance, EU emissions entitlements have been categorised as property is not the end of the matter: such categorisation does not provide a full picture of the scope and contents of these entitlements that can best achieve the environmental goals of the EU ETS[149]. The analysis provided by the thesis also goes further than the neoclassical economic model and its critiques in articulating a comprehensive understanding of property rights, and consequently facilitates the construction of new types of legal interests created for regulatory purposes, such as EU emissions entitlements.

The approach taken by the thesis encapsulates in a previously unexplored manner the key feature of a tradable permit regime such as the EU ETS: that it is a mode of regulation reliant on the success of a private market[150]. This market, in turn, depends on a clear construction of the legal interests created in the tradable instruments[151]. The neoclassical economic model and the associated social and ethical critiques represent building blocks to elicit the goals that the EU ETS is seeking to achieve as a tool of environmental policy, goals which in turn can be used to articulate a construction of emissions

[149]See chapter 4.1.

[150]Sunstein, "Administrative Substance", at 645, highlights that incentive-based regimes harness the flexibility of private markets to pursue regulatory goals.

[151]Field and Field, *Environmental Economics: An Introduction*, p. 203; Cole and Grossman, "The Meaning of Property Rights: Law versus Economics?", at 317; Tietenberg, "Ethical Influences on the Evolution of the US Tradable Permit Approach to Air Pollution Control", at 253.

entitlements that can best pursue them. The thesis aims to enrich the current economics-based analysis of emissions trading as well as its critiques, by way of bridging the gap between these types of approaches and a legal analysis of the entitlements in the tradable instruments.

By emphasising the interdependence between the goals of the EU ETS and the nature of emissions entitlements, the thesis further proposes a novel approach to articulating a construction of such entitlements. The exercise consists of a two-part analytical framework, which is intended to serve as a blueprint for crafting a construction of any new type of legal interest created to fulfil a regulatory purpose in the context of tradable permit regimes. The aim is ultimately to assist regulators faced with the prospect of creating a new tradable permit regime in a particular area of regulation, whether in climate change policy, other areas of environmental policy or beyond, as well as scholars writing in these areas. The analytical framework put forward here enables determining the legal nature of the entitlements to be granted in the permits, in accordance with the public policy goals that the relevant regulatory system aims to achieve. To this end, as noted earlier in the chapter, the thesis introduces a new category of instrumental property, which encompasses entitlements created to achieve regulatory goals. Moreover, the construction of such entitlements varies with and adapts to the particular contexts in which they operate. As the conclusion to the thesis argues, instrumental property differs in certain significant respects both from the generic property categorisation ascribed to emissions entitlements in English law[152], and from the notion of regulatory property previously advanced by commentators.

The importance of devising a comprehensive analytical framework that can help to elicit a persuasive and effective construction of emissions entitlements is demonstrated by the practical problems encountered in the EU emissions market and engendered by the absence of such a construction. Questions as to the scope of regulatory intervention in the emissions market and the range of uses of allowances have shown themselves to be of paramount importance in the context of the commercial contracts which con-

[152]See also chapter 4.1.

stitute this market. The two issues of regulatory intervention and potentially reduced usability encapsulate risks for market participants that are peculiar to emissions trading and that are due to the regulatory origins of emissions allowances. Parties trading in the emissions market therefore need to be able to adequately protect themselves against these risks if the market is to remain functional. Such protection needs to be crafted using a dual approach of improved contractual drafting and regulatory clarification. By contrast with markets in conventional instruments such as equities and commodities, the emissions market has a public policy purpose which goes beyond economically benefiting its participants. Moreover, the environmental goals of the EU ETS can only be achieved if there is continued broad participation in the market in order to maintain its viability, where such participation is incentivised by the possibility of adequately protecting the interests of participants against the aforementioned risks.

Consequently, the thesis works to determine whether the characteristics and limitations of emissions entitlements identified by the proposed legal analysis of property can effectively reconcile market certainty and regulatory flexibility in the contractual context. The categorisation of emissions entitlements as instrumental property put forward by the thesis has important consequences for commercial relationships in the emissions market, as the ensuing scope of regulatory intervention and the potential use restrictions (in particular, the absence of effective protection and enforceability of security interests over emissions allowances) significantly curtail the ability of market participants to treat allowances in the same way as conventional instruments in the contractual context. In turn, the viability of the emissions market, which is constituted of the contractual relationships between trading participants, is directly linked to the success of the environmental goals of the EU ETS, as discussed above.

The first part of the analytical framework draws on common law theories of property to elicit a general understanding of property rights. The common law model has been selected as the focus of discussion, since the contracts which constitute the EU emissions market are preponderantly governed by English law. Some strands of theory emphasise the relative nature of property

rights, whereby they are seen as a nexus of relationships between individuals and thus become conceptually difficult to distinguish from personal rights, except that the former type of right is held against a larger and less definite set of parties[153]. Other strands of legal theory, however, continue to emphasise the "otherness" of property rights as the relationship between an owner and the thing owned. These views posit that property rights are constituted of certain essential elements which give them their property status, namely the right to exclude others from accessing or enjoying the thing owned, and the right to use the thing owned[154]. The thesis adopts the latter view of property as constituted of a set of requisite elements, for the reason that this view accurately reflects a distinction between property rights and personal rights which remains very real in legal doctrine and practice. Moreover, the view of property as constituted of certain requisite elements provides the kind of analytical account that the thesis requires for crafting a construction of new types of legal interests such as emissions entitlements. The thesis further builds on the view of property as constituted of the minimum necessary elements of exclusion and use by adding a third element: transfer. The right to transfer the object of ownership is an additional crucial characteristic in the context of commercially valuable legal interests: it must not be forgotten that tradability is the very foundation of the EU ETS as a market-based system of environmental protection.

The second part of the analytical framework put forward by the thesis encapsulates a new vision of how legislatively created rights regimes compare to one another and how the characteristics of the legal interests originating

[153]W. Hohfeld. "Some Fundamental Legal Conceptions as Applied in Judicial Reasoning". In: *Yale Law Journal* 23 (1913), pp. 16–59; W. Hohfeld. "Fundamental Legal Conceptions as Applied in Judicial Reasoning". In: *Yale Law Journal* 26 (1917), pp. 710–770, pioneered the idea of property as a nexus of relationships between individuals. This view subsequently came to be known as the "bundle of rights" theory of property: property rights are made up of a variety of "sticks", which represent the types of entitlements that owners have to the thing owned. On the basis of this view, there is effectively no qualitative difference between the traditionally separate legal categories of personal rights and property rights: property rights simply mean a collection of personal rights. Consequently, there are no requisite components which make up a property right; if one or more "sticks" are missing, the right can still be a property right.

[154]Penner, *The Idea of Property in Law*, especially pp. 68-69, 71, 74-75, 152; Merrill, "Property and the Right to Exclude", at 731, 740-752, 754.

thereunder are connected to the respective goals of the regimes. This part of the analytical framework employs the requisite characteristics of exclusion, transfer and use identified from legal theories of property to examine three rights regimes which cover a broad spectrum of recognised legal interests. These regimes are intellectual property rights (which are property), EU milk quotas and spectrum rights (where the last two exhibit some, but not all characteristics of property). The elements of exclusion, transfer and use provide the analytical thread which links the three regimes to one another and also to the emissions trading regime created by the EU ETS, where emissions entitlements have not yet been conclusively categorised in law. The second part of the analytical framework explores the scope of exclusion, transfer and use for each of the three regimes which have already been categorised in law, how this scope is affected by the goals of each regime, and consequently how the ultimate categorisation of the legal interests created by each regime has been achieved. Comparing the scope of exclusion, transfer and use in the three established regimes to the scope of these elements in the context of emissions entitlements, in view of the goals of the EU ETS which the thesis has identified, ultimately facilitates articulating an authoritative construction of such entitlements[155]. They constitute instrumental property, whose characteristics are primarily shaped by the regulatory goals and modified according to the particular context in which they operate.

This comparative approach to providing a construction of the legal interests created by regulatory regimes represents previously uncharted territory. It fills a notable gap between the conceptualisation of rights in property theory and their application in pre-established regimes which have been created for the purpose of pursuing regulatory goals. The comparative approach therefore adds substantial value to existing property rights scholarship, as well as to analyses of legislatively created rights regimes with public policy goals. The dual analytical approach entwining property theory and comparable rights regimes put forward by the thesis emphasises the need to articulate a construction of legal interests which can achieve the public policy goals of

[155]Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", part 5.

a trading regime, and reveals new, significant findings regarding the evolutionary nature of property rights in a regulatory environment. Entitlements which have been legislatively created to achieve a specific regulatory goal, a category to which intellectual property rights, milk quotas and spectrum rights all belong, are composed of elements which are determined by the goal which the particular regime pursues. At the same time, as evidenced by the judicial treatment of milk quotas in the UK, this type of entitlement is not amenable to being subsumed under a generic legal label of private property. Rather, its characteristics vary according to the context where its analysis becomes necessary (for instance, insolvency). Similarly, emissions entitlements are likely to exhibit different sets of characteristics according to the circumstances in which they operate.

This is the notion of instrumental property which the thesis puts forward. This concept will be further elaborated and defended in the final chapter. In particular, that chapter will defend this notion against the potential criticism that the ensuing fluidity in regulatory purpose and context renders it difficult (and perhaps even impossible) to determine the precise nature of an entitlement which falls within the proposed new category. The final chapter will also argue that instrumental property differs considerably from the generic property categorisation of emissions entitlements in English law, as well as from the idea of regulatory property. The notion of instrumental property is therefore able to provide a nuanced and comprehensive picture of the nature of entitlements created to achieve regulatory goals. It is argued that such an account is currently missing both from the property categorisation of emissions entitlements in English law and from the concept of regulatory property.

1.4 Chapter roadmap

Chapter 2[156] charts the origins of the EU ETS as a tool of climate change regulation to reduce emissions in line with the international requirements of

[156]An earlier version of this chapter appeared as Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System".

the Kyoto Protocol, and credits the US Acid Rain Program with providing the inspiration for the EU trading regime. The chapter provides an account of the EU ETS and its constitutive framework, which is intended to serve as a useful reference point and glossary as the reader progresses through the thesis. The chapter subsequently explains the importance of the emissions market in achieving the environmental goals of the EU ETS and the consequent need to articulate an analytical construction of the entitlements in emissions allowances. To demonstrate the practical importance of such a construction, the chapter discusses a case study where uncertainty as to the nature of emissions entitlements has caused significant problems for market participants, and can negatively affect the success of the EU ETS as a tool of environmental policy.

Chapter 3 reinforces the urgency of the need for a comprehensive construction of emissions entitlements by exploring an area where continuing uncertainty regarding the scope of regulatory intervention and the uses of emissions allowances (notably creating protectable and enforceable security interests over them) negatively affects the emissions market, and can thereby seriously impede the environmental success of the EU ETS. This area is represented by the commercial contracts which constitute the emissions market. It is argued that market participants need to be sufficiently well equipped (by way of carefully drafted contractual arrangements as well as regulatory clarification) to address both types of risk. In particular, it is posited that assistance should be provided to contracting parties in the shape of amendments to the standard form agreements used in emissions trading, given that the emissions market is more unpredictable than markets in ordinary tradable instruments, as it is susceptible to regulatory intervention. The chapter also argues for EU-level clarification as to the protectability and enforceability of security interests over emissions allowances. If the market is allowed to develop without resolution of this uncertainty, and the default of a trading entity occurs, this could lead to market destabilisation. Overall, if contracts can effectively protect the economic interests of trading parties, these entities will be incentivised to continue participating in the emissions market, which will thus operate in fulfilment of the environmental goals of the EU ETS.

Chapter 4 covers the first part of the analytical framework put forward by the thesis, and focuses on common law property theory, given that the standard form contracts which constitute the EU emissions market are predominantly subject to English law. In the case of emissions entitlements, it is argued that their judicial categorisation as property in English law does not provide a conclusive answer to the key question posed by the thesis, namely how the scope and contents of these entitlements are shaped by the environmental goals of the EU ETS and also by other interests deemed worthy of legal protection. To address this question, the chapter compares and contrasts two leading strands of common law property theory. The chapter assesses the respective usefulness of the two strands in articulating a construction of new types of legal interests created by regulatory regimes (specifically emissions entitlements) which takes into account their public policy goals. The first strand is the view of property as a bundle of sticks, as pioneered by Hohfeld. The second strand is the view of property as a type of right with certain requisite characteristics which grant it its property character. In the context of commercially valuable property, these characteristics are identified as being exclusion, transfer and use. The analysis selects the latter view of property as formed of the three requisite elements as the more useful basis for examining established rights regimes and comparing them with emissions entitlements in the second part of the framework. The chapter further assesses the scope and limitations of the three constitutive elements of exclusion, transfer and use in respect of EU emissions entitlements. The limitations identified question the accuracy of simply categorising emissions entitlements as private property in a generic manner, given that their characteristics are determined by the public policy goals pursued by the EU ETS. This dependency on the regulatory regime raises the possibility, to be explored further in the second part of the analytical framework, that, within the broad notion of private property, emissions entitlements are better viewed as a special category with a set of unique characteristics shaped by their regulatory origins.

Chapter 5 represents the second part of the analytical framework put forward by the thesis. It discusses the three rights regimes which have been identified as sufficiently comparable with emissions entitlements, namely in-

tellectual property rights, spectrum rights (both of which are discussed in the context of the UK legal system) and EU milk quotas. The chapter applies the key elements of exclusion, transfer and use to analyse the contents of the aforementioned regimes, and then compares this analysis with that of the three elements as reflected in emissions entitlements. Out of the three rights regimes examined, emissions entitlements are most similar to milk quotas, albeit with some major exceptions. In the UK, courts have sought to clarify the treatment of milk quotas on an area-by-area basis, for instance as regards security interests or in cases of insolvency. The regulatory purpose of milk quotas and the flexibility in their characteristics according to the context in which they operate also translates to emissions entitlements. This finding supports the characterisation of emissions entitlements as instrumental property, the new concept put forward by the thesis.

Chapter 6 assesses the findings of the thesis: a comprehensive analytical construction of emissions entitlements to ensure the continued viability of the EU ETS as a tool of environmental policy, and the evolutionary nature of property rights in a regulatory environment. The thesis puts forward the new category of instrumental property, to which emissions entitlements are said to belong. It is argued that instrumental property differs from the generic property categorisation of emissions entitlements in English law as well as from the concept of regulatory property. It is therefore posited that the notion of instrumental property is better suited to accommodating the evolutionary nature of entitlements created to pursue regulatory goals. Specifically, the characteristics of instrumental property are determined by the regulatory goals of the regime which has created the rights, as well as by the particular contexts in which these rights operate. This flexibility has the potential to undermine market certainty and thereby the success of the environmental goals in the specific case of the EU ETS. The flexibility also has wider reverberations for the functionality of property, which, in a regulatory environment, becomes necessarily subordinated to extraneous interests.

Chapter 2

The Origins and Workings of the EU ETS, and the Importance of the Analytical Construction of Emissions Entitlements[1]

2.1 Introduction

At a regulatory level, the EU ETS framework, notably the EU ETS Directive[2], has not specified the legal nature of the entitlements that subsist in emissions allowances once they are held and traded in the private market. This position stands in contrast with commodities such as oil or gas, to which emissions allowances have been compared[3], where the nature of the rights is

[1] An earlier version of this chapter appeared as Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System".

[2] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*.

[3] E. Doyle, J. Hill, and I. Jack. *Growth in Commodity Investment: Risks and Challenges for Commodity Market Participants*. Financial Services Authority Markets Infrastructure Department. 2007. URL: `http://www.fsa.gov.uk/pubs/other/commodity_invest.pdf`,

uncontroversial, as traditional commodities can be owned as private property. In English law, for instance, following the judgment in *Armstrong v. Winnington*[4], emissions entitlements have been designated as property rights. However, the exact scope and contents of such entitlements as a form of property remain unclear[5]. To demonstrate the practical importance of crafting an analytical construction of emissions entitlements, the chapter discusses a case study where the absence of such a construction has negatively impacted on the functionality of the emissions market and its continued success as a tool of environmental policy.

It should be recognised that the primary objective of the EU ETS is the reduction of emissions over time in line with a decreasing cap[6]. The viability of the emissions market and the maintenance of a price level sufficient to incentivise participants to trade are the means to achieve this goal. Whether emissions prices are low as a result of market oversupply or high because of undersupply at any given time, it is the adequacy of the cap that remains the main prerequisite for achieving the desired levels of emissions reductions in the short term, during a particular trading period. Low or high emissions prices indicate, respectively, that it is either cheaper or more expensive to buy allowances than to invest in emissions abatement methods in order to achieve the reductions stipulated in the cap, and thus demonstrate the flexibility and economic efficiency of emissions trading. It is argued that, in addition to a sufficiently stringent cap, achieving emissions reductions in the long term requires an adequate emissions price level[7]. Low or highly volatile prices have the potential to reduce incentives for investment in low-carbon technologies (which the EU ETS has pledged to encourage as part of the

pp. 30-31.

[4] *Armstrong DLW GmbH v. Winnington Networks Ltd [2012] EWHC (Ch) 10*, discussed in more detail in chapter 3.5.

[5] See further chapter 4.1.

[6] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, art. 1.

[7] C. Kettner et al. *Price Volatility in Carbon Markets: Why It Matters and How It Can Be Managed*. Austrian Institute of Economic Research Working Papers 409/2011, 2011. URL: `http://angela.koeppl.wifo.ac.at/fileadmin/files/price_volatility_01.pdf`, pp. 6-7.

EU's move towards a low-carbon economy)[8], as it would become more expensive or economically risky to invest in abating emissions than to purchase allowances in the market[9]. Conversely (although this has not been a problem encountered in the EU ETS to date), excessively high emissions prices can increase compliance costs and thus reduce support for the scheme from regulated entities[10]. Continued support is important, given that the political acceptability of the EU ETS is premised on its perceived advantages as a flexible, lowest-cost means of reducing emissions which renders it preferable to, notably, an emissions tax[11].

A key issue raised by the case study is the strength of emissions entitlements when invoked against public authorities. The EU ETS Directive is silent on the permissible extent and consequences of interference by public authorities with emissions entitlements during their period of validity. These points are particularly relevant as the EU ETS moves towards its Phase III (2013–20). Phase I (2005–07) was characterised by a substantial surplus of allowances as a result of regulated installations having over-estimated their free initial allocations. This over-estimation and consequent over-allocation were caused by the unavailability of accurate historical emissions data for regulated installations across the EU[12]. It is worth noting that Phase I was viewed as a trial stage by the European Commission. This phase was essentially intended to create an emissions market that would act as a path towards attaining the reductions prescribed under the Kyoto Protocol[13]. The

[8] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, recital 20.

[9] Kettner et al., *Price Volatility in Carbon Markets: Why It Matters and How It Can Be Managed*, p. 7; M. Grubb and K. Neuhoff. "Allocation and Competitiveness in the EU Emissions Trading Scheme: Policy Overview". In: *Climate Policy* 6 (2006), pp. 7–30, at 13-14.

[10] Kettner et al., *Price Volatility in Carbon Markets: Why It Matters and How It Can Be Managed*, p. 7.

[11] Convery, "Origins and Development of the EU ETS", at 392-393.

[12] Ellerman and Buchner, "The European Union Emissions Trading Scheme: Origins, Allocation, and Early Results", at 69-70; Pohlmann, "The European Union Emissions Trading Scheme", at 353.

[13] *Questions and Answers on the Revised EU Emissions Trading System.* European Commission Climate Action. URL: `http://ec.europa.eu/clima/policies/ets/faq_en.htm`, answers to questions 3 and 4; *Kyoto Protocol, Kyoto (Japan), 11 December 1997, in force*

over-allocation had the dual effect of rendering the emissions market more volatile and driving down the emissions price[14]. Phase II (2008–12) has also been blighted by a surplus of emissions allowances in the market, this time as a result of the economic downturn, which has slowed down industrial production and thus inadvertently reduced the levels of emissions. The EU ETS Directive allows for unused Phase II allowances to be carried over into Phase III, which means that the surplus will potentially continue to affect the stability of the market as well as the emissions price[15]. One way to deal with the problem of carry-over may be to revoke the unused allowances. However, it is argued that the interdependency between the viability of the emissions market and the success of the environmental goal of emissions trading renders it necessary to balance carefully the need for some degree of security of emissions entitlements against the need for regulatory flexibility in adjusting the emissions cap as required for the purposes of environmental policy.

A second key issue highlighted by the case study is the treatment of emissions entitlements in private law. The Corus case raised the question of whether emissions entitlements can form the subject of a trust in the same way as conventional property rights. The range of uses to which emissions entitlements can be put by their holders and the level of protection afforded to these entitlements are of particular importance in the sphere of commercial contracts, which transact emissions entitlements between parties and form the basis of the emissions market.

The chapter begins by charting the development of the EU ETS from international environmental law in the shape of the Kyoto Protocol. Next follows an account of the key constitutive and operational elements of the EU regime that are relevant for the purposes of the thesis (Part 2.2). Part 2.3 explains the importance of crafting an analytical construction of emissions

16 February 2005. URL: `http://unfccc.int/kyoto_protocol/items/2830.php`.

[14]M. Cames, F. Matthes, and S. Healy. *Functioning of the ETS and the Flexible Mechanisms*. European Parliament, Directorate General for Internal Policies, Policy Department A: Economic, Scientific Policy, Environment, Public Health, and Food Safety. 2011. URL: `http://www.europarl.europa.eu/meetdocs/2009_2014/documents/envi/dv/201/201104/20110419_envi_functioning_of_ets_en.pdf`, pp. 8-9.

[15]*Analysis of options to move beyond 20% greenhouse gas emission reductions and assessing the risk of carbon leakage*, pp. 3-4.

entitlements in view of the goals of the EU ETS and the means chosen to achieve them. The environmental goal and the market mechanism employed to achieve it highlight the particular interdependency that arises between the public and private law aspects of emissions trading. The EU ETS aims to reduce emissions, a public policy goal the achievement of which is premised on the success of the emissions market. Part 2.4 discusses a case study that exemplifies observed gaps in the regulatory scheme that arise from the absence of a comprehensive construction of emissions entitlements. Part 2.5 examines the treatment of allowances in the US Acid Rain Program, which bears a number of similarities with the EU ETS, and highlights informative parallels between the legal nature of emissions entitlements in the two regimes. The chapter concludes by reiterating the importance of articulating a construction of emissions entitlements which can reconcile the multiple and potentially conflicting goals of the EU ETS. The conclusion reinforces the urgency of this exercise by reference to the level of protection that the commercial contracts constituting the emissions market can offer to trading entities, a topic which is explored in the following chapter.

2.2 The origins and workings of the EU ETS

2.2.1 The origins of the EU ETS in international environmental law

Market-based instruments of regulation work by imposing a price on the pollution or other environmental stress caused by regulated entities. Since the entity faces this cost for each unit of pollution, it is incentivised to continually reduce the levels of environmental stress. It can do so in a flexible manner best suited to its individual circumstances, rather than in the centrally prescribed manner, as is the case with command and control regulation. Tradable permit regimes, a category to which the EU ETS belongs, create entitlements to pollute at the regulatory level, which are subsequently left to be valued and traded in the market, enabling the reduction in overall emis-

sions at the lowest cost to regulated entities[16]. The motivation to achieve emissions reductions at the lowest cost will, it is hoped, encourage firms to explore innovative abatement technologies[17]. It has been noted that:

> "[t]he most common form of emissions trading is the cap-and-trade mechanism [for instance the EU ETS], whereby competent authorities set aggregate caps on emissions during a certain period of time, allocate emissions allowances to the regulated, emitting participants, whether by way of free initial allocation or auction, and allow participants to produce emissions up to the allowances that they have been allocated"[18].

The development of environmental protection at the international level highlights the growing importance of market-based instruments. The 1992 United Nations Conference on Environment and Development (UNCED) produced the United Nations Framework Convention on Climate Change (UNFCCC)[19], whose stated purpose was the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system"[20].

The UNFCCC divides countries into three main groups with differentiated responsibilities vis-à-vis greenhouse gas emissions reductions. Annex I includes developed countries which were members of the Organisation for Economic Co-operation and Development (OECD) in 1992, as well as countries with economies in transition, being Russia, Eastern European countries and the Baltic States. Annex II consists of the OECD members in Annex I,

[16] S. Sorrell and J. Skea. *Pollution for Sale: Emissions Trading and Joint Implementation*. Cheltenham: Edward Elgar, 1999, pp. 1, 3.

[17] B. Ackerman and R. Stewart. "Reforming Environmental Law: The Democratic Case for Market Incentives". In: *Columbia Journal of Environmental Law* 13 (1988), pp. 171–199, at 179, 183.

[18] R. de Witt Wijnen. "Emissions Trading under Article 17 of the Kyoto Protocol". In: *Legal Aspects of Implementing the Kyoto Protocol Mechanisms: Making Kyoto Work*. Ed. by D. Freestone and C. Streck. Oxford: Oxford University Press, 2005, pp. 403–415, at 405-406.

[19] *United Nations Framework Convention on Climate Change, New York (US), 9 May 1992, in force 21 March 1994*. URL: `http://unfccc.int/resource/docs/convkp/conveng.pdf`.

[20] Ibid., art. 2.

but not the countries with economies in transition. Annex II countries are charged with providing financial resources to assist developing countries with reducing emissions and adapting to climate change. They are also tasked with taking all practicable steps to promote the development and transfer of environmentally friendly technologies to countries with economies in transition and developing countries. Non-Annex I parties are principally developing countries, whose social needs and concerns, such as investment, insurance and technology transfer, are looked after by the UNFCCC[21].

The UNFCCC came into force in March 1994. The principal concern of the parties at that stage was the clarification of the vague emissions reduction commitments that had been laid down in the UNFCCC. To this end, a series of Conferences of the Parties (COP) culminated with COP3 in Kyoto in 1997, where an instrument strengthening the UNFCCC commitments was negotiated and agreed upon[22]. The Kyoto Protocol[23] was subsequently adopted the same year, and set binding targets for the Annex I countries and the EU (as a signatory in its own right) for reducing greenhouse gas emissions[24].

The development of international environmental law since the UNCED has been characterised by an increased tendency to provide input on actual implementation, rather than restrict itself to prescribing normative standards of behaviour. This shift of focus has resulted, *inter alia*, in a focus on new regulatory techniques, most notably tradable permits, as evidenced in the sphere of climate protection by the Kyoto Protocol.

The Protocol sets up three distinct mechanisms for emissions reductions, namely Joint Implementation (JI)[25], the Clean Development Mechanism (CDM)[26] and Assigned Amount Trading (AAT)[27]. As part of JI, countries

[21] *United Nations Framework Convention on Climate Change, Parties and Observers*. URL: `http://unfccc.int/parties_and_observers/items/2704.php`.

[22] D. Freestone. "The International Climate Change Legal and Institutional Framework: An Overview". In: *Legal Aspects of Carbon Trading: Kyoto, Copenhagen and Beyond*. Ed. by D. Freestone and C. Streck. Oxford: Oxford University Press, 2009, pp. 3–32, at 10-11.

[23] *Kyoto Protocol, Kyoto (Japan), 11 December 1997, in force 16 February 2005*.

[24] Ibid., annex B.

[25] Ibid., art. 6.

[26] Ibid., art. 12.

[27] Ibid., art. 17.

listed in Annex B of the Protocol (being industrialised countries, such as EU Member States) may transfer to or acquire from one another reductions of emissions. These are called Emission Reduction Units (ERUs) and are generated by specific, verified project activities in other Annex B countries. Within the CDM, on the other hand, Annex B countries can finance verified CDM projects in developing countries and use the resulting Certified Emission Reductions (CERs) to fulfil their own emissions reductions commitments. The AAT constitutes what has become widely known as emissions trading, as Annex B parties may trade Assigned Amount Units (AAUs) with one another. One AAU corresponds to one metric tonne of CO_2 emissions. The number of AAUs available corresponds to the targets set by the Protocol for the 2008-2012 commitment period[28]. Countries who require AAUs over and above the allocated targets can buy more AAUs from countries who have not made full use of their allocated AAUs; this is the system of international emissions trading that the Protocol has set up.

In order to comply with the Kyoto Protocol targets, signatories may set up national or regional emissions trading systems. The EU is a signatory to the UNFCCC and the ensuing Kyoto Protocol as a party in its own right, and has set up the EU ETS, which is the largest compulsory scheme of its kind currently in existence. The EU's emissions reduction target under the Kyoto Protocol is also shared with Member States under the Burden Sharing Agreement[29].

2.2.2 The purpose and ambit of the EU ETS

The principal legislative source setting out the Union system of emissions trading is the EU ETS Directive[30]. The EU ETS has been devised to function

[28] *Kyoto Protocol, Kyoto (Japan), 11 December 1997, in force 16 February 2005*, art. 3.

[29] *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 and the joint fulfilment of commitments thereunder [2002] OJ L130/1.*

[30] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32.*

in three phases, each with differing rules regarding, principally, the calculation of the EU-wide upper limits on emissions (known as the cap) and the allocation of emissions allowances. Phase I covered the period from 2005 to 2007, Phase II spans 2008 to 2012, and Phase III is intended to run from 2013 to 2020. Any type of entity (including private individuals) may hold and trade in emissions allowances; participation is not restricted to installations trading for reasons of compliance with the EU ETS[31]. The stated purpose of the EU ETS Directive is "to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner"[32].

The effect of the EU ETS regime is that every regulated installation needs to hold a permit issued by a competent authority in the relevant Member State[33] in order to be able to carry on its emitting activities. The permit attests that the installation is capable of monitoring and reporting emissions[34], and entails an obligation to surrender emissions allowances equal to the total emissions in each calendar year within four months following the end of that year[35]. "Allowance" is defined as an allowance to emit one tonne of CO_2[36]. The installation is obliged to monitor and report its emissions, and this report is verified and accredited by the responsible Member State[37]. Failure to surrender the requisite number of emissions each year attracts a penalty of €100 for each tonne of CO_2 emitted for which no allowances have been surrendered, to increase according to the European consumer prices index from 2013[38].

[31] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, arts. 12(1), 19(2).
[32] Ibid., art. 1.
[33] Ibid., art. 4.
[34] Ibid., art. 6(1).
[35] Ibid., art. 6(2)(e).
[36] Ibid., art. 3(a).
[37] Ibid., arts. 14, 15, and annexes IV, V.
[38] Ibid., art. 16(3), (4).

2.2.3 Allocation of emissions allowances

In Phases I and II of the EU ETS, the annual allocation of emissions allowances to regulated installations was carried out by way of National Allocation Plans (NAPs), which each Member State was responsible for compiling. The NAPs drawn up by individual Member States made up the total, EU-wide emissions cap. This was subject to the fact that, for Phase II, EU ETS emissions were capped at around 6.5% below 2005 levels. The set limit was intended to ensure that the EU as well as individual Member States would fulfil their Kyoto commitments as regards emissions reductions, since Phase II coincided with the first Kyoto commitment period[39].

Each NAP set out the quantity of emissions which the Member State in question calculated that all its EU ETS regulated installations would need every year. As well as this national cap, the NAP also included a list of the relevant installations in that Member State and the quantities of allowances that would be allocated to each installation. NAPs had to be submitted to and approved by the European Commission before any allocation of allowances could be made to regulated installations[40].

In Phase I, the majority of the allowances under the NAPs (95%) were allocated free of charge, with the possibility that Member States could auction 5% of the total number of allowances to be allocated . However, the intention is that in subsequent phases the amount of allowances auctioned to regulated installations should increase. In Phase II (2008-2012), provision was made for 10% of allowances to be capable of being auctioned[41].

Phase III sees the cap set centrally at the EU level, and is designed to decrease annually in a linear manner by 1.74% in relation to the Phase II cap[42]. The level of emissions reductions aimed for is 21% in 2020 compared

[39] *Questions and Answers on the Revised EU Emissions Trading System*, answer to question 3.

[40] *National Allocation Plans*. European Commission Climate Action. URL: `http://ec.europa.eu/clima/policies/ets/pre2013/nap/index_en.htm`.

[41] *EU ETS 2005-2012*. European Commission Climate Action. URL: `http://ec.europa.eu/clima/policies/ets/pre2013/index_en.htm`.

[42] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, art. 9.

to 2005[43]. Allocations of emissions allowances by Member States to the regulated installations in their territory are to be made in accordance with harmonised rules, thus doing away with NAPs[44]. Auctioning is intended to become the basic method of allocation in Phase III, as opposed to the predominantly free allocation of allowances in the previous two Phases[45]. Free allocation is still possible, namely transitional free allocation for industrial installations[46]. The process for free allocation is organised centrally, at the EU level[47]. In some sectors, free allocations will be gradually phased out from 2013, with exceptions being available for installations at significant risk of carbon leakage[48].

All allowances which are not allocated freely are to be auctioned by each Member State[49]. There are rules regarding how the European Commission distributes the allowances to be auctioned to Member States, who are then responsible for auctioning these allowances to regulated entities. 88% of the allowances to be auctioned by each Member State are distributed on the basis of the Member State's share of historic EU ETS emissions, and 12% will be distributed taking into consideration the Gross Domestic Product (GDP) per capita and the reductions achieved under the Kyoto Protocol[50].

2.2.4 Links with the Kyoto Protocol

In order to avail itself of the different types of emissions reduction mechanisms permitted under the Kyoto Protocol, the EU, through its Linking

[43] *Questions and Answers on the Revised EU Emissions Trading System*, answer to question 9.

[44] Ibid., answer to question 8.

[45] *Auctioning*. European Commission Climate Action. URL: `http://ec.europa.eu/clima/policies/ets/cap/auctioning/index_en.htm`.

[46] *Questions and Answers on the Revised EU Emissions Trading System*, answer to question 13.

[47] Ibid., answer to question 14.

[48] Ibid., answer to question 15.

[49] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, art. 10(1).

[50] *Questions and Answers on the Revised EU Emissions Trading System*, answer to question 17.

Directive[51], has enabled EU ETS regulated installations to use a set proportion of emissions reduction credits generated in developing countries under certain types of project mandated by the Kyoto Protocol[52].

EU ETS regulated installations can obtain emissions reduction credits from JI projects, for instance building installations for the production of electricity from wind power in Bulgaria[53] or in other developed countries which are listed in Annex B of the Kyoto Protocol as subject to emissions reduction commitments. Credits are also available from CDM projects, for instance building installations for the production of electricity from wind power in India[54] or in other developing countries, in order to fulfil emissions-surrendering obligations under the EU ETS. In exchange for one CER from CDM projects or one ERU from JI projects held by a regulated installation, the Member State is obliged to issue and surrender one emissions allowance, and must also cancel the received CER or ERU[55]. Consequently, CERs and ERUs cannot be traded as such within the EU ETS, by contrast with emissions allowances.

The possibility of using CERs and ERUs as part of the EU ETS in this manner, by swapping them for emissions allowances, is set to continue into Phase III[56]. The EU ETS Directive sets limits on the levels of CERs and ERUs that installations may use within the EU ETS[57]. In addition, from

[51] *Directive 2004/101/EC of 27 October 2004 of the European Parliament and of the Council of 27 October 2004 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, in respect of the Kyoto Protocol project mechanisms [2004] OJ L338/18.*

[52] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, art. 11b.

[53] *United Nations Framework Convention on Climate Change, Kaliakra Wind power project.* URL: `http://ji.unfccc.int/JIITLProject/DB/O3G4FV0BYW6RVN1OP8PESF1BY7I8AX/details`.

[54] *United Nations Framework Convention on Climate Change, Wind Power based electricity generation project in India by DLF Home Developers Limited.* URL: `http://cdm.unfccc.int/Projects/DB/BVQI1270985563.08/view`.

[55] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, art. 11(b)(3).

[56] Ibid., art. 11b.

[57] Ibid., art. 11a(8).

Phase III the use of credits from certain project types has been restricted, as permitted by the EU ETS Directive[58]. Utilising credits from certain types of land use, land-use change and forestry (LULUCF) projects, as well as from projects at nuclear facilities in the EU ETS has not been permitted since the incipience of the system in 2005[59]. Similarly, credits originating from industrial gas projects, namely those involving trifluoromethane (HFC-23) and nitrous oxide (N_2O) from adipic acid production cannot be used in the EU ETS from 1 January 2013[60]. This is because industrial gas projects raise environmental concerns and do not contribute to reducing global emissions in the most efficient manner[61].

2.2.5 Registration and trading of emissions allowances

Under the EU ETS, all sales and purchases of emissions allowances are recorded. In Phases I and II, transactions in emissions allowances were recorded in national registries managed by nominated regulators, who dealt exclusively with issuing, holding, transferring and cancelling such allowances[62]. By contrast, from Phase III allowances are to be held in the central EU registry instead, namely the EU Transaction Log (EUTL)[63].

[58] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, art. 11a(9).

[59] *Questions and answers on the use of international credits in the third trading phase of the EU ETS*. URL: `http://ec.europa.eu/clima/policies/ets/linking/docs/q_a_20111114_en.pdf`, answer to question 8(b).

[60] *Commission Regulation (EU) No 550/2011 of 7 June 2011 on determining, pursuant to Directive 2003/87/EC of the European Parliament and of the Council, certain restrictions applicable to the use of international credits from projects involving industrial gases [2011] OJ L149/1*, art. 1.

[61] Ibid., preamble, paras. 8-9.

[62] *Union Registry*. European Commission Climate Action. URL: `http://ec.europa.eu/clima/policies/ets/registry/index_en.htm`.

[63] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, art. 19(1); *Union Registry*.

2.2.6 Banking of emissions allowances

If, at the end of a Phase of the EU ETS, a regulated installation has unused allowances left over which are not sold before the end of the Phase, these allowances will not be lost, as the EU ETS permits for allowances to be banked from one trading period to the next.

"Banking" in the context of the EU ETS effectively means that an installation can use the allowances it has left over: "every allowance not surrendered or retired in the second trading period can be used [...] in phase 3"[64]. The way that banking works in practice is through an exchange at the end of one trading period. For example, allowances issued for use in Phase I of the EU ETS are, technically speaking, only valid for compliance during Phase I. However, if the relevant Member State allows it, at the end of Phase I an installation with leftover, unused allowances will have them cancelled by the relevant national regulator, and will receive in exchange an equivalent number of allowances valid for use in Phase II.

The original EU ETS Directive held that the so-called banking of allowances from Phase I to Phase II was permissible under the EU ETS, but it was at the discretion of individual Member States to decide whether to allow this within their respective territories[65]. All Member States (for example the UK[66] and Germany[67]) except France and Poland[68] elected not to allow

[64] *Questions and Answers on the Commission's proposal to revise the EU Emissions Trading System*. European Commission. 23 January 2008. URL: http://europa.eu/rapid/press-release_MEMO-08-35_en.htm, question 25.

[65] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, art. 13(2).

[66] *An Operator's Guide to the EU Emissions Trading System: The Steps to Compliance*. Department of Energy and Climate Change. 2008. URL: http://www.decc.gov.uk/assets/decc/what%20we%20do/global%20climate%20change%20and%20energy/tackling%20climate%20change/emissions%20trading/eu_ets/euets_phase_2/operators_guide/events-guide.pdf, p. 19.

[67] S. Borak et al. *Convenience Yields for CO_2 Emission Allowance Futures Contracts*. SFB 649 Discussion Paper 2006-076, Humboldt-Universitat zu Berlin, 2006. URL: http://environmentalfinance.groupsite.com/uploads/files/x/000/00a/711/Borak_Haerdle_Rrueck_Weron_2006.pdf, p. 5.

[68] D. Ellerman and P. Joskow. *The European Union's Emissions Trading System in Perspective*. Pew Center on Global Climate Change, 2008. URL: http://www.c2es.org/docUploads/EU-ETS-In-Perspective-Report.pdf, pp. 3, 49.

banking between Phases I and II. The amended EU ETS Directive provides that Member States are obliged to permit the banking of allowances from Phase II to Phase III[69].

2.2.7 The EU emissions market

The EU ETS does not restrict participation in emissions trading to regulated entities which engage in emissions trading for the purpose of compliance[70]. In practice, this has meant that another, rather differently motivated type of trading has developed concurrently. Participants in the financial markets have not missed the opportunity to become involved in the emissions market by creating and trading in a variety of more or less complex financial instruments based on underlying emissions allowances, purely for the purpose of investment.

The European Commission has also taken it upon itself to monitor the EU emissions market and report in this respect to the Parliament and Council on an annual basis[71]. If, for more than six consecutive months, the allowance price increases to more than three times the average price of allowances during the two preceding years on the EU carbon market, and this is not caused by changing market fundamentals, Member States may be permitted to bring forward the auctioning of a part of the quantity to be auctioned, or to auction up to 25% of the allowances in the new entrants' reserve[72].

As required by the EU ETS Directive[73], the Commission has also published a Communication on emissions market oversight. This document assesses the current level of protection of the market from risks such as market abuse and insider dealing, and puts forward proposals for improved protection[74].

[69] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, art. 13(2).

[70] Ibid., ats. 12(1), 19(2).

[71] Ibid., art. 10(5).

[72] Ibid., art. 29a(1), (2).

[73] Ibid., art. 12(1a).

[74] *Towards an enhanced market oversight framework for the EU Emissions Trading Scheme. COM(2010)796 final.* European Commission Communication. 2010. URL: `http:`

2.3 The importance of crafting an analytical construction of emissions entitlements: the goals of the EU ETS

The EU ETS has been described by the European Commission as "the cornerstone of the EU's strategy for fighting climate change"[75], and is the largest compulsory trading regime of its kind in the world. It has set a precedent for the way in which this kind of incentive-based regulation can work in practice, and has highlighted both the pitfalls and the advantages of moving regulation out of the hands of public authorities and into those of the market.

The EU ETS has inspired other emissions trading schemes, for example in Australia (due to start in 2015)[76] and in the US state of California (from 2013)[77]. As the EU ETS model offers instructive lessons in the sphere of global climate change policy, the tensions in its construction that the chapter identifies are highly relevant outside the confines of the EU. Achieving the correct balance in the level of emissions entitlements protection against the issuing authority and in the range of permissible uses of such entitlements are universal concerns in this sense. They are likely to challenge regulators in other jurisdictions that have newly adopted trading schemes or plan to do so in the near future. While Australia has designated emissions entitlements as property[78], California has expressly legislated that they do not constitute property rights[79]. It therefore becomes necessary to provide a legal analysis that can assist in determining why such different outcomes have been reached, and why these differences matter. Such an analysis must necessarily be conducted with direct reference to the interplay between the public policy

`//eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0796:FIN:EN:PDF`, the Commission has also published proposals on improving the regulation of emissions trading from a market abuse and investment services perspective. These proposals are outside the scope of the thesis.

[75] *Questions and Answers on the Revised EU Emissions Trading System*, answer to question 1.

[76] *Clean energy legislation.*

[77] *Cap-and-Trade Program.*

[78] *Clean Energy Act 2011 (Commonwealth)*, s. 103.

[79] *California Code of Regulations, Title 17*, §95820(c).

aims of, and private law entitlements created by, the EU ETS.

The primary goal of the EU ETS is to reduce emissions in line with Kyoto Protocol commitments through an efficient emissions market, with minimal diminution of economic development[80]. Moreover, it is intended that emissions reductions will increase in the manner considered to be scientifically necessary to avoid dangerous climate change[81]. In addition, the EU ETS pledges to encourage investment in low-carbon technologies so as to achieve long-term emissions reductions[82]. The trading aspect does not of itself bring about emissions reductions. That is the job of the overall cap on emissions, set in Phases I and II by way of NAPs for each Member State and, as of 2013, by the European Commission at a central level. The cap itself is a classic command and control regulatory instrument. The role of the trading aspect is to optimise the achievement of emissions reductions by allowing them to be made where it is cheapest to do so, whether by actually reducing emissions or by buying more allowances in the market[83].

The EU ETS is a market mechanism that aims to create strong incentives to reduce emissions by delegating the workings of the emissions market to its participants. The logical consequence is that the market needs to function effectively in order for the goal of reducing emissions to be attained. Even if trading *per se* does not achieve emissions reductions, it does indirectly affect the success of environmental regulation. This is because emissions trading has emerged as a popular way to "sell" environmental protection to regulated entities. It offers them flexibility in the manner of compliance, so that every entity can reduce emissions in the most cost-effective way possible. This flexibility can increase support for the pre-set cap and may increase the likelihood of compliance with it, where the levels of reduction can be gradually lowered over time to reduce the amount of environmentally harmful pollution[84]. The

[80] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, recital 5.

[81] Ibid., art. 1.

[82] Ibid., recital 20.

[83] *The EU Emissions Trading System (EU ETS).*

[84] N. Keohane. "Cap and Trade, Rehabilitated: Using Tradable Permits to Control U.S. Greenhouse Gases". In: *Review of Environmental Economics and Policy* 3 (2009), pp. 42–

elements of emissions trading which make it popular with regulated entities are precisely those elements that render it necessary to establish some degree of certainty regarding the scope of (and, in particular, any limitations on) the entitlements that can subsist in allowances. The EU ETS is neither a mere regulatory tool, nor is it designed simply to support the workings of command and control regulation in the way that the US trading regimes of the 1970s and 1980s had been[85]. As with the US Acid Rain Program[86], under the EU ETS a market has developed where emissions allowances are freely tradable between both regulated and non-regulated entities (such as individuals or financial institutions)[87].

A potential strong link exists between the scope of emissions entitlements and the degree of environmental success that the EU ETS can expect to achieve. Reducing emissions to the levels required to adequately tackle climate change by means of a decreasing cap arguably demands a significant limitation on these entitlements. This limitation resides in the possibility of regulatory intervention to adjust the amount of allowances in the market, should the environmental goal of reducing emissions so dictate. On the other hand, maintaining a viable emissions market becomes important in itself if long-term reductions are to be achieved by way of low-carbon technologies[88]. The outcomes of a viable emissions market and minimal impact on economic development need certainty as to the scope of the entitlements[89].

However, it should not be assumed that EU emissions entitlements are equivalent to fully fledged private property rights. For instance, both the US Acid Rain Program[90] and the Californian emissions trading scheme[91] have

62, at 45-46.

[85]T. Tietenberg. "The Evolution of Emissions Trading". In: *Better Living Through Economics*. Ed. by J. Siegfried. Boston: Harvard University Press, 2010, pp. 42–58, at 46-47.

[86]Ibid., at 47-48.

[87]*Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, arts. 12(1), 19(2).

[88]Ibid., recital 20.

[89]Field and Field, *Environmental Economics: An Introduction*, p. 203, in microeconomic theory, exclusivity, enforceability and transferability of rights are the key prerequisites for a market to function effectively.

[90]*1990 Clean Air Act Amendments, 42 United States Code*, §7651b(f).

[91]*California Code of Regulations, Title 17*, §95820(c).

expressly denied property status to their respective emissions entitlements. This approach is intended to enable issuing authorities to cancel valid allowances as they deem necessary to further environmental policies, without incurring a corresponding obligation to compensate allowance holders as if the authorities were expropriating property[92]. At the US federal level, the EPA has recognised the risk to market viability posed by arbitrary market intervention, and has stated that such intervention will occur only in exceptional circumstances, when made imperative by environmental policy[93].

By contrast, the EU ETS Directive is silent on the possibility and extent of regulatory intervention in the emissions market. The EPA's example is instructive, and demonstrates a trade-off between the primary goal of emissions reductions and the viability of the emissions market. It is argued that the EU should clarify its position on this trade-off. In particular, supplementation of the current EU ETS legislative framework would be welcomed. Market certainty and thus, ultimately, the environmental goal of the EU ETS would benefit from a defined scope of regulatory intervention and clear rules on how such intervention should be carried out, so that the legitimate economic interests of market participants are not unduly affected. This type of compromise scenario could assist in maintaining market confidence while, at the same time, retaining a sufficient level of regulatory discretion over emissions entitlements in order to pursue the emissions reductions objective.

Moreover, the nature and treatment of property are not centralised at the EU level, but remain the responsibility of Member States. The categorisation of emissions allowances, whether as property rights or as another type of right, cannot therefore be easily harmonised across the EU. However, EU-level clarification as to certain aspects of emissions entitlements would assist

[92]Cole, "Clearing the Air: Four Propositions about Property Rights and Environmental Protection", at 113; and see chapter 4.3 for a discussion of the relevance of interference by public authorities to the existence of a property right.

[93]D. Cole. *Pollution and Property: Comparing Ownership Institutions for Environmental Protection*. Cambridge: Cambridge University Press, 2002, p. 55; A. Rosenberg. "Emissions Credit Futures Contracts on the Chicago Board of Trade: Regional and Rational Challenges to the Right to Pollute". In: *Virginia Environmental Law Journal* 13 (1994), pp. 501–536, at 508; Dennis, "Smoke for Sale: Paradoxes and Problems of the Emissions Trading Program of the Clean Air Act Amendments of 1990", at 1137.

Member States in deciding how to construct and treat such entitlements in their domestic legal systems. This process appears to have already begun, albeit in a localised fashion: the Commission Regulation establishing an EU Registry from 2013[94] protects *bona fide* purchasers of emissions allowances by enabling them to acquire full title in the allowance even in cases where there is a dispute as to its ownership[95]. The interpretation of what constitutes "good faith" is left to the Member States[96]. A similar approach could be applied to clarify, for instance, the strength of emissions entitlements as against the issuing authority, while leaving the level of protection afforded to such entitlements to individual Member States.

If it can be agreed that the environmental success of the EU ETS depends on adequately balancing its primary emissions reductions objective with the legitimate economic interests of market participants, the logical next step is to devise an analytical framework for determining the characteristics of emissions entitlements of the type put forward in the introduction to the thesis.

These characteristics should help to achieve the environmental goal of the EU ETS while, at the same time, paying due consideration to the need to preserve a sufficient degree of market viability. In terms of legal categorisation, we must be prepared for the possibility that emissions entitlements may require further definition beyond the traditionally recognised conceptualisation of property.

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[94] *Commission Regulation (EU) No. 1193/2011 of 18 November 2011 establishing a Union Registry for the Trading Period Commencing on 1 January 2013, and Subsequent Trading Periods, of the European Union Emissions Trading Scheme pursuant to Directive 2003/87/EC and Decision 280/2004/EC and Amending Commission Regulations (EC) No. 2216/2004 and (EU) No. 920/2010 [2011] OJ L315/1.*

[95] Ibid., recital 12, art. 37(4).

[96] *General Questions and Answers on Registries.* European Commission Climate Action. URL: `http://ec.europa.eu/clima/policies/ets/registry/faq_en.htm`, answer to question 6.

2.4 The importance of crafting an analytical construction of emissions entitlements: some practical lessons

This part highlights a number of limitations of the EU ETS that are correlated to the absence of a comprehensive construction of emissions entitlements. The selected case study illustrates some potentially serious consequences of the observed gaps in the EU ETS regulatory framework. The case study thus demonstrates the need to articulate a clear construction of emissions entitlements, which can best be done using an analytical framework in the form put forward in the introduction to the thesis.

From February to August 2010, the media reported on the sale of a Teesside steelmaking plant belonging to Corus, the European arm of Tata Steel, to a Thai purchaser[97]. The plant had been mothballed by Corus prior to the sale, but was still set to receive a substantial number of emissions allowances under the EU ETS. Corus wanted to bank these allowances for the following three years so that the purchaser could make use of them. It was also queried whether Corus had to retain the allowances so that they could form part of the sale, or whether it was entitled to sell them on the open market prior to the sale[98].

The questions that arise here are threefold and relate to (i) the structures of ownership that can apply to emissions allowances; (ii) the situation where an entity reduces or ceases its EU ETS regulated activities; and (iii) the extent of discretion over the use of allowances that their owner can enjoy.

Firstly, if a seller such as Corus wishes to retain emissions allowances for the purpose of passing them on to a purchaser of the EU ETS regulated installation (as permitted by the EU ETS Directive)[99] it is not clear what

[97] "Corus agrees to sell Teesside plant to SSI of Thailand". In: The Guardian. 27 August 2010. URL: http://www.guardian.co.uk/business/2010/aug/27/ssi-corus-teesside-sale.

[98] "Closed UK steel plant to get EU carbon permits: government". In: Reuters. 13 December 2009. URL: http://www.reuters.com/article/2009/12/14/us-britain-steel-emissions-idUSTRE5BA2JJ20091214.

[99] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas*

ownership structure can be used to this effect. It was suggested that Corus should place the allowances in trust for the prospective purchaser pending completion of the sale, but this gives rise to the question of whether emissions allowances can constitute the kind of property that may be the subject of a valid trust, where direct legal ownership of the allowances may not be appropriate for whatever reason[100].

Secondly, the plant had been mothballed by Corus prior to the sale, which meant that it effectively received an over-allocation of allowances that were surplus to its actual production needs. However, the UK government held that the plant could retain its allocation of emissions allowances for 2010, as the allowances had already been issued and were thus said to be "the property of Corus"[101]. For the duration of Phase II of the EU ETS (until the end of 2012), future allocations would depend on the extent to which any EU ETS regulated activities would continue at the plant, which had not fully ceased to function[102]. For Phase III (from 2013), it has been expressly stated by way of Directive that allocations would be reduced for partially closed installations[103]. The European Commission has also issued a Decision setting out the rules on capacity reductions and closures of installations[104]. The Decision provides that, where an installation has a significant capacity reduction, or where it ceases its operations either entirely or partially, the

Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32, art. 7.

[100] *Armstrong DLW GmbH v. Winnington Networks Ltd [2012] EWHC (Ch) 10*, paras. 52-59, holds that in the UK an allowance is capable of forming the subject-matter of a trust.

[101] *Government Response to the North East Regional Committee's Second Report of Session 2009–10 into Teesside Cast Products. CM 7868.* Department for Business, Innovation and Skills. 2010. URL: `http://www.official-documents.gov.uk/document/cm78/7868/7868.pdf`, p. 7.

[102] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, art. 7.

[103] *Directive 2009/29/EC of 23 April 2009 amending Directive 2003/87/EC so as to Improve and Extend the Greenhouse Gas Emission Allowance Trading Scheme of the Community [2009] OJ L140/63*, art. (8).

[104] *Commission Decision 2011/278/EU of 27 April 2011 Determining Transitional Union-Wide Rules for Harmonised Free Allocation of Emission Allowances pursuant to Article 10a of Directive 2003/87/EC [2011] OJ L130/1.*

allowance allocation will be reduced accordingly[105] or, in the case of total cessation, will be withdrawn entirely[106]. It is worth noting that, in all three scenarios, such adjustments to allocation levels will take place as of the year following that during which the capacity reduction or cessation of operations occurred[107].

That a revision of the amount of allowances can be carried out for future allocation periods is uncontroversial, but the question remains whether a currently valid allocation can be reduced. Given the regulatory purpose of the EU ETS, it is notable that the cancellation of emissions allowances once issued was excluded as a possible solution to the discrepancy between the number of allowances required to cover production and the number of allowances actually held by the plant. The UK government's reference to the 2010 allowances as constituting the "property" of Corus is a debatable choice of words. Since the EU ETS Directive neither allows nor prohibits the cancellation of issued allowances, the fact that the UK government chose the route of no cancellation may indicate an unwillingness to interfere with regulatory instruments which have effectively (and perhaps inadvertently) given rise to private property rights in the hands of the holders. However, the issue of whether Corus' entitlements in the 2010 allowances amount to property rights remains unclear since no legal analysis of the EU ETS framework was carried out.

It appears, therefore, that the cancellation of valid allowances would potentially require a review of the EU ETS legislative framework. Amending the legislation to expressly provide for such cancellation is a possible solution to tackle the current surplus, which is negatively affecting the emissions price. On the other hand, if such cancellation is carried out with little prior notice, it could wreak havoc in the market. It would run counter to the idea of certainty of rights, which is viewed by economists as necessary for the

[105] *Commission Decision 2011/278/EU of 27 April 2011 Determining Transitional Union-Wide Rules for Harmonised Free Allocation of Emission Allowances pursuant to Article 10a of Directive 2003/87/EC [2011] OJ L130/1*, arts. 21, 23.
[106] Ibid., art. 22.
[107] Ibid., arts. 21(3), 22(3), 23(2)-(4).

continuity of a viable emissions market[108]. While the primary goal of the EU ETS remains emissions reductions, it has also become necessary to support the viability of the emissions market as an effective means of achieving the ultimate environmental objective. When considering the option of legislative change, the Commission should consequently bear in mind that the environmental success of the EU ETS has come to be measured by reference to the functionality of the emissions market, as well as to the levels of emissions reductions.

Thirdly, the question arose as to how Corus could use the allowances appertaining to the plant. If Corus were entitled to all its allowances for 2010–12, despite the reduction in activity at the plant, it would be able to sell in the market those which had been freed up as a result of the reduction in activity (as opposed to making them part of the sale–purchase transaction for the plant), and make a profit. This is not technically illegal, but the issue arose whether doing so would comply with the environmental goals and spirit of the EU ETS, as Corus would effectively be profiting from the over-allocation of emissions allowances without having made any real effort to cut emissions.

This highlights a potentially significant contrast between incidental emissions reductions caused by, for instance, an economic crisis, and emissions reductions achieved by developing greener technologies. Does it matter how the reductions are attained, so long as they are attained? Arguably, in the context of systematic, focused and long-term environmental policy, it does. The very purpose of the EU ETS is to allow installations whose levels of emissions fall below the corresponding number of allowances that have been allocated to them to sell these allowances in the market. However, the EU ETS envisages that this reduction in emissions levels will occur as installations develop greener, more innovative technologies of production that pave the way towards low-carbon economies in the Member States[109]. The development and eventual wide use of greener technology is thus presented as the

[108] Field and Field, *Environmental Economics: An Introduction*, p. 203.

[109] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, recital 20.

long-term goal of emissions trading, rather than simply trying to achieve reductions wherever possible without a concerted strategy and in reliance upon incidental decreases in industrial production. A report by the UK Committee on Climate Change has highlighted the risk that reduced production caused by the economic recession would lower the price of emissions allowances. This may disincentivise self-scrutiny and investment in green technologies by making it more attractive to continue to purchase allowances without any effort to improve the environmental credentials of production[110].

Investment in cleaner technologies and the consequent move to a low-carbon economy have been identified as wider environmental policy goals by the EU. The EU ETS forms part of a wider regulatory scheme, namely the EU Climate and Energy Package, which has two aims, namely reducing emissions and increasing the use of renewable energy. In the words of the European Commission, the Package represents "an integrated approach to climate and energy policy that aims to combat climate change and increase the EU's energy security while strengthening its competitiveness", so that Europe can transform itself into "a highly energy-efficient, low carbon economy"[111]. The EU ETS does not exist in a regulatory void where all that matters is achieving cost-effective emissions reductions in line with a decreasing cap, irrespective of whether the reductions are achieved by incidental falls in emissions or concerted efforts to move to a low-carbon economy. The European Commission has remarked that the allowances surplus, *inter alia,* has already helped to bring the 2020 emissions target within reach. Paradoxically, the ensuing low emissions prices have compromised the low-carbon transformation intended by the Package, which "was expected to be a key driver for [greenhouse gas] emission reductions triggering innovation, and growth and job creation in the low carbon technology industries"[112]. It has been noted that climate policy needs to complement and support energy policy, and an inadequate emis-

[110] *Meeting Carbon Budgets: The Need for a Step Change.* Parliament Committee on Climate Change. 2009. URL: `http://downloads.theccc.org.uk/docs/21667%20CCC%20Executive%20Summary%20AW%20v4.pdf`, p. 17.

[111] *The EU Climate and Energy Package.*

[112] *Analysis of Options Beyond 20% GHG Emission Reductions: Member State Results. SWD(2012)5 final.* European Commission Staff Working Paper. 2012. URL: `http://ec.europa.eu/clima/policies/package/docs/swd_2012_5_en.pdf`, pp. 5-6.

sions price signal can lead to conflict between the two. So far, the short-term volatility of the emissions price and the lack of a long-term price signal have limited investment in low-carbon solutions. The EU ETS can assist energy policy by encouraging low-carbon investment by way of a long-term price signal[113].

In addition, one of the amendments[114] to the EU ETS Directive states that:

> more predictability should be ensured and the scope of the [emissions trading] system should be extended by including new sectors and gases with a view to both reinforcing a carbon price signal necessary to trigger the necessary investments and by offering new abatement opportunities, which will lead to lower overall abatement costs and the increased efficiency of the system[115].

In wider terms, the European Commission's Roadmap for moving to a low-carbon economy[116] also requires a stable price signal that can act as a powerful driver for technological innovation:

> The EU ETS will be critical in driving a wide range of low carbon technologies into the market, so that the power sector itself can adapt its investment and operational strategies to changing energy prices and technology. For the ETS to play this role on the identified pathway to 2050, both a sufficient carbon price signal and long-term predictability are necessary[117].

[113] B. Leguet, N. Fujiwara, and A. Georgiev. *The EU Emissions Trading Scheme as a Driver for Future Carbon Markets*. Centre for European Policy Studies, 2012. URL: `http://www.ceps.eu/book/eu-emissions-trading-scheme-driver-future-carbon-markets`, pp. viii-ix, 27-8.

[114] *Directive 2009/29/EC of 23 April 2009 amending Directive 2003/87/EC so as to Improve and Extend the Greenhouse Gas Emission Allowance Trading Scheme of the Community [2009] OJ L140/63*, art. 1(8).

[115] Ibid., recital 8.

[116] *A Roadmap for moving to a competitive low carbon economy in 2050. COM(2011)112 final*. European Commission Communication. 2011. URL: `http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0112:FIN:EN:PDF`.

[117] Ibid., pp. 6-7.

This preoccupation with moving to a low-carbon economy is logical: developing cleaner technologies is the long-term way of achieving emissions reductions. Emissions reductions will not continue indefinitely on an incidental basis, based on a decrease in production. Once any factors leading to incidental reductions (for example, the economic crisis) are no longer present, low-carbon technologies will need to be in place so as to continue to achieve the requisite reductions while at the same time permitting economic growth.

2.5 Articulating an analytical construction of emissions entitlements: lessons from the US Acid Rain Program

The US Acid Rain Program has served as a source of inspiration for the EU ETS[118]. The US trading regime was created by Title IV of the 1990 Clean Air Act Amendments[119] with the purpose of reducing SO_2 emissions responsible for acid rain by 10 million tonnes below 1980 levels. The regime was divided into two phases. In Phase I (from 1995), emissions allowances were allocated to the 110 most polluting plants in 21 states, representing approximately half of their historic emissions. In Phase II (from 2000), emissions from all but the smallest polluters would be further reduced in line with centrally set caps[120]. The model employed is cap-and-trade, with allowances (each equivalent to one tonne of SO_2)[121] being freely tradable[122]. It has generally been considered a success, as it has achieved emissions reductions at significantly lower costs[123].

[118] Convery, "Origins and Development of the EU ETS", at 397, 407.

[119] *1990 Clean Air Act Amendments, 42 United States Code*, §7651.

[120] *SO_2 Reductions and Allowance Trading under the Acid Rain Program*. US Environmental Protection Agency, Clean Air Markets. URL: `http://www.epa.gov/airmarkets/progsregs/arp/s02.html`.

[121] *1990 Clean Air Act Amendments, 42 United States Code*, §7651a(3).

[122] Ibid., §7651b(b).

[123] L. Chestnut and D. Mills. "A Fresh Look at the Benefits and Costs of the US Acid Rain Program". In: *Journal of Environmental Management* 77 (2005), pp. 252–266, at 253-255; G. Chan et al. *The SO_2 Allowance Trading System and the Clean Air Act Amendments of 1990: Reflections on Twenty Years of Policy Innovation*. Harvard Kennedy School,

Unlike the EU ETS Directive, the Clean Air Act offers a legal definition of emissions allowances: they are limited authorisations to emit SO_2, and do not constitute property rights. Moreover, the government has the authority to terminate or limit such authorisations[124]. One of the possible reasons for these provisions may be to address the concerns of environmentalists that granting property rights to pollute would be morally dubious[125]. A more practical purpose of the provisions is to reserve sufficient regulatory discretion to interfere with emissions allowances as is necessary to pursue environmental policy, while at the same time protecting the US government from the possibility of compensation claims from entities whose allowances are cancelled or confiscated[126]. If the allowances were considered to be property rights, regulatory interference once they had been allocated may be capable of amounting to a taking under the Fifth Amendment of the US Constitution and be susceptible to a claim for fair value compensation[127]. Regulators thus wished to retain discretion over when to intervene in the trading system, either to increase or decrease the number of allowances in circulation, free from the liability associated with expropriating property rights.

Despite the apparently strict categorisation of emissions allowances as limited authorisations to pollute, and specifically not property rights, US case law has recognised a number of characteristics of allowances that are very similar to property. According to the legislative framework itself, they are freely tradable[128]. In *Ormet Primary Aluminium Corp. v. Ohio Power Co.*[129], which involved the assertion of a proprietary interest in certain allowances, the court reiterated that such instruments were not property rights,

RPP-2012-01, 2012. URL: `http://www.hks.harvard.edu/m-rcbg/rpp/Working%20papers/RPP_2012_01.pdf`.

[124] *1990 Clean Air Act Amendments, 42 United States Code*, §7651b(f).

[125] M. Gehring and C. Streck. "Emissions Trading: Lessons from SOx and NOx Emissions Allowance and Credit Systems, Legal Nature, Title, Transfer, and Taxation of Emission Allowances and Credits". In: *Environmental Law Reporter* 35 (2005), pp. 10219–10235, at 10221-10222.

[126] Cole, "Clearing the Air: Four Propositions about Property Rights and Environmental Protection", at 113.

[127] *US Constitution*, amend. V; *Pennsylvania Coal Co. v. Mahon, 260 US 393 (1922)*, this can include regulatory takings.

[128] *1990 Clean Air Act Amendments, 42 United States Code*, §7651b(b).

[129] *Ormet Primary Aluminium Corp. v. Ohio Power Co., 98 F. 3d 799 (4th Cir. 1996).*

but had been intended only to be tradable like any other commodity. However, the court also added that, in creating a system of tradable allowances, Congress intended that disputes between allowance holders be resolved in the same manner as other private commercial disputes, namely in federal courts as opposed to being resolved through the involvement of the EPA[130]. This view suggests that disputes over allowances, while not disputes over property rights, are effectively private disputes over ownership. This is because the Clean Air Act Amendments state that no acid rain permit will be issued unless the applicant files a certificate confirming that allowances will be deemed to be held or distributed "in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement"[131]. The Act therefore provides for divided ownership of emissions allowances in a similar way to that which may exist for property[132]. In *Clean Air Markets Group v. Pataki*[133], it was further held that state law-triggered diminution in value of these allowances constituted injury that was in fact sufficient to demonstrate standing[134].

It would therefore seem that, although SO_2 emissions allowances are not property rights as against the government, they exhibit many characteristics of property rights as between trading parties. An entity can hold and transfer allowances as well as use them to emit corresponding amounts of SO_2[135], and it can exclude others (though not the government) from interfering with these entitlements[136]. This scenario has been referred to as creating *de facto* property rights between private parties[137]. It has also been viewed

[130] *Ormet Primary Aluminium Corp. v. Ohio Power Co., 98 F. 3d 799 (4th Cir. 1996).*
[131] *1990 Clean Air Act Amendments, 42 United States Code*, §7651g(i)(1).
[132] Gehring and Streck, "Emissions Trading: Lessons from SOx and NOx Emissions Allowance and Credit Systems, Legal Nature, Title, Transfer, and Taxation of Emission Allowances and Credits", at 10222.
[133] *Clean Air Markets Group v. Pataki, 194 F. Supp. 2d 147 (NDNY 2002).*
[134] Ibid.
[135] *1990 Clean Air Act Amendments, 42 United States Code*, §7651b(b).
[136] Cole, *Pollution and Property: Comparing Ownership Institutions for Environmental Protection*, pp. 53-54; Cole, "Clearing the Air: Four Propositions about Property Rights and Environmental Protection", at 113-114.
[137] Gehring and Streck, "Emissions Trading: Lessons from SOx and NOx Emissions Allowance and Credit Systems, Legal Nature, Title, Transfer, and Taxation of Emission Allowances and Credits", at 10224.

as premised on the confusion between property rights in something and the thing itself: the thing (the allowance) is not property, but property rights can exist in it nonetheless[138]. It appears that the risk of regulatory interference has not negatively affected the SO_2 emissions market. This is largely attributed to the EPA's expressed intention to treat allowances as if they were property rights, save in exceptional circumstances, which means that the risk of expropriation is, in practice, remote[139].

By analogy with the US scenario, EU allowances could be seen as *de facto* property rights, or at least as exhibiting certain traits of property rights. They can be held and traded. They can also form the subject of contracts between private parties, are enforceable as between them and can form the subject of litigation on, for instance, contractual grounds[140]. Their enforceability against the regulator is less clear than it is in the case of US allowances; the EU ETS Directive does not expressly state whether valid and allocated allowances may be terminated or limited. It appears that, in the EU, interference can occur in respect of future trading periods (for example, to reduce the allowances for installations where activity has decreased or ceased)[141] but not in respect of already allocated allowances, which have been viewed as effectively giving rise to property rights[142]. This position differs from that

[138]Cole, *Pollution and Property: Comparing Ownership Institutions for Environmental Protection*, pp. 53-54; Cole, "Clearing the Air: Four Propositions about Property Rights and Environmental Protection", at 113-114.

[139]Cole, *Pollution and Property: Comparing Ownership Institutions for Environmental Protection*, p. 55; Rosenberg, "Emissions Credit Futures Contracts on the Chicago Board of Trade: Regional and Rational Challenges to the Right to Pollute", at 508; Dennis, "Smoke for Sale: Paradoxes and Problems of the Emissions Trading Program of the Clean Air Act Amendments of 1990", at 1137.

[140]*INEOS Manufacturing Scotland Ltd v. Grangemouth CHP Ltd and Another [2011] EWHC 163*, concerned a dispute based on a commercial contract for allowances.

[141]*Directive 2009/29/EC of 23 April 2009 amending Directive 2003/87/EC so as to Improve and Extend the Greenhouse Gas Emission Allowance Trading Scheme of the Community [2009] OJ L140/63*, art. 1(8); *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, art. 7; *Commission Decision 2011/278/EU of 27 April 2011 Determining Transitional Union-Wide Rules for Harmonised Free Allocation of Emission Allowances pursuant to Article 10a of Directive 2003/87/EC [2011] OJ L130/1*, arts. 21-23.

[142]*Government Response to the North East Regional Committee's Second Report of Session 2009–10 into Teesside Cast Products*, p. 7.

taken by the EPA, which has pledged not to interfere with allowances save in exceptional cases. The EU approach may still leave open the possibility that regulatory interference can theoretically occur with allowances that have already been allocated.

It is also not clear whether the concern with compensation, which figures so strongly in the US model, directly translates to the EU and its Member States. In German constitutional law, for instance, there is a distinction between expropriations of property (which always attract compensation)[143] and rules determining the content and limits of ownership (which do not automatically give rise to a right to compensation)[144]. While under US law, interference with allowances (if considered property) would amount to a regulatory taking and thus give rise to compensation[145], it may be that, were interference with EU allowances to be tested in Germany, it could be construed as falling within the less interventionist category, namely, determining the nature of the entitlements in emissions allowances. The concern regarding compensation had considerable influence on the denial of property status to US allowances. Regulatory interference with EU allowances, however, would not necessarily rely on this ground[146].

2.6 Conclusion

The dual public-private nature of the EU ETS has created a new interdependency between the regulatory purpose of emissions trading and its private law expression in the shape of the emissions market. The reliance of EU

[143] *Grundgesetz für die Bundesrepublik Deutschland (German Federal Basic Law/Constitution)*, art. 14(3); U. Deutsch. "Expropriation Without Compensation – the European Court of Human Rights Sanctions German Legislation Expropriating the Heirs of "New Farmers"". In: *German Law Journal* 6 (2005), pp. 1367–1380, at 1370-1371.

[144] *Grundgesetz für die Bundesrepublik Deutschland (German Federal Basic Law/Constitution)*, art. 14(1); Deutsch, "Expropriation Without Compensation – the European Court of Human Rights Sanctions German Legislation Expropriating the Heirs of "New Farmers"", at 1370-1371.

[145] *US Constitution*, amend. V; *Pennsylvania Coal Co. v. Mahon, 260 US 393 (1922)*, this can include regulatory takings.

[146] See chapter 4.3 for a discussion of the relevance of interference by public authorities to the existence of a property right.

climate change policy on the success of a private law mechanism offers a series of novel challenges, a key one of which is the pressing need to craft a comprehensive analytical construction of emissions entitlements.

The chapter has justified the importance of crafting such a construction by identifying the multiple and often conflicting public policy goals of the EU ETS, and revealing a significant link between these goals and the characteristics of the entitlements that can be granted to market participants. The practical examples of loopholes and tensions experienced in the regulatory framework have occurred as a result of, or have been aggravated by, the absence of a clear construction of emissions entitlements. The practical failings of the EU ETS demonstrate a considerable need to articulate an analytical framework to assist in identifying the characteristics of emissions entitlements and, subsequently, crafting a set of characteristics which best fits with the goals of emissions trading and the market-based means chosen to pursue them. The chapter has argued that, in deducing this set of contents, there is much to learn by reference to a similar regulatory trading regime, the US Acid Rain Program. Furthermore, a comprehensive understanding of the nature of emissions entitlements can best be articulated using a systematic analytical framework of the kind put forward in the introduction to the thesis, which consists of the dual exercise of examining legal theories of property and rights regimes which are comparable with emissions trading.

The consequences of articulating a construction of emissions entitlements have potential ramifications in a wide range of areas. A non-exhaustive list includes the tax and accounting treatment of emissions allowances[147], criminal law (for instance, theft of emissions allowances)[148], the treatment of emissions allowances in insolvency[149], commercial contracts[150], environmen-

[147]A. Cook. "Accounting for Emissions: From Costless Activity to Market Operations". In: *Legal Aspects of Carbon Trading: Kyoto, Copenhagen and Beyond*. Ed. by D. Freestone and C. Streck. Oxford: Oxford University Press, 2009, pp. 59–76; Mace, "The Legal Nature of Emission Reductions and EU Allowances: Issues Addressed in an International Workshop", at 129-134.

[148]*Emissions Allowances: Creating Legal Certainty*, pp. 5, 8.

[149]Ibid., pp. 5-8.

[150]Mace, "The Legal Nature of Emission Reductions and EU Allowances: Issues Addressed in an International Workshop", at 124-125; S. Drummond. "Trading Instruments and Risk Management". In: *A Guide to Emissions Trading: Risk Management and Busi-*

tal regulation[151], financial markets regulation[152], competition law (especially the issue of state aid in the context of free allocation of emissions allowances within the EU ETS)[153], and international trade agreements (for instance, whether they cover emissions trading)[154].

One particular area stands out as a crucially important avenue for further investigation, in view of the fact that emissions trading has created a new private market in valuable instruments: the commercial contracts which transact emissions allowances. The treatment of emissions allowances in contracts raises important questions as regards the nature of the entitlement being transferred, for instance how safe it is against public intervention and what commercial uses can be made of allowances. The following chapter therefore explores the impact of the dual public-private nature of the EU ETS on the ways in which market participants can protect their economic interests against the risks inherent in emissions trading. Coupled with the problems elicited by the Corus case, the practical issues of contractual protection serve to reinforce the urgency of providing a comprehensive analytical construction of emissions entitlements.

ness Implications. Ed. by C. de Jong and K. Walet. London: Risk Books, 2004, pp. 157–177.

[151]Cole, "Clearing the Air: Four Propositions about Property Rights and Environmental Protection", at 113.

[152]Mace, "The Legal Nature of Emission Reductions and EU Allowances: Issues Addressed in an International Workshop", at 126-127.

[153]Ibid., at 127-128.

[154]L. Rubini and I. Jegou. "Who'll Stop the Rain? Allocating Emissions Allowances for Free: Environmental Policy, Economics, and WTO Subsidy Law". In: *Transnational Environmental Law* 1 (2012), pp. 325–354; C. Voigt. "WTO Law and International Emissions Trading: Is There Potential for Conflict?" In: *Carbon and Climate Law Review* 2 (2008), pp. 54–66; Mace, "The Legal Nature of Emission Reductions and EU Allowances: Issues Addressed in an International Workshop", at 128-129.

Chapter 3

Commercial Contracts in the EU Emissions Market: Addressing Risks and Achieving Environmental Goals

3.1 Introduction

The chapter focuses on the role of contracts in the EU emissions market. Specifically, it is argued that the role of contracts in constituting a market with public policy objectives makes it necessary to assess whether the drafting of such documentation is fit for purpose. In other words, it is necessary to determine whether the drafting as it currently stands provides adequate protection for market participants against the particular risks presented by emissions trading. These are the risk of regulatory intervention and the risk of use limitations: the two issues require clarification by way of an analytical construction of emissions entitlements which can accommodate both regulatory flexibility and market certainty. If contracts can effectively protect the economic interests of trading parties, they will be incentivised to continue participating in the emissions market, which will thus operate in fulfilment of the environmental goals of the EU ETS.

Part 3.2 highlights the need to address unresolved legal problems in seemingly functional markets, and draws a parallel between the emissions market and financial collateral. Part 3.3 explores the workings of the EU emissions market and the role of contracts in addressing the risks peculiar to emissions trading. The risk of regulatory intervention to reduce supply in the emissions market is discussed in Part 3.4. Part 3.5 covers the risk of limitations on the uses to which emissions allowances can be put, notably the existing uncertainty over the effectiveness of the mechanism for protecting and enforcing security interests over allowances. Parts 3.4 and 3.5 illustrate perceived shortcomings in contractual drafting as regards addressing these two risks, and suggest possible avenues for improvement in order to better address the identified risks, both at the regulatory and the private levels. The chapter concludes by reinforcing the need to provide greater regulatory clarification and improve contractual drafting in order to address these significant risks, so as to enable the EU ETS to achieve its environmental goals. The concluding part also indicates that the categorisation of emissions entitlements as instrumental property put forward by the thesis has important consequences for commercial relationships and therefore for the continued viability of the emissions market. This issue is addressed in greater detail in the final chapter.

3.2 Unresolved legal problems in seemingly functional markets and the constitutive role of contracts in markets with public policy objectives

Despite being blighted by low prices in recent times[1], the emissions market created by the EU ETS has continued to flourish. In 2011, EU allowance trading volumes reached 7.9 billion tonnes of CO_2 (a 16% increase from 2010), and the market was worth €106 billion (an 11% increase from 2010)[2]. From an economic perspective, the low emissions price indicates that the market is working as it should. The emissions price is low because the market is oversupplied[3]. Moreover, the buoyancy of trading does not appear to have been affected by perceived shortcomings in the drafting of the contracts which constitute the emissions market.

However, precedent indicates that even seemingly functional markets can go wrong, in the sense of creating unwanted and potentially negative results for their participants. A parallel can usefully be drawn with the legal sensitivities of financial collateral, notably the issues of book debts and charge backs in English law[4]. The outcomes of the case law on book debts and charge backs and their effects on the drafting of security documentation illustrate the risks of unresolved legal issues, even in markets which have been operating smoothly thus far. Once these issues reach the litigation stage, the

[1] *State and Trends of the Carbon Market*, pp. 17-18; "EU Emission Allowances - Spot". In: European Energy Exchange. URL: http://www.eex.com/en/Market%20Data/Trading%20Data/Emission%20Rights/EU%20Emission%20Allowances%20%7C%20Spot; "European Carbon Futures Chart - Derivatives". In: European Energy Exchange. URL: http://www.eex.com/en/Market%20Data/Trading%20Data/Emission%20Rights/European%20Carbon%20Futures%20%7C%20Derivatives/European%20Carbon%20Futures%20Chart%20%7C%20Derivatives/futures-chart/FEUA/2012.12/2012-08-13.

[2] *State and Trends of the Carbon Market*, pp. 9-10.

[3] *Briefing on the EU's Emissions Trading Scheme*. International Emissions Trading Association, 2012. URL: www.ieta.org/assets/EUWG/ieta_briefing_euets10042012.pdf, pp. 1-2.

[4] J. Benjamin. *Financial Law*. Oxford: Oxford University Press, 2007, chapter 20, discusses these issues authoritatively.

result may not reflect the economic interests of the parties, and may require significant changes to established commercial practices.

Book debts are debts which arise in the course of a business, and which are generally entered in the books related to that business, for instance sums due for the supply of goods or services[5]. Book debts pose a recharacterisation problem: where fixed charges are taken over them, the charges may be recharacterisable as floating if the chargor retains the ability to deal with the book debts. Over time, banks developed the drafting of security documentation to prevent such recharacterisation (since a fixed charge would have priority over a floating charge in insolvency). Such drafting would typically include, for example, the possibility for the chargor to draw on an account (generally maintained with the charge) where the proceeds of book debts were credited. This was logical from a commercial perspective, since companies would often need to fund running expenses by using the proceeds of their book debts[6]. This kind of drafting was present in the case of *In re Spectrum*[7]. The House of Lords held that, if the chargor may draw on the account containing the proceeds of book debts without prior consent of the chargee, the charge was a floating one. This was because a floating charge allowed a chargor to remove assets from it: using the proceeds of book debts necessarily involved removing the asset from the charge in order to sell it and thus realise it[8]. The judgment thus rejected what had become commercially established drafting of security documentation.

Charge backs are security arrangements over positive cash balances in bank accounts. This type of arrangement is fairly common as a way of enabling banks to secure the provision of credit to borrowers[9]. However, in *Re Charge Card*[10], the court held that the very notion of a charge back was conceptually impossible, as a bank could not take security over its own lia-

[5]Benjamin, *Financial Law*, p. 382.

[6]Ibid., pp. 464-465.

[7]*In re Spectrum Plus Ltd (in liquidation) [2005] 2 AC 680*; Benjamin, *Financial Law*, p. 467.

[8]*In re Spectrum Plus Ltd (in liquidation) [2005] 2 AC 680*, at 703-704, 721-723; Benjamin, *Financial Law*, pp. 467-468.

[9]Benjamin, *Financial Law*, p. 470.

[10]*Re Charge Card Services Ltd [1987] 1 Ch 50*; Benjamin, *Financial Law*, p. 470.

bility[11]. Although this judgment was later rejected by the House of Lords in *Re BCCI (No 8)*[12], banks' commercial practices had already changed significantly following *Re Charge Card*. The drafting of the security documentation would typically contain so-called "triple cocktail" language (namely charge backs, rights of set off and flawed asset arrangements). The alternative bases could serve as protection in case any of them were to be held unenforceable by the courts[13].

The examples provided by *In re Spectrum*, *Re Charge Card* and *Re BCCI (No 8)* go to illustrate a key point regarding legal categorisation in law versus legal categorisation by the parties to a transaction, which is particularly apposite in the context of emissions entitlements. If these entitlements can be viewed as property rights in law, they can support the existence of third party interests, for instance equitable interests and security interests (where the possibility of creating such interests is an important feature of commercially valuable instruments). The significance of the line of cases discussed above is that parties to a transaction involving a particular type of entitlement cannot make that entitlement a property right in law simply by labelling it as such in a contractual arrangement. The examples therefore show the limits of freedom of contract, which here conflicts with the view of the English courts that property rights are finite and clearly defined in law (for instance, the notions of fixed and floating charges have set definitions). This illustrates a tension between property law and freedom of contract, where, according to the line of cases discussed above, the former usually wins.

In wider terms, the role of contracts in a market can also be assessed from a regulatory perspective. Collins views contracts as a form of self-regulation, as commercial parties are free to decide the terms of the relationships with one another. The role of contract law is to regulate the contents of these relationships (in other words, to oversee parties' self-regulation)[14]. Traditionally, therefore, contract law has focused on the protection of the interests of parties

[11] *Re Charge Card Services Ltd [1987] 1 Ch 50*; Benjamin, *Financial Law*, p. 470.
[12] *Re BCCI (No 8) [1998] AC 214*; Benjamin, *Financial Law*, p. 470.
[13] Benjamin, *Financial Law*, p. 470.
[14] H. Collins. *Regulating Contracts*. Oxford: Oxford University Press, 2002, pp. 56-57, 67-68.

as against one another. However, contract law has found itself increasingly aligned with public law regulation[15]. Consequently, in the present case of emissions trading, contract law has the ability to broaden its concerns and take into account environmental objectives set by the regulatory system, so that these objectives can be achieved while at the same time preserving the primary purpose of contract law, which is to regulate relationships between parties.

The intersection between commercial interests and social obligations is also discussed, rather differently, by Gray, who views the notion of the quasi-public trust as a means of reining in the potentially predatory behaviour of powerful private enterprises[16]. Commercial privilege therefore brings with it a high level of social obligation, especially when "certain kinds of undertaking are so heavily coloured by a general or public interest that they require governance by special rules [endorsed] by a higher order of social and commercial obligation"[17]. In this respect, Gray gives the example of the historic doctrine of the "common callings", which subjected commercial actors such as carriers and innkeepers to a range of duties in respect of the private property that they held, whose purpose was to provide a public service[18]. Viewed on this basis, the contracts that constitute the emissions market should be considerably subordinated to the environmental goals of the EU ETS. This position goes further than that described by Collins, namely that such contracts are able to take into account environmental objectives, whilst preserving their primary commercial purpose.

In the present scenario, the emissions market is part of a larger structure whose primary goals are to reduce CO_2 emissions to scientifically acceptable levels in order to address the problem of climate change and assist the EU in its move towards a low-carbon economy. Emissions trading contracts therefore have the potential to act as a regulatory tool: they help to constitute a market with specific environmental objectives. Articulating and prioritising the public policy goals gives a clear purpose to the contracts that constitute

[15]Collins, *Regulating Contracts*, pp. 79-82.
[16]Gray, "Regulatory Property and the Jurisprudence of Quasi-Public Trust", at 239.
[17]Ibid., at 227.
[18]Ibid., at 228.

the emissions market which goes beyond the purely commercial. The viability of the emissions market depends on the quality of contractual drafting and its ability to achieve the requisite economic benefits in order to incentivise parties to continue trading. The self-regulation by way of drafting for which parties are responsible thus supplies a valuable ingredient in the construction and operation of a successful emissions market. Moreover, addressing the latent problems in the current contractual drafting can help to prevent undesirable results which may not reflect the economic interests of market participants should these contracts become the subject of litigation, as seen in the case of book debts and charge backs.

Unresolved legal problems in seemingly functional markets and the constitutive role of contracts in markets with public policy objectives point to a need to revisit contractual drafting and assess whether it is fit for purpose. In other words, it must be assessed whether the drafting adequately protects parties against the key risks peculiar to emissions trading. One such risk is that of regulatory intervention to reduce supply in the emissions market. Another is the risk of limitations on the uses to which emissions allowances can be put, notably the existing uncertainty as to whether security interests over allowances can benefit from satisfactory protection and enforceability. Addressing these risks in contracts is arguably crucial for the continued viability of the emissions market and thus for the achievement of the environmental goals of the EU ETS.

3.3 The emissions market and the role of contracts

3.3.1 A brief outline of the emissions market

The EU emissions market is split into two components. The primary market involves the initial allocation of emissions allowances to regulated installations, whether freely or by way of auctioning, by Member States (and centrally by the European Commission in Phase III). The secondary mar-

ket (which is the focus of the chapter) consists of trading in the allocations between market participants. The openness of participation in emissions trading permitted by the EU ETS Directive[19] means that both regulated installations (compliance traders) and investment traders such as banks, hedge funds and other financial institutions actively participate in the market[20]. Regulated installations trade principally for reasons of compliance with the EU ETS. Access to the market helps them ensure that they hold sufficient emissions allowances on the date on which they are obliged to surrender allowances to match their emissions under the Directive. By contrast, non-regulated entities involved in the EU ETS market trade voluntarily rather than compulsorily, mainly for the purpose of investment[21]. In effect, investment traders treat this market in the same way as markets in other types of tradable instruments such as equities or commodities.

Trading of EU allowances in the secondary market encompasses over the counter (OTC) trades and exchange trades[22]. The OTC market is constituted of transactions entered into directly between parties (whether bilaterally or using a broker), as opposed to the parties utilising an electronic trading platform (an exchange) to trade in allowances (the exchange market). The current volume split between the different types of trade in the EU ETS is 60/40 (exchange trades/OTC trades)[23]. The main exchanges where EU allowances are traded include IntercontinentalExchange (ICE) Futures Europe, Bluenext, the European Energy Exchange (EEX), Nord Pool and the Green Exchange. Of these exchanges, ICE Futures Europe has the largest market

[19] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, arts. 12(1), 19(2).

[20] J. Hill, T. Jennings, and E. Vanezi. *The Emissions Trading Market: Risks and Challenges*. Financial Services Authority Commodities Group. 2008. URL: `http://www.fsa.gov.uk/pubs/other/emissions_trading.pdf`, p. 14.

[21] Ibid., p. 14.

[22] *How to assess your green fraud risks*. PricewaterhouseCoopers, 2011. URL: `http://www.pwc.co.uk/assets/pdf/greenfraud.pdf`, p. 7.

[23] *The business of climate change, Beyond implementation: Helping you navigate how to optimise your strategy under the Carbon Pricing Mechanism*. Ernst & Young, 2012. URL: `http://www.ey.com/Publication/vwLUAssets/The_Business_of_Carbon_Change_November/$FILE/The_Business_of_Carbon_Change.pdf`, p. 10.

share, of over 90%[24].

The secondary market further consists of two main types of instrument: emissions allowances *per se*, and derivative instruments based on underlying emissions allowances (emissions derivatives). The buying and selling of emissions allowances themselves is termed spot trading, meaning that the transaction effectively occurs "on the spot". Payment of the agreed price entails immediate (or almost immediate) delivery of the corresponding allowances, which is carried out by way of transferring the record of the allowances in the registry where they are held.

With trading in emissions derivatives, payment of the purchase price and performance of the corresponding obligation are further apart in time. At the time of contracting, the parties agree that a set price will be paid for the allowances, where the purchase occurs at a predetermined later date. A key rationale for this staggered type of arrangement is that it allows the parties to lock in a certain price, thus addressing the risk of fluctuations over time. Examples of emissions derivatives include futures and forwards. A futures transaction is defined as "[a] standardised, exchange-traded transaction to buy or sell allowances... at a designated future point in time at a price agreed upon today by the buyer and seller"[25]. A forward transaction is "[a] transaction between two parties to exchange a fixed volume of allowances against fixed payment at a future date. It is a direct, 'over-the-counter' (OTC) trade between two counterparties conducted bilaterally or through a broker"[26]. When trading in emissions derivatives, parties have a choice as to how the transaction is to be performed. Actual emissions allowances can be delivered; this is termed physical delivery[27]. This type of performance is

[24] *The Emissions Market*. IntercontinentalExchange Futures Europe, 2012. URL: `https://www.theice.com/publicdocs/futures/ICE_ECX_presentation.pdf`, p. 12.

[25] *Technical Aspects of EU Emission Allowances Auctions: Consultation Paper*. European Commission. 2009. URL: `http://ec.europa.eu/clima/consultations/0002/cons_paper_en.pdf`, p. 99.

[26] Ibid., p. 98.

[27] Physical settlement in this context has a slightly different meaning than in the context of conventional tangible commodities such as oil or gas. An emissions allowance has no physical presence *per se*. Physical settlement means that the record of the emissions allowance is transferred from the registry where the allowance is held, as opposed to cash settlement, whereby the amount of profit or loss made on the transaction is paid by one

useful for compliance traders, who need the underlying allowances to fulfil their EU ETS obligations. Alternatively, the transaction can be cash settled. This means that the parties settle by respectively paying or receiving the loss or gain relating to the transaction. This loss or gain is the fluctuation in price between the date of entering into the arrangement and the date of performance of the transaction. This method is particularly useful for investment traders, who may not be as interested in receiving the actual underlying allowances as compliance traders.

3.3.2 Contractual relationships as a mechanism to facilitate achieving the goals of emissions trading

The framework of rules that market participants have developed in relation to emissions trading has taken the form of contractual relationships to buy and sell allowances, much in the same way that contracts are used to buy and sell conventional commodities in other markets[28]. The difference is that the contractual relationships in the emissions market do not simply serve to protect the economic interests of parties. They also play a significant role in the climate change regulation regime which is the EU ETS, as they facilitate the buying and selling of allowances in a market which has been created by regulation.

Of course, contracts on their own do not and cannot guarantee environmental goals. It is ultimately the responsibility of the regulator to ensure that the framework that governs this market is adequately calibrated in order to achieve the environmental goal of emissions reductions[29]. This means that the cap on emissions needs to be set at the level and rate of decrease required to achieve the requisite reductions to address climate change. Contracts do, however, come into play at the trading stage. They help to maximise the

party to the other.

[28]E. Peden. "Contractual Perspective of Climate Change Issues". In: *Research Paper No. 10/125, Sydney Law School* (2010). URL: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1706488, p. 1.

[29]Ibid., p. 1.

functionality of the emissions market[30]. The continued viability of this market is paramount. It is worth noting that the dependence of the environmental policy goal on the success of the emissions market does not automatically mean that a vibrant market equates a sustainable market. A buoyant emissions market does not equal emissions reductions; that is decided by the overall cap. However, the trading mechanism is intended to achieve long-term emissions reductions by way of low-carbon development while at the same maintaining the support of regulated entities, as the previous chapter has argued[31]. Contracts between market participants can therefore act as a support tool to further the primary public policy goal of the EU ETS.

Despite the indirect effect of contractual relationships on the levels of emissions reductions that the EU ETS can achieve, there is arguably a significant link between achieving cost-effective emissions reductions (which is also a goal of the EU ETS)[32] and adequately addressing risk in contractual relationships between market participants trading for compliance purposes. When deciding how to reduce their emissions in the most economically efficient manner, regulated entities can choose between buying allowances in the market and abating emissions. For the former option to be cost-effective, the emissions price needs to be less than the cost of abatement. Regulated entities therefore enter into contracts for the purpose of purchasing allowances at a price level that allows them to achieve this cost-efficiency. Regulated entities consequently need to hedge against the risk of the emissions price increasing above that of abatement, so that the contract transacting in emissions allowances retains economic sense. The risk of regulatory intervention augments the risk of a price increase (potentially over and above the costs of abatement) in the emissions market, and therefore needs to be addressed in order to facilitate cost-effective emissions reductions, as aimed for by the EU ETS. In a sense, therefore, the link between cost-efficient emissions reductions and contractual protection of parties' interests takes us back to the

[30]Peden, "Contractual Perspective of Climate Change Issues", p. 1.

[31]*A Roadmap for moving to a competitive low carbon economy in 2050*.

[32]*Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, art. 1.

notion of the interaction between private contract law and public law highlighted by Collins. Specifically, in the present context, there is a need to align the objectives of the EU ETS insofar as possible (for instance the goal of achieving cost-effectiveness in reducing emissions) with the structuring of contractual relationships between parties in the emissions market.

3.3.3 Contractual relationships as a mechanism of allocating risks between participants in the emissions market

A key purpose of contractual relationships in general, beyond the formalisation of promises, is to allocate risks between parties[33]. That parties trading with one another are concerned with the allocation of risks is the case in any given market, not just the emissions market[34]. It is the responsibility of market participants to carry out the requisite risk identification and allocation, necessarily by way of contract. This is true in the emissions market as much as in other markets; the EU ETS provides no guidance on the matter[35]. There are various types of risk that participants in any market seek to address by way of contractual arrangements. Trading in financial instruments of all kinds inevitably involves various types of risk, some of which are common to both emissions instruments and other tradable instruments (such as equities, or commodities such as oil, gas and electricity). Counterparty (or credit) risk is an example of such a common risk. This is the risk that a party to a transaction may default on its obligation to pay for or deliver the subject of the contract[36].

There are, however, specific risks which are particular to emissions instruments, namely those risks which derive from the regulatory nature of the

[33]Peden, "Contractual Perspective of Climate Change Issues", p. 1.

[34]Benjamin, *Financial Law*, pp. 12-13, argues that all financial transactions involve the transfer of risk between parties, and that risk means the likelihood and extent of loss that involvement in a particular transaction may bring about.

[35]A. Sanehi. "Market Contracts". In: *Climate Change: A Guide to Carbon Law and Practice*. Ed. by P. Watchman. London: Globe Business Publishing, 2008, pp. 111–126, at 114.

[36]Benjamin, *Financial Law*, pp. 27-28.

underlying emissions allowances. These instruments have been established primarily for public policy purposes, as a means of environmental regulation aimed at reducing emissions. In this respect, they are different from conventional market instruments, whose purpose is primarily to enhance private wealth. It is argued that the public policy origins of emissions trading have the potential to create two key types of risk for market participants: susceptibility to regulatory intervention and use limitations. Firstly, susceptibility to regulatory intervention means that, since the EU ETS is primarily a tool of environmental regulation aimed at reducing emissions, it is potentially subject to regulatory amendments which can substantially affect the emissions market that it has created[37]. A second outcome is that it cannot be said with certainty whether adequate protection and enforceability are available for security interests over emissions allowances. This uncertainty places a significant limitation on an important commercial use to which emissions allowances can be put, and may ultimately impact on the incentives for trading allowances in the market.

The remainder of the chapter examines how market participants address the risks of susceptibility to regulatory intervention and use limitations when contracting to trade in emissions instruments. It is argued that there is room for improvement in the contractual provisions addressing the risk of regulatory intervention. In relation to use limitations, it is argued that greater clarification at the EU level is required as to the protectability and enforceability of security interests over emissions allowances. Practical market examples are offered where security interests may not be capable of benefiting from sufficient legal protection, notably by way of registration, and may not be adequately enforceable. Overall, it is posited that market participants need to be capable (by way of carefully drafted contractual arrangements as well as regulatory clarification) to address both types of risk. This is important if contractual relationships between parties are to function, and in turn enable the emissions market to achieve the ultimate environmental goal of

[37]M. Peeters and S. Weishaar. "Exploring Uncertainties in the EU ETS: "Learning by Doing" Continues Beyond 2012". In: *Carbon and Climate Law Review* 3 (2009), pp. 88–101.

the EU ETS.

The treatment of the two types of risk identified above is analysed by reference to the industry standard forms of contract which are most commonly utilised in the secondary EU emissions market and which have been developed due to the increase in the volumes and values of trading[38]. The most widely used standard form agreements for trading in EU allowances originate from three institutions: the International Emissions Trading Association (IETA), the European Federation of Energy Traders (EFET), and the International Swaps and Derivatives Association (ISDA). There are various versions of each agreement; the discussion will focus principally on the most recent versions, which apply to Phase III of the EU ETS (from 2013). The agreements are: the IETA International Emissions Trading Master Agreement (IETMA)[39] and EU ETS schedule[40], the EFET allowance appendix for the gas framework agreement[41] and the allowance appendix for the electricity framework agreement[42], and the ISDA emissions schedule to the master agreement[43]. Since the two EFET appendices contain similar provisions for the purposes of the chapter, only one of them (namely the electricity appendix) will be

[38] Sanehi, "Market Contracts", at 114, in the primary market for CERs and ERUs (meaning where they are bought directly from the respective CDM and JI projects), bespoke Emissions Reduction Purchase Agreements (ERPAs) are generally used. This type of agreement is beyond the scope of the chapter, which focuses on the secondary trading of EU allowances.

[39] *International Emissions Trading Master Agreement*. International Emissions Trading Association. Version 1.0, 16 April 2012. URL: http://www.ieta.org/assets/Legal-WG/IETMARELEASEAPRIL2012/uk-2859472-v4-ietma_april_2012.pdf.

[40] *International Emissions Trading Master Agreement, Schedule 4, EU ETS System Schedule*. International Emissions Trading Association. URL: http://www.ieta.org/assets/Legal-WG/IETMARELEASEAPRIL2012/uk-2866191-v7-ietma_schedule_4_-_eu_ets_schedule.pdf.

[41] *Allowances Appendix (Gas) to the EFET General Agreement Concerning the Delivery and Acceptance of Natural Gas*. European Federation of Energy Traders. Version 3.0, 3 April 2012. URL: http://www.efet.org/Cms_Data/Contents/EFET/Media/Documents/Public%20-%20Standardisation/Allowance%20Appendix%20(Gas).pdf.

[42] *Allowances Appendix (Power) to the EFET General Agreement Concerning the Delivery and Acceptance of Electricity*. European Federation of Energy Traders. Version 4.0, 3 April 2012. URL: http://www.efet.org/Cms_Data/Contents/EFET/Media/Documents/Public%20-%20Standardisation/Allowance%20Appendix%20(Power).pdf.

[43] *ISDA EU Emissions Allowance Documentation Document*. International Swaps and Derivatives Association. Version 5, 23 May 2012. URL: http://www.isda.org/publications/isdacommderivdefsup.aspx.

analysed.

There are substantial similarities (although not a complete overlap) between the provisions of the three agreements[44]. This is because the three standard form agreements have different purposes. The IETMA is a specialised emissions trading agreement, while the EFET appendices are designed to govern the emissions trading activities of gas and electricity retailers and traders. The ISDA master agreement is designed to govern trading in financial instruments generally, and has been adapted to apply to emissions trading by way of a schedule for EU emissions allowance transactions[45].

3.4 The risk of regulatory intervention

The market for EU emissions allowances has been artificially created by regulation to pursue the public policy goal of emissions reductions. The emissions market is therefore potentially susceptible to regulatory amendments in order to pursue environmental policy goals[46].

The short-term goal of the EU ETS is to deliver the requisite level of emissions reductions to address the problem of climate change in the most economically efficient way. Its long-term goal is to create a sufficiently strong incentive for investment in low-carbon technologies[47]. To date, while the EU ETS has generally succeeded in achieving short-term emissions reductions, emissions prices have been low, and therefore potentially unable to incentivise such investment. The reason behind lagging prices has been an oversupply of

[44] R. Roberts and C. Staples. "Emissions Trading in the European Union". In: *Capital Markets Law Journal* 3 (2007), pp. 5–17, at 11-12.

[45] M. Wilder and L. Fitz-Gerald. "Carbon Contracting". In: *Legal Aspects of Carbon Trading: Kyoto, Copenhagen and Beyond*. Ed. by D. Freestone and C. Streck. Oxford: Oxford University Press, 2009, pp. 295–309, at 299-300.

[46] M. Bartlam. "The Carbon Trading Market - Bold Political and Financial Decisions Required". In: *Capital Markets Law Journal* 6 (2011), pp. 470–481, at 472.

[47] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, preamble, para. 20, and art. 1; *The EU Emissions Trading System. Vol. I.* House of Commons Energy and Climate Change Committee. Tenth Report of Session 2010-12. URL: `http://www.publications.parliament.uk/pa/cm201012/cmselect/cmenergy/1476/1476.pdf`, p. 10.

allowances in the market, caused by decreased levels of industrial production due to the worldwide economic crisis and the possibility of banking surplus allowances left over from Phase II into Phase III[48].

Low emissions prices have also given rise to concern from participants (especially investment traders) as to the continued viability of the EU ETS created market. Continued low prices have the potential to decrease confidence in the emissions market (and even discourage investment traders from taking part in it at all)[49]. Disillusionment with the market can substantially reduce the volumes and values of trading and, if existent on a large scale, undermine the continued functionality of the EU ETS. The continued viability of the EU ETS created market depends on the active participation of trading entities, which ensures adequate levels of liquidity. In turn, such liquidity assists EU ETS regulated entities in mitigating the risks of emissions price volatility by entering into a range of appropriate transactions, such as forward contracts[50].

The continued surplus of allowances in the market has prompted discussion as to the possibility of recalibrating the supply in order to deliver an increased price signal. Such regulatory intervention could conceivably occur in a number of ways in the EU ETS, and could potentially involve the removal of allowances from the market. So far, it has been envisaged that a recalibration of supply could occur by adjusting the level of decrease of the cap and the cap-setting process, or by "setting aside" allowances (and possibly cancelling them at a later date).

For its Phase III, the EU ETS Directive already provides for a decrease in the annual level of the cap by a linear factor of 1.74% in relation to the Phase II cap. This linear factor is set to continue to apply beyond Phase III, for 2021 and beyond, and may be revised by 2025 at the latest. There has been some discussion as to the possibility of decreasing the cap by a larger amount, specifically in the context of the oversupply of allowances

[48] *The EU Emissions Trading System*, p. 11.

[49] "Carbon prices tumble to record low". In: Financial Times. 24 November 2011.

[50] A. Merrill and V. Jain. "Europe Leads Way in New Era of Carbon Trading". In: *International Financial Law Review* 24 (2005), pp. 47–49, at 47-48.

caused by the economic crisis. IETA, for instance, has opined[51] that the cap trajectory should be changed and the cap-setting process reviewed in order to achieve the requisite scarcity of allowances for the market to function adequately[52]. The existing oversupply of allowances is said to be undermining the confidence of both compliance and investment traders in the emissions market and creating the false perception that the EU ETS is not working (due to the low price, which simply means that the abatement target has been reached)[53].

Another way of intervening in the emissions market to reduce the oversupply and thus artificially create greater scarcity is through setting aside allowances. The option that the EU is currently considering is to set aside a share of allowances from those intended for auctioning in Phase III[54]. This would involve removing a number of allowances from those to be auctioned by Member States[55]. However, under the current EU ETS legislative framework, it appears that this measure would be temporary only; the allowances would probably have to be released back into the market at a later date, unless the cap-setting rules are amended to allow for permanent cancellation[56]. This form of direct intervention may increase the volatility of the emissions market even further, warns IETA[57]. Set-aside and possible eventual cancellation may negatively affect participants' confidence in the market, which may come to be seen as excessively susceptible to regulatory intervention without sufficient warning.

[51] *Position on the state of the EU ETS*. International Emissions Trading Association, 2012. URL: `http://www.ieta.org/assets/PositionPapers/ieta_position_ets_14-02-2012%20final.pdf`.

[52] Ibid., p. 3.

[53] Ibid., p. 2.

[54] *A Roadmap for moving to a competitive low carbon economy in 2050*, p. 11; *Analysis of options to move beyond 20% greenhouse gas emission reductions and assessing the risk of carbon leakage*, p. 6.

[55] *The EU Emissions Trading System*, p. 13.

[56] *Legal Briefing: Setting The ETS Cap - The Set Aside Of ETS Allowances*. ClientEarth, 2011. URL: `http://www.clientearth.org/reports/clientearth-legal-briefing-ets-cap-and-set-aside.pdf`, pp. 2, 7-9, notes that a cancellation of surplus allowances would breach the 1.74% emissions reductions trajectory and would thus require *ex ante* legislative amendments to the EU ETS.

[57] *Briefing on the EU's Emissions Trading Scheme*, p. 3.

In July 2012 the European Commission published a staff working document on the functioning of the EU ETS[58], a proposal for changes to the timing of the auctioning process for allowances[59] and a draft Regulation determining the volumes of allowances to be auctioned in Phase III[60]. The documents confirm the set-aside of allowances as the preferred course of action. Allowances would be retained from auctions taking place during the first few years of Phase III, to be included in auctions later in the Phase; exact amounts of the set-aside remain to be decided[61]. The auctioning timetable set out in the EU ETS Directive would be adaptable only in exceptional circumstances (such as a significant short-term increase in the supply of allowances) in order to ensure the orderly functioning of the emissions market[62]. The Commission's move to address the emissions surplus has been welcomed by organisations such as IETA, who has nonetheless warned that "long-term structural reforms" will be needed to restore market confidence in the EU ETS and provide an adequate price signal[63].

[58] *Information provided on the functioning of the EU Emissions Trading System, the volumes of greenhouse gas emission allowances auctioned and freely allocated and the impact on the surplus of allowances in the period up to 2020. SWD(2012)234 final.* European Commission Staff Working Document. 2012. URL: http://ec.europa.eu/clima/policies/ets/auctioning/third/docs/swd_2012_234_en.pdf.

[59] *Proposal for a Decision of the European Parliament and of the Council amending Directive 2003/87/EC clarifying provisions on the timing of auctions of greenhouse gas allowances. COM(2012)416 final.* European Commission. 2012. URL: http://ec.europa.eu/clima/policies/ets/cap/auctioning/docs/com_2012_416_en.pdf.

[60] *Commission Regulation (EU) No .../ ... of XXX amending Regulation (EU) No 1031/2010 in particular to determine the volumes of greenhouse gas emission allowances to be auctioned in 2013-2020.* European Commission. 2012. URL: http://www.europarl.europa.eu/meetdocs/2009_2014/documents/envi/dv/draft_/draft_en.pdf.

[61] *Information provided on the functioning of the EU Emissions Trading System, the volumes of greenhouse gas emission allowances auctioned and freely allocated and the impact on the surplus of allowances in the period up to 2020*, pp. 20-23; *Commission Regulation (EU) No .../ ... of XXX amending Regulation (EU) No 1031/2010 in particular to determine the volumes of greenhouse gas emission allowances to be auctioned in 2013-2020*.

[62] *Proposal for a Decision of the European Parliament and of the Council amending Directive 2003/87/EC clarifying provisions on the timing of auctions of greenhouse gas allowances*, pp. 2, 4-5.

[63] *IETA welcomes EC publication on ETS reforms: Commission signals start of process to deliver a stronger EU ETS.* International Emissions Trading Association, 25 July 2012. URL: http://www.ieta.org/assets/EUWG/ieta%20reaction%20on%20back-loading%2

From the trading perspective, the possibility of regulatory intervention to remove allowances from the market in the ways envisaged above would most likely affect the emissions price. This would fluctuate according to the perceived probability at any given time that the supply of allowances in the market might decrease. Compliance traders could address the risk of price fluctuations by entering into derivative transactions to purchase emissions allowances needed for surrender under the EU ETS. However, another, more significant risk inherent in such transactions could conceivably be a failure to deliver the contracted allowances by the counterparty. Such failure could be caused by suddenly soaring allowance prices or possibly even unavailability following a centrally mandated reduction of the allowances in circulation[64].

Two distinct points arise here which merit further elaboration. Firstly, it is worth noting that investment traders are likely to benefit more from a higher emissions price than compliance traders. This is unless the latter have adequately hedged against the risk of price increases, or, in an ideal world from the environmental perspective, reduced emissions so that they need to purchase fewer allowances in the market. Secondly, it is arguably unlikely that the amount of the set-aside will be such as to render it impossible for regulated entities to source sufficient allowances for compliance with their surrendering obligations. Such compliance may, however, become significantly more expensive. This may result in more regulated entities needing to appropriately hedge against this risk. It will arguably also underscore the importance of ensuring that regulated entities have implemented sound trading strategies (for instance using as much of their CER and ERU quota as permissible and selling excess EU allowances)[65].

Whether regulatory intervention may lead to non-availability or low availability of allowances in the market, it is important to calibrate the level of discretion carefully. Regulatory intervention should allow for reductions in

`0proposals.pdf`.

[64]Unavailability would not be an issue in the context of exchange trading, where performance of the trades is guaranteed by a central counterparty; however, the danger of considerable price volatility remains.

[65]Many thanks to Jay Jagasia, formerly of Burges Salmon, Bristol (http://www.burges-salmon.com/) for providing valuable insights into these issues (e-mail correspondence dated 2 July and 30 July 2012).

the number of emissions allowances, while also avoiding unduly impeding the functionality of the market. Negative effects on market functionality can follow from the creation of excessive price volatility due to uncertainty as to the timing and scope of intervention[66]. It is therefore necessary to examine how the risk of non-availability or low availability of allowances in the market (due to regulatory intervention) is handled in the contractual relationships between buyers and sellers of allowances.

None of the three standard form agreements accounts for instances of regulatory intervention in the supply of allowances in the market[67]. Where, for instance, the Commission decides to set aside allowances in a particular trading period, there is a strong possibility that such action could affect the parties' contractual obligations towards each other. The primary obligations set out in the standard form contracts are to sell and to buy the allowances respectively[68]. If allowances are removed from the market by regulatory intervention, the price of the remaining allowances will logically rise (as intended)[69]. This could cause problems for the seller, as it would become more expensive to fulfil the obligation to deliver the contracted allowances. It may even become difficult to source allowances in the market if the number set aside is very high (although this is perhaps less likely, as outlined above). Under the three standard form agreements as currently drafted, this type of

[66] *Assessing U.S. Climate Policy Options: A report summarizing work at RFF as part of the inter-industry U.S. Climate Policy Forum.* R. Kopp and W. Pizer, 2007. URL: `http://www.rff.org/rff/Publications/upload/31923_1.pdf`, pp. 83-84.

[67] *ISDA EU Emissions Allowance Documentation Document*, part 6(c)(iv), the ISDA emissions schedule does, however, consider the abandonment of the trading scheme before the date on which contractual delivery of the allowances is due. In such a scenario, either party can terminate the affected transaction without the need for any further payments. The seller will refund to the buyer any sums paid for the undelivered allowances.

[68] Sanehi, "Market Contracts", at 122.

[69] *Memorandum submitted by JP Morgan Chase & Co to UK Parliament Environmental Audit Committee.* JP Morgan Chase & Co, 2009. URL: `http://www.publications.parliament.uk/pa/cm200910/cmselect/cmenvaud/290/290we21.htm`, para. 16, although this price rise could potentially be overshadowed by decreased interest from investment traders in the emissions market due to its perceived political instability. JP Morgan submitted as early as 2009 that "ad hoc interventions in the ETS would if anything increase policy risk for investors: an international policy framework for the long-term, based on medium and long-term emissions caps, are what the market needs to evolve to achieve its mitigation role".

scenario could conceivably fall within one of two categories. There may be a failure to deliver the contracted allowances on the part of the seller, or it may be possible to invoke force majeure provisions (called settlement disruption events in the ISDA allowances schedule).

Both the IETA IETMA and the EFET allowances appendix contain force majeure provisions. This type of event is broadly defined as the occurrence of any event beyond the affected party's control which prevents that party from delivering or accepting the allowances forming the subject of the contract[70]. The ISDA allowances schedule does not expressly provide for force majeure itself. Instead, it contains provisions covering so-called settlement disruption events, whose definition follows that of force majeure events in the other two agreements. A settlement disruption event is defined as an event beyond the control of the affected party, which makes it impossible for that party to deliver or accept allowances under the terms of the transaction[71].

Although a shortage of allowances in the market due to regulatory intervention would likely be classifiable as an event beyond the parties' control, it is questionable whether, in most instances, such a shortage would prevent the seller from delivering the contracted allowances. It would admittedly render the performance of the seller's contractual obligations more onerous. In the case of a contract for derivative instruments based on allowances, where delivery is to be made at a set time in the future, the seller may have to incur an unexpected cost by purchasing more expensive allowances in the market in order to deliver them under the agreement. Increases in market price are of course part and parcel of the risk involved in entering into derivative arrangements. However, it is arguable that in other markets which are less susceptible to regulatory intervention, the parties would be using their trading expertise to make judgements about the potential direction of market movements. By contrast, the timing and scope of regulatory intervention is not something which they can easily predict or control. For in-

[70] *International Emissions Trading Master Agreement*, schedule 1, definition of Force Majeure; *Allowances Appendix (Power) to the EFET General Agreement Concerning the Delivery and Acceptance of Electricity*, clause 7.1.

[71] *ISDA EU Emissions Allowance Documentation Document*, part 7(e), definition of Settlement Disruption Event.

vestment traders, it is arguable that the likelihood of regulatory intervention forms the very essence of the financial speculation. However, for compliance traders, who are compelled to participate in the emissions market in order to reduce emissions in a cost-effective manner, the uncertainty surrounding regulatory intervention can be much more damaging. Nonetheless, an increase in price due to a centrally mandated shortage of allowances would not generally equate to an impossibility to deliver, unless the demand for allowances in the market far exceeds supply. Moreover, all three agreements state that failure of a party to procure sufficient allowances to meet its delivery obligations does not fall within the force majeure or settlement disruption event definitions[72]. Whether this includes instances where such failure to procure allowances has been caused by regulatory intervention is not clear. It may be, therefore, that the force majeure provisions would not apply to most cases where regulatory intervention has decreased the supply of allowances in the market and has rendered it more onerous (rather than outright impossible) for the seller to deliver under the contract.

A crucial consequence of an event falling under the force majeure umbrella in the IETA IETMA and EFET allowances appendix is that the obligations of both parties are suspended for the duration of the event, without a breach of the agreement being deemed to have occurred. If the event continues for more than a certain period of time, either party may terminate all (but not less than all) transactions governed by the agreement which are affected by the event[73]. Under the ISDA allowances schedule, the suspension of obligations without liability is also triggered, with the difference that the termination right applies to the transaction affected by the settlement disruption event (not all the affected transactions)[74].

The classification of an event as constituting a force majeure or settlement

[72] *International Emissions Trading Master Agreement*, schedule 1, definition of Force Majeure; *Allowances Appendix (Power) to the EFET General Agreement Concerning the Delivery and Acceptance of Electricity*, clause 7.1; *ISDA EU Emissions Allowance Documentation Document*, part 7(e), definition of Settlement Disruption Event.

[73] *International Emissions Trading Master Agreement*, clause 13.1; *Allowances Appendix (Power) to the EFET General Agreement Concerning the Delivery and Acceptance of Electricity*, clauses 7.2, 7.4(a).

[74] *ISDA EU Emissions Allowance Documentation Document*, part 7(d)(4)(B), (D).

disruption event has serious consequences, as it can considerably disrupt the emissions allowances transaction and eventually bring the parties' relationship to an end. On the other hand, the occurrence of a force majeure or settlement disruption event also gives the parties the opportunity to exit a commercial arrangement which has become unviable due to unforeseen circumstances which are not attributable to either of them. The inability to continue servicing the contractual obligations is of course not desirable. Nonetheless, due to the unexpected and uncontrollable nature of the event, the parties have the opportunity to end their relationship in a manner which does not involve either party's failure to perform its contractual obligations and thus does not carry damages for breach of contract. If a seller of emissions allowances became unable to deliver the contractually agreed number of allowances due to cancellation by the issuing authority, and if this cancellation were deemed a force majeure event, the seller would be able to take advantage of the benefits conferred by the aforementioned provisions and extricate itself from the transaction.

On the other hand, it must be questioned just how useful the possibility to terminate the contract on the ground of a force majeure or settlement disruption event is for a compliance buyer of emissions allowances. An investment buyer may choose to terminate the agreement if the force majeure or settlement disruption event continues, and find a new seller. By contrast, where the contracted allowances are needed for surrendering purposes in line with EU ETS requirements, simply exiting the agreement and going back to the market to attempt to find another seller may not be a viable option if the supply of allowances in the market is low. Obtaining allowances from a different source may incur excessively high costs, or may not be possible in time for the surrender deadline. Assuming that the seller's difficulty in delivering allowances can be classified as a force majeure or settlement disruption event in the first place, a compliance buyer may not necessarily think it in its best interests to terminate the agreement. However, the buyer may indeed be forced to do so as the surrender deadline approaches, since the seller has effectively declared itself unable to supply the requisite allowances. Deciding whether or not to terminate the agreement could be regarded as an example

of the "non-use" of contracts highlighted by Collins: "the contractual frame of reference is used whenever it is rational to do so", but will not be used where it does not make commercial sense to insist on it[75].

An alternative means of addressing the seller's difficulty in delivering the contracted allowances due to regulatory intervention in the market may be under the "failure to deliver" provisions of the standard form agreements. With the EFET allowances appendix, a failure to deliver the contracted allowances by the due date stipulated in the agreement gives the delivering party two business days from the due date to make delivery, with interest charges being payable[76]. The IETA IETMA and the ISDA allowances schedule provide that, upon the seller's failure to deliver, the buyer may give notice requesting delivery, which must then be made within one business day of the notice, with interest being payable[77]. While the EFET grace period begins automatically, the IETA and ISDA grace periods are triggered by notice by the non-defaulting party[78].

Failing delivery within the set timeframes, the receiving party may terminate the affected transaction (with damages and interest being payable by the non-delivering party)[79]. The "failure to deliver" provisions are potentially more useful for parties in a situation where delivery has been rendered difficult due to regulatory intervention to decrease the supply of allowances in the market[80]. The buyer can choose whether or not to terminate the agreement, as the seller has not invoked the force majeure or settlement disruption event provisions, and may therefore still be able to deliver the contracted allowances, albeit not at the agreed time. The standard form agreements also

[75]Collins, *Regulating Contracts*, pp. 136-140, particularly at 140.

[76]*Allowances Appendix (Power) to the EFET General Agreement Concerning the Delivery and Acceptance of Electricity*, clause 8.1(a).

[77]*International Emissions Trading Master Agreement*, clause 12(1)(x), and schedule 1, definition of Final Delivery Date; *ISDA EU Emissions Allowance Documentation Document*, part 7(d)(ii)(1)(A) and 7(e), definition of Final Delivery Date.

[78]Sanehi, "Market Contracts", at 123.

[79]*International Emissions Trading Master Agreement*, clause 12(1)(y); *Allowances Appendix (Power) to the EFET General Agreement Concerning the Delivery and Acceptance of Electricity*, clause 8.1(b); *ISDA EU Emissions Allowance Documentation Document*, part 7(d)(ii)(1)(B).

[80]Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 309.

provide that any grace period granted to the seller to deliver the allowances must take into account the need to deliver by the so-called reconciliation deadline. This deadline represents the time by which a compliance buyer must hold the allowances ready for surrender under the EU ETS, and is generally earlier than the surrender date in order to ensure that the allowances reach the buyer in plenty of time[81]. Investment buyers can choose to wait for the delivery, or to terminate the agreement after the grace period has expired, depending on which option they perceive as more economically advantageous.

It is worth noting that the possibility of regulatory changes in the EU ETS rules had been expressly contemplated in a previous version of the IETA agreement[82], but was removed from the subsequent version[83]. Under the initial provisions a party could request negotiations with a view to amending the mechanics of the agreement if there was a change to the rules with which the party was unwilling or unable to comply[84]. Importantly, such changes to the EU ETS rules were expressly stated not to amount to force majeure[85]. Instead, the parties would negotiate in good faith any amendments that they wished to effect to their contractual relationship and refer the matter to an independent arbitrator if bilateral negotiations were unsuccessful[86].

Similarly, a previous version of the EFET allowances appendix[87] contained express provisions dealing with the issue of so-called regulatory risk. By contrast with the former IETA agreement provisions on changes in the trading scheme, this type of event was classified under the general force majeure provisions, and therefore effectively represented a particular type of force majeure event[88]. Such a "Regulatory Risk Exemption" included a

[81] Sanehi, "Market Contracts", at 119.

[82] *Emissions Trading Master Agreement*. International Emissions Trading Association. Version 2.0, 2004, clause 14.

[83] *Emissions Trading Master Agreement*. International Emissions Trading Association. Version 2.1, 2005.

[84] *Emissions Trading Master Agreement*, clause 14(1)(a).

[85] Ibid., clause 14)(1)(a).

[86] Ibid., clause 14(2).

[87] *Allowances Appendix to the EFET General Agreement Concerning the Delivery and Acceptance of Electricity*. European Federation of Energy Traders. Version 1.0, 2004. URL: http://www.efet.org/Cms_Data/Contents/EFET/Media/Documents/Public%20-%20Contracts/Carbon%20Allowance%20Appendix%20_FINAL%20VERSION_.pdf.

[88] Ibid., clause 7.1.

change in the trading rules that could not reasonably be anticipated or overcome by a party and which rendered that party unable to perform its obligations under the agreement[89]. This provision could conceivably cover instances where the delivering party would not be able to perform its obligation under the agreement due to the allowances to be delivered having been cancelled by a public authority. However, this provision was not carried over into the current version of the appendix.

There has been little discussion as to why the provisions addressing changes to the regulatory scheme in earlier versions of the IETA and EFET agreements were not carried over into the current versions. The versions which include the provisions on regulatory changes date from 2004, before the EU ETS came into force. Moreover, these provisions were removed from subsequent versions of the agreements, that is, when Phase I of the EU ETS began. It is likely that the purpose of the provisions on regulatory changes was to account for the possibility that the EU ETS framework may be amended substantially before it came into force, or may even not go ahead at all. If such changes occurred, the contractual provisions would allow the parties to negotiate necessary amendments and to refer the matter to an expert if agreement could not be reached. The provisions were therefore necessary to give parties the pre-EU ETS certainty that they required to enter into trading commitments, where the precise shape of the trading regime was not yet definite. Once Phase I had begun, the rules of the scheme were fixed, and a degree of permanence was granted to the EU ETS. What post-2005 versions do not account for is the possibility that the rules may be changed again, which appears fairly probable in view of the continued negative effect of the allowances surplus on the emissions price. If the EU ETS were substantially amended to the extent of making it impossible (rather than just commercially unattractive) for a party to perform its trading obligations, the party would only be able to rely on the force majeure provisions in the current contract versions[90].

[89] *Allowances Appendix to the EFET General Agreement Concerning the Delivery and Acceptance of Electricity*, clause 7.5(a).

[90] Many thanks to Jay Jagasia, formerly of Burges Salmon, Bristol (http://www.burges-salmon.com/) for providing valuable insights into these issues (e-mail correspondence dated

The difference in the treatment of regulatory changes as between the IETA agreement and the EFET allowances appendix can be explained on the basis of the contrasting purposes of the two agreements. The EFET allowances appendix had to be consistent with the EFET master agreement. EFET wanted to ensure that the EFET master agreement and any other live transactions entered under it did not unwind as a result of EU ETS regulatory changes which affected transactions under the allowances appendix. There does not appear to be a concept of negotiating amendments under the EFET machinery. The easiest way to ensure that EU ETS transactions did not affect the integrity of the EFET master agreement and the transactions was therefore to bring it within the force majeure provisions. Moreover, when trading documentation is developed, it must go through a laborious legal and commercial working group process. The representatives of these working groups could conceivably have taken the view that it would have been easier (mechanically and in terms of gaining the support of their members) to bring such regulatory changes within the force majeure umbrella than to develop bespoke wording (which would introduce new concepts to the EFET framework). On the other hand, the IETA agreement started afresh, and there was no comparable concern regarding existing transactions or inconsistencies with a linked master agreement[91].

The contemplation of regulatory intervention in the trading mechanism which may affect the ability of the parties to fulfil their contractual obligations in earlier versions of the IETA and EFET agreements demonstrates that this is a very real problem. The opposing conclusions which the two agreements reach on the treatment of such scenarios suggest that there is no easy answer as to how the parties should manage their obligations. On the one hand, regulatory intervention to decrease the supply of allowances in the market is an uncontrollable occurrence from the parties' point of view, which may make it similar to force majeure or settlement disruption events. On the other hand, such intervention may not go as far as to cause impossibility

2 July and 30 July 2012).

[91]Many thanks to Jay Jagasia, formerly of Burges Salmon, Bristol (http://www.burges-salmon.com/) for providing valuable insights into these issues (e-mail correspondence dated 2 July and 30 July 2012).

of performance on the seller's part. Instead, in most conceivable cases the seller would incur greater costs in sourcing allowances from the market than it could have accounted for when entering into the contractual arrangement. The issue is therefore one of pricing on the seller's side, and of timely delivery on the buyer's side, in particular where the latter requires the allowances for the purposes of complying with the EU ETS. In consequence, the "failure to deliver" provisions in the three standard form agreements would arguably be better suited to catering for the needs of the parties than the force majeure and settlement disruption event clauses. The former provisions allow delivery of the contracted allowances to be delayed if the parties so agree, with the proviso that, where the buyer is a compliance trader, the grace period should account for the deadline for surrendering allowances under the EU ETS.

These provisions could be refined further by the parties in order to specifically cater for the pricing risk which affects the seller, as well as for a compliance buyer's need to receive the allowances in time for the surrender deadline. For instance, the agreement could provide that, in the case of regulatory intervention which increases the market price of allowances above a mutually agreed level (X), the parties agree that delivery can be postponed until such time that the price drops below X. This would help the seller as it would mitigate the effects of a sudden sharp increase in the price of allowances that it would need to obtain from the market in order to deliver under the agreement. In addition, in order to protect a compliance buyer, the agreement could stipulate that the grace period expires sufficiently before the surrender deadline to enable the buyer to either request delivery from the seller or terminate the agreement and purchase allowances elsewhere.

A precedent as regards modifications to standard form contractual drafting already exists in the shape of the newly introduced provisions on stolen allowances. A number of phishing attacks on national registries in 2011, resulting in the theft of emissions allowances, caused considerable uncertainty in the emissions market and the suspension of trading[92]. This problem had not been envisaged or provided for at the outset of the EU ETS. The theft of

[92]"Carbon trade cyber-theft hits €30m". In: Financial Times. 20 January 2011; Bartlam, "The Carbon Trading Market - Bold Political and Financial Decisions Required", at 473.

allowances affected both buyers and sellers, who attempted to put in place custom-made amendments to address this situation. This bespoke exercise has finally been superseded by formal changes to industry documentation, initiated by IETA and followed by the other working groups[93]. Under IETA's approach, the liability of the seller to the buyer of stolen allowances depends on the presence or absence of good faith on the seller's part in acquiring the allowances and also, where good faith exists, on whether a claim has been brought against the buyer. The purpose of these new provisions is to discourage the initiation of claims and thus restore confidence in the emissions market[94].

The importance of addressing the difficulties with delivery that can be caused by regulatory intervention in the emissions market is substantial. It may even be advisable to insert this type of provision into the standard form agreements, rather than leaving it to the parties to negotiate on a case-by-case basis. It may well be that parties trading in the emissions market have not yet contemplated the possibility of regulatory intervention affecting their contractual obligations, since the EU-level discussions on the various options for reducing the allowance surplus and recalibrating the price have only started fairly recently. Drawing market participants' attention to the need for adequate contractual protection in such scenarios could improve their confidence in the emissions market and ensure continued support for the EU ETS, so that it can ultimately achieve its environmental goals of reducing emissions and promoting the development of low-carbon technologies.

It is interesting to note that investment traders in particular (especially large banks and commodity houses) use bespoke drafting to address various emissions trading scenarios, for instance CER trades. Investment traders are concerned that the Commission might ban CERs from large hydropower projects from eligibility within the EU ETS[95] (as has already happened,

[93] "Carbon trade cyber-theft hits €30m"; Bartlam, "The Carbon Trading Market - Bold Political and Financial Decisions Required", at 473.

[94] *FAQs on the International Emissions Trading Master Agreement*. International Emissions Trading Association, 2012. URL: `http://www.ieta.org/assets/Legal-WG/IETMARELEASEAPRIL2012/ietma_faq.pdf`, answer to question 11.

[95] *Briefing Note, EU ETS Credit Restrictions: Prospects for restricting credits from large*

for instance, with CERs from projects involving the destruction of trifluoromethane, or HFC-23[96]), and therefore carve out hydro CERs from the definition of Contract CERs. Force majeure provisions would not be of use in such a scenario, as a ban by the Commission would not actually prevent the trade from taking place; it will just be the case that the CERs would not be eligible for use within the EU ETS. The buyer would therefore still be required to purchase the CERs under the contract. As large investment traders will generally compel counterparties to adopt their templates, such tailored drafting is fairly widespread[97].

In summary, the core argument made in this part starts by positing that the risk of regulatory intervention which may unsettle the emissions market is substantially greater than for other markets. This risk does not fit well with the force majeure category of contractual exemption, as it is less likely that (following a set-aside by the Commission) emissions allowances would become unavailable in the market than it is that they would become unduly expensive. The part has also argued that there is a need for further development of contractual risk allocation provisions which adequately address the specific context of emissions trading. Such development can be undertaken in a bespoke fashion by parties to trades, but would be better done at a central level in the standard form agreements which constitute the emissions market.

On the other hand, it could be argued that contracting parties, who are likely to have significant commercial experience, are essentially free to negotiate and adopt those contract terms which best suit their own, self-interested purposes. However, it must be remembered that the market in which the parties operate differs in a fundamental respect from ordinary

hydropower projects. Climate Focus, 2012. URL: `http://www.climatefocus.com/documents/files/eu_ets_large_credit_restrictions_for_large_hydropower_projects.pdf`.

[96] *Questions and Answers on use restrictions for certain industrial gas credits as of 2013*. European Commission Climate Action. URL: `http://ec.europa.eu/clima/policies/ets/linking/faq_en.htm`, answers to questions 16, 18(a), the use of HFC-23 destruction credits in the EU ETS is prohibited as of 1 January 2013. This is because, *inter alia*, crediting the abatement of HFC-23 could perversely incentivise the increased production of HCFC-22, another greenhouse gas of which HFC-23 is the by-product.

[97] Ibid., answers to questions 16, 18(a).

markets in economically valuable resources. By contrast with markets in other tradable instruments (such as equities or commodities), the market in emissions allowances created by the EU ETS does not exist primarily for the financial gain of its participants. The purpose of this market is a public policy one: it is a means of achieving emissions reductions and stimulating investment in low-carbon technologies. As a leading legal practitioner in the sphere of emissions trading has remarked, the problem with the emissions market, with its regulatory origins, is that "there are no market tools to hedge against the unpredictability of the legislator"[98]. "Therefore, how does a participant in the carbon market manage risk and uncertainty arising from a volatile and unpredictable legislative process?"[99].

Even if we accept that it is the responsibility of individual market participants to hedge against the risk of legislative unpredictability (in the shape of regulatory intervention in the emissions market) by way of adequate contractual drafting, such delegation of responsibility has the potential to be highly counterproductive from the point of view of achieving the public policy goals of the EU ETS. The environmental success of this trading regime of regulation is premised on the continued viability of the emissions market, which in turn depends on the continued broad participation of both compliance and investment traders[100]. The regulator therefore needs to maintain trading parties' interest in the emissions market, where their continued participation is directly influenced by their ability to hedge against specific market risks. Compliance traders may become disillusioned with the EU ETS, while investment traders may move away from the emissions market altogether. Such lack of industry support would seriously undermine the political acceptability of the EU ETS, as well as potentially lead to decreased market liquidity and consequently market destabilisation (and in turn the failure of the EU ETS as an instrument of environmental regulation)[101]. Consequently,

[98] P. Zaman. *The Making of Emissions Trading Laws – Understanding the EU Legislative Process*. Reed Smith, 2013. URL: http://www.reedsmith.com/the-making-of-emissions-trading-laws--understanding-the-eu-legislative-process-05-09-2013/, p. 7.

[99] Ibid., p. 2.

[100] As argued in the introduction to the thesis.

[101] Jong and Walet, "Compliance Strategies in the US Acid Rain Program", at 204.

it is argued that centrally orchestrated improvements to the drafting of the standard form contracts would best serve to assist trading parties in managing the risk of regulatory intervention. Such improvements would incentivise continued broad participation in the emissions market, thereby ensuring market viability and contributing to the achievement of the environmental goals of the EU ETS.

3.5 The risk of use limitations

Emissions allowances are a creature of EU regulation, which does not specify the legal characteristics of the entitlements that their holders can enjoy. In particular, it is not clear whether third party interests over emissions allowances can be protected and enforced to the same standard as for conventional commodities that are tradable in the markets. The ability to protect and enforce third party interests is commercially important, as it can enhance the value of allowances by extending the range of uses to which allowances can be put. The holders of allowances could thus grant security interests over the instruments, where such interests have genuine legal value and enforceability from the perspective of their beneficiaries. There is little legal or commercial value in being able to grant a security interest for the benefit of another party, but which cannot be effectively protected and enforced by the grantee[102]. Some legal practitioners have noted that clarity over the mechanism of creating security interests would improve the functionality of the emissions market[103]. In the context of the EU ETS, the functionality of the market means the continued value of the market to investment traders,

[102]T. Telfer. "Statutory Licences and the Search for Property: The End of the Imbroglio?" In: *Canadian Business Law Journal* 45 (2007), pp. 224–252, at 231, in the context of statutory fishing licences in Canada, notes that a particular judgment of the Ontario Court of Appeal threw serious doubt on the legal value and enforceability of security interests over the licences, and thus imposed a significant hurdle on the creation of such interests.

[103]P. Traylor and J. Morin. "An Allowance to Take to the Bank". In: *Environmental Finance* (2008), p. 37. URL: http://www.hoganlovells.com/files/Publication/693a17c6-5142-4f65-bb82-146a2bfa1555/Presentation/PublicationAttachment/22e2dfb9-e467-4ead-9828-1b4be760cbbf/TraylorPatrick.pdf.

which in turn helps to achieve the environmental goals of the EU ETS[104]. The importance of clarifying whether security interests over emissions allowances can be sufficiently protected and enforced has also been highlighted by the FMLC[105]. The FMLC notes the importance of strong security interests in the context of commercial dealings, and calls for EU-level clarification as to whether or not allowances are capable of being the subject of such interests[106].

Conceivably, the continued existence of an emissions market may suggest that, from the participants' point of view, lack of clarity as to the protectability and enforceability of security interests over allowances does not negatively affect trading. It is, however, argued that the continued existence of a successful EU emissions market is essentially premised on a "no-default" scenario, where a sudden failure or default of a significant market participant would reveal the importance of the uncertainty surrounding security interests over allowances. In other words, acceptance by market participants of a legally uncertain *status quo* does not automatically resolve the problem of the inherent fragility of the emissions market infrastructure, fragility which is exemplified by the lack of clarity as to the protectability and enforceability of security interests[107]. In the words of the FMLC:

> In response to these concerns, it might be argued that the fact that trading in emission allowances is already taking place, and that market infrastructure is being developed, indicates that there are theoretical issues which will not, in practice, prevent the successful development of a market where the commercial interests of operators and financial institutions require it. The FMLC does

[104] As discussed in more detail in chapters 1.1.2, 2.1 and 2.3.

[105] *Emissions Allowances: Creating Legal Certainty*, pp. 5, 8, 10-13, 19.

[106] *Letter to the European Commission, DG Environment.* Financial Markets Law Committee. 2012. URL: `http://www.fmlc.org/Documents/Issue116Letter2Slingenberg.pdf`, pp. 2-3.

[107] H. Simpson P. Cox and S. Turner. *The Post-Trade Infrastructure for Carbon Emissions Trading: A Report Prepared for the City of London Corporation.* Bourse Consult for the City of London Corporation, 2010. URL: `http://www.cityoflondon.gov.uk/business/economic-research-and-information/research-publications/Documents/research-2010/The%20post%20trade%20infrastructure%20for%20carbon%20emissions%20trading.pdf`, pp. 30, 32-33 and 42-43.

> not believe that this is the case: the reason why these uncertainties have not so far impeded the early stages of the development of the market is simply that they have not been appreciated[108].

According to the FMLC, the worst-case scenario would be that the emissions market develops in the absence of a resolution of such uncertainty, and a default involving a market participant occurs, leaving the courts of individual Member States faced with reaching conclusions which may not be applicable EU-wide. The risk inherent in such a piecemeal approach is no less than market destabilisation[109]. Given the structure of the EU ETS as a tradable permit regime of regulation, such destabilisation would undermine the achievement of the environmental goals themselves. Moreover, even without such a default, "uncertainty and/or inconsistency in legal outcomes impose costs on economic action and impede the efficiency of the market in emission allowances contrary to the purpose of the Member States in establishing the scheme"[110]. "A liquid or transparent market will not evolve unless some legal certainty is provided in relation to the nature of an EU allowance and how the trading of EU allowances fits within the existing legal regime across the EU...The answer to these fundamental questions will have profound effects... on the liquidity of the market as a whole. For example,... [h]ow can banks and financial institutions take security over an EU allowance...?"[111].

Taking the UK as an example of a Member State jurisdiction, in English law a security interest is defined as involving "the grant of a right in an asset which the grantor owns or in which he has an interest", where the said interest is a property one[112]. "A security interest in personal property in English law is a right *in rem* granted by the owner of the property to a creditor to secure an obligation [usually a debt]"[113]. Security is "a right in

[108] *Emissions Allowances: Creating Legal Certainty*, p. 15.
[109] Ibid., p. 16.
[110] Ibid., p. 16.
[111] A. Hobley and A. McCann. "International Emissions Trading: A Legal Context". In: *A Guide to Emissions Trading: Risk Management and Business Implications*. Ed. by C. de Jong and K. Walet. London: Risk Books, 2004, pp. 23–40, at 36-37.
[112] R. Goode and L. Gullifer. *Goode on Legal Problems of Credit and Security*. London: Sweet and Maxwell, 2008, pp. 3-4.
[113] L. Gullifer H. Beale M. Bridge and E. Lomnicka. *The Law of Personal Property Se-*

another's asset to secure performance of an obligation"[114].

In English law, on the basis of the recent judgment in *Armstrong v. Winnington*[115], where it was held that emissions allowances are intangible property in which equitable interests can subsist[116], it can consequently be said that a third party interest such a security interest can also exist in them, according to the aforementioned standard definitions. *Armstrong v. Winnington* involved a scenario where stolen allowances had been sold to a third party. Armstrong operated EU ETS regulated installations in Germany and consequently held accounts for emissions allowances with the German registry. Winnington was in the business of trading in allowances and commodities, and held an account for allowances with the UK registry. Armstrong's allowances account was hacked into by a Dubai-based company; allowances were transferred out of the account without Armstrong's permission and offered for sale to Winnington. Before entering into the transaction, Winnington repeatedly requested due diligence information on the allowances from the seller. Despite the information never having been received, Winnington entered into the transaction and purchased the allowances. Armstrong brought a claim against Winnington in respect of the stolen allowances. The court held for Armstrong. Winnington, as a buyer of stolen allowances, had to compensate the victim of the theft, since the transfer of the allowances from the fraudulent seller to Winnington amounted to an unconscionable receipt of trust property on Winnington's part[117]. Alternatively, Winnington had to compensate Armstrong on the basis of a proprietary restitutionary claim at common law for the value of the allowances[118].

The key issue raised by the case that is relevant for the purposes of the thesis is the legal nature of an allowance, in particular whether it constitutes a form of intangible property which is capable of supporting the existence of equitable interests. This question had to be answered before the court

curity. Oxford: Oxford University Press, 2007, p. 19.

[114]R. Goode and E. McKendrick. *Goode on Commercial Law*. London: LexisNexis, 2009, p. 626.

[115]*Armstrong DLW GmbH v. Winnington Networks Ltd [2012] EWHC (Ch) 10*.

[116]Ibid., para. 59.

[117]Ibid., paras. 277-286.

[118]Ibid., paras. 287-289.

could rule on whether Armstrong was entitled to compensation, as the defences available to Winnington depended on the legal nature of allowances in the terms expressed above. The court applied the test elaborated by Lord Wilberforce in *National Provincial Bank v. Ainsworth*[119]: "Before a right or an interest can be admitted into the category of property, or of a right affecting property, it must be definable, identifiable by third parties, capable in its nature of assumption by third parties and have some degree of permanence or stability" , and held that an allowance was property at common law as it satisfied the test. An allowance was definable as the sum total of entitlements conferred on the holder under the EU ETS. It was identifiable by third parties based on the unique reference number ascribed to each allowance in the national registry. It was capable of assumption by third parties due to its transferability. Finally, it had permanence and stability, as it continued to exist in a registry account until transferred out either for surrender under the EU ETS or sale, and was capable of subsisting from year to year[120].

The court further held that an allowance constituted intangible property. It noted the novel nature of allowances, in that they could only exist in electronic form, as an entry in the national register, and that they were the product of EU legislation[121]. This conclusion was based on the definition of intangible property in *Re Celtic Extraction*[122], which concerned the question of whether a waste management licence constituted property for the purposes of the Insolvency Act 1986[123]. Firstly, there had to be a statutory framework conferring an entitlement: this was the case with emissions allowances in the context of the EU ETS, which conferred an entitlement to exemption from a fine upon timely surrender of the requisite number of allowances to cover emissions. Secondly, the instrument had to be transferable, which allowances were expressly deemed to be under the EU ETS. Thirdly, the instrument had to have value, which was also the case with emissions allowances, which could

[119] *National Provincial Bank v. Ainsworth [1965] 1 AC 1175*, pp. 1247-1248.
[120] *Armstrong DLW GmbH v. Winnington Networks Ltd [2012] EWHC (Ch) 10*, para. 50.
[121] Ibid., paras. 41, 49.
[122] *Re Celtic Extraction Ltd (in liquidation) [2001] Ch 475.*
[123] *Insolvency Act 1986.*

be used to avoid incurring a fine under the EU ETS and were traded in an active market. Although the definition of property in *Re Celtic Extraction* concerned a particular statutory definition of property (namely under the Insolvency Act 1986)[124], the court in *Armstrong v. Winnington* held that the reasoning applied equally to the characteristics of property at common law[125]. Within the intangible property category, the court's conclusion was that emissions allowances were not choses in action, in the sense that they were not recoverable by way of civil action:

> [An emissions entitlement] is not a "right" (in the Hohfeldian sense) to which there is a correlative obligation vested in another person. It does not give the holder a "right" to emit CO_2 in this sense. Rather it represents at most a permission (or liberty in the Hohfeldian sense) or an exemption from a prohibition or fine. But for the entitlement to the [emissions allowance], the holder would either be prohibited from emitting CO_2 beyond a certain level or at least would be required to pay a fine if he did so. In this way, the holding of the [emissions allowance] exempts the holder from the payment of that fine[126].

Instead, allowances were deemed to amount to "other intangible property" (though the absence of a more precise legal categorisation did not, in the court's opinion, affect the outcome of the present case)[127].

Moreover, on the basis of *Swift v. Dairywise Farms Ltd*[128], which addressed the question of whether EU milk quotas were property that could be held on trust, the court in *Armstrong v. Winnington* held that allowances were closely analogous with milk quotas and therefore similarly capable of supporting the existence of equitable interests. The analogy lay in the exemption that the respective instruments conferred on their holder: a milk

[124] *Insolvency Act 1986*.
[125] *Armstrong DLW GmbH v. Winnington Networks Ltd [2012] EWHC (Ch) 10*, paras. 49, 52-56, 58-59.
[126] Ibid., para. 48, see also preceding paras. 40-47 for an account of the types of property recognised in English law.
[127] Ibid., paras. 60-61.
[128] *Swift v. Dairywise Farms Ltd [2000] 1 WLR 1177.*

quota represented an exemption from a levy on milk production that would otherwise be payable, while an emissions allowance exempted its holder from a fine under the EU ETS for producing emissions. In *Swift v. Dairywise Farms* it was stated that a milk quota had commercial value and a legal effect, which meant that a trust could be imposed where equity so required. The court in *Swift v. Dairywise Farms* gave the example of a party A (who did not have a holding of land to which a quota could attach, and could therefore not itself hold a quota), who asked party B to acquire a quota and hold it on trust for A. Consequently, A could require B to sell the quota and transfer the proceeds to A, or request B to transfer the quota should A acquire land to which the quota could attach[129].

The conclusion reached in *Armstrong v. Winnington* that emissions allowances grant their holders rights in intangible property which is capable of supporting the existence of equitable interests clarifies that, in English law at least, other types of third party interests can conceptually exist over allowances, notably security interests. However, although in theory security interests can be created over emissions allowances, there are considerable uncertainties as to the extent to which such interests can be effectively protected and enforced by their holders.

The grantees of security interests over allowances need to be able to enforce them against third parties (other than the grantor). Such enforceability is generally achieved through "some form of public notice designed to bring the security interest to the notice of subsequent purchasers or incumbrancers, or unsecured creditors. This requirement of public notice can be called a perfection requirement"[130]. Furthermore, "[t]he methods by which a security interest can be drawn to public notice vary according to the type of interest created"[131]. A key method of perfection is by registration of the security interest, although there is no general rule in English law requiring registration of all personal property security interests, and there are exceptions in some situations where registration is not required in order to perfect the in-

[129] *Armstrong DLW GmbH v. Winnington Networks Ltd [2012] EWHC (Ch) 10*, paras. 57, 59.
[130] Goode and Gullifer, *Goode on Legal Problems of Credit and Security*, p. 78.
[131] Ibid., p. 78.

terest[132]. Such exceptions typically (though not exclusively) arise where the grantor of the security interest is a company, and include, for instance, oral fixed mortgages or charges[133]. Moreover, "[r]egistration is also not required where the security interest holder is in possession of the assets subject to the security interest", meaning that the security interest is in effect perfected by possession[134].

However, in cases where registration can be used as a method of perfection, an effective mechanism for such registration must necessarily be in place. The framework for registration as a means of drawing to public notice security interests over EU emissions allowances leaves much to be desired. The Registry Regulations under the EU ETS framework appear to currently permit for security interests to be registered in emission allowances. Member States may allow national registry account holders to nominate "additional authorised representatives", in which case the account holder will not be able to effect any transactions without the permission of such a representative[135]. Although this system is not expressly labelled as referring to security interests, it is envisaged that it could accommodate their registration. Account holders in the UK, Austria, Sweden and Finland have been expressly allowed to register additional authorised representatives by their respective Member States[136]. However, it is not yet clear how effective this system can be for the binding registration of security interests, since in the UK, for instance, the account holder is entitled to remove the additional authorised representative at the former's discretion[137]. It is probably the case that the system was

[132]Goode and Gullifer, *Goode on Legal Problems of Credit and Security*, pp. 78-84.

[133]Ibid., p. 81.

[134]Ibid., p. 83.

[135]*Commission Regulation (EC) No 2216/2004 of 21 December 2004 for a standardised and secured system of registries pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision No 280/2004/EC of the European Parliament and of the Council [2004] OJ L386/1*, art. 23(2); *Commission Regulation (EC) No 994/2008 of 8 October 2008 for a standardised and secured system of registries pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision No 280/2004/EC of the European Parliament and of the Council [2008] OJ L271/3*, art. 19(2).

[136]Pohlmann, "The European Union Emissions Trading Scheme", at 352.

[137]*Registry Terms and Conditions*. Emissions Trading Scheme, UK Registry. Version 5.0, 30 November 2011, explanatory note 7.

not devised with the requirements of security interests in mind. For Phase III of the EU ETS, a proposal had been made that the applicable Registry Regulation (commencing on 1 January 2013)[138] should expressly provide for the registration of security interests in emissions allowances, but this proposal was not carried forward into the final text of the Regulation[139]. The final text simply states that providing the ability to register security interests would be desirable, hence this issue should be examined in the context of a future review of the Regulation[140]. The Phase III Registry Regulation still contains provisions regarding the nomination of additional authorised representatives in the same manner as the earlier Regulations[141].

From the point of view of the standard form agreements, the absence of the possibility of registration is potentially serious. All three agreements (the IETMA and EU ETS schedule, the EFET electricity allowances appendix and the ISDA allowances schedule) provide that the emissions allowances to be transacted under their terms should be transferred free of any security interests granted in favour of third parties. Under all three agreements, a breach of this provision amounts to a breach of the so-called "no encumbrances" obligation. This is advantageous for the receiving party, but it makes the delivering party who might find itself in default liable to compensate the other party for the loss arising from the breach[142].

Ensuring that this obligation is not breached requires that the delivering

[138] *Commission Regulation (EU) No. 1193/2011 of 18 November 2011 establishing a Union Registry for the Trading Period Commencing on 1 January 2013, and Subsequent Trading Periods, of the European Union Emissions Trading Scheme pursuant to Directive 2003/87/EC and Decision 280/2004/EC and Amending Commission Regulations (EC) No. 2216/2004 and (EU) No. 920/2010 [2011] OJ L315/1*.

[139] *Letter to the European Commission, DG Environment*, p. 2.

[140] *Commission Regulation (EU) No. 1193/2011 of 18 November 2011 establishing a Union Registry for the Trading Period Commencing on 1 January 2013, and Subsequent Trading Periods, of the European Union Emissions Trading Scheme pursuant to Directive 2003/87/EC and Decision 280/2004/EC and Amending Commission Regulations (EC) No. 2216/2004 and (EU) No. 920/2010 [2011] OJ L315/1*, preamble, para. 13.

[141] Ibid., art. 21(3).

[142] *International Emissions Trading Master Agreement*, clause 5.3, schedule 4; *International Emissions Trading Master Agreement, Schedule 4, EU ETS System Schedule*, part 1(e); *Allowances Appendix (Power) to the EFET General Agreement Concerning the Delivery and Acceptance of Electricity*, clause 6.3; *ISDA EU Emissions Allowance Documentation Document*, part 7(d)(vii).

party should have access to reliable sources of information regarding the interests that subsist in the contracted emissions allowances. This statement may seem trite in view of the fact that in the case of conventional types of resources such as land, the existence or absence of security interests is readily ascertainable from an inspection of the relevant register. However, it is considerably more difficult to ascertain whether security interests exist in emissions allowances. One could envisage a situation where the delivering party itself purchased the allowances from another entity without making enquiries as to the existence of security interests in them, and it subsequently (after entering into the standard form agreement) emerged that the allowances were thus encumbered. The difficulties in being able to discover whether an allowance is subject to a third party security interest may therefore compromise the transaction and potentially also the whole agreement[143].

Another potential problem with taking security over emissions allowances involves the fact that it is not possible from the outset to identify which specific allowances will be delivered under any given trade[144]. This problem is exacerbated by the fact that, in the single Union registry for allowances that will operate from Phase III of the EU ETS (2013 onwards), the serial numbers of allowances will not be visible to registry users. Although this measure is intended to protect *bona fide* purchasers of allowances which may subsequently prove to have faulty title[145], a (probably unintended) consequence will be that it would be difficult to enforce security interests in particular allowances since the instruments cannot be easily differentiated from one another.

Another instance where the lack of clarity surrounding the protection and enforceability of security interests in emissions allowances is of considerable

[143]M. Wilder, M. Willis, and M. Gulli. "Carbon Contracts, Structuring Transactions: Practical Experiences". In: *Legal Aspects of Implementing the Kyoto Protocol Mechanisms: Making Kyoto Work*. Ed. by D. Freestone and C. Streck. Oxford: Oxford University Press, 2005, pp. 295–311, at 297-298, highlight the importance of ensuring that the rights are unencumbered.

[144]Many thanks to Jay Jagasia, formerly of Burges Salmon, Bristol (http://www.burges-salmon.com/) for providing valuable insights into these issues (e-mail correspondence dated 2 July and 30 July 2012).

[145]*General Questions and Answers on Registries*, answer to question 7.

relevance is in the context of loan financing. The case of emissions reduction projects provides a particularly instructive example. Such projects take place under the CDM umbrella of the Kyoto Protocol, and create CERs which are exchangeable for tradable allowances in the EU ETS. CDM projects are generally financed by bank loans. Commentators (principally legal practitioners) have increasingly begun to remark that banks may wish to take security over the CERs themselves, given that they are valuable project assets[146]. Although the connection between the issue of security rights in CERs and emissions allowances is indirect, it still becomes necessary to query whether such security rights can be adequately protected and enforced, so as to be of genuine legal and commercial value to their grantees.

The issue of the protection and enforceability of security interests in emissions allowances is also important in the context of carbon capture and storage (CCS). The key piece of EU legislation in this area is the CCS Directive[147], which requires the provision of financial security by the potential operator as part of the application for a storage permit, so as to ensure that all obligations under the permit can be fulfilled[148]. The European Commission has issued a guidance document to assist Member States with the implementation with the CCS Directive, more specifically with defining what can amount to suitable financial security[149]. The available options include funds (deposits), trust funds, bank guarantees, letters of credit and bonds[150]. More importantly, emissions allowances under the EU ETS can also be offered as equivalent to financial security, provided that they provide "sufficient certainty, amount, liquidity, and duration to be acceptable as equivalent to [fi-

[146]R. Grice and J. Guillory. "Green Currency: Financing and Perfection of Kyoto Emission Reductions". In: *International Financial Law Review* 26 (2007), pp. 18–20, at 19; Traylor and Morin, "An Allowance to Take to the Bank".

[147]*Directive 2009/31/EC of 23 April 2009 of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006 [2009] OJ L140/114.*

[148]Ibid., art. 19(1).

[149]*Implementation of Directive 2009/31/EC on the Geological Storage of Carbon Dioxide. Guidance Document 4: Article 19 Financial Security and Article 20 Financial Mechanism.* European Commission. 2011.

[150]Ibid., pp. 4-5.

nancial security]". The guidance also envisages that the emissions allowances thus offered can be placed outside the operator's control, for instance in a trust fund[151].

The assumptions made here are pertinent in view of the absence of clarity in the EU ETS framework as regards the possibility of registering security interests in emissions allowances. A system of using allowances as security clearly exists, although the mechanics of registration have emerged in a rather piecemeal manner and are only really applicable by default, given the ambiguous "additional authorised representative" provisions of the Registry Regulations. The possibility of placing emissions allowances used as financial security in trust is also an interesting view, and may arguably suggest that the ability of emissions allowances to form the subject matter of a trust could be recognised at the EU level rather than on a country-by-country basis by the Member States.

Whilst permitting the use of emissions allowances as financial security, the guidance does draw out a series of caveats which relate to the stability of this type of instrument. The requirement of certainty is particularly informative. The level of certainty can be affected by the extent of regulatory discretion in interfering with valid allowances. On certainty, the guidance suggests questions about, *inter alia*, conditions under which the financial security interest might be cancelled or suspended. More precisely, the guidance states that the preferred option should be that only financial security instruments are accepted that may not be cancelled or suspended by their issuers. If this approach would unduly narrow the market, thus increasing costs, Member States should require sufficient notice of the issuer's intent to cancel or suspend the instrument, so that a replacement can be provided[152]. These requirements serve to highlight the importance of articulating a construction of reasonably secure emissions entitlements as well as clearly delimiting the scope of potential regulatory intervention.

The various instances outlined above go to demonstrate that EU-level

[151] *Implementation of Directive 2009/31/EC on the Geological Storage of Carbon Dioxide*, p. 8.
[152] Ibid., p. 38.

clarity that security interests in emissions allowances can be effectively registered would be welcomed. Clarity as to the possibility of providing effective protection and enforceability of security interests can significantly improve the viability of the EU emissions market by extending the range of commercial uses to which allowances can be put by trading participants. In turn, the strength of the emissions market ensures the continued popularity of the EU ETS with trading entities. Support for emissions trading can assist with achieving an adequate price signal in order to reduce emissions by way of low-carbon technology development in the long term.

3.6 Conclusion

Using practical examples to examine the workings of the emissions market as constituted by the contractual relationships between trading participants, the chapter has sought to demonstrate that the dual public-private nature of the EU ETS has a significant impact on the ways in which market participants can protect their legitimate economic interests against the risks inherent in emissions trading. Adequate protection against such risks maintains the functionality of the emissions market and, in turn, helps to achieve the environmental goals of the EU ETS[153].

The EU ETS has created a private market in emissions allowances. The short-term purpose of the trading mechanism is to reduce emissions to the levels of the decreasing cap in an economically efficient manner. The long-term purpose of the EU ETS is to promote the development of low-carbon technologies in synergy with the rest of the EU Climate and Energy Package. This long-term view involves the maintenance of an adequate price signal in order to incentivise market participation. In turn, a sufficient price level entails the continued participation of both compliance and investment traders in the emissions market. When trading in allowances, as with trading in conventional instruments such as commodities, participants need to protect themselves against a number of types of risk. With emissions trading, two

[153]Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 322-323.

particular types of risk arise in view of its regulatory origins, which are not present in conventional markets. These types of risk are susceptibility to regulatory intervention and use limitations. Both need to be capable of being addressed by trading parties in order for the functionality of the market to be maximised.

The key danger posed by the susceptibility to regulatory intervention is that the supply of allowances in the market is reduced, making it difficult (although perhaps not impossible) for sellers to deliver allowances under a contract. While the standard form contracts most commonly used in emissions trading are able to accommodate the possibility of failing to deliver allowances due to regulatory intervention in the market, it has been argued that these arrangements could benefit from more specific drafting to adequately address the risks for both parties. On the one hand, there is the risk that a seller will have to procure substantially more expensive allowances than originally hedged for. On the other hand, there is also the risk that delivery will not be made in time for a compliance buyer to surrender the allowances in accordance with the EU ETS requirements.

Moreover, the risk that the level of protection and enforceability afforded to security interests in emissions allowances is unsatisfactory (the risk of use limitations) can arguably restrict the commercial potential of these instruments and may hold back the maximisation of market functionality. The absence of clarity at the EU level as to whether security interests can be registered in emissions allowances is not a desirable situation to be in. It is of limited practical use to be able, conceptually speaking, to grant security interests in allowances, if the grantees cannot benefit from effective mechanisms for protecting and enforcing such interests against third parties. Uncertainties as to protectability and enforceability are hardly conducive to equipping security interests with satisfactory legal and commercial value for the benefit of their grantees. The potential usability of emissions allowances as financial security which can also be placed in trust in the context of the EU CCS programme further highlights the need for EU-level clarification as to whether such interests can be effectively protected and enforced.

Delimiting the scope of regulatory intervention and the range of uses to

which emissions allowances can be put requires the application of an analytical framework of the kind put forward in the introduction to the thesis. This is in order to provide a construction of emissions entitlements which strikes the correct balance between regulatory flexibility (in the scope of intervention) and market certainty (in the shape of protection for participants, both in terms of demarcating regulatory intervention and enabling the registration of security interests). As the final chapter of the thesis demonstrates, the proposed categorisation of emissions entitlements as instrumental property impacts significantly on the quality of emissions allowances as a valuable market instrument to be transacted in commercial contracts, and thereby on the continued viability of the emissions market and the environmental success of the EU ETS[154].

[154]Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 305-306.

Chapter 4

The Constitutive Elements of Property and Their Application to Emissions Entitlements

4.1 Introduction

The chapter covers the first part of the analytical framework set out in the introduction to the thesis, and explores the theoretical understanding of what constitutes a property right. This question is important, as new valuable resources are created all the time in contemporary societies. It has consequently been suggested that the future of property law may depend on its ability to analyse these new resources, of which EU emissions allowances are an example, as potential objects of property. Such an exercise would necessarily involve enunciating an analytical construction of the proprietary interest in order to ascertain the extent to which it merits legal protection[1].

Legal accounts of property are abundant, both in the common law and the civil law traditions. Common law jurisprudence on property rights (which

[1] R. Cotterrell. "The Law of Property and Legal Theory". In: *Legal Theory and Common Law*. Ed. by W. Twining. Oxford: Blackwell, 1986, pp. 81–98, at 89; T. Grey. "Property and Need: The Welfare State and Theories of Distributive Justice". In: *Stanford Law Review* 28 (1975), pp. 877–902, provides a valuable overview of the main positions on the distribution of economic assets. Issues of distributive justice lie outside the scope of the thesis.

the chapter focuses on) presents sufficient tensions of its own which require further investigation. For the sake of clarity, these tensions need to be analysed and reconciled in one type of legal system at a time, lest we risk not comparing like with like. Moreover, the common law approach is of particular importance in the context of the EU ETS, given the drafting of the jurisdictional clauses in the standard form contracts that constitute the emissions market, and which are predominantly governed by English law. The ISDA agreement offers English or New York law, while the IETA agreement is governed by English law. The EFET electricity agreement defaults to German law, while the EFET gas agreement permits the choice of English law[2].

In common law systems, the notion of property "has no single, simple meaning"; its conceptualisation depends on context[3]. The English law of property does not readily permit the admission of new rights to its ambit, unless certain criteria are satisfied[4]. The list of criteria is, however, not fixed and universal in all contexts where novel types of right may arise. Swadling notes that "the list of property rights... is predominantly judge-made", referring specifically to the criteria for determining whether a right constitutes property that were elaborated in *National Provincial Bank v. Ainsworth*[5]. However, it has been remarked that "[r]easons offered for or against treating each thing as property are usually *ad hoc* – there is no single set of tests or considerations offered for deciding whether a thing ought to be treated as an object of property that can be applied across contexts"[6]. Tests which have been employed to define the scope of property include that in *Ainsworth*[7], the view that rights should fall into a previously recognised category of property, and a list of minimal requirements that a right should entail before being

[2]Sanehi, "Market Contracts", at 125.

[3]S. Roberts T. Murphy and T. Flessas. *Understanding Property Law*. London: Sweet and Maxwell, 2004, pp. 38-39.

[4]W. Swadling. "The Proprietary Effect of A Hire of Goods". In: *Interests in Goods*. Ed. by N. Palmer and E. McKendrick. London: LLP, 1998, pp. 491–526, at 525.

[5]*National Provincial Bank v. Ainsworth [1965] 1 AC 1175*, pp. 1247-1248, discussed in more detail in chapter 3.5; Swadling, "The Proprietary Effect of A Hire of Goods", at 526.

[6]L. Bennett Moses. "The Applicability of Property Law in New Contexts: From Cells to Cyberspace". In: *Sydney Law Review* 30 (2008), pp. 639–662, at 641.

[7]*National Provincial Bank v. Ainsworth [1965] 1 AC 1175*, pp. 1247-1248.

labelled property[8].

A notable scenario where the interests under consideration do not satisfy the *Ainsworth* test, but have nonetheless been designated as property by the courts, is the right in preserved sperm samples. It has been commented that in *Yearworth v. North Bristol NHS Trust*[9], the court concluded that the claimants had property rights in their own sperm as they had a right to use it at their discretion (right to use) and they could at any time require the destruction of the sperm (right to destroy). However, on the *Ainsworth* criteria, the right in the sperm was not definable, identifiable by third parties, capable of assumption by third parties, and did not have a degree of permanence or stability[10]. Furthermore, in the case of human bodies and body parts, the *Ainsworth* test is again not satisfied, so rights in them are said not to fall within the category of property. It has been argued, however, that "*Ainsworth* does not provide immutable criteria for property and applying such a rule is counterproductive to biological forms of property"[11]. Consequently, the *Ainsworth* test may not be universally applicable to determine whether novel types of right fall into the property category.

EU emissions allowances have been expressly designated as property in English law following the judgment in *Armstrong v. Winnington*[12]. The test applied by the court in that case was the *Ainsworth* test, which such entitlements were said to satisfy. To be admitted into the category of property, a right needs to be definable, identifiable by third parties, capable of assumption by third parties and have some degree of permanence or stability. Moreover, in holding that allowances were intangible property, the court in *Armstrong v. Winnington* applied the definition in *Re Celtic Extraction*[13]:

[8]Moses, "The Applicability of Property Law in New Contexts: From Cells to Cyberspace", at 647-654.

[9]*Yearworth v. North Bristol NHS Trust [2009] All ER 33.*

[10]R. Nwabueze. "Death of the "No-Property" Rule for Sperm Samples". In: *King's Law Journal* 21 (2010), pp. 561–568, at 563-564.

[11]R. Nwabueze. "Biotechnology and the New Property Regime in Human Bodies and Body Parts". In: *Loyola of Los Angeles International and Comparative Law Review* 24 (2002), pp. 19–64, at 52 and 54-55.

[12]*Armstrong DLW GmbH v. Winnington Networks Ltd [2012] EWHC (Ch) 10*, discussed in more detail in chapter 3.5.

[13]*Re Celtic Extraction Ltd (in liquidation) [2001] Ch 475*.

a statutory framework conferring an entitlement must exist, the instrument must be transferable and it must have value. However, neither test addresses the key question posed and examined by the thesis, namely the precise scope and contents of emissions entitlements in view of the regulatory goals of the EU ETS. The first limb of the *Ainsworth* test requires that an allowance be definable, which the court in *Armstrong v. Winnington* held as being the case: an allowance was definable as the sum total of entitlements conferred on the holder under the EU ETS. This statement is not sufficient to answer the key question of the thesis: it does not provide any information as to what these entitlements actually are, and how their contents are shaped by the environmental goals of the EU ETS. The *Re Celtic* test is similarly silent on the exact contents of emissions entitlements as linked to their regulatory goals.

The approaches taken in *Armstrong v. Winnington* and *Re Celtic* are explicable on the basis that the sole concern of the court was to determine whether or not the instruments under consideration were property, so that they would be capable of supporting equitable interests (*Armstrong v. Winnington*), or fall under the relevant provisions of the Insolvency Act 1986 (*Re Celtic*). In neither case was there a need to determine the exact composition of the property right at stake. Consequently, the tests employed in the two cases do not elucidate how the scope and contents of emissions entitlements can be determined and defined in accordance with the regulatory goals of the EU ETS as well as other interests deemed worthy of protection. To conduct an analysis of this nature, we must necessarily look to other common law conceptions of property, beyond those put forward in the aforementioned cases.

Different types of property theories exist in the common law tradition. Some legitimise[14] or criticise[15] (typically private) property. While their im-

[14]J. Locke. *The Second Treatise of Government: An Essay Concerning the True Original, Extent and End of Civil Government.* Oxford: Blackwell, 1956, puts forward the idea of entitlement to property rights over the fruits of one's labour; G. Hegel. *Philosophy of Right.* London: Bell, 1896, views property as an expression of personality.

[15]K. Marx. *Capital: A Critique of Political Economy. Vol. 1.* Harmondsworth: Penguin, 1976, uses Locke's labour theory of property as a point of reference and holds that, since

portance is acknowledged, these types of theories do not form the focus of the chapter. Instead, the discussion concentrates on theories which examine the constitutive elements of property: in simple terms, what makes a property right a property right?

The strands of property theory which most directly address the constitutive elements of property rights are the "bundle of rights" conception of property (discussed in Part 4.2) and the view of property as rights with certain requisite characteristics (Part 4.3). The analysis of property as constituted of a number of requisite elements is the more functional tool for determining the legal nature of new entitlements such as emissions entitlements. However, it is noted that the view of property as a bundle of rights has much to say about the importance (or otherwise) of property as a distinct type of right which can be clearly delineated from, notably, contract. The requisite constitutive elements of property are identified as being exclusion, use and (for commercially valuable rights) transfer (Part 4.4). While emissions entitlements do exhibit all three characteristics, the elements of exclusion and use entail significant limitations, which may affect their potential characterisation as private property rights (Part 4.5). The conclusion reiterates the importance of the constitutive elements of property (exclusion, transfer and use) for determining the nature of novel types of interests, such as emissions entitlements. The conclusion also signals the usefulness of these three elements as benchmarks for comparing emissions entitlements with established rights regimes in the second part of the analytical framework, which is discussed in the following chapter.

4.2 Property as a bundle of rights

In the 18th century Blackstone articulated what became for some considerable time the dominant understanding of property rights in common law

the fruits of labour belong to the workers who have engaged in the toil, the appropriation by capitalist employers of the results of labour amount to wrongly alienating property from its true owners, the workers; P.-J. Proudhon. *What Is Property?: or, An Inquiry into the Principle of Right and of Government.* Princeton: Tucker, 1876.

systems. He theorised that the essence of property was the entitlement to exclude all others from that which was the subject of ownership. These rights were said to be *in rem*, that is, "those rights which a man may acquire in and to such external things as are unconnected with his person"[16]. One possible interpretation of this approach suggests that Blackstone saw the rights vesting in owners as akin to privileges, where the owner had absolute power over the subject of ownership. This absolute power would include the rights to use, transfer and generally do as one pleased with the subject of ownership. This kind of right became known as the Blackstonian bundle of land entitlements[17].

The Blackstonian paradigm of property was, however, challenged in the 1920s, particularly in the US. Hohfeld developed a complex legal taxonomy of rights matched up to corresponding duties, and in particular viewed property rights as a nexus of personal rights held as against a large number of parties[18]. Hohfeld's taxonomy of legal relations signifies a key milestone in the conceptualisation of property rights. The purpose of this taxonomy was to put an end to the loose use of terms such as "rights" by lawyers and judges without explaining what these terms meant in the respective contexts in which they were employed[19]. Specifically, Hohfeld notes that "right" is often used "generically and indiscriminately to denote any sort of legal advantage, whether claim, privilege, power, or immunity"[20].

Within this taxonomy, Hohfeld addresses in particular the notions of rights *in rem* and rights *in personam*, which he calls "multital" relations and "paucital" relations respectively. In order to discuss the nature of property rights he uses the meaning of "right" in the narrow sense of the correlative

[16]W. Blackstone. *Commentaries on the Laws of England II*. Chicago: University of Chicago Press, 1979, chapters 1, 3.

[17]R. Ellickson. "Property in Land". In: *Yale Law Journal* 102 (1993), pp. 1315–1400, at 1362-1363.

[18]Hohfeld, "Some Fundamental Legal Conceptions as Applied in Judicial Reasoning", especially at 28-30; Hohfeld, "Fundamental Legal Conceptions as Applied in Judicial Reasoning", especially at 710.

[19]Hohfeld, "Some Fundamental Legal Conceptions as Applied in Judicial Reasoning", especially at 21-25; Hohfeld, "Fundamental Legal Conceptions as Applied in Judicial Reasoning", especially at 710-712.

[20]Hohfeld, "Fundamental Legal Conceptions as Applied in Judicial Reasoning", at 717.

of "duty". He defines a "paucital" right (*in personam*) as being one vesting in one person or group and held against another person or group, or alternatively as one of a few similar, separate rights against a few definite persons. On the other hand, a "multital" right (*in rem*) is one of a large class of similar, separate rights residing in one person or group respectively as against persons which are part of a large, indefinite class. The importance of this approach in property rights theory is that Hohfeld moves away from regarding the fundamental characteristic of property as being a right to a thing, in other words that property is defined as the relationship between the owner and the owned thing, which is what Blackstone believed. Hohfeld's approach instead views property as a collection of relationships between parties, whether these relationships are *in rem* (multital) or *in personam* (paucital)[21].

Hohfeld has laid down the conceptual framework for analysing property rights as a nexus of relationships between individuals rather than the relationship between an owner and the subject of ownership. He does recognise that there is a difference between rights *in rem* and rights *in personam*: rights *in rem* are always constituted by a bundle of similar rights *in personam*. However, he does not explain why it is that rights *in rem* are always thus constituted, which some scholars consider to be the defining and distinctive feature of property rights[22].

Hohfeld's interpretation of property rights has become universally known as the "bundle of rights" (or "bundle of sticks") theory of property. This theory holds that there is no qualitative difference between rights *in rem* and rights *in personam*; property rights simply mean a collection of various rights *in personam*. Consequently, there are no requisite components which make up a property right; if one or more "sticks" are missing, the right can still be a property right. Grey goes as far as to state that the "bundle of sticks" view of property which has been substituted for the "thing-ownership" conceptions means that property is no longer an important legal category[23]. On

[21]Hohfeld, "Fundamental Legal Conceptions as Applied in Judicial Reasoning", especially at 712-720; Cotterrell, "The Law of Property and Legal Theory", at 87.

[22]R. Grantham and T. Rickett. "Property Rights as a Legally Significant Event". In: *Cambridge Law Journal* 62 (2003), pp. 717–749, at 728-729.

[23]T. Grey. "The Disintegration of Property". In: *NOMOS XXII: PROPERTY*. Ed. by

the "bundle of sticks" view, property appears little different from contract, the only difference being that property rights are held against a much larger and less definite set of parties. Gray also holds that "there are remarkably few rights of so-called 'property' which cannot be assimilated or rationalised within some form of consensual theory", since behind every property transaction or title lie contracts: "[n]o quantum step differentiates contract from 'property', for 'property' has no clear threshold"[24].

Another aspect of moving away from the "real" versus "personal" rights dichotomy is that property relations can be seen as more abstract than hitherto conceptualised. Bentham's critique of Blackstone introduced the idea of property as abstract and challenged the perceived physical nature of property and its alleged connection to land. Hohfeld adopts this notion of property as abstract legal relations and consequently views property rights as relative as between persons. This shift from a strict division between real and personal rights is said to imply a dephysicalisation of property[25].

4.3 Property as a set of requisite constitutive elements

Despite the dominance of the "bundle of rights" view of property (particularly in US jurisprudence), it has not been universally accepted by common law theorists. The view of property rights as distinct from personal rights represents the classical stance which stems from Roman law, which distinguished between rights *in rem* (against the whole world) and rights *in personam* (against certain identified entities only) and is still held by some common lawyers[26]. Another way of saying that property rights are different

J. Pennock and J. Chapman. New York: New York University Press, 1980, pp. 69–85, at 69-71.

[24]K. Gray. "Property in Thin Air". In: *Cambridge Law Journal* 50 (1991), pp. 252–307, at 47.

[25]N. Graham. *Lawscape: Property, Environment, Law*. Abingdon: Routledge, 2011, pp. 136-141, 142-143.

[26]P. Birks. *English Private Law*. Oxford: Oxford University Press, 2007; Penner, *The Idea of Property in Law*.

from other types of rights is that the former require the existence of particular "sticks" in the "bundle". This means that property rights have certain requisite (defining) characteristics without which they cannot properly be called property rights. If one or more of these requisite characteristics is or are missing, the right can at the most be called an incomplete property right[27].

The strict demarcation between rights *in rem* (property rights) and rights *in personam* (for instance contractual rights) which was set out in Roman law and has been adopted by civil law systems has its common law proponents, in particular Birks[28]. He remains faithful to the traditional distinction between the categories of property and obligations respectively, and states that this distinction is important due to the different nature of the rights attaching to each category. While property entails rights which are exercisable against a wide class of persons and are said to attach to the thing, obligations are by their very nature held against specified persons. Obligations are thus personal rights (rights *in personam*), while property rights represent rights *in rem*[29]. Birks' taxonomy of rights has been criticised, notably, for not reflecting or modelling social reality, in that it ignores the existence of other types of rights which do not fall into it (such as social, economic and political rights)[30]. Whatever one may conclude on the continued relevance or otherwise of this taxonomy, it is a useful starting point for examining the view of property as rights with minimum necessary characteristics which distinguish them from personal rights.

Honoré's theory of property sets out eleven standard incidents of ownership which, if all present, effectively guarantee that a property right exists in most Western market economy-based societies. This does not mean that the absence of one or more of the incidents leads to a lack of recognition of the ownership right in the particular legal system; together the incidents

[27]Merrill, "Property and the Right to Exclude", especially at 734-737.

[28]Birks, *English Private Law*.

[29]Ibid., at xxxviii.

[30]G. Samuel. "English Private Law: Old and New Thinking in the Taxonomy Debate". In: *Oxford Journal of Legal Studies* 24 (2004), pp. 335–362, at 335.

are sufficient conditions for ownership, but none is requisite[31]. To Honoré, property represents both the legal relations between the owner of the thing and others, and the legal relation between the owner and the thing owned. The incidents include the right to use the thing for personal purposes, the right to control its use (for instance by licensing the right to use to another party), the right to transfer the interest in the thing, the right to security of ownership and the incident of absence of ownership term[32].

Even if one accepts Honoré's contention that none of the above incidents is necessary to constitute a property right, that is, one or more may be missing and the property right would still exist, the question arises whether any of the incidents could conceivably be seen as "more requisite" than the others for the existence of a property right. Honoré's analysis does not provide guidance on this matter.

Merrill employs Honoré's theory of ownership as the basis for stating that "the right to exclude others from valued resources"[33] is the essence of property, and that without this incident of ownership no property right can be said to exist. He holds that "the right to exclude others is a necessary and sufficient condition of identifying the existence of property". Merrill gives three reasons for this contention. He argues, firstly, that all the other incidents on Honoré's list can be derived from this right, and that these other incidents are not vital to the existence of a property right. Secondly, he posits that the primacy of the right to exclude is historically justified, as it was the first right to emerge in primitive property systems, with the other rights developing only subsequently, once the right to exclude had been comprehensively entrenched. Finally, Merrill cites the ubiquity of the right to exclude and explains that, where the law confers a property right, this generally entails a right to exclude[34]. Merrill defines and qualifies this right to exclude. It is not necessarily absolute, though having this right means

[31] A. Clarke and P. Kohler. *Property Law: Commentary and Materials*. Cambridge: Cambridge University Press, 2005, pp. 4-5.

[32] A. Honoré. "Ownership". In: *Making Law Bind: Essays Legal and Philosophical*. Ed. by A. Honoré. Oxford: Clarendon Press, 1987, pp. 161–192, at 166-179.

[33] Merrill, "Property and the Right to Exclude", at 754.

[34] Ibid., at 731, 740-752.

that one has a property right, and conversely not having this right means that no property right exists. The primacy of the right to exclude is derived from Blackstone's view of property as the dominion which can be exercised in exclusion of others, and is said to find support in the writings of Harris and Penner. Furthermore, on the basis of US case law, the right to exclude can be regarded as comprising the right to exclude public authorities: the hallmark of property is an entitlement which cannot be removed except for cause. An individual has the right to exclude the government from interfering with the entitlement unless a particular condition (the finding of cause, in US law) has been satisfied[35].

Consequently, the right to exclude others from interference (including the government, unless set conditions are satisfied) can be regarded as a necessary constitutive element of a property right. Examples of such conditions include (but are not limited to) the provision of compensation, for instance in the US legal system[36]. Under general public international law, expropriation of property is subject to a public purpose, and must similarly be accompanied by adequate compensation[37]. More specifically, under the First Protocol to the European Convention on Human Rights (ECHR), the state must not interfere with property unless such interference is in the public interest[38]. What is viewed as being in the public interest requires a fair balance between public and private interests, and usually requires reasonable compensation; "we can now say that the Protocol contains an implied right to compensation"[39]. As a signatory to the ECHR (which has been incorporated into English law[40]), the UK is bound by such protection of property. Gray, in a piece discussing, *inter alia*, various rules surrounding state intervention in English

[35]Merrill, "Property and the Right to Exclude", at 752.

[36]See chapter 2.5.

[37]P. Malanczuk. *Akehurst's Modern Introduction to International Law*. New York: Routledge, 1997, pp. 235-238.

[38]*Protocol to the Convention for the Protection of Human Rights and Fundamental Freedoms, 20 March 1952, in force 18 May 1954*. URL: `http://http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=009&CM=7&DF=19/06/2013&CL=ENG`, art. 1.

[39]T. Allen. "Compensation for Property under the European Convention on Human Rights". In: *Michigan Journal of International Law* 28 (2007), pp. 287–336, at 288.

[40]*Human Rights Act 1998*.

law[41], also remarks that, although the express protection of property against uncompensated expropriation found in US law has

> no precise parallel under the unwritten constitution of the UK ... it would be wrong to suppose that, prior to the commencement of the Human Rights Act 1998, the UK never had experience of an entrenched prohibition on uncompensated appropriation. For decades the Government of Ireland Act 1920 – which ranked of course as a constitutional instrument – forbade the enactment in Northern Ireland of any law which would 'either directly or indirectly ... take any property without compensation"'[42].

In conclusion, whether or not compensation is available in a particular scenario of state interference with property (and in some circumstances it is not, for instance where the absence of compensation is statutorily prescribed, as noted by Gray in the case of certain town planning schemes[43]), such interference must always necessarily comply with certain set rules, for instance under the First Protocol of the ECHR it must satisfy tests of legality and proportionality[44].

Gray identifies the criterion of excludability as the core of property, and holds that property "is not about *enjoyment of access* but about *control over access*"[45]. Moreover, "[t]he limits on 'property' are fixed, not by the 'thinglikeness' of particular resources, but by the physical, legal and moral criteria of excludability"[46].

Harris defines property as "comprising items which are either the subject of direct trespassory protection or separately assignable as parts of private wealth"[47]. Property is thus made up of the key constituents of trespassory

[41]K. Gray. "Land Law and Human Rights". In: *Land Law: Issues, Debates, Policy*. Ed. by L. Tee. Cullompton: Willan Publishing, 2002, pp. 211–245.

[42]Ibid., p. 217.

[43]Ibid., pp. 240-241.

[44]*Protocol to the Convention for the Protection of Human Rights and Fundamental Freedoms, 20 March 1952, in force 18 May 1954*, art. 1; Gray, "Land Law and Human Rights", pp. 233-236.

[45]Gray, "Property in Thin Air", at 39.

[46]Ibid., at 44, 48.

[47]J. Harris. *Property and Justice*. Oxford: Clarendon Press, 1996, p. 13.

rules and the ownership spectrum. Harris defines trespassory rules as meaning any social rules imposing obligations on members of society to refrain from using a thing without its owner's consent. He defines the ownership spectrum as "the open-ended relationships presupposed and protected by trespassory rules"[48]. Harris thus allows for the various possible manifestations of property rights (such as, for example, freehold and leasehold interests in land[49], where all these manifestations have as their common denominator the existence of the right to exclude others from the thing owned. Harris notes that the existence of trespassory rules is necessary for the existence of a property right, though not always (though in reality it generally is) determinative thereof[50]:

> The idea of a proprietary relationship entailing an open-ended set of use-privileges and control-powers, that is, some version of an ownership interest, is a separate and indispensable element of a property institution[51].

Consequently, the existence of the ownership spectrum is required in addition to trespassory rules in order for a property right to be constituted.

Penner endorses Harris' view of property as a set of trespassory rules protecting ownership, as well as Harris' qualification that the right is prima facie to do anything with the thing owned, with the qualification that some uses are forbidden by the law and the set of permitted uses may fluctuate. Penner thus allows for restrictions on use such as planning laws, and also

[48]Harris, *Property and Justice*, p. 5.

[49]Ibid., pp. 8-10.

[50]Ibid., pp. 58-59, "For an item to be fully comprehended within a property institution - that is, a specific point of reference for the rules which constitute the institution - it must either be the subject of direct trespassory protection, or else be separately assignable, or, of course, both. An interest is 'proprietary' if either characteristic may be predicated of it. Both characteristics are true of most ownership interests recognized in modern English law, whether in land, goods, ideational entities, money, or cashable rights. But an ownership interest could receive general trespassory protection at the same time that exploitation of it is limited to the exercise of control-powers without powers of transmission, as was the case with statutory tenancies under the English Rent Acts".

[51]Ibid., p. 26.

for state expropriation against adequate compensation[52]. The default rule is that the owner may use the thing as he pleases, so long as there is no rule restricting use; there are no pre-set categories of use which are allowed. This approach seems logical, as it would be very difficult to draw up an exhaustive list of all the permitted uses of an owned thing[53].

Penner's conceptualisation of property offers a critique of the standard basis of property as embodied in the "bundle of rights" notion. He views property through an interest-based lens. Specifically, his theory of property focuses on the interest that people have in exclusively determining the use of things, and thus examines how individuals relate to the objects of property[54]. Penner posits that "property rights can be fully explained using the concepts of exclusion and use", which he states to be intertwined[55]. The crux of his approach consists of the so-called separability thesis and the exclusion thesis, which are said to form the joint conceptual foundations for the understanding of property[56]. This particular view of property reveals certain key elements which are required to constitute a property right (namely exclusion and use), and can therefore assist with carrying out the analysis of the constitutive elements of property proposed by the thesis.

Firstly, the concept of separability entails that only those things which are contingently associated with the owner may constitute the objects of property. For a right to be a property right, it needs to be conferred by way of legal title[57] rather than being intrinsically linked to or part of the owner. In turn, this means that there is nothing special about the property right held by a particular entity at any given time; the same right can be held by someone else in an identical fashion if the right is transferred by its original

[52]Harris, *Property and Justice*, p. 95, sets out legal sources in US and English law of the "no expropriation without compensation" principle.

[53]Penner, *The Idea of Property in Law*, p. 72.

[54]A. Gold. "A Property Theory of Contract". In: *Northwestern University Law Review* 103 (2009), pp. 1–62, at 47-48.

[55]Penner, *The Idea of Property in Law*, pp. 68-69.

[56]Ibid., p. 129.

[57]J. Penner. "The "Bundle of Rights" Picture of Property". In: *UCLA Law Review* 43 (1996), pp. 711–820, at 802, adopts the positivist view of property as set out by MacCormick: "a person can have a legal right to this or that thing as against some other person only if he or she has some title which in law confers that right to that thing".

owner[58]. Consequently, aspects such as personality or talent, which are not separable from the person, are not capable of constituting property[59].

Secondly, property is primarily defined as the right of exclusion. This is said to work negatively: the owner is protected from the interference of others with this property, as opposed to the owner having the right to use the property in any way he desires. Exclusion is further connected to the right of use: an owner can selectively exclude some third parties from his property, but is also entitled to allow others to acquire rights over the property (for instance through licensing arrangements): "[t]he right to property permits the owner not only to make solitary use of his property, by excluding all others, but also permits him to make a social use of his property, by selectively excluding others, which is to say by selectively allowing some to enter"[60].

It is argued that the example of licensing offered by Penner can be supplemented by the further instance of granting security interests over one's property for the benefit of another, which can be regarded as a way of using the property by allowing others to access it under certain conditions. As Penner notes, "[p]ermitting others access is part and parcel of owning property, and therefore understanding the social use of property by the owner with others, or by the grant of the use of the owner's property to others must be as fundamental to understanding property as understanding the way in which property excludes"[61]. The use of property takes place in a social setting, not in a vacuum, and the interests of right holders are not confined to using the property alone[62]. In this sense, actions such as granting a licence or a security interest over property embody both a social use of the property by its holder (in the shape of the grant), and at the same time a permission for another to use the property in a set manner (meaning to use it in accordance with the licence, or to have recourse to the property under the terms of the charge)[63].

[58]Penner, *The Idea of Property in Law*, pp. 111-112.
[59]Ibid., pp. 111-112.
[60]Ibid., pp. 74-75.
[61]Ibid., p. 75.
[62]Ibid., p. 75.
[63]Ibid., pp. 77-78, with licences, "the right of exclusive use serves ones use of ones

On this view, property rights therefore amount to the right to exclude in order to protect the right to use (where the latter includes the right to use the property by granting others access to it, whereby such persons are effectively permitted to use the property under certain set conditions). In other words, the justification for granting the owner a right to exclude others from his property is to safeguard his right to use the property[64]. The full definition of property, according to Penner, is consequently said to be:

> "the right to determine the use or disposition of a separable thing (i.e. a thing whose contingent association with any particular person is essentially impersonal and so imports nothing of normative consequence), in so far as that can be achieved or aided by others excluding themselves from it, and includes the rights to abandon it, to share it, to license it to others (either exclusively or not), and to give it to others in its entirety"[65].

To the ingredients of exclusion and use we could add the right to transfer the owned thing voluntarily. Penner himself does not regard this element as a requisite constitutive part of property, as he views the right to make property the subject of contracts as a different right from that of ownership. The right to transfer property contractually derives from the presence of rights of exchange, which arise when parties contract with each other[66]. Moreover, property can be gifted, and contracts do not have to have property as their object. Property can also be taken away by public authorities (so-called "commanded transfers"); this does not involve a voluntary, consensual transfer by the owner as it would be the case with a contractual property transfer[67].

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property in the social context. Exclusion can be directed or relaxed to protect or facilitate any particular use, by any particular persons, for any particular length of time".

[64]Penner, *The Idea of Property in Law*, p. 71; J. Penner. "Hohfeldian Use-Rights in Property". In: *Property Problems: From Genes to Pension Funds*. Ed. by J. Harris. London: Kluwer Law International, 1997, pp. 164–174, at 166-168.

[65]Penner, *The Idea of Property in Law*, p. 152.

[66]Penner, *The Idea of Property in Law*, p. 91; Penner, "Hohfeldian Use-Rights in Property", at 173; Penner, "The "Bundle of Rights" Picture of Property", at 765.

[67]Penner, *The Idea of Property in Law*, pp. 91-92.

However, other commentators consider the right to transfer essential to the constitution of property rights, as it allows the owner to extract commercial value from the thing. Bell and Parchomovsky note that, despite Honoré's statement of the incidents of ownership, the "bundle of rights" theory of property continues to confuse legal theorists as they cannot agree as to the relative importance of the various sticks in the bundle or as to the bundle's contents. They posit that the minimum contents of the bundle (for the right to amount to property) consist of the rights to use, exclude and transfer[68].

It must be noted, however, that restrictions on transfer do not always preclude the existence of a property right. Take for example tenancies in English law, which can be of various kinds; a few (non-exhaustive) examples follow. A council tenancy can only be assigned by secure tenants[69] to certain qualifying persons[70]. Housing association tenancies can only be assigned with prior permission from the housing association[71]. Private tenancy agreements can (but do not have to) stipulate that assignment is not permitted or is only permitted with the landlord's consent[72]. This does not preclude these tenancies from being categorised as property rights (specifically legal interests in land)[73].

From the point of view of the commercial value of the right, however, transferability is crucial. It is therefore more accurate to say that, generally speaking, transferability is an important but not necessarily determinative feature of property rights. When it comes to rights whose commercial value is paramount as a necessary feature of their continued existence (such as emissions entitlements, where transferability is the very foundation of the EU ETS created market), it is argued that the right to transfer becomes a key constitutive element of the respective rights regime.

[68] A. Bell and G. Parchomovsky. "A Theory of Property". In: *Cornell Law Review* 90 (2005), pp. 531–615, at 587-588.

[69] *Housing Act 1985*, s. 82(1), (1A), a secure tenancy is one which cannot be terminated by the landlord except by court order.

[70] Ibid., s. 91, these persons include other secure tenants and certain family members.

[71] *Housing Act 1988*, s. 15(1)(a).

[72] W. Woodfall. *Landlord and Tenant*. London: Sweet and Maxwell, 2012, at 16.002.

[73] *Law of Property Act 1925*, s. 1(1)(b).

In conclusion, the view of property discussed in this part suggests that there are a number of requisite elements needed for a commercially valuable property right to be constituted. Without these elements, or where the elements are considerably restricted, the right in question may well be an incomplete property right, or a different type of right altogether (for example a personal right). The elements in question are the right to exclude others from using the resource, the right to transfer the resource voluntarily and the right to use the resource.

4.4 Which conception of property can provide the better framework for analysing new entitlements?

The view of property as formed of requisite constitutive elements and the view of property as a bundle of rights compete with each other as to which can provide the more accurate and coherent account of property rights, and which can better assist with analysing novel types of entitlements. It is argued that the view of property as formed of requisite constitutive elements provides the better conception on both fronts. The reasons for this choice fall into two categories.

Firstly, the "bundle of rights" theory blurs the property rights/contractual rights distinction, but in reality this distinction remains significant, particularly in legal doctrinal discourse.

Secondly, the "bundle of rights" theory is not helpful in assessing the scope of action that property rights provide. It is therefore not particularly well suited to providing the conceptual basis for analysing the contents of entitlements which is necessary for the purpose of the thesis.

4.4.1 The distinction between rights *in rem* and rights *in personam*

If it is accepted that property can be defined as a bundle of rights, where each type of property right entails a number of various entitlements, the issue remains whether certain rights in the bundle are more important than others, and thus whether these rights need to be present in order to constitute property. Taking the "bundle of rights" view at face value, without more, would suggest that any bundle of rights which create relationships (made up of corresponding entitlements and obligations) between parties, however constituted, can amount to a property right. The effect of this view is to blur the traditional legal distinction between property rights and personal (principally contractual) rights.

There arguably remains a notable difference between rights *in personam* and rights *in rem*. Rights *in personam* can be conceptualised in terms of the obligation coming first, followed by the right to enforce this obligation, and the two always go hand in hand. For instance, with contract, if a party has promised to deliver something to another in return for payment, and the good is not delivered even though payment has been made, the paying party can take legal action against the payee (and either request specific performance, meaning delivery, or damages). By contrast, with a right *in rem* the right comes first, followed by the obligation. If I own a good, and you try to steal it from me, you have no legal right to it (and will consequently face criminal sanctions); in other words, you have the obligation not to interfere with my right. Moreover, this obligation is a negative (or passive) one; you must abstain from interfering with my property[74], whereas an obligation *in personam* is an active one (generally based on performance of the contractually mandated obligations).

In consequence, a right *in rem* is not just a bundle of corresponding right-obligation relationships, contrary to what the "bundle of rights" view of property holds. A right *in rem* does not have to have a corresponding obligation attached to it. Where it appears that rights *in rem* entail corre-

[74]Penner, *The Idea of Property in Law*, pp. 74-75.

sponding obligations, for instance the situation where a party sells property (for example a house) to another, this is not an accurate description of what is happening. To interpret such a scenario as an instance of the right *in rem* having a corresponding obligation (to effect payment for the house, in our example) would be to superimpose a right *in personam* (created by the sale-purchase contract) on the right *in rem* (the owner's property right in the house). The latter right exists already, independently and irrespectively of the right *in personam* created by contract[75].

Furthermore, the existence of a right *in rem* does not depend on its being disturbed. Even if I am enjoying my property unchallenged by anyone, it does not mean that I only have a property right when I enter into a relationship with someone else over the thing owned (for instance if I sell it, or if someone steals it). I have a property right already, independently of any subsequent relationship that I may enter into with someone else as regards the thing[76]. Another way of articulating this strand of criticism is that, according to the "bundle of rights" theory, every legal relation can only exist as between individuals, meaning that this theory is not able to accurately describe a general duty owed to everyone, such as the duty not to interfere with the property of others[77].

There is, moreover, a need to draw a line between what a property right is and how it is actually used in practice. Hohfeld *et al* conflate the latter with the former: they confuse contracts dealing with property rights with the property rights themselves[78], and then only concern themselves with the contracts. The nature and the application of a property right are two very different things which are independent of each other. The application of a

[75]Grantham and Rickett, "Property Rights as a Legally Significant Event", at 730-732, posit that rights *in rem* give rise to rights *in personam*, for instance where there is interference with the right *in rem*, a corresponding sanctioning right *in personam* arises; Penner, "The "Bundle of Rights" Picture of Property", at 752-753, posits that property and contract are not intrinsically linked: "the concept of property does not depend on the existence of a right to create binding agreements. Neither does the concept of contract depend on property rights".

[76]Penner, "The "Bundle of Rights" Picture of Property", at 807-808.

[77]Penner, "Hohfeldian Use-Rights in Property", at 166.

[78]T. Merrill and H. Smith. "Optimal Standardization in the Law of Property: The Numerus Clausus Principle". In: *Yale Law Journal* 110 (2000), pp. 1–70, at 5-6.

property right in practice arguably equates to the sticks in the bundle, which tell you what you can do with the subject of the right (for instance you can use it or transfer it). These various possible applications do not necessarily exist at the time when the right *per se* arises, but can be created *ex post*. This is an instance of the "bundle of sticks" view being inaccurate: not all sticks exist from the beginning and are simply divested out of the bundle. Instead, the various sticks get created by virtue of the existence of the residual right in the thing. They are arguably a consequence of ownership, not examples of the manifestation thereof[79].

Another way of testing the helpfulness of the two competing views of property rights is to examine which view is closer to the treatment of such rights in legal doctrine. In practice, legal systems will only recognise pre-established forms of property rights. Although the notion of *numerus clausus*[80] is not as strong in common law systems as it is in civil law ones, it is generally accepted and complied with *de facto* by courts[81]. The common law tradition has generally viewed property as "denoting only 'molecular' combinations of rights", rather than as a bundle of numerous and potentially indefinite rights[82]. The "bundle of rights" view may therefore be unhelpful to parties litigating against each other, as a court may not consider all rights that fall within the ambit of this theory to be property, and will generally distinguish between rights *in rem* and rights *in personam*. Moreover, unless we can do with these rights what we expect to be able to do with property rights (for example use them as security, which is a very important application in commercial dealings), there is little practical usefulness in labelling them

[79]Penner, "Hohfeldian Use-Rights in Property", at 172, "Property does not endow an owner with a right to any particular set of uses of a thing... but rather protects his pre-existing non-legal powers to determine the use of a thing according to his own intelligence, talents, and magnanimity..." Penner, "The "Bundle of Rights" Picture of Property", at 758-759.

[80]Merrill and Smith, "Optimal Standardization in the Law of Property: The Numerus Clausus Principle", at 4, "In the common law, the principle that property rights must conform to certain standardized forms has no name. In the civil law, which recognizes the doctrine explicitly, it is called the numerus clausus - the number is closed".

[81]Ibid., at 21-22, 24.

[82]Gray, "Can Environmental Regulation Constitute a Taking of Property at Common Law?", at 14.

property rights[83].

If the "bundle of rights" approach cannot tell us what we can do with the right and cannot predict how courts will categorise it, this theory arguably holds limited critical power. It does not assist with determining the contents of the right for the benefit of its holder, and may be unhelpful in legal doctrinal discourse as it cannot differentiate between property and personal rights[84]. The "bundle of rights" theory may view property as abstract, but the consequences of the existence and distribution of property rights for their holders are very real and material[85].

4.4.2 The usefulness of the competing theories in determining the contents of new entitlements

The "bundle of sticks" view of property opens up the floodgates to most kinds of bilateral rights created between parties being potentially construed as some form of property. However, one does not have to inhabit the Birksian universe of clear divisions between rights *in rem* and rights *in personam* to posit that it may be necessary to probe deeper into the nature of property rights than the "bundle of rights" theory would allow. The purpose of this chapter and the next is to determine the scope of action that the ownership of a thing (in this case, emissions allowances) provides. Such an exercise entails an investigation into the constitutive elements of property rights[86]. The identification of these elements will serve to discover whether new and previously uncategorised entitlements can be regarded as property rights, or should instead be classified as another category of rights. However, the abstract and amorphous nature attributed to property by the "bundle of rights" theory renders it virtually impossible to deduce an analytical framework which can help with assessing the nature of a new entitlement. As Penner notes, the

[83]Merrill and Smith, "Optimal Standardization in the Law of Property: The Numerus Clausus Principle", at 8-9, part II.

[84]Penner, "The "Bundle of Rights" Picture of Property", at 819-820.

[85]Penner, "Hohfeldian Use-Rights in Property"; Cotterrell, "The Law of Property and Legal Theory".

[86]Penner, "The "Bundle of Rights" Picture of Property", at 741.

"bundle of rights" view only tells us that property is vague and at the most that there are different kinds of property[87]. It is difficult to see how we can ascertain the scope of ownership encompassed in a new entitlement on this basis.

In conclusion, the first part of the analytical framework put forward by the thesis views property as a set of requisite constitutive elements, namely the right to exclude, the right to transfer and the right to use. The remainder of the present chapter will assess the scope of these three elements in the context of emissions entitlements: do these entitlements exhibit the identified elements, and are there any restrictions on exclusion, use and transfer? In the following chapter, the three elements will form the basis of investigation of emissions entitlements as compared to three established rights regimes (namely intellectual property rights, EU milk quotas and spectrum rights)[88].

4.5 How does a "constitutive elements" approach inform our understanding of emissions entitlements as property rights?

The first port of call regarding the contents of emissions entitlements is the EU ETS Directive[89]. It states that one emissions allowance equals one tonne of CO_2 and is valid only for the purposes of meeting the requirements of the Directive[90]. This provision of the EU ETS Directive does not directly address the legal nature of emissions entitlements, although it does place a potentially important restriction on the right to use emissions allowances (namely only for the purposes of meeting the requirements of the Directive).

As noted in the introduction to the thesis, the legal nature of emissions al-

[87]Penner, "The "Bundle of Rights" Picture of Property", at 774.

[88]See Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", part 5.

[89]*Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*.

[90]Ibid., art. 3.

lowances was briefly considered at the EU level in preparation for the crafting of the EU ETS Directive. An earlier draft proposed to view them as administrative authorisations, but this categorisation was ultimately rejected, and the finalised Directive remained silent on the matter[91]. The result is that the issue of the legal nature has been left at the latitude of individual Member States. In the absence of centralised guidance in this respect, Member States can technically ascribe to emissions entitlements whatever characteristics they deem suitable under their respective legal systems. In Hungary, for instance, the legislation which has implemented the EU ETS Directive stipulates that emissions entitlements are tradable rights and constitute part of the treasury property of the Hungarian state[92]. Other Member States, such as the UK, have not specifically articulated the nature of emissions entitlements in their national legal systems.

The rest of the EU ETS framework offers additional guidance on the contents of the entitlement.

Firstly, the EU ETS Directive does not address the issue of whether emissions entitlements are secure as against the issuing authority (the European Commission)[93]. It is therefore not clear whether the Commission is entitled to cancel or expropriate emissions allowances during their period of validity. Moreover, it is also not clear whether, in effecting such interference, the Commission has to comply with certain set conditions (for example a test of legality, or the provision of adequate compensation), as would be the case with the expropriation of traditional property[94]. The security of the right or, in other words, *the right to exclude* is potentially *limited*.

Secondly, emissions allowances can be bought and sold in the market, meaning that *a right to transfer* exists in these instruments. The EU ETS cre-

[91] Wemaere, Streck, and Chagas, "Legal Ownership and Nature of Kyoto Units and EU Allowances", at 49; Button, "Carbon: Commodity or Currency? The Case for an International Carbon Market Based on the Currency Model", at 575.

[92] *The International Comparative Legal Guide to Environment Law*. Global Legal Group, 2009. URL: `http://www.legal500.com/assets/images/stories/firmdevs/oppe14271/environment.pdf`, p. 229.

[93] *Questions and Answers on the Revised EU Emissions Trading System*, answer to question 25, the relevant authority consists of individual Member States in Phases I and II of the EU ETS Directive, and the EU Commission from Phase III onwards.

[94] See chapter 4.3.

ated emissions market is open to anyone who wishes to participate, whether EU ETS regulated entities trading for compliance purposes, financial institutions and other operators trading for speculative purposes, or even individuals[95].

Thirdly, a regulated entity can use emissions allowances by surrendering them in order to fulfil its EU ETS obligations[96]. However, entities not trading for compliance purposes, such as financial institutions or individuals, cannot use the allowance; as the EU ETS Directive states, the allowance can only be used in order to comply with the Directive[97]. Moreover, it is not clear whether emissions allowances can be used in the same manner as resources in which property rights can subsist, notably whether allowances can be used as protectable and enforceable security, which is an important issue in the commercial contractual context, as the previous chapter has demonstrated. *A limited right of use* therefore exists in emissions allowances.

As it has been discussed above[98], the right to exclude generally extends against public authorities, who may only interfere with property rights under strictly defined conditions, which can include the payment of adequate compensation. However, it is not clear from the EU ETS framework whether or not the Commission can cancel emissions allowances at will. Can the entitlement in the allowance still be a property right? Cole posits an affirmative answer, on the "bundle of sticks" view; just because one of the sticks in the bundle is missing (meaning that the entitlement is not good against the issuing authority) does not necessarily preclude the existence of a property right. On this view, the entitlement is perhaps not a full property right (a right of full ownership), but it still sits within the property spectrum as a lesser right akin to, for instance, a leasehold or a defeasible fee[99]. Since the

[95] *Directive 2003/87/EC of 13 October 2003 establishing a Scheme for Greenhouse Gas Emission Allowance Trading within the Community and Amending Directive 96/61/EC [2003] OJ L275/32*, arts. 12(1), 19(2).

[96] Ibid., art. 6(2)(e).

[97] Ibid., art. 3(a).

[98] See chapter 4.3.

[99] Cole, "New Forms of Private Property: Property Rights in Environmental Goods", at 284-285: "Holders of property rights typically cannot be defeased involuntarily. When a person holds property rights in something, that means that everyone else has a corresponding duty not to interfere (see Hohfeld, 1920). The government may take the property

"bundle of sticks" view does not prescribe certain contents of the bundle for the entitlement to amount to property, the interpretation is consistent with this view.

On the view of property as constituted of the elements of exclusion, transfer and use, the issue as regards exclusion is whether the public authority's potentially unlimited right of cancellation affects the legal nature of emissions entitlements. As noted earlier in the chapter, a number of theorists (notably Merrill, Harris and Penner) view exclusion as a crucial constituent of property rights. They point out that common law systems entail a key entrenched view that, where property rights are expropriated by public authorities, this can only be done under certain legally defined conditions, which often include the payment of adequate compensation. If a public authority has the power to expropriate a right without limitations, the question arises whether this right can be categorised as property. The EU ETS is silent as to whether and how the Commission may interfere with emissions allowances. If a framework of rules were devised to regulate such interference by making it subject to certain conditions (as is the case, for instance, under the ECHR), the right of exclusion pertaining to emissions entitlements would not be curtailed to the extent that such entitlements fall outside of the private property category.

Another potentially problematic aspect of the entitlement in emissions allowances lies in the right to use. As the previous chapter has discussed, emissions allowances can conceptually support the existence of security interests (a key commercial use), although the practical value of such interests is currently limited due to problems of protection and enforceability. Fur-

pursuant to Eminent Domain, but only upon payment of just compensation. What, then, is the status under property law of rights to pollute that can be confiscated by the government without compensation? Are they *really* property rights? As noted earlier, whenever the government regulates for environmental protection, it is (if only implicitly) asserting public rights in environmental goods. And when the government creates a market in transferable pollution rights, this can be viewed as a conveyance of some of the public's property rights in the atmosphere to market participants. What the private firms receive is something akin to a usufruct, a leasehold, or a defeasible fee on the environmental goods. These are certainly valuable property rights, though they amount to something less than fee-simple ownership. To say they are not property rights simply because they are neither absolute nor perpetual would be akin to saying that fee simple is the only legitimate estate in land".

thermore, from a conceptual perspective, a thing which is owned can be used in a variety of ways; that is indisputable, whichever theory of property one adopts. For a property right to exist, it is not necessary for the owner to have the right to all the possible uses of the "thing". Penner, for instance, posits that:

> "restrictions on the scope of property rights diminish one's recognition of a right as a property right only where the purpose of the restriction is just that, to prevent holders of the right from treating it as a property right"[100].

In other words, where the restriction is intended to alter the relationship between the owner *qua* owner and the thing owned, that is, "strike at the property-like character of the right", we can no longer speak of property. Penner gives examples of restrictions which strike at the property-like character of the right: the state turning all freeholds into 99-year leases, or listed buildings (where the property right to a piece of land is said to be replaced with a property right to a historic building to which a number of obligations are attached). A general ban on contractual dealings involving houses, but not other types of property, would also strike at the heart of the property right in houses, as "the true intention of the act is to render property-holders mere occupiers". However, if the motivation for the restriction were for instance to prevent disease, this would not be sufficiently closely connected to the property-like character of the right, so would not preclude its categorisation as such[101]. On the other hand, speed limits or planning laws are considered as not being intrinsically linked with ownership, since even non-owners are bound by them (for example the driver of the car does not have to be the owner to be bound by speed restrictions)[102].

Furthermore, Gray notes than regulatory intervention may amount to a taking of property where such intervention removes all reasonable uses of a particular asset:

[100]Penner, *The Idea of Property in Law*, p. 101.
[101]Ibid., p. 102.
[102]Ibid., p. 101.

> whilst a regulatory interference with single incidents of land ownership does not normally or intrinsically merit classification as a deprivation or taking of 'property', it remains feasible that the abstraction or destruction of a *strategic combination* of a landowner's user rights and privileges may bring about precisely this kind of impact[103].

The point is made in the context of the availability of compensation for regulatory intervention, but is equally valid in the context of determining whether or not an entitlement can be viewed as property. If removing all reasonable uses of an asset or, alternatively put, a strategic combination of its property characteristics, amounts to a regulatory taking (which attracts compensation), then it can be deduced that such removal strikes at the heart of the property nature of the particular entitlement.

The idea that some restrictions on use can preclude the categorisation of an entitlement as property seems fairly logical. If I cannot use the thing towards the intrinsic purpose for which it has been created, how can I have a property right in it? This much can be adopted from Penner's view. What is not entirely coherent is his method of determining which restrictions preclude this categorisation and which do not. For the right holder, the end result is the same, whether he is forbidden to transfer his property for the purpose of depriving him of the right *per se*, or for some other extraneous, public policy reason. This end result is namely that he cannot use the thing for one of the intrinsic purposes for which it has been created: that it should be freely transferable so as to allow its owner to benefit from the commercial value of the good owned. Penner's view does not necessarily provide a convincing answer to the question of what constitute invalidating restrictions on use.

To answer this question, it must be examined what amounts to an intrinsic use. Logically, if that use is precluded or considerably curtailed, it can potentially be concluded that the right cannot be conceptualised as property. As part of the investigation, it is worth deconstructing what "owning" an allowance means. There are two possible alternatives. It can mean owning a

[103]Gray, "Can Environmental Regulation Constitute a Taking of Property at Common Law?", at 9, 11, 15.

permit to emit 1 tonne of CO_2, or it can mean owning an asset which has value in the market, as it can be bought and sold.

However, on closer inspection the choices are not alternatives, but are closely linked. Surely the asset has market value only if it encapsulates the right to emit 1 tonne of CO_2, otherwise there is no reason why any market participant (EU ETS regulated or not) should choose to trade it in the first place. It follows that the core (or intrinsic) purpose of an allowance is to permit the emission of 1 tonne of CO_2. If this right to intrinsic use does not extend to non-EU ETS regulated entities, it becomes potentially more difficult to establish that the entitlement in emissions allowances amounts to property. Of course, this restriction is entirely logical, as the Directive cannot conceivably allow non-EU ETS regulated entities to emit CO_2; the very rationale of the EU ETS framework is to restrict the emissions of its regulated entities.

It is consequently argued that emissions entitlements can be categorised as a species of property, in line with the conclusion of the court in *Armstrong v. Winnington*. This categorisation is, however, subject to certain significant qualifications, namely uncertainty over the scope of regulatory intervention and limitation of use. These qualifications represent significant limitations on the key constitutive elements of exclusion and use, which the chapter has identified as necessary for the existence of a property right. Moreover, the rationale for the qualifications lies in the environmental goals that the EU ETS has set out to pursue. The composition of emissions entitlements is therefore dependent on the purpose of the regulatory framework that has created them. In this respect, useful parallels with comparable rights regimes can be drawn, as the following chapter demonstrates. These parallels will ultimately assist with the categorisation of emissions entitlements as instrumental property, as elaborated in the final chapter of the thesis.

4.6 Conclusion

The chapter has compared and contrasted two leading strands of common law property theory in order to assess their respective usefulness in articulating a

construction of new types of legal interests, such as emissions entitlements. It has been argued that the view of commercially valuable property as consisting of the requisite elements of exclusion, transfer and use provides a more helpful tool in this respect than the "bundle of rights" theory of property. It has also been argued that property rights are capable of fairly precise construction, and may not be as abstract and amorphous as the "bundle of rights" theory would have us believe.

In the context of emissions entitlements, the elements of exclusion and use exhibit limitations which impact on the conceptualisation of these interests within the ambit of private property. The scope and limitations of the key characteristics of emissions entitlements are shaped, first and foremost, by their regulatory purpose, rather than by the need to accord legal protection to their holders, as is the case with traditional private property. Emissions entitlements do, however, exhibit crucial elements of property: the right of exclusion (though its strength against the regulator is unclear), free transferability and the possibility of supporting security interests (which is an important commercial use). These attributes warrant the categorisation of emissions entitlements as a special category within private property, namely instrumental property, as the remaining two chapters discuss. Before such a categorisation can be fully elaborated, the scope of the requisite elements of property will be tested in the context of rights regimes which are compared to emissions trading on the basis of these elements, a task which is carried out in the following chapter.

Chapter 5

The Constitutive Elements of Property: A Comparison between Intellectual Property Rights, Milk Quotas, Spectrum Licences and Emissions Entitlements

5.1 Introduction

> Thus if the categorization of rights as property rights is to be of continuing value in legal doctrine it is necessary to identify what, if anything, such rights have in common in modern law.
>
> (Cotterrell)[1]

The chapter covers the second part of the analytical framework put forward by the introduction to the thesis, and explores three rights regimes

[1] Cotterrell, "The Law of Property and Legal Theory", at 90.

which are comparable with emissions entitlements: intellectual property rights, EU milk quotas and spectrum rights. These regimes have been chosen for analysis because milk quotas and spectrum rights entail the granting of private rights in otherwise public resources in a similar manner to emissions entitlements. Moreover, the milk quota system is a form of production regulation which restricts the supply of a good onto the market. Emissions trading similarly aims to restrict the output of emissions and help to achieve EU-wide decarbonisation (which are regulatory goals). In addition, all three regimes have been created by legislation and entail rights in intangible instruments: expressions of ideas, production quotas and the radio spectrum respectively. Furthermore, the three regimes cover a wide range of possible entitlements: intellectual property rights are private property[2], milk quotas lie somewhere between property and personal rights, and spectrum rights have recently been designated as administrative rights which also have some, but not all, property rights characteristics.

Each of the regimes of intellectual property rights (Part 5.2), milk quotas (Part 5.3) and spectrum rights (Part 5.4) is analysed on the basis of the requisite constitutive elements identified in the first part of the framework elaborated in the previous chapter, namely exclusion, transfer and use. The three rights regimes are then compared to one another, again from the point of view of the said key constitutive elements (Part 5.5). Part 5.6 draws parallels between the scope of these elements in the three aforementioned regimes and emissions entitlements, and finds that such entitlements are most similar to milk quotas. That part further suggests a pragmatic approach to articulating a construction of emissions entitlements which adequately takes into account their regulatory nature and the consequent need to reconcile the multiple and potentially conflicting goals of the EU ETS. The chapter

[2]Penner, *The Idea of Property in Law*, pp. 109, 118-120, considers intellectual property to be rights to monopolies; F. Easterbrook. "Intellectual Property Is Still Property". In: *Harvard Journal of Law and Public Policy* 13 (1990), pp. 108–118, pp. 108-118, especially at 118, by contrast, views intellectual property as property rights. A vigorous debate thus exists regarding the legal nature of intellectual property rights. However, for present purposes, intellectual property rights will be considered property, since this is how they are expressly categorised in the UK, the jurisdiction in respect of which these entitlements are examined in the thesis.

concludes that emissions entitlements are best viewed as a special category of private property rights: their contents are determined by regulatory goals and shift according to different contexts, as further elaborated in the final chapter.

5.2 Intellectual property rights

5.2.1 The legal nature of intellectual property rights

The principal[3] categories of intellectual property rights are copyright, trade marks and patents. Intellectual property rights are generally governed by statute and are dealt with by each EU Member State within their respective jurisdictions, although the European Commission is currently seeking to achieve some degree of harmonisation by creating a single market for such rights[4]. For this reason, the chapter focuses on the UK legal system as an example of how intellectual property rights are treated in the national law of a Member State. EU law is also discussed where relevant.

In the UK, copyright, patents and trade marks are all property rights. This has been expressly drafted into the respective key statutes[5].

Copyright encompasses the rights that authors have in literary and artistic works, which include the right to reproduce the work and the right to perform it in public. Trade marks are protected representations (both visual and non-visual, for example olfactory and aural) which are used in commercial contexts to distinguish particular goods or services. Patents protect inventions which fulfil certain requirements centred around novelty[6].

[3]Other categories exist, such as design rights, trade secrets, geographical indications and plant variety rights, but they will not be considered as they do not raise any additional issues relevant for the purpose of the thesis.

[4]*A Single Market for Intellectual Property Rights: Boosting creativity and innovation to provide economic growth, high quality jobs and first class products and services in Europe. COM(2011)287 final.* European Commission Communication. 2011. URL: `http://ec.europa.eu/internal_market/copyright/docs/ipr_strategy/COM_2011_287_en.pdf`.

[5]*Copyright, Designs and Patents Act 1988*, s. 1(1); *Patents Act 1977*, s. 30(1); *Trade Mark Act 1994*, ss. 2(1), 22, 27.

[6]P. Drahos. *A Philosophy of Intellectual Property.* Aldershot: Dartmouth Publishing Company, 1996, pp. 9-10; W. Cornish and D. Llewelyn. *Intellectual Property: Patents,*

These types of rights are different from rights in tangible property. The nature of the property that is the subject of intellectual property rights does not necessarily lead to competitive exclusionary effects, like with tangible property. Knowledge and ideas are public assets. The competitive exclusion arises artificially when the intellectual property right is created, and the inventor or creator is thereby given exclusive use of the invention or creation[7]. Copyright, for instance, leads to the creation of a property right in the expression of the idea by the author, a right that the author can use to secure profit in the market. Intellectual property rights are therefore artificially created rights (by way of legislation) to regulate competition at the innovation and creation level. They are different from traditional property rights, which simply recognise a situation in law, for instance the physical possession of and control over goods[8].

5.2.2 What are the justifications and goals of intellectual property rights?

Intellectual property rights have been justified on a variety of grounds, which vary as between copyright, patents and trade marks. The various rationales that have been offered as explanations for the existence of intellectual property rights are highly relevant as they throw light on why the contents of these rights have been crafted in the way that they have. Even if the legislature and courts have not always expressly paid attention to these theoretical justifications in creating and interpreting intellectual property rights respectively[9], it is argued that in reality a balancing exercise is always inevitably necessary when articulating the contents of and in particular the limitations placed on intellectual property rights.

Some key theoretical rationales for intellectual property rights are ex-

Copyright, Trademarks and Allied Rights. London: Sweet and Maxwell, 2010, pp. 7-9.

[7]Cornish and Llewelyn, *Intellectual Property: Patents, Copyright, Trademarks and Allied Rights*, pp. 36-37; P. Torremans. *Holyoak and Torremans Intellectual Property Law*. Oxford: Oxford University Press, 2010, pp. 11-12.

[8]Torremans, *Holyoak and Torremans Intellectual Property Law*, p. 17.

[9]L. Bently and B. Sherman. *Intellectual Property Law*. Oxford: Oxford University Press, 2008, p. 39.

plored below. They have been selected as they are have been specifically referred to in legal doctrine.

Copyright

Reward-based justifications view copyright as intended to act as reward and protection for individuals who put substantial effort into turning an idea (a public good) into their own work, which subsequently becomes protected. Copyright thus protects innovations and creations, and rewards innovative and creative activity[10]. Incentive-based theories hold that copyright encourages the creation and dissemination of works, which is beneficial for society as a whole; the legal protection incentivises authors to produce creations which they may otherwise not produce if others could freely avail themselves of their efforts. Authors are thus given an economic (a monetary) incentive to create works that have public value[11].

A variant of reward theory is evident as a justification for copyright in a number of cases in the English courts. As early as 1900, it was stated in *Walter v. Lane*[12] that the law could not permit someone to appropriate the labour, skill and capital of another[13]. More than 100 years later, it was held in *Designers Guild v. Williams*[14] that the person who created an original work using his own skill and labour had the exclusive right to copy that work. This was said to be the principle on which the law of copyright was based[15].

Patents

One of the dominant lines of justification for the existence of patents is information-based, and in particular relates to public interest considerations. Patents are said to be useful to society as they involve the disclosure and circulation of valuable technical information in return for legal protection for

[10]Bently and Sherman, *Intellectual Property Law*, p. 36.
[11]Ibid., p. 37.
[12]*Walter v. Lane [1900] AC 539.*
[13]Ibid., p. 545.
[14]*Designers Guild v. Williams [2001] FSR 11.*
[15]Ibid., para. 2.

the inventor. Patents have also been persuasively justified on the ground that they provide incentives for the production of new inventions[16].

The latter justification was employed to explain the rationale of the patent system in *Asahi Kasei Kogyo*[17] as being "the encouragement of improvements and innovation": the inventor received a monopoly over the exploitation of the invention in return for disclosing it publicly. This view can also be interpreted as endorsing the perception of patents as a public policy service, whereby valuable information is made public, while the inventor is rewarded. The incentive-based theory and the public interest justification of the patent system are therefore closely intertwined.

Trade marks

The most prevalent line of argument in favour of trade marks is based on the information that they relay. Trade marks are said to provide valuable information to consumers regarding the particular product so that they can make informed choices in the market. This information reveals the origin of the product, and also serves as an indicator of quality which can be easily and quickly assessed by the consumer. Trade marks are also said to incentivise firms to maintain certain standards of quality and compete with one another in doing so. In this sense trade marks recognise the investment that has been put into promoting the particular product in the market[18].

Both UK and EU cases have addressed the justifications for the existence of trade mark protection. In *L'Oreal v. Bellure*[19] it was noted that, as well as identifying and guaranteeing origins, a trade mark also serves to indicate that its owner has a "legitimate interest" in protecting its subject.[20]. This stance seems to combine the recognition of the trade mark owner's investment with

[16]Bently and Sherman, *Intellectual Property Law*, pp. 339-340; Cornish and Llewelyn, *Intellectual Property: Patents, Copyright, Trademarks and Allied Rights*, pp. 133-140; Torremans, *Holyoak and Torremans Intellectual Property Law*, pp. 42-44.

[17]*Asahi Kasei Kogyo [1991] RPC 485.*

[18]Bently and Sherman, *Intellectual Property Law*, pp. 718-719; Cornish and Llewelyn, *Intellectual Property: Patents, Copyright, Trademarks and Allied Rights*, pp. 620-626; Torremans, *Holyoak and Torremans Intellectual Property Law*, pp. 388-389.

[19]*L'Oreal v. Bellure [2007] ETMR 1.*

[20]Ibid., para. 99.

the information-providing function of trade marks, placing particular emphasis on the former as a justification for this sort of protection. At the EU level, the Opinion of the Advocate-General in *Arsenal*[21] states that a trade mark represents an indication of quality and, more than that, as such represents the value of the investment that its owner has made[22]. The guarantee of origin and quality and the value of the trade mark owner's investment are therefore closely linked; the latter effectively ensures that the former can exist and be accurate. Another way of looking at this relationship is that the trade mark owner benefits (and can recoup his investment) from the fact that the trade mark indicates a reputable origin and a certain standard of quality to the consumer. Of course, the issue that the trade mark additionally guides the consumer in making informed choices is also valid. Indeed, it has been suggested that it has become the key function of trade mark law, where initially it had been the protection of the trade mark owner that had provided the crucial legislative impetus[23].

5.2.3 How do these justifications and goals fit in with the contents of intellectual property rights?

The existence of certain exceptions to intellectual property rights renders it necessary to delve a little deeper and examine the rationales behind allowing such exceptions to the right holder's expected entitlements of exclusion, use and transfer. It is posited that the goals of intellectual property rights and the scope of these limitations on their constitutive elements are closely connected. The justifications given for the existence of the various intellectual property rights that have been discussed above can be summarised in terms of two key elements. On the one hand, there is the perceived need to offer the right holder the requisite protection merited by his investment (whether the personalisation of an idea in copyright, the creation of a new invention protected by a patent, or the resources expended to promote a product through

[21] *Arsenal Football Club plc v Reed [2003] ETMR 19.*
[22] Ibid., paras. 46-47.
[23] Torremans, *Holyoak and Torremans Intellectual Property Law*, pp. 388-389.

the use of a trade mark). On the other hand, intellectual property rights are seen as bringing some sort of value to society in general: copyright facilitates the creation and dissemination of literary and artistic works, the patent system enables the disclosure of useful inventions, and trade marks help consumers make informed choices.

The balancing exercise when crafting the contents and specifically the limitations of intellectual property rights is thus carried out between the need to protect the right holder and the need to provide value to society. It is posited that trade offs between these two potentially competing goals of intellectual property rights are evident in the articulation of the limitations on their key characteristics of exclusion, transfer and use. In particular, since the starting point for all intellectual property rights is the conferment of an effective monopoly on the right holder, it is logical that derogations from this premise may be necessary in order to prevent this proprietary monopoly from adversely affecting the circulation of valuable ideas and information in society. In other words, the limitations on the property rights represented by copyright, patents and trade marks can be regarded as seeking to restore the balance that the existence of these rights in the first place has skewed heavily towards the right holder. However, it must not be forgotten that any derogations from the property right are just that: derogations, and thus exceptions which apply in carefully defined, limited circumstances. This accords with the legal characterisation of copyright, patents and trade marks as property rights. They are defeasible only if it has been persuasively demonstrated that a more important value is at stake which warrants a certain degree of renouncement of the proprietary monopoly.

Exclusion

This characteristic of intellectual property rights manifests itself very strongly as these rights are negative rather than positive entitlements. They are effectively exclusionary rights through which third parties are prohibited from using and exploiting the protected subject. Intellectual property rights give

their owner exclusive use of the invention or creation[24]. The ability of the author to exploit his creation is not dependent on the existence of a protecting intellectual property right; the right simply serves to add the benefit of excluding others[25].

There are, however, a number of carefully defined exceptions to the right holder's entitlement to exclude third parties from making use of or interfering with the intellectual property right. These exceptions act as defences that a third party may rely upon when sued for infringement of an intellectual property right. In other words, they exonerate a defendant from liability for acts that would otherwise constitute an infringement of the intellectual property right at stake. The defences can only apply once an infringement has been established, and have been referred to by some commentators as derogations from property rights[26]. Defences differ as between the various intellectual property rights.

In the context of copyright, the most important defences in relation to private third parties are those related to fair dealing, which can be invoked only when such dealing was carried out for research or private study, for criticism or review, or in order to report current events[27]. In relation to the acts of public authorities, exceptions to copyright infringement exist under the umbrella of public administration. Copyright will not be infringed by anything done for the purpose of Parliamentary or judicial proceedings[28], for the purpose of Royal Commission proceedings or statutory inquiries[29], for the purpose of copying public records and material on a statutory register[30], for the purpose of the copying and issuing by the Crown of unpublished works communicated to it in the course of public business[31], and by acts done under

[24]Cornish and Llewelyn, *Intellectual Property: Patents, Copyright, Trademarks and Allied Rights*, p. 6; Torremans, *Holyoak and Torremans Intellectual Property Law*, p. 11.
[25]Cornish and Llewelyn, *Intellectual Property: Patents, Copyright, Trademarks and Allied Rights*, p. 6.
[26]Bently and Sherman, *Intellectual Property Law*, pp. 199-200.
[27]*Copyright, Designs and Patents Act 1988*, ss. 29, 30.
[28]Ibid., s. 45.
[29]Ibid., s. 46.
[30]Ibid., ss. 47, 49.
[31]Ibid., s. 48.

specific statutory authority[32].

The key exceptions to the monopoly conferred by a patent are the notions of private non-commercial use, experimental use and prior use[33]. In addition, there are statutory provisions governing Crown use. This means that the government, through its authorised representatives, may make use of the patent for the services of the Crown[34]: these include the supply of things for foreign defence purposes, the production or supply of certain medicines, and the production, use or research into atomic energy of a patented invention without needing prior consent from the patent owner in the manner set out in the Patents Act 1977[35]. The uses listed therein are largely similar to those acts which would in any other circumstances be considered an infringement of the patent by the aforementioned statute[36]. Moreover, during a period of declared national emergency, the Crown may do anything which would otherwise amount to patent infringement[37]. The conditions for payment of compensation to the patent owner are detailed in the Act; compensation is to be agreed between the relevant government department and the patent owner, and in default of agreement it will be settled by the High Court[38].

The exceptions available in the context of registered trade marks include the use of one's name or address, use of the trade mark to indicate the characteristics of a good or service, and use of the trade mark to indicate the intended purpose of a good or service[39]. There are no specific statutory or common law provisions regarding the interference with trade marks by public authorities. However, trade marks may be removed from the register altogether and thus cease to receive the protection of registration on a number of possible grounds which include, *inter alia*, proven invalidity of the regis-

[32] *Copyright, Designs and Patents Act 1988*, s. 50; Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 319.

[33] *Patents Act 1977*, ss. 60(5), 64(1); Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 319.

[34] *Patents Act 1977*, s. 56(2).

[35] Ibid., s. 55(1).

[36] Ibid., s. 60.

[37] Ibid., s. 59.

[38] Ibid., s. 55(4).

[39] *Trade Mark Act 1994*, s. 11(2).

tration[40], as well as lack of genuine use and misleading nature[41]. Trade mark rights may also be suspended in times of war where the owner is an enemy subject, and where another person needs to use the trade mark to describe goods or services[42].

Given the inherently exclusionary nature of intellectual property rights, it is not surprising that derogations from the exclusion characteristic are crafted as defences. The "wrong" committed by the interfering third party is acknowledged as it is accepted that a breach of the intellectual property right has occurred. The onus is on the third party to prove that its actions fall within one of the permitted defences, otherwise liability exists for the breach. The location of the burden of proof indicates that the availability of derogations from the exclusion entitlement is very strictly limited, in line with the nature of strong private property rights. The exceptional nature of the defences to intellectual property rights infringement is exemplified by the scope of these derogations. While seeking to rectify potential harm to society through the monopolisation of valuable information, the defences are also carefully drafted to ensure that any uses of the object of the rights are of such nature as not to unduly harm the interests of the right holder.

The fair dealing defences to copyright infringement are narrowly restricted to particular purposes, where such use by a third party is made in a context which does not interfere with the right holder's ability to successfully exploit his creation commercially. Making use of a copyrighted work for one's personal benefit does not affect the value of the work in the commercial sphere. Where the infringing use clearly indicates that its purpose is to criticise, review or relay news, this makes it clear to the public at large that the work in question remains very much protected by copyright, while demonstrating that the infringing use is carefully restricted to ensure that it is providing a valuable public service. In the context of defences to copyright infringement on public administration grounds, the justification offered is once again the public interest: copying or otherwise dealing with the work is permitted for

[40] *Trade Mark Act 1994*, s. 47.
[41] Ibid., s. 46.
[42] *Patents, Designs, Copyright and Trade Marks (Emergency) Act 1939*, s. 3.

the specified purposes as they are deemed necessary for public administration. It is also considered that the copyright owner will not have his rights affected in a substantial negative manner[43].

Defences to patent infringements are either limited to the non-commercial sphere or permitted on the grounds that they are bringing a benefit to society and achieving an equitable balance of interests between patent holders and third parties. Testing the workability of the patented invention (experimental use) is of substantial value as it facilitates scientific development. Allowing persons who were legitimately and *bona fide* carrying out activities which were subsequently patented to continue doing so achieves an equitable settlement; it is not considered fair that such persons should be negatively affected by the patenting of their activities, which they could not have predicted. The provisions for Crown use only exist in the context of patents, not of copyright or trade marks, and are fairly extensive, as it has been seen above. This correlates with the notion of patents as being granted by the Crown and therefore subject to certain reservations of rights by the same[44]. The idea of reserved Crown use indicates the nature of patents as restrictions which keep a particular invention out of the public domain, but which do not apply in this manner where it is necessary to make use of the invention for certain matters deemed to be in the national interest. It also highlights the need to balance the rights of patent owners with matters in the national interest which may warrant these rights being overridden in statutorily defined circumstances.

The defences available for trade mark infringement are somewhat differently motivated than those for copyright or patent infringement. It has been seen above that the main purpose of the trade mark regime is to provide information to consumers, while at the same time to recognise and protect the investment of the trade mark owner. Any exceptions to this dual informative and protective role of trade marks must therefore logically be crafted to apply in circumstances where there is little risk of confusion on the part

[43]K. Garnett, G. Davies, and G. Harbottle, eds. *Copinger and Skone James on Copyright*. London: Sweet and Maxwell, 2011, at 9-140.

[44]R. Miller et al., eds. *Terrell on the Law of Patents*. London: Sweet and Maxwell, 2010, at 23-02.

of consumers and of unfair competition with the trade mark owner. This was the position taken in *Reed Executive v. Reed Business Information*[45], where it was stated that a person could use his own name even if it infringed a registered trade mark, provided that the amount of confusion caused did not lead to unfair competition with the trade mark owner. In practice, there would have to be actual deception for such unfair competition and confusion to arise, which is a fairly high threshold[46]. The rationale behind trade marks helps to explain why there are no specific provisions regarding interference with trade marks by public authorities, as is the case with copyright and patents. Trade marks are specific to their owners, who have developed them to promote specific products in the commercial context. As such, it would be difficult to envisage circumstances where the state would be justified in interfering with such rights.

This view highlights the risk that the monopoly granted by a trade mark can stifle the business of third parties if applied too strictly. It could also be argued that the defences on the whole may in fact aid the provision of accurate information to consumers, for example where a third party legitimately uses a registered trade mark (thereby breaching it) to describe the purpose of a product or service, rather than associating that product or service with the trade mark in a distinctive way which could lead consumers to believe that the trade mark belongs with that product or service. The test is whether, once the consumer is provided with all the facts, he would conclude that the advertisement is not honest[47].

In addition to the defences available for certain infringements of intellectual property rights, the relevant regulators also possess the ability to revoke those rights which are registrable. Statutory provisions regarding revocation thus only apply to patents and trade marks, not copyright.

Trade marks are premised on use, in order to provide information to consumers and thereby warrant legal protection. It is due to this purpose that trade mark revocation may occur on three principal grounds, namely where

[45] *Reed Executive v. Reed Business Information [2004] RPC 767.*
[46] Ibid., *per* Jacob LJ.
[47] *L'Oreal v. Bellure [2007] ETMR 1*, para. 169.

a trade mark is not being used (so as to avoid stockpiling of trade marks which do not serve any informative purpose), where a trade mark has become generic in nature (so that it no longer clearly identifies one product or service over others), or where a trade mark has become deceptive (and is thus likely to mislead consumers)[48]. The rationale behind allowing revocation of registered trade marks in these types of scenarios is based on the notion of trade mark protection being dependent on their ability to inform consumers[49]. Where a trade mark is no longer fulfilling its (primary) informative purpose, it consequently no longer merits legal protection.

Revocation is also possible for patents in the limited circumstances prescribed by the Patent Act 1977[50], notably where the invention proves not to be patentable, where the patent was granted to someone who was not entitled to it, where the patent does not make adequate disclosure of the invention, and where the material in the actual patent goes beyond the patent application. The purpose of these scenarios where a registered patent can be revoked is to deny legal protection to those patents which do not provide the public with valuable information regarding an important invention, and to prevent people from benefiting from the patent where this is not warranted.

Transfer

Copyright, patents and trade marks are assignable without any limitation on this entitlement[51]. This is logical; as commercially valuable private property rights, they need to be capable of transfer between parties.

Use

The range of uses and types of exploitation that an owner can undertake as regards his intellectual property right is extensive. Intellectual property rights can be exploited by their owners for their personal benefit, licensed to

[48] *Trade Mark Act 1994*, s. 46(1).

[49] Cornish and Llewelyn, *Intellectual Property: Patents, Copyright, Trademarks and Allied Rights*, p. 728.

[50] *Patents Act 1977*, s. 72.

[51] Although there are certain requirements for the assignment to be valid; it must be in writing and signed by or on behalf of the assignor.

third parties, used as security, or passed by way of will or intestacy rules. This is the same spectrum of activities that the owner of a property right in a tangible resource (such as land) would expect to have.

There are, however, a number of limitations on the way in which an owner can use his intellectual property right. These limitations include common law grounds for intervention in contractual bargaining based on public policy grounds (for example undue influence and restraint of trade rules), as well as UK and EU competition rules. These are the same kinds of limitations that would apply to contracts with any subject, not just those for the exploitation of intellectual property rights. These types of contractual limitations will therefore not be discussed here. The key limitations on the use of intellectual property rights which are relevant here are compulsory licensing and temporality. These categories of limitations have been chosen for discussion as they are closely linked to the perceived purpose of each of the three types of intellectual property rights.

Compulsory licensing Despite the proprietary nature of the rights, which means that the owner is entitled to grant licences for the use of the rights to third parties on freely negotiable terms, in certain exceptional situations the grant of a compulsory licence may be ordered. Compulsory licensing is available for copyright and patents, but not for trade marks. Overall, a compulsory licence may be granted where there is a breach of competition law (namely an abuse of a dominant position) in the context of copyright or of a patent, or to prevent under-exploitation of patents.

It is logical that copyright and patents are liable to compulsory licensing as they are in essence monopolies which, although intended to foster creativity and inventiveness, at the same time have the potential to unduly restrict competition in their relevant markets, as well as prevent access to valuable inventions in the case of patents. As it will be seen below, compulsory licensing for copyright is significantly less extensive than for patents, which are perceived as more potentially damaging due to the unavailability of valuable information to the public. There is no compulsory licensing for trade marks, arguably because by their very nature they have been created in order to

mark out a particular product or service and to enable the trade mark owner to benefit from his investment in the product or service by continuing to associate the trade mark with it[52].

With copyright, compulsory licensing can principally occur in certain exceptional circumstances which amount to a breach of competition law, more precisely of Article 102 of the Treaty on the Functioning of the European Union (TFEU)[53] (formerly Article 82 of the EC Treaty)[54]. If a number of conditions are satisfied, the copyright owner can be compelled by the European Commission to license the right, where a refusal to do so would amount to an abuse of the right holder's dominant position in the relevant market. In order for such a compulsory licence to be granted, the copyright owner must be dominant in a particular market, and the refusal to grant a licence on voluntary terms must amount to an abuse of this dominance. It must be remembered here that the very notion of compulsory licensing strikes at the heart of the intellectual property right as it prevents the owner from freely determining the terms of exploitation of the right. A refusal to grant a licence to a third party is part and parcel of the exclusionary nature of the intellectual property right. As such, the circumstances where such a refusal is not legitimate as it is in breach of competition law must necessarily be very limited and wholly exceptional.

This was recognised in a line of EU cases which gradually articulated the requisite conditions (so-called "exceptional circumstances") where such a refusal would amount to an abuse of a copyright owner's dominant position in the market[55]. For an abuse to exist, three cumulative conditions have to be met: the refusal to grant a licence is preventing the emergence of a new product for which there is potential consumer demand, there is no objective justification for the refusal, and the refusal excludes competition

[52] H. Hovenkamp, M. Janis, and M. Lemley. *IP and Antitrust: An Analysis of Antitrust Principles Applied to Intellectual Property Law.* Aspen Publishers Online, 2001, pp. 6-40.

[53] *Treaty on the Functioning of the European Union [2012] OJ C326/47*, art. 102.

[54] *Treaty establishing the European Community (Nice consolidated version) [2002] OJ C325/1*, art. 82.

[55] *Joined cases C-241/91 P and C-242/91 P Radio Telefis Eireann and Independent Television Publications Ltd v. EC Commission [1995] ECR I-743*; *Case C-418/01 IMS Health v. NDC Health [2004] 4 CMLR 1543.*

on a secondary market (which is connected to the primary market where the right owner holds a dominant position)[56]. This is a very well defined and closely restricted view of the scenarios where a copyright owner's freedom to refuse to license his right can be justifiably disregarded in favour of upholding competition. That such conditions would have to be satisfied before the exercise of an intellectual property right could be held to amount to abuse of dominance was confirmed as also applicable to patents, not just copyright[57].

With patents, more extensive compulsory licensing can occur under the general provisions of the Patent Act 1977[58] in the UK (which incorporate provisions to this effect in the World Trade Organisation (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)[59]). The principal aim of these provisions is to compel the patent owner to exploit it where he cannot or will not do so, and where the public would therefore be unduly deprived of access to a valuable invention. The statutory provisions envisage that circumstances may arise where, for instance, the patent owner is not capable of developing or exploiting the patent, but is preventing others from doing so by not licensing it to them. Other types of circumstances may exist where, for example, public policy grounds exist for licensing to be required, for instance in the case of essential drugs. The point of this sort of compulsory licensing is to rebalance the interests of society as against the monopolistic protection that a patent confers on its owner. It must be again remembered that, as a property right, a patent confers on its owner the entitlement to grant licences on chosen terms or to not grant licences at all. Any derogations from this entitlement are therefore necessarily limited[60].

Temporality Intellectual property rights are subject to temporal limitations prescribed by statute. Copyright is limited to the life of the author plus 70 years[61] for original as opposed to entrepreneurial works (that is, lit-

[56] *Case C-418/01 IMS Health v. NDC Health [2004] 4 CMLR 1543*, pp. 1579-1580.
[57] *Sandisk v. Philips Electronics [2007] IL Pr 22.*
[58] *Patents Act 1977*, ss. 48, 48A, 48B.
[59] *Patents and Trade Marks (WTO) Regulations 1999 (SI 1999/1899).*
[60] Torremans, *Holyoak and Torremans Intellectual Property Law*, p. 106.
[61] *Copyright, Designs and Patents Act 1988*, s. 12.

erary, dramatic, musical and artistic works as opposed to, for instance, sound recordings and broadcasts). Patents are limited to 20 years from the filing date[62]. There are no temporal limitations for trade marks; they are granted with an initial term of 10 years and need to be renewed every 10 years, but renewals can technically be made indefinitely[63].

The setting of these temporal limitations constitutes an attempt to balance the need to protect right owners against the public interest in having access to the work or invention. The temporal limitations do not invalidate the property categorisation of intellectual property rights[64]. With copyright, it was felt that the author's successors as well as the author himself were deserving of legal protection. As for patents, the idea behind setting the 20-year term seeks to balance the need to give the owner sufficient time to profitably exploit his invention, and the need of society at large to gain access to this invention so that others can use it to bring about improvements as well as new products. Trade marks are arguably much more personal to their owner as the owner has created the particular trade mark in order to promote a specific product, which is what may justify their indefiniteness. However, the need remains to ensure that trade marks are not stockpiled indefinitely if they are not actually needed by their owner, hence the need to renew them every 10 years. This gives the owner the opportunity to regularly review whether the trade mark is still needed or not.

5.2.4 Conclusion

The discussion of intellectual property rights above is necessarily limited to a brief incursion into this vast area of law. It is not intended to provide extensive coverage of the case law and statutes governing intellectual property in the UK. It is, however, intended to highlight the correlation that has been expressly made in intellectual property law between the goals ascribed to the various sets of rights (copyright, patents, trade marks) and the limitations

[62] *Patents Act 1977*, s. 25.

[63] *Trade Mark Act 1994*, ss. 42, 43.

[64] Gray, "Property in Thin Air", at 41, "I may have 'property' in a resource today, but not tomorrow".

placed on the scope of these rights. The aforementioned examples of limitations on the scope of these property rights have been selected in order to illustrate how the limitations are in essence exceptional and carefully drafted derogations which leave unaffected the legal characterisation of copyright, patents and trade marks as property rights. Intellectual property law has had the benefit of plentiful discussion of the correlation between its goals and the limitations on its scope. The conclusion that can be drawn is that the competing interests of the right owner and of the public have been in the minds of both legislators and courts when drafting and interpreting this area of law.

5.3 EU milk quotas

Milk quotas were introduced in the European Community in 1984 to deal with the continuing oversupply of milk, which was causing substantial disposal costs[65]. The currently applicable legislation is the Single Common Market Organisation (CMO) Regulation.[66]. Milk quotas form part of the structure of the European common market, of which the common organisation of markets in milk and milk products forms a part. The quota system is scheduled to continue until 2015, when it is envisaged that it will finally be phased out[67]. The rationale for this regulatory system is to restrict milk production on policy grounds and to protect the viability of the European common market in milk and milk products. Wholesale national quotas are allocated by the European Commission to Member States, who are subsequently responsible for setting up a national quota reserve and carving it up into smaller quotas to be allocated to individual milk producers[68] in accordance with historical

[65] *Council Regulation (EEC) No 857/84 of 31 March 1984 adopting general rules for the application of the levy referred to in Article 5c of Regulation (EEC) No 804/68 in the milk and milk products sector [1984] OJ L90/13.*

[66] *Council Regulation (EC) No 1234/2007 of 22 October 2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation) [2007] OJ L299/1.*

[67] *Milk and milk products.* European Commission, Agriculture and Rural Development. URL: `http://ec.europa.eu/agriculture/milk/`.

[68] *Council Regulation (EC) No 1234/2007 of 22 October 2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural prod-*

levels of each Member State's choice (for instance, the UK based its allocation on 1983 production levels)[69]. If the national quota of a particular Member State is exceeded in any given year, those individual producers who have exceeded their quota are liable to pay a levy (although this may be offset to some extent by the reallocation of quota from producers who have not made full use of it)[70].

The details regarding the methods of allocation and other internal workings of the quota system are complex and outside the scope of the thesis. The present part will focus on the issues surrounding the legal status of quotas in EU law and the two common law systems in the EU, namely the UK and Ireland[71]. EU law is considered since the milk quota system is entirely a creature of EU common market policy. The jurisdictions of UK and Ireland will also be considered as they have witnessed cases which throw light on the judicial perception of the legal nature of milk quotas. In Ireland, in particular, the issue of the nature of the rights in milk quotas has been discussed in some detail by national courts, including the Irish Supreme Court. This is probably because the market for milk and milk products is particularly sizeable in Ireland, so it is significantly affected by the EU quota system. Specifically, this part examines the legal nature of milk quotas in view of their regulatory purpose. In doing so, the discussion will concentrate on the three elements which have been identified as key to constituting a property right in legal theory, namely exclusion, transfer and use, in the same way as for intellectual property rights above.

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ucts (Single CMO Regulation) [2007] OJ L299/1, arts. 68, 71.

[69] *Practice Note 7: Part 1: The History and Development of Milk Quota Legislation.* Valuation Office Agency. URL: `http://www.voa.gov.uk/corporate/Publications/Manuals/InheritanceTaxManual/pnotes/s-iht-man-pn7-pt1.html`.

[70] *Council Regulation (EC) No 1234/2007 of 22 October 2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation) [2007] OJ L299/1*, art. 78.

[71] Consequently, whenever references are made to national legal systems in this chapter, this means the UK and Irish systems unless stated otherwise

5.3.1 Exclusion

The milk quota scheme is a creation of EU law, with the quotas being granted and allocated by the Commission to Member States, who then allocate them amongst their national milk producers. It was specifically stated in *Maher* that the scheme is "an integral part of the common organisation of the market in the milk sector"[72]. This raises the question of whether national authorities can confiscate quotas or otherwise interfere with them in a manner which negatively affects their value. Furthermore, if this is possible, it must be asked whether compensation is owed by the national authority to the milk quota holder. The answers to these two questions are extremely important in determining whether milk quotas can be categorised as property rights, as any interference by public authorities with property rights is usually prescribed in some detail and accompanied by a certain level of compensation[73].

The Single CMO Regulation provides for a number of instances when the national authority can interfere with the milk quota. Member States may retain part of a quota which has been transferred (with or without land) and add it to their national quota reserve; this is referred to as siphoning. The part of the quota that has been retained in this manner is no longer available to the parties to the transfer[74]. Moreover, Member States can confiscate quotas from producers who are no longer active in milk production and have not been so for 12 months; the quota is then transferred to the national reserve. If production restarts within two years of confiscation, all or part of the quota is returned to the producer[75]. Also, where production is less than

[72] *Maher v. Minister for Agriculture, Food and Rural Development [2001] IESC 32*, para. 237; J. Usher. *General Principles of EC Law*. Harlow: Addison Wesley Longman, 1998, p. 96.

[73] Pennings, Heijman, and Meulenberg, "The Dimensions of Rights: A Classification of Environmental Rights and Production Rights", at 59-60.

[74] *Council Regulation (EC) No 1234/2007 of 22 October 2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation) [2007] OJ L299/1*, art. 76; see also Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 320, n. 118.

[75] *Council Regulation (EC) No 1234/2007 of 22 October 2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation) [2007] OJ L299/1*, art. 72(1).

70% of the allocated quota, the unused portion of the quota can be confiscated and added to the national reserve, with the possibility of reallocation upon recommencement of production[76]. No provisions as regards compensation are stipulated in these types of scenarios. By contrast, where a producer has surrendered his quota to the national reserve voluntarily, Member States can stipulate rules for compensation to be provided by those producers to whom this quota is reallocated[77].

The absence of compensation appears logical in the instances where production has ceased or has been interrupted, since the producers are not actually making use of the quotas, so there is no real quantifiable loss arising from the discontinuation of the quota. In any case, should production resume, the quotas can be reallocated back. Since the rationale of the quota scheme is to support milk producers by regulating the price of milk and milk products in the common market, it makes sense that those who are no longer engaged in production should not be able to retain their quotas. The grounds for allowing siphoning are said to be to encourage or discourage certain types of quota transfers, such as disincentivising transfers out of certain regions or incentivising producers who are new to the market[78]. That no compensation is available to the parties to the transfer may seem unfair, but it must not be forgotten that the primary aim of the quota system is to regulate the common market, and the interests of private parties affected by this scheme certainly appear to be subordinated to this regulatory aim. The kinds of justifications that have been formulated in defence of siphoning provisions in Member States have been discussed by national courts. In the Irish case of *Condon v. Minister for Agriculture and Food*[79] the court found the siphoning provisions implemented in Ireland to be fair and reasonable, as their aims were to prevent the accumulation of substantial milk quotas in the hands

[76] *Council Regulation (EC) No 1234/2007 of 22 October 2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation) [2007] OJ L299/1*, art. 72(2).

[77] Ibid., art. 75(1)(a), (b).

[78] *Evaluation of the Environmental Impacts of Milk Quotas, Final Deliverable Report prepared for DG Agriculture*. Alliance Environnement. 2008. URL: `http://ec.europa.eu/agriculture/eval/reports/milk_quot_ei/fulltext_en.pdf`, p. 25.

[79] *Condon v. Minister for Agriculture and Food (1993) 2 IJEL 151.*

of a few farmers and to encourage an equitable distribution of the quotas. These aims were said to be in line with the Single CMO Regulation and necessitated by Ireland's obligations as a Member State.

The crucial importance of the ultimate regulatory goal in articulating the contents of the right in milk quotas was further emphasised in *Maher* in terms of the expectation involved in transferring such quotas. One of the points raised by the claimants was that they had been compelled by the relevant national regulations to sell their milk quotas at a particular price set by the Irish Minister for Agriculture, and that this price had been below what they would have obtained in the open market. They had ceased milk production and had subsequently surrendered their quota to the national reserve. The Minister had set the reallocation price (that is, the price that other farmers to which the quota would be reallocated would have to pay as compensation to the surrendering party) at a certain level, which the claimants argued was too low. In effect, the claimants were arguing that their milk quota had been expropriated in return for an inadequate level of compensation. The Irish Supreme Court held that the measures for surrendering quotas and setting the reallocation price did not bring about a forfeiture of a substantive right (such as a property right). Rather, they were mere regulatory adjustments which were inherent in the market organisation, which participants could not legitimately expect to remain static. This inherent potential for adjustments was something that market participants had effectively signed up to by being in the market in the first place[80].

The court also noted that the milk quota system could not be accurately described as part of the open market: "the market in milk and hence its price is a creature of the particular market conditions created by the regulatory regime itself"[81]. It was said to create "an artificial market for milk products since the regime was designed at all times to counteract the negative effects of prevailing market forces in open unregulated national markets"[82]. The Minister was therefore entitled to set the price at the level which was rational

[80] *Maher v. Minister for Agriculture, Food and Rural Development [2001] IESC 32*, paras. 256-257.
[81] Ibid., para. 258.
[82] Ibid., para. 238.

and suitable for the continuing functionality of the common market in milk and milk products, with a view to achieving the regulatory objectives of this common market[83].

5.3.2 Transfer

Milk quotas were not initially designed to be transferable, but over time they developed in this direction, for instance in the UK. Other Member States, such as France and Germany, continued to have a much more rigid quota system, with substantially less transferability[84]. Transferability is permitted insofar as it provides a means of avoiding "undesirable effects on the structure of milk production"[85]. Beyond this regulatory goal, the judicial response has been one of effective hostility against unbridled transferability, which is perceived as only permissible insofar as it promotes the goal of the quota system, that is, to help optimise the workings of the common market by adequately regulating milk production. That milk quotas have over time become transferable and have acquired significant commercial value in themselves is apparent from the case law discussed below. However, neither the EU nor the national courts in the UK and Ireland have taken the additional step of equating the attributes of transferability and commercial value with the existence of property rights, despite this link having been made rather more easily by some academic commentators[86].

In *Wachauf*[87],one of the early cases on milk quotas, the European Court of Justice (ECJ) was very critical of the development of a system of trading in such regulatory instruments, especially where this was perceived as involving speculation on the quota market for the purpose of pure profit-making.

[83] *Maher v. Minister for Agriculture, Food and Rural Development [2001] IESC 32*, para. 260.

[84] Ibid., para. 183.

[85] M. Cardwell. *Milk Quotas: European Community and United Kingdom Law*. Oxford: Clarendon Press, 1996, pp. 92-93.

[86] L. Slangen and N. Polman. "Land Lease Contracts: Properties and the Value of Bundles of Property Rights". In: *Wageningen Journal of Life Sciences* 55 (2008), pp. 397–412, at 405.

[87] *Wachauf v. Bundesamt für Ernährung und Forstwirtschaft [1989] ECR 2609.*

This view was reiterated in subsequent cases, notably *Von Deetzen II*[88] and *Bostock*[89]. In particular, in the latter case the ECJ held that "[t]he right to property safeguarded by the Community legal order does not include the right to dispose, for profit, of an advantage, such as the reference quantities allocated in the context of the common organisation of a market, which does not derive from the assets or occupational activity of the person concerned"[90]. The reluctance to condone transferability for its own sake was also reflected in the judgment of the Irish Supreme Court in *Maher*[91]. It was stated therein that "[t]he milk quota system is an integral part of the common organisation on the market in the milk sector... the conditions of trade... are fashioned by the regulatory regime..."[92]. The legal characteristics of the milk quota rights system, of which transferability is one, are therefore defined and limited by the ultimate regulatory goal.

Another limitation on the holder's right to transfer a milk quota is that, as a general principle, the quota is attached to the land for which it has been granted[93]. There are a number of exceptions to this general rule which allow for quota transfers to be effected between milk producers without corresponding land being transferred at the same time, but these are limited in number and narrowly defined[94]. The reason for attaching milk quotas to land holdings is that it prevents them from being traded for purely commercial or speculative purposes; this has been confirmed by the ECJ[95] as well as by

[88] *Case 44/89 Von Deetzen [1991] ECR I-5119.*

[89] *Case 2/92 R. v. Ministry of Agriculture, Fisheries and Food, ex p. Bostock [1994] ECR I-955.*

[90] Ibid., at I-984.

[91] *Maher v. Minister for Agriculture, Food and Rural Development [2001] IESC 32*.

[92] Ibid., paras. 237, 239.

[93] *Case C-98/91 Herbrink v. Minister van Landbouw, Natuurbeheer en Visserij [1994] ECR I-223*, at I-253.

[94] *Council Regulation (EC) No 1234/2007 of 22 October 2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation) [2007] OJ L299/1*, art. 73 (Member States can authorise temporary transfers of quotas without land), art. 75 (Member States are given the choice of a number of types of scenarios where they can permit so-called Special Transfers, meaning the transfer of quotas without the corresponding land being transferred as well).

[95] *Wachauf v. Bundesamt für Ernährung und Forstwirtschaft [1989] ECR 2609*, at 2618.

the Irish[96] and English[97] courts.

5.3.3 Use

That milk quotas can be used by farmers to produce milk is indisputable. What is interesting is whether additional use can be made of quotas beyond this function of production regulation. Milk quotas were notably being used as security for a loan in *Swift v. Dairywise Farms*[98]. This use was acknowledged by the court with no objections, which would lead to the conclusion that milk quotas are capable of being employed in this manner. This view accords with the notion of milk quotas as commercially valuable, in spite of the remaining uncertainty as to whether they are property rights or not. However, it is perhaps a little strange that a milk quota is linked to the land, but at the same time can be used on its own as security. A number of English cases have raised the issue of whether milk quotas may be the subject of a mortgage or charge, meaning that they would need to be capable of categorisation as interests in land under the Law of Property Act 1925. This legislation was of course not drafted with such idiosyncratic interests in mind, hence the ensuing problems of interpretation[99].

In *Huish v. Ellis*[100], the plaintiff (a milk producer) alleged that the bank to whom the land with its attached quota had been mortgaged had sold the land and the quota for less than the expected price. The plaintiff argued that the land and the quota should have been sold separately rather than as one. The court held that the bank could not have sold the quota separately, but only together with the land, so long as it took reasonable care to obtain a proper price. The bank had no power or right to deal separately with the quota as the bank was said to have no charge over the quota. Any sale of the milk quota separate from the land required the cooperation of the mortgagor (the milk producer) and the bank, since the quota was registered

[96] *Lawlor v. Minister of Agriculture [1990] 1 IR 356.*
[97] *Faulks v. Faulks [1992] 15 EG 82.*
[98] *Swift v. Dairywise Farms Ltd [2000] 1 WLR 1177*, discussed in further detail below.
[99] Cardwell, *Milk Quotas: European Community and United Kingdom Law*, p. 130.
[100] *Huish v. Ellis [1995] BCC 462.*

in the mortgagor's name[101]. However, the court did not generalise that a milk quota, being attached to land, would not fall under a charge over the land *per se*. Interestingly, the court held that a transfer of the land would automatically involve a transfer of the quota attached to it, but concluded that this did not mean that a charge over the land automatically also covered the quota, without elaborating on why this might be the case. The court did not wish to bind the bank to a position where it would have had to take the risk of entering into negotiations with the mortgagor to sell the quota separately, but gave the bank the option to choose between this avenue and that of selling the land with the quota attached[102].

A rather different outcome was reached in *Harries v. Barclays Bank plc*[103]. A milk producer had charged his land (to which a milk quota was attached) to the bank, which subsequently took possession of the land and was registered as the quota holder. The bank proceeded to lease the quota to other producers and eventually sold the land together with the attached quota. The questions before the Court of Appeal were whether the bank was entitled to become the registered producer, and whether it could keep all the proceeds of the sale, which included the milk quota (including the proceeds from quota leasing). The court started by noting that considering the true nature of a milk quota in general, abstract terms was not a particularly helpful approach. Since the notion of milk quota was a creature of EU as well as implementing domestic legislation, this legislation had to be applied to the facts of the case in hand. This meant that labelling a milk quota as a particular type of asset was also not helpful as this may be different under the laws of other Member States. In the present case, when the bank took possession of the farm it became entitled to be registered as the owner of both the land and the quota. The quota attached to the land necessarily passed with it, as under the relevant EU and UK regulations the quota could not remain with the producer while the land passed into the bank's possession. Moreover, the bank's ability to lease the quota was an incident

[101] *Huish v. Ellis [1995] BCC 462*, at 464.
[102] Ibid., at 466.
[103] *Harries v. Barclays Bank plc [1997] 2 EGLR 15.*

of possession of the land and therefore permitted[104]. Possession of the land was thus perceived as paramount in determining whether the legal charge over the land extended to the quota.

However, this approach avoided the need to address the separate issue of whether the quota itself could conceivably be capable of forming the subject of a legal charge, independently of the land. It has been suggested that this was the correct result, as a separation between the land and the quota would have caused undue difficulty. If the charge had only covered the land, but not the quota, this would have diminished the extent of the bank's security and would even have made it more difficult for the mortgagor (the milk producer) to sell the quota to a third party, as it may be that the mortgagor would have been seen as holding the quota on trust for the bank[105]. As noted by the court, the outcome reached here was inevitably one on the facts of the case, given the regulatory nature of the milk quota system. It does therefore not necessarily mean that, just because the quota here fell within the ambit of the land charge, a more general pronouncement could be extrapolated to the effect that a milk quota can be the subject of a legal charge and therefore entails property rights.

Another notable aspect of the milk quota system is that it is wholly dependent on continuing authorisation under EU law[106]; it is currently set to expire in 2015. This makes the quotas temporally limited, although, as seen with intellectual property rights, this by itself would not invalidate the possibility of categorising them as property rights.

5.3.4 The legal nature of milk quotas

That quotas are intended as instruments which regulate the common market in milk and milk products has been stressed repeatedly in both EU and national case law. It has also been noted that, if a farmer exceeds the allocated quota, this does not amount to an illegality; the farmer is simply obliged to

[104] *Harries v. Barclays Bank plc [1997] 2 EGLR 15*, at 18-20.
[105] Cardwell, *Milk Quotas: European Community and United Kingdom Law*, pp. 130-131.
[106] M. Cardwell. "Milk and Livestock Quotas as Property". In: *Edinburgh Law Review* 4 (2000), pp. 168–190, at 169.

pay the levy imposed by the relevant EU legislation[107]. It thus becomes uneconomical to exceed the quota, though technically speaking it is not legally banned[108].

So what exactly are milk quotas? In *Maher*, Mrs Justice Denham opined that they were analogous to licences created by law (as opposed to licences created by private parties), and were therefore subject to the implication that the creating law may change the conditions of the licences in a discretionary manner, even where such changes would negatively affect the value of the licence. This was because the rationale for creating the licences in the first place was to give effect to a regulatory goal, such as regulating the market for milk and milk products in the case of milk quotas. The quotas were said to exist purely for the purpose of the public interest in regulating this market, and the holders' rights in them were therefore necessarily limited by the (changing) requirements of this public policy goal[109].

By contrast, Keane CJ concluded in *Maher* that milk quotas were not licences as they did not permit their holders to do something which would otherwise be illegal[110]. On this view, milk quotas are more accurately described as an exemption from levy, or a right to produce a fixed amount of milk without having to pay a levy[111]. In Irish law the EC (Milk Quotas) Regulations 2008 expressly state that a milk quota does not give rise to a property right[112]. This does seem to accord with EU law, and that Irish law should follow this line of judicial reasoning was specifically endorsed in

[107] *Council Regulation (EC) No 1234/2007 of 22 October 2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation) [2007] OJ L299/1*, arts. 55, 78(1).

[108] J. Snape. "Transfers of Milk Quotas: Law and Tax". In: *Private Client Business* 2 (1995), pp. 150–161, at 151.

[109] *Maher v. Minister for Agriculture, Food and Rural Development [2001] IESC 32*, paras. 201-208.

[110] Ibid., para. 108.

[111] *Council Regulation (EC) No 1234/2007 of 22 October 2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation) [2007] OJ L299/1*, art. 78; *Practice Note 7: Part 1: The History and Development of Milk Quota Legislation*.

[112] *European Communities (Milk Quota) Regulations 2008 (SI 227/2008 (Ireland))*, s. 4(1), "The fact that a milk quota has been allocated to a producer or allotted to a milk purchaser does not confer a property right on that person".

Maher. The ECJ has in the past referred to milk quotas as an advantage and a reference quantity which is attached to the land for which it has been allocated[113].

In *Faulks v. Faulks*[114], an English case, the court specifically discussed the nature of a milk quota, in the sense of whether it could be considered an asset separate and independent from the land, and concluded that it was not a separate asset for the purpose of the rules governing the transfer of quotas[115]. It should be noted that the situation is somewhat different from the point of view of tax. In *Cottle v. Coldicott*[116], another English case, it was held that a milk quota was an asset *per se* for the purposes of capital gains tax, but this categorisation was stated to be expressly limited to the tax context of the case as opposed to being applicable to the transfer context as well.

An interesting point of comparison as to the treatment of milk quotas is provided by the English cases of *Swift v. Dairywise Farms*[117] and *Re Celtic Extraction Ltd (in liquidation)*[118]. While the judgments in *Re Celtic Extraction* and *Swift v. Dairywise Farms* have been interpreted by some commentators as proof that the English courts view milk quotas as entailing property rights (albeit non-transferable ones)[119], it is argued that these cases should be seen in their particular context, namely that of insolvency. In *Re Celtic Extraction* Morritt LJ held that the notion of "property" took its meaning from its context rather than being a term of art[120].

Re Celtic Extraction involved a company in liquidation that held a waste management licence. The liquidator wished to disclaim the licence on the

[113] *Case 2/92 R. v. Ministry of Agriculture, Fisheries and Food, ex p. Bostock [1994] ECR I-955*, at I-984.
[114] *Faulks v. Faulks [1992] 15 EG 82*.
[115] Ibid., at 88.
[116] *Cottle v. Coldicott [1995] SpC 40*.
[117] *Swift v. Dairywise Farms Ltd [2000] 1 WLR 1177*.
[118] *Re Celtic Extraction Ltd (in liquidation) [2001] Ch 475*.
[119] A. Hudson. "The Unbearable Lightness of Property". In: *WG Hart Workshops, Institute of Advanced Legal Studies* (2002). URL: `http://www.alastairhudson.com/equity/The%20Unbearable%20Lightness%20of%20Property.pdf`, p. 15.
[120] *Re Celtic Extraction Ltd (in liquidation) [2001] Ch 475*, at 486.

basis that it constituted property under the Insolvency Act 1986[121] and was therefore capable of amounting to "onerous property" for the purposes of the same Act. The latter provision states that onerous property can be disclaimed by a liquidator, so that the assets of the company in liquidation are not diminished by being used to deal with the liabilities arising from such property[122]. The said rules have as their purpose the protection of the assets of the company in liquidation which are to become available for distribution to creditors[123]. Not being able to disclaim the waste management licence would have significantly depleted the company's assets, as the liabilities under the licence were extensive. Counsel for the liquidator argued that such an outcome would effectively amount to giving priority to the licence liabilities in contravention of the scheme of distribution of assets set out in the Insolvency Act[124]. Morritt LJ examined analogous instances where interests had been deemed property in a variety of contexts, for example in the context of acquisitions of interests in land enforceable against third parties and in the context of theft of textile export quotas. In these cases the courts had articulated certain characteristics which led them to conclude that in the particular contexts in question the interests amounted to property. Morritt LJ extrapolated from these instances that, in the context of the Insolvency Act, the interest amounted to property if it had been created by a statutory framework, it was transferable and it had value. The waste management licence fulfilled all three conditions[125]. Both in *Re Celtic Extraction* itself and in the cases that it quotes there is particular and repeated emphasis on the importance of context when defining what amounts to a property right. The implication is arguably that the contents which are requisite for the existence of such a right are not fixed, but are potentially dependent on extraneous, contextual aspects, which may even go beyond the goals of the regulatory framework which has created the said rights.

[121] *Insolvency Act 1986*, s. 436.
[122] Ibid., s. 178(3).
[123] *Re Celtic Extraction Ltd (in liquidation) [2001] Ch 475*, at 486, quotes a principle of public policy which states that the entire property of a bankrupt must be appropriated and made available for his creditors.
[124] Ibid., at 479.
[125] Ibid., at 486-489.

In *Swift v. Dairywise Farms*, Jacob J applied the thinking in *Re Celtic Extraction* by analogy and concluded that in equity milk quotas were capable of forming the subject matter of a trust, despite their attachment to the land and consequent non-transferability on an individual basis[126]. In *Swift v. Dairywise Farms*, a company (D) had been formed in order to lend money to farmers in exchange for taking security over their milk quotas. D itself could not hold quotas as it did not produce milk, so the quotas would be transferred to a sister company (F) pending repayment of the loans. D went into liquidation, and the question arose as to whether the liquidators could have recourse to the milk quotas held by F. This could only happen if it could be said that F held the quotas on trust for D. The quotas would thus have to be capable of forming the subject matter of a trust, which meant that they would have to constitute property within the meaning of section 436 of the Insolvency Act 1986. This provision defines property for the purposes of the Insolvency Act 1986 as including "money, goods, things in action, land and every description of property wherever situated and also obligations and every description of interest, whether present or future or vested or contingent, arising out of, or incidental to, property"[127]. If milk quotas could be held as falling within this definition, it meant that they were able to form the subject matter of a trust and were therefore being held on trust for the company that had gone into liquidation. The proceeds of the sale of the quotas should therefore go to the liquidators to form part of the assets for distribution to creditors. Jacob J noted that milk quotas had commercial value and legal effects, and the existence of limitations on how they may be held or conveyed did not prevent equity from imposing a trust where this was conscionable. He applied the principle in *Don King v. Warren*[128], where non-transferable contracts had been held capable of forming the subject matter of a trust. By analogy, just because quotas were not freely transferable did not mean that they could not be the subject of a trust. *Faulks* was distinguished as the quota was not actually owned by

[126] *Swift v. Dairywise Farms Ltd [2000] 1 WLR 1177*, at 1185.
[127] *Insolvency Act 1986*, s. 436.
[128] *Don King v. Warren [2000] Ch 291.*

the partnership in that case. Jacob J also applied the reasoning in *Re Celtic Extraction*, where it had been held that a waste management licence fell within the "property" definition in section 436 of the Insolvency Act 1986 and satisfied the three-pronged test set by Morritt LJ[129].

An analogy could be drawn between *Swift v. Dairywise Farms* and *Re Celtic Extraction*, both insolvency cases, and *Cottle v. Coldicott*, where it was specifically stated that the categorisation of milk quotas as assets separate from land was strictly limited to the tax (capital gains) context. Similarly, in *Swift v. Dairywise Farms* and *Re Celtic Extraction* the context was a specific one, namely that of insolvency, and in the given circumstances it would have been patently unfair if a valuable instrument such as the quotas or the waste management licence in question could be set aside from the company assets available to creditors. Whether a quota (or the analogous instrument that is a waste management licence) can be given the property label in the context of the rules on transfer (where there are no tax or insolvency issues present) is not addressed in *Swift v. Dairywise Farms* and *Re Celtic Extraction*. Moreover, in *Swift v. Dairywise Farms* the court was specifically interested to find out whether milk quotas could form the subject matter of a trust, rather than to examine whether quotas were assets separate from land and constituted property in this respect. Jacob J acknowledged that quotas had no separate existence independently of the land, and held that this attachment meant that the trustee holding the land would have to account for the existence of the trust (with the quotas as its subject matter) when dealing in this land[130].

[129] *Swift v. Dairywise Farms Ltd [2000] 1 WLR 1177*, at 1183-1185.
[130] Ibid., at 1185.

5.3.5 Summary overview of the connection between the legal nature of milk quotas and their regulatory goal

EU case law has defined milk quotas as an advantage which is allocated to producers in the context of the common organisation of a market[131]. The public origin element of milk quotas is therefore emphasised as being key to their legal nature. They have not been created or earned by their holder, but rather have been granted by a public authority. It is also highly significant that the ultimate purpose of the quota scheme is to regulate that part of the common market to which they refer (namely the market in milk and milk products) by limiting production so as to control prices. As such, the scheme sets out to fulfil goals which are wider than the interests of market participants. If the activities of such participants in relation to the milk quotas cannot be seen as fulfilling the regulatory goal of production regulation, such activities cannot be justified and are therefore susceptible to curtailment. This has been reflected, for instance, in the limitations placed on transfer and speculation in milk quotas that have been discussed above . Any (incidental) outcomes of the milk quota scheme (such as the fact that quotas have acquired substantial commercial value) are this subordinate to the primary goal, which is a regulatory one. Similarly, it has been seen that any exceptions to the general principle that milk quotas run with the land in respect of which they have been allocated have as their purposes the mitigation of adverse effects on producers and the promotion of flexibility where this is beneficial for the quota system as a whole.

The primacy of the regulatory goal of the milk quota scheme and the fact that it belongs firmly in the sphere of the common market are the reasons why both EU and national courts have been unwilling to provide generalised categorisations of quotas as property or another type of right. Instead, the contents of the rights created by the quota scheme have been analysed on a case-by-case basis, depending on the interactions between the regulatory goal

[131] *Case 2/92 R. v. Ministry of Agriculture, Fisheries and Food, ex p. Bostock [1994] ECR I-955*, at I-984.

and the facts of each particular context, in particular any additional interests at stake which may require protection (for instance those of creditors in circumstances of insolvency). This is why the cases examined above establish that milk quotas may well be assets independent from land, or property that can be the subject of a trust, but only in a context-by-context manner, whether in cases involving for instance insolvency or tax. These judgments do not necessarily reveal whether milk quotas are property rights (and if not, which legal category of rights they fall in); they may be akin to property in some contexts, but not in others. According to some commentators, they are best characterised as *sui generis* rights which defy easy categorisation given their inherently precarious nature[132]. This view throws light on a crucial aspect of milk quotas, which is that their characteristics are dictated by the regulatory goal as well as by other interests which are deemed worthy of protection in each specific context.

5.4 Spectrum licences

Spectrum rights are authorisations to transmit radio signals, which are needed to conduct activities such as telephony and broadcasting. The rationale for these rights is to carve up a resource which, although intangible, is conceptually finite. If too many users of the spectrum emit on the same frequency, communication becomes impossible because of excessive interference[133]. Consequently, there exists in effect a physical limitation on the resource that is radio spectrum, hence the policy (public interest) need to restrict access to it[134].

Within the EU there is a harmonised framework in the context of Electronic Communications Networks and Services, which sets out a number of generally applicable principles and rules that all Member States' spectrum

[132] Snape, "Transfers of Milk Quotas: Law and Tax", at 153-154.

[133] *Spectrum Usage Rights*. Office of Communications. URL: `http://stakeholders.ofcom.org.uk/consultations/sur/summary`.

[134] *Wireless Telegraphy Act 2006*, s. 3(1), (2); *Data Broadcasting International Limited and Simpleactive Limited v. The Office of Communications (OFCOM) [2010] EWHC 1243*, para. 7.

legislation must comply with[135]. The substantive legal frameworks for spectrum rights are regulated at national level. Information about spectrum utilisation across the Member States can be obtained centrally using the European Frequency Information System (EFIS), which provides details on issues such as spectrum allocation and applications for the use of the spectrum[136].

As for the other types of rights considered in this chapter, the law on spectrum rights in the UK will form the subject of investigation. The regime of spectrum rights in the UK (as in the other Member States) is entirely a creature of public policy (primarily set out in statute)[137], and is a regulatory means of managing the access of operators to the radio spectrum. In this jurisdiction, the spectrum is managed by the Office of Communications (Ofcom) using the UK Frequency Allocation Table (UKFAT), which covers the range of frequencies in the national radio spectrum[138]. In addition, the UK Plan for Frequency Allocation (UKPFA) offers information regarding the frequencies available for allocation, the purposes for which frequencies have been allocated and whether the rights in the particular frequencies are tradable[139]. Information regarding the licence holder's details, class of licence, whether the licence is tradable and the frequencies held is set out in the Wireless Telegraphy Act Register (WTR)[140]. Since holders of certain licences are

[135] *The EU's framework for Radio Spectrum Policy*. European Commission Information Society. URL: `http://ec.europa.eu/information_society/policy/ecomm/radio_spectrum/eu_policy/index_en.htm`.

[136] *ECO Frequency Information System*. European Communications Office. URL: `http://www.efis.dk/`.

[137] *Wireless Telegraphy Act 2006*, s. 125(1), schedule 9; *Communications Act 2003*, part 2, chapter 2, ss. 152-184, repealed and replaced in similar terms by former.

[138] *Wireless Telegraphy Act 2006*, s. 1(1); *About the Ofcom Spectrum Information System*. Office of Communications. URL: `http://spectruminfo.ofcom.org.uk/spectrumInfo/about`; *UK Frequency Allocation Table*. National Frequency Planning Group on behalf of the Cabinet Official Committee on UK Spectrum Strategy. URL: `http://stakeholders.ofcom.org.uk/binaries/spectrum/spectrum-policy-area/spectrum-management/ukfat2010.pdf`.

[139] *Wireless Telegraphy Act 2006*, s. 2; *About the Ofcom Spectrum Information System*; *Ofcom spectrum management (UKPFA)*. Office of Communications. URL: `http://spectruminfo.ofcom.org.uk/spectrumInfo/ukpfa`.

[140] *Wireless Telegraphy Act 2006*, s. 31; *About the Ofcom Spectrum Information System*; *Wireless Telegraphy Register*. Office of Communications. URL: `http://spectruminfo.o`

allowed to trade them (if this is duly authorised by Ofcom[141]), the details of this trading are recorded in the Transfer Notification Register (TNR)[142]. Spectrum licences are categorised in the UKPFA by sector (the licence type, for example business radio, amateur radio, broadcasting services) and class (for example area-defined, temporary use, full licence).

The terms of the licences granted in the spectrum set out the rights that the licence holders have as regards the utilisation of their allocated spectrum frequencies. The primary purpose of delimiting these rights is to prevent disruptive levels of interference between the users of the frequencies[143]. For the purposes of this chapter and the thesis, these rights are analysed from a legal perspective (rather than a technical one, which includes issues such as the precise geographical delimitation of the frequency or the maximum permitted interference). A spectrum licence is an authorisation to do something which would otherwise be unlawful, namely to provide or use wireless telegraphy[144] (defined, in brief, as the use of radio frequencies to emit)[145]. Operators who wish to utilise the spectrum are not automatically entitled to licences therein. They need to apply to Ofcom for such licences and pay the appropriate licence fees as determined by the regulator in accordance with the relevant statutory guidance[146]. A spectrum licence entails significant limitations on the three types of entitlements (exclusion, transfer and use) that have been identified above as key to the constitution of property rights.

5.4.1 Exclusion

A spectrum licence gives its holder the right to utilise the allocated frequency or frequencies to the exclusion of other operators who do not hold such a

fcom.org.uk/spectrumInfo/licences.

[141] *Wireless Telegraphy Act 2006*, s. 30.

[142] *About the Ofcom Spectrum Information System*; *Spectrum trading*. Office of Communications. URL: http://spectruminfo.ofcom.org.uk/spectrumInfo/trades.

[143] *Spectrum Usage Rights: A Guide Describing SURs*. Office of Communications. 2008. URL: http://stakeholders.ofcom.org.uk/binaries/spectrum/spectrum-policy-area/spectrum-management/spectrum-usage-rights/sursguide.pdf, p. 1.

[144] *Wireless Telegraphy Act 2006*, s. 8(1).

[145] Ibid., s. 116.

[146] Ibid., ss. 12, 14.

licence for the particular frequency. However, the licence can be varied or revoked by Ofcom subject to certain conditions, for example notification of the proposed variation or revocation (with reasons) and the opportunity for the licence holder to make appropriate representations[147]. Once a licence has been revoked, it must be returned to Ofcom if so required[148].

5.4.2 Transfer

Following a recent review of the applicable legislative framework, the tradability of spectrum rights has been considerably improved.

Under the previous regime, spectrum trading had to be specifically authorised by Ofcom, otherwise the transfer of rights and obligations under the licence would be void. According to the Wireless Telegraphy Act 2006[149], regulations may be made authorising the transfer of a spectrum licence, and may set rules as to how such transfer should be effected. For instance, such regulations may require the consent of Ofcom for the transfer to be valid[150]. To this effect, regulations had already been made in 2004 under the earlier Communications Act[151], and remained in force under the 2006 Act[152]. The 2004 Regulations required the approval of Ofcom for a licence transfer to be valid[153].

However, a recent process of liberalisation has removed the need for Ofcom's consent for most licences. In initiating and implementing this liberalisation process, the intention of Ofcom was that the trading process should be simplified so as to permit necessary developments in the radio spectrum market[154]. The 2004 Regulations have now been revoked by the 2012 Regu-

[147] *Wireless Telegraphy Act 2006*, s. 10, schedule 1.
[148] Ibid., s. 11.
[149] Ibid., s. 30(3).
[150] Ibid., s. 30(3)(c).
[151] *Communications Act 2003*, s. 168.
[152] *Wireless Telegraphy Act 2006*, s. 30, which superseded s. 168 of the Communications Act 2003 without amendment.
[153] *Wireless Telegraphy (Spectrum Trading) Regulations 2004 (SI 2004/3154)*, regs. 7(f), 8(3)(a) and 9.
[154] *Simplifying Spectrum Trading - Spectrum leasing and other market enhancements.* Office of Communications. URL: `http://http://stakeholders.ofcom.org.uk/consultations/simplify/statement-spectrum-leasing/`.

lations[155], which no longer require consent by Ofcom for licence transfers to be valid.

5.4.3 Use

There are a number of statutory restrictions on spectrum use. Notably, Ofcom can restrict access to the spectrum by stipulating that only a limited number of licences will be made available for a particular frequency, as well as restrict the types of use for which licences of particular frequencies will be granted[156]. Moreover, Ofcom can also impose limitations in the licence terms, for instance provisions which restrict the content of the licence holder's transmission, or restrictions as to the times of use, or provisions for frequency sharing between licence holders[157]. Utilising the spectrum without a licence is an imprisonable criminal offence[158]. Contraventions of the terms of a spectrum licence are taken very seriously and can amount to criminal offences in respect of which Ofcom may bring proceedings[159].

Spectrum licences are temporally finite; upon expiry, they may be renewed, otherwise they must be surrendered back to Ofcom if so required[160].

5.4.4 The legal nature of the rights granted under spectrum licences

As noted above, since the spectrum use regime is a regulatory (and specifically statutory) creation, spectrum licences are necessarily statutory licences. That this is their true nature has been confirmed by the courts, notably in *Data Broadcasting v. Ofcom*[161]. In that case, Ofcom intended to vary the terms of the so-called commercial additional services licences held by the claimants. This type of licence allowed the claimants to broadcast using the

[155] *Wireless Telegraphy (Spectrum Trading) Regulations 2012 (SI 2012/2187).*
[156] *Wireless Telegraphy Act 2006*, s. 9.
[157] Ibid., s. 29.
[158] Ibid., s. 35.
[159] Ibid., ss. 39-44.
[160] Ibid., s. 11.
[161] *Data Broadcasting International Limited and Simpleactive Limited v. The Office of Communications (OFCOM) [2010] EWHC 1243*, para. 68.

spare capacity in some analogue terrestrial television frequencies, so as to ensure that none of the frequency space would be wasted. In the light of the impending UK-wide digital switch-over, which would involve the gradual phasing out of analogue signals, the whole of the frequencies used for analogue transmission would be required to accommodate the new, high power digital signal. Ofcom therefore notified the claimants that it intended to substantially vary their licences, as there would no longer be spectrum space for the additional services once the digital switch-over came into effect. The claimants argued, *inter alia*[162], that the proposed variations would amount to a breach of contract on Ofcom's part which would make it liable to pay damages. They argued that the licences constituted legally binding contracts with particular terms, since in entering into the licences the parties intended to create legal relations and agreed upon all the terms which were essential to the formation of a contract.

Cranston J disagreed. He held that the licences in question were not contracts, but rather "public law instruments... [which] constitute statutory authorisation permitting the licensees to undertake activities which would otherwise be unlawful". Ofcom did not intend to enter into private law legal relations with the claimants, but acted within the remit of its statutory duties and functions[163]. Moreover, the substantially important terms of the licences were expressly stated to be, respectively, either non-negotiable or determined by the relevant statutory regime. Whatever (limited) freedom of negotiation the parties had, it remained the case that the licences were issued pursuant to a statutory scheme which governed the relationship between the parties. The judge felt that it was crucial that the issue of the licences was an administrative act, which authorised something which would

[162] *Data Broadcasting International Limited and Simpleactive Limited v. The Office of Communications (OFCOM) [2010] EWHC 1243*, paras. 95-96, they also argued that Ofcom's variations of the licences breached their right to the peaceful enjoyment of their possessions under Article 1 of the First Protocol of the European Convention of Human Rights (ECHR). When discussing this point, Cranston J used "possessions" and "property" interchangeably, and held that this right had not been infringed. He held that licences were "possessions" under the ECHR provision. This does not mean that they were held to be property rights, as the provision does not require what in law would be termed such rights; "possessions" represent a lower threshold.

[163] Ibid., para. 88.

otherwise be unlawful. That some of the licence terms were similar in nature to contractual terms was held not to automatically mean that a contract had come into existence; the statutory scheme replaced existing common law rights and duties[164]. Finally, Cranston J was very concerned that, by treating the licences as contracts, Ofcom would be open to substantial damages liability for breach of contract. He deemed this inconsistent with the statutory spectrum scheme and with Ofcom's regulatory role, which would be unduly fettered; this was not what Parliament could have intended[165].

It would therefore appear that spectrum licences are better described as regulatory permissions or authorisations to do something which requires prior administrative authorisation, otherwise it would be unlawful. That licences originating from regulatory permission are to be seen in this manner had been confirmed earlier in *Floe Telecom v. Ofcom*[166]. This case concerned mobile operator licences and was cited in *Data Broadcasting* in support of the statement that the issue of the spectrum licences was an administrative act, irrespective of the parties' ability to insert some terms of their choice (rather than statute-mandated) into those licences[167]. Attaching the label of "public law instruments" to spectrum licences was an exercise that was carried out by analogy in *Data Broadcasting*. Counsel for Ofcom referred to cases involving statutory electricity agreements[168] and the statutory right to buy council properties[169], and argued that the spectrum licences in the present case had not been negotiated as a true contract would have been[170].

[164] *Data Broadcasting International Limited and Simpleactive Limited v. The Office of Communications (OFCOM) [2010] EWHC 1243*, paras. 91-93.

[165] Ibid., para. 94.

[166] *Floe Telecom v. Ofcom [2009] EWCA Civ 47*, para. 103, *per* Mummery LJ: "The decision of the national regulatory authority to grant a licence and the carrying out of that decision is an administrative act done under and in accordance with the law. A licence is obtained to do things which it is unlawful to do without that licence. It is the legal mechanism for authorising something which is required by the general law to be officially authorised".

[167] *Data Broadcasting International Limited and Simpleactive Limited v. The Office of Communications (OFCOM) [2010] EWHC 1243*, para. 92.

[168] *Norweb v. Dixon [1995] 3 All ER 952.*

[169] *Rushton v. Worcester City Council [2001] EWCA Civ 367.*

[170] *Data Broadcasting International Limited and Simpleactive Limited v. The Office of Communications (OFCOM) [2010] EWHC 1243*, para. 89.

The regulatory origin and public policy function of spectrum licences thus emerge as paramount when undertaking an exercise of legal categorisation. Since the case law on the point of whether such licences were private law contracts or administrative authorisations was practically non-existent before *Data Broadcasting*, the conclusion in that case is of substantial importance in determining the nature of the rights created by a spectrum licence. The conclusion in *Data Broadcasting* does not, however, answer the question of whether spectrum rights are property. From the discussion of the elements of exclusion, transfer and use above, it appears that these rights have some, though not all, characteristics of property, while at the same time exhibiting notable limitations as required by the regulatory purpose of the spectrum management regime.

5.5 Interim summary of the findings regarding the constitutive elements of intellectual property rights, milk quotas and spectrum licences

5.5.1 Exclusion

Although the limitations on the entitlement of exclusion held by the owner of an intellectual property right differ as between copyright, patents and trade marks, generally speaking this entitlement is very strong, and any restrictions on it are articulated as narrow exceptions to the monopoly that has been granted. Such exceptions can only legitimately exist where the general public has an overriding interest in accessing the protected creation or invention. Consequently, the limited derogations from the entitlement of exclusion do not invalidate the proprietary nature of this rights regime.

The strong exclusionary element present in the context of intellectual property rights contrasts with the position in the case of milk quotas. The latter regime permits a substantially wider extent of interference with the

rights on the regulator's part. The Single CMO Regulation sets out specific circumstances when national authorities can reduce or confiscate milk quotas, not necessarily in exchange for compensation. This position is a conclusive indicator of the regulatory nature of the milk quota regime, as contrasted with the private value-enhancing purpose of intellectual property rights.

The spectrum rights regime is even less accommodating of the private law entitlements of right holders than the milk quota regime, as spectrum rights can be revoked or amended by Ofcom with relative ease. Since spectrum rights constitute a regime regulating access to a formerly public resource, it has been held in *Data Broadcasting* that they are not contractual rights and cannot therefore give rise to an action for damages as against the regulator.

5.5.2 Transfer

The degree of transferability present in the context of the three rights regimes varies considerably as between them. Intellectual property rights are freely transferable, as would be expected with strong private property rights.

Milk quotas exhibit limited transferability, whose extent is determined by the pursuit of the goal of regulating the market in milk and milk products. Similarly, the transferability of spectrum rights is determined by the public authority in charge; spectrum licences are only tradable if they have been designated as such by Ofcom (although the requirement of consent by Ofcom for tradable licences to be transferred has now been removed). The transferability of milk quotas and spectrum rights is thus subordinated to the overriding regulatory goal of the respective regime.

5.5.3 Use

The range of uses to which intellectual property rights can be put by their owners is extensive. The system of compulsory licensing for copyright and patents is carefully and narrowly defined so as to ensure that it only applies in circumstances where the public interest dictates that access to the protected resource should be provided. Moreover, the temporal limitations on intellectual property rights do not affect their proprietary nature, but rather

embody the need to balance public access to the resource with adequate protection of the right holder.

By contrast, the uses available in the context of milk quotas are more limited. Milk quotas cannot logically be licensed to third parties, for example, as such use would effectively exhaust them altogether. They cannot be used by parties who are not milk producers; in *Harries v. Barclays Bank*, they could be held by the bank as they were attached to the mortgaged land, but the bank could obviously not use them in the same way as a milk producer. It also remains uncertain to what extent milk quotas can be used beyond the production of milk (which is their primary regulatory purpose), as it is not clear whether they can form the subject of a legal charge. Like intellectual property rights, milk quotas are finite as the regime is due to expire in 2015. However, unlike intellectual property rights, milk quotas become exhausted once they have been used (meaning once the permitted quantity of milk has been produced).

The spectrum rights regime permits a very limited range of uses. Spectrum licences can only be issued to operators who utilise the radio spectrum, so they cannot be used outside this regulatory ambit. The numbers, scope and contents of spectrum licences are regulated by Ofcom, and the terms of the licences set out the permitted uses of the spectrum and also limitations on use. Spectrum licences are also temporally finite, as dictated by the terms of the licence, though they are not exhaustible in the way that milk quotas are; there is technically no maximum amount of spectrum that may be emitted under a particular licence.

5.5.4 Regulatory aspects of the three rights regimes

Two of the rights regimes analysed in the present chapter, namely milk quotas and spectrum rights, have as their primary purpose the regulation of milk production and the radio spectrum respectively. The value of milk quotas and spectrum licences has therefore been created artificially by the regulator. They are not intended to have private commercial value beyond the confines of the regulatory regimes which they constitute. The impact of the regulatory

origins of milk quotas on the scope and contents of the right was highlighted in *Bostock*, where the ECJ held that milk quotas did not "derive from the assets or occupational activity" of the milk producer[171]. This crucial aspect of milk quotas, namely that their value has not been created or "earned" by their holder, fits with the primary regulatory purpose of the aforementioned rights regime, which has been decisive in shaping their respective scope and contents. For instance, milk quotas are only transferable insofar as this promotes the goal of maintaining the functionality of the milk market, and spectrum licences can be relatively easily revoked by Ofcom.

By contrast, the justification behind intellectual property rights is primarily focused on affording private law protection to the creator of the work. The value of such rights has been created privately, namely as a result of the endeavours of the author or inventor. The fundamentally private nature of intellectual property rights therefore reduces the potential effects of overarching regulatory goals on the scope and contents of such rights. However, such regulatory goals still exist and do affect the scope and contents of the rights, albeit in a more limited manner than is the case with milk quotas and spectrum rights. For instance, the requirements of competition law dictate the circumstances which make available the compulsory licensing of copyright and patents. It remains, however, clear that such limitations are carefully and narrowly delimited, so as to prevent undue restrictions on competition while at the same time preserving the proprietary nature of the rights[172].

[171] *Case 2/92 R. v. Ministry of Agriculture, Fisheries and Food, ex p. Bostock [1994] ECR I-955*, at I-984.

[172] Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 319.

5.6 Emissions entitlements: parallels with intellectual property rights, milk quotas and spectrum licences

This part examines the scope of the three essential elements of commercially valuable property rights drawn from legal theory (exclusion, transfer and use) in the context of emissions entitlements. Determining the contents of emissions entitlements further involves a comparison with the three rights regimes discussed previously. As regards the respective scope of exclusion, transfer and use, what are the similarities and differences between emissions entitlements and each of intellectual property rights, milk quotas and spectrum licences? The answer to this question will help to determine the legal categorisation of emissions entitlements. We must also be prepared for the possibility that emissions entitlements exhibit characteristics taken from more than one or possibly all of the aforementioned rights regimes[173].

Determining the contents of and categorising emissions entitlements will necessarily involve a consideration of the various goals of the EU ETS. This exercise mirrors the impact of the rationales behind the different regimes on the contents of the rights analysed above. What is apparent for all three rights regimes is that the scope of each key element (exclusion, transfer and use) is directly related to the goals ascribed to each of the different regimes. This connection is very strong in the case of the two regimes which are motivated by a primary regulatory goal, namely milk quotas and spectrum licences. It would therefore be logical to say that determining the respective scope of exclusion, transfer and use in the context of emissions entitlements also depends on the goals of the EU ETS, and notably on its primary environmental goals of achieving emissions reductions and supporting an EU-wide move towards a low-carbon economy.

[173]Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 311.

5.6.1 Exclusion

In the case of intellectual property rights, the limitations on exclusion differ as between copyright, patents and trade marks. However, for all three types of intellectual property right it can be said that any restrictions on the owner's entitlement to exclude others (including public authorities) from interfering with the subject of the right are carefully and narrowly articulated as exceptions to the presumed monopoly. This is due to the expressly stated nature of copyright, patents and trade marks as strong private property rights. Intellectual property rights exist principally in order to grant legal protection to their owner by way of creating a monopoly on access to the creation or invention. Any derogations from this monopoly seek to rebalance to some extent the rights of the public in retaining access to the valuable subject of the rights. These derogations are exceptional and strictly limited to either instances where the rights of the owner are not unduly affected, or to instances where interference with the rights is paramount on public interest grounds and is carried out by the state. The distinctive proprietary nature is balanced against the needs of the public in additional ways. Trade marks and patents can be revoked in circumstances where they no longer fulfil their informative purpose and thus are no longer deserving of (monopolistic) legal protection.

By contrast, the powers of exclusion available to milk quota holders are significantly more limited, with a string of scenarios being set out in the Single CMO Regulation where national authorities can reduce or confiscate the quota, not always in exchange for compensation. It must be remembered that such interference with the quota is perceived as amounting to regulatory adjustments in order to maintain the continuing functionality of the common market in milk. As the case law demonstrates, the ultimate regulatory goal of the milk quota regime is therefore paramount in determining the level of public authority encroachment on the holder's entitlement to exclude third parties from interfering with the rights in the quota. This regulatory goal effectively trumps any private law claims that quota holders may have if their quota is reduced or confiscated.

The situation in the case of spectrum licences is similar and even more skewed in the favour of the public authority; it is specifically set out in statute that the licences can be varied or revoked by Ofcom. This is because the licences are, according to case law, administrative authorisations to carry out an activity which would otherwise be illegal. They are not contractual rights, and thus do not give rise to a private law claim for damages for interference by the public authority[174]. Spectrum licences are essentially part and parcel of a system which regulates access to a (previously) public resource. Such regulation is deemed necessary as otherwise interference between radio signals would occur and broadcasting would be disrupted. There is thus a physical externality that the regulatory system seeks to prevent by creating an artificial cap on the right to emit. In this way, spectrum licences can be regarded as similar to emissions entitlements. By contrast, the notion of externality prevention is not present in the context of intellectual property rights or milk quotas. The former seek to reward and protect authors or inventors, while the latter are a means of price regulation, not of protecting an endangered physical resource such as livestock or land. As such, the regulatory goal of the spectrum rights regime is once again paramount in determining the restrictions on the scope of the licence holders' entitlement of exclusion, particularly as against the issuing authority.

The EU ETS Directive does not address the issue of the scope of regulatory intervention in the emissions market, leaving open the possibility that emissions entitlements could be cancelled during their period of validity if the environmental goal so requires. However, it is submitted that such intervention cannot logically occur as easily as with milk quotas or spectrum licences, as emissions allowances are more than a regulatory tool, whose public policy objective is paramount. It is difficult to make the objective of having a workable emissions market entirely subordinate to the goals of emissions reductions and decarbonisation, as is the case with milk quotas, where the goal of common market regulation always trumps the interests of quota holders. This is due to the fact that emissions reductions and decar-

[174]Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 321.

bonisation depend on the continuing functionality of the market created by the EU ETS. On the other hand, neither is it feasible to grant the holders of emissions allowances the same level of rights protection afforded to the owners of intellectual property, given that the EU ETS is striving to achieve a regulatory goal, rather than focusing directly on protecting the emissions entitlements vested in market participants.

5.6.2 Transfer

The rights regimes examined above exhibit different levels of transferability according to their respective goals and rationales. Intellectual property rights are freely transferable, as would be expected with all strong private property rights. Milk quotas are only transferable insofar as this promotes the goal of maintaining the functionality of the common market in milk and milk products. In fact, from a regulatory perspective it is preferable that the tradability of milk quotas is as restricted as possible. The same is the case with spectrum licences, which are tradable only if designated as such by the regulator, Ofcom. Transferability is thus directly subordinated to the primary regulatory goals of the milk quota and spectrum regimes.

The trade in emissions allowances constitutes a private market which exists and functions independently of the regulatory goals of emissions reductions and decarbonisation pursued by the EU ETS[175]. At the same time, the primary function of this market is to pursue the said environmental goals. The participants in this market include industrial entities trading in order to comply with the EU ETS, as well as firms trading for investment purposes, such as commodity traders, financial services providers and banks. The environmental credentials of the EU ETS depend on the continued and unfettered tradability of emissions allowances in the market. This direct and inextricable link between market viability and the environmental success of the EU ETS necessarily renders the scope of transferability of emissions allowances more akin to that of intellectual property rights than milk quotas

[175]Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 321.

or spectrum licences.

5.6.3 Use

Emissions allowances can only be used to emit CO_2 by EU ETS regulated entities, which means that non-regulated entities can only make use of allowances by trading them in the market. This restriction on the use entitlement is significant since the emission of 1 tonne of CO_2 is a core purpose of an allowance. It is also not clear whether security interests in emissions allowances can be protected and enforced through registration.

The range of uses to which emissions allowances can be put are consequently less extensive than in the case of intellectual property rights. The latter can be licensed to third parties, something which does not conceptually work with either emissions allowances or milk quotas. The rationale of licensing is that a third party can make use of the subject of the right. However, "making use" of emissions allowances means either emitting corresponding amounts of CO_2 or trading them in the market. It would not make sense to license an allowance to someone else, since the third party's subsequent use of it would involve either emitting 1 tonne of CO_2 or selling the allowance on to someone else. In both cases, the subject of the licence (the allowance) is effectively exhausted and cannot be recovered by the licensor. The same is the case with milk quotas. The restrictions on the use of intellectual property rights embodied in the system of compulsory licensing for copyright and patents therefore do not offer direct parallels with emissions entitlements[176]. What these restrictions do highlight, however, is the distinctive proprietary nature of copyright, patents and trade marks, which markedly distinguishes them from emissions entitlements. The premise of this proprietary nature is that the owner can license the rights as desired and with no limitations, except in narrowly defined instances where public interest so demands (mainly

[176]If compulsory licensing of emissions entitlements were possible, by analogy with copyright and patents it could be imposed on entities found to be excessively banking ("hoarding") emissions allowances. The existence of the possibility of compulsory licensing would not invalidate the potential existence of property rights in emissions allowances, in the same way that it does not invalidate the proprietary nature of copyright and patents.

to prevent breaches of competition law or the under-exploitation of patents).

Furthermore, the temporal limitations on intellectual property rights do not deprive them of their proprietary nature, but are once again an expression of the trade off between protecting the right holder and allowing sufficient public access to the creation or invention. Emissions allowances are similarly valid for the duration of a particular Phase (though they can be banked to some extent into the following Phase). This is also the case with milk quotas, which are set to be abolished in 2015, and spectrum licences, which are temporally finite in accordance with what has been set out in the licence terms. However, emissions allowances are exhausted once equivalent emissions have been produced, and the requisite number of allowances has to be surrendered at the end of every year. This lifespan is more limited than that of intellectual property rights, which are not extinguished upon use. This aspect of emissions allowances exhibits similarities with milk quotas: once the stipulated amount of milk has been produced in any one period, the quota is effectively used up for that period. Spectrum licences are not exhaustible *per se* in the same way that emissions allowances and milk quotas are; there is technically no maximum amount of radio spectrum that may be emitted under a particular licence.

The absence of the entitlement to an intrinsic use of emissions allowances (namely the emission of CO_2) in the case of entities not regulated by the EU ETS is not reflected in the intellectual property rights regime, as these rights can be used by their holders in a multitude of largely unrestricted ways. On the other hand, the milk quota regime exhibits similarities with emissions entitlements in this respect, as only producers can use the milk quota to produce milk. When the quota is transferred to a non-producing third party such as a bank, this third party does not thereby acquire the right to engage in milk production within the bounds of the quota. This was evident in *Harries v. Barclays Bank*, where the bank took over the land mortgaged to it, which had a milk quota attached, and was also registered as the quota holder. The bank could hold the quota together with the land, but, for obvious reasons, could not make use of it in the way that a milk producer could have done. Spectrum licences can only be issued in the first place

to operators who are engaged in utilising the radio spectrum, so this issue does not exist. The scope and contents of spectrum licences are stringently regulated by Ofcom in terms of the number of licences available, the types of permitted uses of the spectrum and the limitations on use set in the licence agreement. These restrictions accord with the nature of spectrum licences as publicly issued permissions to carry out an activity which would be illegal if unlicensed.

While security interests can be created in intellectual property rights, this is not so clear with milk quotas. As it has been seen above, there is potentially conflicting case law on this issue in respect of milk quotas. However, as it was noted therein, the cases in point did not deal directly with whether a quota could be the subject of a legal charge. Both *Huish v. Ellis* and *Harries v. Barclays Bank* involved situations where land to which a milk quota attached had been mortgaged to a bank. The question that arose was whether the milk quota could be regarded as separate from the land for the purposes of the charge, which was answered in the negative. The issue of whether a milk quota can be used as security therefore remains unresolved. *Swift v. Dairywise Farms* involved a situation where milk quotas were being used as security for a loan, which was not objected to by the court. One could extrapolate that this resolves the uncertainty, although the court in *Swift v. Dairywise Farms* did not concern itself with this issue. *Armstrong v. Winnington* has established that emissions allowances, being intangible property, can support the existence of equitable interests. Consequently, it is also the case that, conceptually speaking, security interests can also subsist in allowances (although the protectability and enforceability of such interests remains disputed).

5.6.4 Parallels between emissions entitlements and the regimes of intellectual property rights, milk quotas and spectrum licences[177]

Emissions entitlements are different from intellectual property rights. The aim of the latter rights regime is to reward creativity (copyright) or investment in developing and branding high quality products (trade marks), or to encourage innovation (patents). As such, intellectual property rights focus on protecting the individual right holder, and any public interest in accessing the creation or invention is dealt with through derogations from the assumption that a monopoly has been granted to the right holder. Any derogations from the monopoly are only permitted where this is justifiable due to the public interest in gaining access of the creation or invention. Even in these publicly motivated circumstances, the limitations on the core entitlements of exclusion and use are carefully and narrowly drafted so as to minimise the negative effects on the right holder of such interference.

By contrast, the EU ETS has as its stated principal goal to reduce emissions to scientifically acceptable levels in order to effectively combat climate change, and as its wider goal to support the transition of the EU to a low-carbon economy. The fact that emissions allowances are held by individual entities is solely a means of achieving these regulatory ends, not an end in itself. This would indicate that emissions entitlements should necessarily be more limited than intellectual property rights, so as to enable regulatory intervention as deemed necessary for the attainment of the public policy goals. Emissions entitlements cannot, based on their regulatory purpose, benefit from the extensive protection of the entitlements of exclusion and use afforded to intellectual property rights. The regulator needs to retain some discretion over adjusting the amount of allowances in circulation at any given time in order to successfully pursue emissions reductions and EU-wide decarbonisation. The scope of use applicable to emissions allowances also needs to be limited, in the sense that the intrinsic use of emitting CO_2 associated

[177] An earlier version of this sub-part 5.6.4 appeared as Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", part 5.

with owning allowances cannot logically extend to non-regulated entities[178].

This arrangement resembles the milk quota and the spectrum licensing systems much more closely than it does intellectual property rights. A regime of private rights has been established in order to pursue an overarching regulatory goal; viewed in these generic terms, the statement holds as much for emissions entitlements as it does for milk quotas or spectrum licences. Emissions entitlements are transferable and have acquired intrinsic commercial value; so have milk quotas and spectrum licences. However, milk quotas are specifically described by courts as forming part of the regulation of the EU common market. This, in turn, is said to justify tighter regulatory control over them, as the specified public policy goal is paramount and any other goals or incidents (such as burgeoning transferability and commercial value) of the milk quota system are subordinate to it. Spectrum licences are administrative rights which are closely regulated by Ofcom in order to optimise the use of the radio spectrum, which is the primary (and in fact only) goal of the regime.

The EU ETS is not technically part of the common market. In fact, it goes beyond the common market as emissions trading is open to anyone who wishes to participate, whether an individual or a corporation, whether regulated by the EU ETS or not, and whether based in the EU or not. Viewing emissions entitlements as wholly equivalent to milk quotas, which are instruments of common market regulation, is consequently not accurate. Emissions trading is also different from the spectrum licensing regime, which is very restricted in terms of the rights that are granted to licence holders. The significantly wider reach of the EU ETS as compared to the milk quota and the spectrum licensing regimes demonstrates that the goals of emissions trading go beyond the officially stated goals of emissions reductions and decarbonisation. This position stands in contrast with the milk quota and the spectrum licensing regimes, which exist solely for regulatory purposes, hence the overbearing and extensive restrictions on the entitlements to exclude public authorities, to transfer the quotas or licences, and to use them. On the

[178]Although the need to clarify the possibility of registering security interests in allowances remains.

other hand, the EU ETS has an additional key goal, namely the viability of the emissions market, which is instrumental to the achievement of the environmental goals. The milk quota and the spectrum licensing regimes do not envisage pursuing similar additional goals.

Emissions entitlements differ from spectrum licences in another significant respect. According to case law, spectrum licences are not private contractual rights, so as to prevent their holders from claiming damages for breach of contract from the regulator. Rather, they are administrative permissions to carry out an activity which would be illegal in the absence of such permission.

Up to a point, emissions entitlements "could also be viewed as regulatory permissions to emit up to a certain amount, without which emitting would be illegal, and the regulated entity would be fined"[179]. This is how they have been described in *INEOS v. Grangemouth*[180], which concerned a dispute based on a commercial contract for emissions allowances[181]. The contract had been drafted in 1998, before the EU ETS came into force. It anticipated the advent of an emissions trading scheme sometime in the future. This assumption was based on a UK government-commissioned report (published some three weeks before the contract), which advocated a future role for market-based regulation (in the form of either tax of tradable instruments) in reducing emissions[182]. The defendant, a special purpose vehicle, had been formed in order to build a combined heat and power (CHP) plant, which was to supply electricity and steam to the claimant. Under an electricity supply agreement (ESA) between the defendant and the claimant, the former agreed that it would hold all "CO_2 Emissions Credits" accruing to it for and on behalf of the latter, and ensure that the latter obtained the benefit of such credits in return for no payment[183]. The term "CO_2 Emissions Credits"

[179]Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 321.

[180]*INEOS Manufacturing Scotland Ltd v. Grangemouth CHP Ltd and Another [2011] EWHC 163*.

[181]See also Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 317, n. 92.

[182]C. Marshall. *Economic instruments and the business use of energy*. 1998. URL: `http://archive.treasury.gov.uk/pub/html/prebudgetNOV98/marshall.pdf`.

[183]*INEOS Manufacturing Scotland Ltd v. Grangemouth CHP Ltd and Another [2011] EWHC 163*, para. 4.

was defined as "all the CO_2 emissions credits or entitlements (or other similar entitlements, rights or benefits in respect of CO_2 of whatsoever nature) accruing to GCHPL [the defendant] in respect of the CHP Plant"[184]. When the EU ETS came into force, the defendant was classified as a regulated entity, obtained an emissions permit and was allocated EU allowances. The claimant argued that EU emissions allowances fell within this definition and were therefore due to it under the agreement. It argued that allowances were entitlements to emit CO_2, even if they were not credits, as they had not been earned for reducing emissions. The defendant argued that allowances did not constitute credits or entitlements, since they were mere authorisations to emit CO_2, not rewards or incentives to reduce emissions. The court agreed with the logic of the defendant, and held that EU allowances were not credits within the meaning set out in the contractual definition[185].

The view of emissions allowances as administrative authorisations to emit CO_2, however, only accounts for part of their purpose. This is because there are some market participants who cannot use their allowances to emit CO_2, but can only trade them. From this perspective, emissions allowances do not embody administrative permissions to do that which would otherwise be illegal, in the cases where they are held by non-regulated entities. Emissions allowances resemble traditional commodities or assets, at least from the point of view of the entities trading in them not for the purpose of complying with the EU ETS, but rather for investment or speculatory purposes. The existence of a private market which exists independently of the environmental purpose of the EU ETS renders it difficult to conceptualise emissions entitlements as existing purely between the regulator and their holders. Had emissions trading been restricted to compliance trading, this conclusion would have been easier to reach[186].

Out of the three rights regimes that the chapter has examined, it has emerged that emissions entitlements are most similar to milk quotas, with

[184] *INEOS Manufacturing Scotland Ltd v. Grangemouth CHP Ltd and Another [2011] EWHC 163*, para. 5.

[185] Ibid., paras. 41-57.

[186] Manea, "Defining Emissions Entitlements in the Constitution of the EU Emissions Trading System", at 321.

the notable exceptions that the former are freely transferable and do not have a single, regulatory goal. The cases on milk quotas can usefully assist with developing an equivalent, pragmatic approach applicable to emissions allowances. Courts have categorised milk quotas differently according to the context of the case under consideration, where the categorisation would in every case be influenced by the need to further the regulatory goal of the milk quota regime. While milk quotas have not been regarded as assets separate from the land for the purposes of transfer (*Faulks v. Faulks*), they have been deemed assets for the purposes of tax (*Cottle v. Coldicott*), and property for the purposes of insolvency law (*Swift v. Dairywise Farms*) as well as assets which are capable of forming the subject matter of a trust (*Swift v. Dairywise Farms*). Furthermore, the question of whether milk quotas could support the existence of security interests was answered differently in *Huish v. Ellis* and *Harries v. Barclays Bank*. It is, however, worth emphasising that in both cases, the outcome was significantly influenced by the need to allow the mortgagee bank to deal with the land (to which a quota happened to attach) in the most expeditious way possible in order to realise its security. The judgment in *Huish v. Ellis* enabled the bank to sell the land with the attached quota without having to enter into protracted negotiations with the mortgagor producer over the quota itself. To arrive at this conclusion, the court held that the bank's charge did not extend to the quota and that the bank could therefore not sell the quota separately from the land. In *Harries v. Barclays Bank*, the bank's security would have been substantially reduced if the quota had been deemed to be outside the ambit of the mortgage.

It must be noted here that the problems relating to security interests over milk quotas differ in a significant respect from the case of emissions allowances. Milk quotas are rights appurtenant to land, and in that sense the issue as to whether they can be charged separately from the land is one which arises generally with such rights. This issue is not specific to entitlements created for regulatory purposes, nor does it cast any doubt on the ability of emissions allowances (which are not appurtenant rights) to support the existence of security interests. The importance of the courts' approach to security interests over milk quotas lies elsewhere. It is argued

that, by analogy, the legal nature of emissions entitlements can also depend on the particular context in which they operate, as evidenced by the differing outcomes in the milk quota cases.

The relevance of context is further revealed in other scenarios. That emissions allowances were held to be authorisations to emit CO_2 in *INEOS v. Grangemouth* was determined by the consideration that, had the allowances been regarded as credits under the contract, the defendant would have been compelled to give them to the claimant free of charge while at the same time having to purchase replacement allowances in the market so as to fulfil its surrendering obligations under the EU ETS: the court viewed this as "commercially absurd"[187]. The categorisation of allowances in that case was therefore not intended to be universal, but rather to uphold the commerciality of the particular agreement under scrutiny[188]. Similarly, in a scenario other than that in *Armstrong v. Winnington*, a court may be less willing to declare emissions allowances the subject of a trust. The particular circumstances of that case were that Armstrong would be entitled to compensation if the stolen allowances could be regarded as amounting to trust property which had been unconscionably received by Winnington. Holding that allowances could support the existence of equitable interests was therefore paramount in order to achieve a fair outcome in the case.

5.7 Conclusion

The analysis of intellectual property rights, EU milk quotas and spectrum rights conducted in the present chapter has revealed that the scope of the key elements of exclusion, transfer and use is closely intertwined with the regulatory goals ascribed to each regime. Intellectual property rights lie at one end of the spectrum, and constitute strong property rights whose limitations are, in essence, exceptional derogations from the monopoly granted to their holder. On the other hand, the nature of milk quotas is wholly dependent on

[187] *INEOS Manufacturing Scotland Ltd v. Grangemouth CHP Ltd and Another [2011] EWHC 163*, paras. 46-47.
[188] Ibid., paras. 43-51.

the primary goal of production regulation that the regime pursues, and any quasi-property characteristics are necessarily subordinated to and limited by the extent to which they support the achievement of this goal. Spectrum licences exhibit some features of property. They are expressly categorised as administrative rights whose sole purpose is to regulate the use of the radio spectrum, and are therefore considerably limited from the point of view of exclusion, transfer and use. By comparison, emissions entitlements are part of a system whose primary goals are the reduction of emissions and EU-wide decarbonisation, but which has the additional goal of sustaining the viability of the emissions market, on which the regulatory goals depend.

Emissions entitlements are therefore most similar to milk quotas, although the importance of the functionality of the emissions market as an effectively separate goal is greater than in the context of milk production. Moreover, the pragmatic approach taken by the English and Irish courts in analysing the nature of milk quotas can be applied by analogy to emissions entitlements. As well as being primarily determined by the regulatory goals of the EU ETS, the characteristics of such entitlements shift according to context, based on other interests at stake. Such interests can include the need to achieve an equitable outcome for a victim of theft (as was the case in *Armstrong v. Winnington*), the need to uphold a commercially viable arrangement (as in *INEOS v. Grangemouth*), or creditor protection in the insolvency context (by analogy with the treatment of milk quotas). Under the generic label of private property ascribed to emissions entitlements in *Armstrong v. Winnington*, these rights can rightfully take their place in the new special category of instrumental property, as the conclusion to the thesis elaborates.

Chapter 6

Conclusion: The Rise of Instrumental Property

As the introduction has explained, the thesis is not designed as a defence of emissions trading *per se*, but rather as an inquiry into optimising the use of tradable permit regimes in the sphere of environmental regulation, specifically climate change. The focus of the thesis on improving the workability of the EU ETS as currently conceptualised is based on the fact that the choice of this particular instrument has already been made, is likely to remain in place for the foreseeable future, and has inspired other jurisdictions to implement similar schemes. In consequence, the introduction to the thesis posed two key questions engendered by the dual private-public nature of the environmental regulation regime that is the EU ETS. Has this mechanism created private property rights in regulatory instruments, and, if so, what are the consequences of this legal status for the conceptualisation and functionality of property in general?

The thesis has set out to demonstrate that emissions entitlements belong to a new category of instrumental property. The thesis has further argued that this notion can accommodate the fluidity of entitlements created for regulatory purposes better than a generic categorisation of private property which has been ascribed to such instruments, for instance, in English law. The judgment in *Armstrong v. Winnington* has served to precipitate a dis-

cussion as to what property means when it seeks to achieve regulatory goals. The emergence of the instrumental property category reveals the marked flexibility of property rights operating in a regulatory environment: their characteristics are shaped by public policy goals, as well as by other, potentially competing interests worthy of protection, according to the particular contexts in which the rights operate. This flexibility, however, must necessarily come at a cost. For regulatory regimes such as the EU ETS, uncertainty in the nature of the tradable entitlements undermines the success of the system as a tool of environmental policy. In the wider context, property rights are revealed as capable of being unstable and susceptible to defeat, particularly when pitched against other public policy objectives.

The thesis therefore makes a useful contribution to the emerging stream of awareness as to how entitlements created for regulatory purposes can be defined and crafted. In particular, it reveals the complexity of regulatory innovation that is embodied in tradable permit regimes deployed for environmental protection. Their impact on the conceptualisation of property exemplifies how the crafting of such regimes (and, in particular, of the tradable entitlements that constitute them) has significant reverberations beyond their regulatory sphere.

The present chapter consequently argues that, in other words, property as a regulatory tool is not property as the law traditionally conceptualises it. The conventional legal notion of private property is of limited use as an instrument to pursue public policy goals. Property can only become a successful tool of regulation if it is drastically reconceptualised as instrumental property.

6.1 An analytical construction of emissions entitlements which achieves regulatory goals: the new category of instrumental property

The thesis has highlighted the urgent need for a comprehensive analytical construction of emissions entitlements that enables the EU ETS to achieve its multiple and potentially conflicting goals. The EU ETS is remarkable in its scope: a private market with a regulatory purpose which seeks to address not only Union-level, but also global-level environmental problems. At the same time, it is the ambitious nature of this regime that engenders a tension not faced by traditional command and control modes of regulation. Reconciling market certainty with regulatory flexibility in order to achieve cost-effective emissions reductions and support the EU's pathway to a low-carbon economy is imperative, if not already overdue. At the same time, whether or not this was intended at the outset, the success of the emissions market has evolved into a proxy for the environmental success of the EU ETS itself, and has thus become an additional goal of the regime. Policymakers, environmentalists, economists, scientists, lawyers and other parties interested in crafting and maintaining a robust regulatory response to the related problems of climate change and energy security are urged to recognise the need to fully engage with the market-based mechanism that is the EU ETS and strive to make it a success, so that it can remain an inspiration for emerging trading systems in other jurisdictions.

Since the multiple and potentially conflicting goals of the EU ETS owe their success to an appropriately crafted analytical construction of emissions entitlements, how should such a construction be articulated? Just as the EU ETS needs to be seen in the wider context of Union-wide environmental policy, so the legal nature of emissions entitlements should be explored in the context of other rights regimes which have been created to fulfil regulatory objectives. Evaluating comparable regimes necessarily requires a suitable tool, a benchmark against which the scope of emissions entitlements can

subsequently be assessed. This tool originates in legal theories of property rights, and consists of identifying the requisite characteristics of private property as being exclusion, transfer and use. At its strongest, a private property right enables its holder to exercise these entitlements with little or no restriction. However, for the purposes of articulating a construction of emissions entitlements, it must be borne in mind that, with such rights regimes created for regulatory purposes, any limitations on exclusion, transfer and use are primarily determined by the requirements of the public policy goals pursued.

Emissions entitlements have acquired property characteristics which support the functionality of the emissions market: they are freely tradable and can be enforced against private parties. On the other hand, the scope of regulatory interference with such entitlements requires further EU-level clarification, they cannot be used to emit CO_2 by non-regulated entities, and the protectability and enforceability of security interests in allowances is disputed.

The scope and limitations of emissions entitlements are, firstly, determined by their regulatory goals, namely achieving cost-effective emissions reductions and supporting the EU's move towards a low-carbon economy. While market participants require a certain degree of protection in the shape of predictability of regulatory intervention and clarification as to private law usability of allowances (as capable of supporting practically valuable security interests), the regulator needs to preserve a sufficient degree of discretion to recalibrate the emissions market as required by environmental goals.

Secondly, the scope and limitations of emissions entitlements are also determined by the particular contexts in which they operate. Emissions entitlements have demonstrated their flexible nature by being deemed mere authorisations to emit CO_2 in order for a commercial arrangement to be upheld[1]. On a different set of facts, however, emissions entitlements were categorised as intangible property for the purposes of supporting the existence of equitable interests, where this categorisation was necessary to provide ac-

[1] *INEOS Manufacturing Scotland Ltd v. Grangemouth CHP Ltd and Another [2011] EWHC 163*.

cess to compensation for a victim of theft of allowances[2]. The outcomes of these cases demonstrate that the construction of emissions entitlements is moulded not just by the regulatory objectives of the regime to which they belong, but also by additional, extraneous interests which the law deems worthy of protection in a given context.

Emissions entitlements can arguably be viewed, in a general sense, as private property, with a number of limitations on their scope which are dictated by the regulatory goals of the EU ETS. The property label is subject to the right of exclusion as against public authorities being more closely defined (so as to confirm that regulatory interference cannot occur arbitrarily, but only under carefully delineated conditions). Moreover, the limitation as regards the use of allowances to emit CO_2 by non-regulated entities is necessary on the basis of the environmental goal of the EU ETS. Security interests can technically exist in allowances, even though they do not yet benefit from satisfactory protection and enforceability. However, the requisite balance between market certainty and regulatory flexibility, coupled with the context-by-context adaptability of emissions entitlements mandates a definition of these legal interests which is more detailed than the generic private property categorisation decided in *Armstrong v. Winnington*. The thesis posits that emissions entitlements fall within the special category of instrumental property, which differs in certain notable respects from the notion of regulatory/hybrid/statutory property previously advanced by commentators.

Gray affirms that statutory property "has no meaning at all *other than* that generated by its parent legislative framework. Being derived comprehensively and exhaustively from that legislation, statutory property has only the ambit conferred by statute itself"[3]. Such entitlements are susceptible to adjustment by public authorities where this is necessary to promote public interests, rather than being relatively indefeasible, as private property is traditionally conceptualised in law[4]. In effect, statutory property is regarded

[2] *Armstrong DLW GmbH v. Winnington Networks Ltd [2012] EWHC (Ch) 10*.
[3] Gray, "Regulatory Property and the Jurisprudence of Quasi-Public Trust", at 224.
[4] Ibid., at 224-225.

as belonging to the public at large, who can determine its use, rather than to its holder: "[h]ence the emergence of a tradition of 'quasi-public trust', which predicated that certain essential services and facilities are held by their nominal owners subject to various kinds of fiduciary obligation towards the people"[5]. Rose holds that hybrid property "[owes] its existence and management to regulation"[6]. Yandle and Morriss emphasise the public nature of regulatory property, and define it as "a property right created and allocated by a government entity, such as a right to emit specified pollutants into the atmosphere under the terms of a permit issued by a government regulator"[7]. Yandle himself views regulatory property as created through the mechanism of "government agents allocating and managing inalienable rights"[8].

Furthermore, it is recognised that regulatory property exists primarily in order to achieve public policy goals, namely the protection of valuable (and often endangered) resources: "[t]he creation of tradeable allowances – "regulatory property" – represents a legal parcelling of the property rights to use valuable resources"[9]. In other words, the primary function of regulatory property is not the protection of right holders (which traditional private property does), but rather, in effect, the protection of the object of property itself: "[t]he basic idea of this hybrid property is to preserve resources that are large and diffuse but nevertheless finite – resources such as air, water or wildlife stocks"[10]. Similarly, emissions entitlements are ultimately intended to protect a certain composition of the atmosphere. The entitlements are not in the atmosphere itself, but are rights to pollute, whose aim is to safeguard

[5]Gray, "Regulatory Property and the Jurisprudence of Quasi-Public Trust", at 226, 238-241.

[6]Rose, "The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems", at 164.

[7]Yandle and Morriss, "The Technologies of Property Rights: Choice Among Alternative Solutions to Tragedies of the Commons", at 129.

[8]Yandle, "Grasping for the Heavens: 3-D Property Rights and the Global Commons", at 30.

[9]Wiener, "Global Environmental Regulation: Instrument Choice in Legal Context", at 800; Rose, "The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems", at 164-166; Stewart, "Privprop, Regprop, and Beyond", at 91, 93-94.

[10]Rose, "The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems", at 164.

the atmosphere[11].

The notion of regulatory/hybrid/statutory property is, firstly, internally uncontextualised. It focuses on the generalised assertion that this new category of property exists solely to achieve public policy objectives: in other words, the right does not have any meaning outside the legislative framework, and is wholly subordinated to the public interests protected by the particular regulatory regime. This narrow focus does not pay sufficient attention to the substance of the regulatory regime that has created the rights, and arguably obfuscates the multiplicity and complexity of the goals that such regimes can conceivably pursue. To point out the regulatory origins of the right is a correct observation, but it does not tell us what composition of the right is required to achieve the particular regulatory goals, which are often multiple and conflicting. The contents of the right must therefore be carefully crafted so as to balance and reconcile these goals. This internal conflict is particularly prevalent in the case of the EU ETS. There, the need for a viable emissions market as a goal in itself creates a private law concern that lies outside the expressed ambit of the regulatory framework. At the same time, the success of the private market has come to represent the means to the environmental goals of cost-efficient emissions reductions and an adequate price to achieve a low-carbon economy.

Secondly, the notion of regulatory/hybrid/statutory property is externally uncontextualised. Within the construction of instrumental property, the thesis has argued that extraneous (potentially both public and private) interests compete with the regulatory goals of a particular regime such as the EU ETS, and in doing so shape the contents of the entitlements. This approach goes further than the idea of regulatory/hybrid/statutory property. The latter assumes a certain linearity, as it focuses solely on the purpose of the entitlements as being to achieve the goals set by the particular regime to which they belong. The thesis has highlighted a variety of practical scenarios where property rights employed as regulatory tools have to compete with other public (and even private) interests: for instance, the scope of

[11]Wemaere, Streck, and Chagas, "Legal Ownership and Nature of Kyoto Units and EU Allowances", at 39.

milk quotas versus the interests of creditors in insolvency, the scope of emissions allowances versus the interests of victims of theft, or the definition of emissions allowances required to uphold commercial arrangements. The notion of instrumental property thus questions the linearity assumed by regulatory/hybrid/statutory property, and is instead much more nuanced. Instrumental property reveals the existence of a complex web of interests which determine the nature of entitlements used for regulatory ends. It highlights the evolutionary nature of such entitlements and their ability to shift shape according to context and the particular interests viewed as worthy of protection beyond the stated goals of the regulatory regime.

Finally, a key consequence of the public origins and aims of regulatory/hybrid/statutory property is that, implicitly, certain restrictions must be placed on right holders which would not exist in the case of traditionally conceptualised private property. The notions of regulatory/hybrid/statutory property do not cover the connection between the requisite restrictions and the achievement of the mandated public policy objectives, namely, how to determine the nature and scope of such restrictions in a manner which adequately reconciles the various and potentially conflicting goals.

Instead, the thesis puts forward a new category, which it calls instrumental property, and to which emissions entitlements rightfully belong. This new category highlights the reality that it is not particularly helpful to rely only on a purely generic understanding of property rights, since they are not as fixed and capable of generalisation as traditionally thought in legal doctrine. By contrast, the new category fully accommodates the fact that property in a regulatory context has as its primary function the protection of the object of property itself, not the protection of right holders (which is what conventionally understood private property does), as the introduction to the thesis has posited. This function accounts for the role of regulatory goals in shaping legal interests such as emissions entitlements: their role is to protect, for instance, a certain composition of the atmosphere which is deemed scientifically necessary to address the problem of climate change. Furthermore, instrumental property also changes its characteristics according to the various contexts in which it operates. On a context-by-context basis, the

regulatory goals of the particular regime have to be accommodated alongside (and potentially balanced against) other interests which are deserving of legal protection. Such interests can include, for example, creditors' interests in insolvency (as evidenced by the milk quota cases), or the protection of victims of theft of allowances, or the need to explore the nature of allowances in order to uphold the commerciality of a private law arrangement.

Instrumental property, as the name suggests, represents property as a tool or instrument, primarily for achieving the regulatory goals of the particular regime under which the entitlements under scrutiny have been created. In addition to these regulatory goals, instrumental property requires taking into consideration other extraneous interests that may arise in a situation where it becomes necessary to analyse the nature of the entitlements. Such an analysis can therefore never be generic: it must be firmly rooted in a practical context, due to the need to recognise and reconcile the various interests at stake, as well as protect the object of property, not just its holders.

Within the category of instrumental property, it becomes possible to articulate an analytical construction of emissions entitlements which accommodates both the regulatory goals of the EU ETS and other interests which may need to be taken into account in the various contexts where such entitlements can conceivably operate. In summary, emissions entitlements are treated as property, with a number of key limitations, their characteristics are shaped by the regulatory goals of the EU ETS and the various contexts in which such entitlements operate, and this flexibility is likely to have significant negative effects on the functionality of the emissions market and thus on the environmental viability of the EU ETS as a whole.

Firstly, emissions entitlements exhibit key characteristics of property, but with crucial limitations, some of which are non-negotiable, in the sense that these limitations are essential if the EU ETS is to achieve its environmental goals. As to exclusion, emissions entitlements are enforceable against private third parties, though not against the regulator (which is a non-negotiable limitation). They are freely transferable, so as to enable the emissions market to operate. The intrinsic use of emitting CO_2 is limited to regulated entities (which represents another non-negotiable limitation). There remains uncer-

tainty regarding the protectability and enforceability of security interests, though, conceptually speaking, emissions allowances are capable of supporting the existence of such interests.

Secondly, the scope and limitations of exclusion, transfer and use are determined by the regulatory goals of the EU ETS. Holders of allowances need to be able to exercise their exclusion entitlement against private third parties so as to assert ownership in allowances and trade them, thereby ensuring market functionality. However, the regulator needs to retain some discretion to intervene in the emissions market as required by environmental policy. The right to free transfer is also required for a successful market. The restriction on using allowances to emit CO_2 to regulated entities is logically necessary as part of the environmental purpose of the EU ETS.

However, there is a need for EU-level clarification of the legal position on the protectability and enforceability of security interests, so as to enhance market functionality. The continued existence of the emissions market despite the presence of such legal uncertainty cannot be relied on, as this vulnerability would be exposed upon failure or default of a trading entity, with potentially disastruous effects for the market and, in turn, for the environmental credentials of the EU ETS[12].

The importance of retaining a sufficient degree of regulatory discretion to intervene in the emissions market, while in itself a non-negotiable aspect of the EU ETS framework, impacts significantly on the ability of market participants to conduct their private commercial arrangements. The practical issues of oversupply in the emissions market and consequent hoarding of allowances by trading entities have been illustrated by the Corus case. The existence of these issues places a significant responsibility on market participants to protect themselves against the risk of reduced availability of allowances, should the EU ETS Directive be amended to allow for regulatory intervention to cancel valid allowances. Transacting parties entering into commercial relationships for the sale and purchase of such instruments are therefore faced with the need to articulate contractual provisions that can offer adequate protection against the risk of regulatory intervention, which

[12]See chapter 3.5.

is inherent in the analytical construction of emissions entitlements.

This situation is a key example of how the regulatory goals of the EU ETS determine the functionality of the emissions market by establishing the boundaries of the entitlements granted to trading participants. In turn, the ability (or otherwise) of traders to address the risk of regulatory intervention in their contractual relationships so that their participation in the market remains worthwhile, coupled with any EU-level support in the shape of clarifying the scope of regulatory intervention will ultimately determine the environmental success of the EU ETS. Calibrating the level of contractual protection effectively, at a centralised level (notably through amending the standard form agreements utilised for emissions trading), is paramount in a market with public policy ends. It is in the regulator's interest to maintain a sufficient level of trading participation to ensure the continued viabilility of the emissions market and thereby the attainment of the environmental goals of the EU ETS[13].

Thirdly, the scope and limitations of exclusion, transfer and use are also determined by the various contexts in which emissions entitlements operate. Using the UK as an example, the case law discussing the characteristics of milk quotas and the two cases which address the nature of emissions entitlements provide pertinent examples of the types of scenarios where interests extraneous to the regulatory goals of the EU ETS are taken into consideration when determining the characteristics of these entitlements. Although no case has arisen as yet which has had to tackle potential limitations on exclusion (beyond those already in existence), based on the treatment of milk quotas in situations of insolvency, it is possible that holders of allowances may not be able to exercise their exclusion entitlement against all private third parties, for instance creditors. As regards transfer, it must be asked whether limitations could conceivably be held to exist in particular scenarios (which, again, have not arisen to date), for example where victims of theft of allowances require legal protection, as demonstrated in *Armstrong v. Winnington*. Lastly, the aforementioned case has shown that new types of use can arise which the regulatory regime had not envisaged at the outset,

[13]See chapter 3.4.

notably the creation of equitable interests. Conversely, it is plausible that existing uses could be limited. Even following EU-level clarification that security interests over emissions allowances can be adequately protected, it is queried whether it would always be permissible for security to be enforced where competing interests may be at stake, for instance, if it is part of a scheme to move assets out of creditors' reach in insolvency.

The instrumental nature of emissions entitlements put forward by the thesis may therefore mean that, in reality, such security interests can be trumped by other considerations which become prioritised, potentially on a case-by-case basis. For market participants entering into commercial contracts for the sale and purchase of allowances (such as the arrangement exemplified by the Corus case), the ensuing uncertainty as to the protectability and enforceability of security interests in these instruments logically renders allowances less valuable than other tradable instruments or commodities. The possibility of such devaluation is particularly significant in the case of investment participants trading in allowances voluntarily (as opposed to EU ETS regulated compliance traders), who may lose confidence in the emissions market since they cannot do with allowances what they expect to be able to do with conventional market instruments. Disincentivising wide participation in the emissions market is directly opposed to the very purpose of the EU ETS, which is to create and maintain an open trading mechanism in order to pursue the environmental goals of reducing emissions in a cost-effective manner and supporting the Union-wide move towards a low-carbon economy.

Fourthly, the nature of emissions entitlements that has been elicited above has significant consequences for the regulatory success of the EU ETS. The flexibility of emissions entitlements according to both public policy goals and context engenders uncertainty for right holders as regards the precise scope of the right. This is likely to have the same effect as the existing uncertainty regarding the scope of regulatory intervention in the market and the potential limitations on use of allowances: it can disincentivise participation in the emissions market and lead to issues of low pricing, which have already been experienced, with debilitating effects. Although reduced participation and low emissions prices would not technically hinder the attainment of mandated

emissions reductions in accordance with the pre-set cap, industry support and the goal of the low-carbon economy would suffer considerably. When assessing the potential for success of the EU ETS as a tool of environmental policy (to reduce emissions as well as to support wider EU environmental policy, specifically the move to a low-carbon economy), the European Commission must bear in mind the risk of these substantial negative effects, which are caused by the flexibility inherent in the nature of emissions entitlements.

The findings regarding the nature of emissions entitlements have wider ramifications beyond the case study provided by the EU ETS. As the introduction noted, tradable permit regimes of regulation are proliferating in other jurisdictions, and not just in the environmental sphere. The concerns that the thesis has identified in the context of EU emissions trading reverberate across all market-based solutions to resource preservation problems. Specifically, the challenge of crafting a construction of the legal interests in the tradable instruments that can accommodate not only the multifarious and often conflicting goals of such regulatory regimes, but also extraneous and potentially competing interests worthy of legal protection, is one that will continue to face policymakers time and time again. Instead of viewing the articulation of each new tradable permit regime as having to start wholly *ab initio*, the thesis proposes that it is both easier (in terms of creating a workable mode of regulation which policymakers can administer and regulated entities can comply with) and more effective (in terms of achieving the regulatory goals) to have at one's fingertips the blueprint of a coherent analytical framework. Such a framework is capable of taking full account of the wider policy context in which such regimes exist, so as to elicit a comprehensive set of regulatory objectives to be pursued, and of the importance of the legal interests created thereby for the achievement of the identified objectives.

At the same time, the analytical framework put forward by the thesis highlights the inherent flexibility of the legal entitlements in tradable, public policy-oriented instruments and their dependence on the protection of additional interests which lie outside the scope of the particular regulatory regime. This flexibility has the potential to reduce the effectiveness of such

regimes, as it has been seen in the case of the EU ETS. Private property as traditionally conceptualised and viewed in a generic sense can only provide a far from ideal regulatory tool. Its reconceptualisation as instrumental property in a regulatory environment means that it cannot protect right holders (and thereby maintain market functionality) to the same extent as normally expected. In turn, where regulatory success depends on a private market construct, as is the case with tradable permit regimes, the failure of the market inevitably spells the end of the system itself.

6.2 The new category of instrumental property: wider implications for the conceptualisation and functionality of property rights

The creativity of tradable permit regimes, expressed in the shape of self-managing commercially valuable, private market instruments which can be harnessed to achieve public policy goals, renders it necessary to adjust the traditional view of how private property is defined and operates. The entitlements which subsist in the tradable instruments created by market-based regimes of regulation illustrate the considerable adaptive capacity of property rights to functionalise novel and unexpected situations. Property has been conceptualised as a gateway "between a city-state ruled by the regime of private property and the largely unregulated commons which lies outside its walls"[14]. The findings of the thesis have revealed that what lies outside the realm of traditionally conceptualised private property is certainly not amorphous, though it is remarkably flexible.

Even in novel contexts where entitlements have been created for the primary purpose of achieving regulatory objectives, such entitlements have shown themselves capable of moving fluidly from protecting the private interests of individuals (as is the case with intellectual property rights) and

[14]Gray, "Property in Thin Air", at 48-49.

thus retaining the traditional property characterisation, to cherry-picking only those elements of property which are strictly necessary for pursuing the public policy goals (as with EU milk quotas, spectrum rights and emissions entitlements). Furthermore, the emergence of the new category of instrumental property underscores a crucial aspect of property in a regulatory environment which has so far been overlooked. In addition to property being harnessed for the achievement of public policy goals, its nature evolves and adapts according to context, and is moulded by the presence of additional interests beyond the regulatory framework to which the entitlements under scrutiny belong. The consequences of the evolutionary nature of property are that it must necessarily compete with other (public or private) goals at stake, and, moreover, that property might not always win.

The recent treatment of intellectual property rights in the context of tobacco packaging in Australia provides a case in point. In *JT International SA v. Commonwealth of Australia*[15], the plaintiffs, who were tobacco companies, argued that the Tobacco Plain Packaging Act 2011 amounted to an acquisition of property (in the shape of the companies' trade marks) under the Australian Constitution, which attracted the payment of due compensation. The said Act provided that tobacco packaging had to be plain and of a standard design and format, with no distinguishing trade marks. The High Court of Australia held that no such acquisition had taken place and that, consequently, no compensation was payable. Ultimately, the judgment and much of the reasoning leading to it turned on a particular constitutional definition, and namely on a finding that the restriction on the use of the trade marks did not amount to "the accrual of a benefit of a proprietary character to the Commonwealth which would constitute an acquisition"[16] under the relevant provision of the Constitution.

However, before reaching this conclusion, some of the judges made several informative statements on the potential conflict between the tobacco companies' intellectual property rights (in other words, private property) and public health. The importance of the statutory origins of intellectual property rights

[15] *JT International SA v. Commonwealth of Australia [2012] HCA 43.*
[16] Ibid., para. 44.

was highlighted by Chief Justice French:

> There are and always have been purposive elements reflecting public policy considerations which inform the statutory creation of intellectual property rights... Intellectual property laws create property rights. They are also instrumental in character... The statutory purpose, reflected in the character of such rights and in the conditions informing their creation, may be relevant to the question whether and in what circumstances restriction or regulation of their enjoyment by a law of the Commonwealth amounts to acquisition of property...[17]

Justice Gummow also touched upon the wider questions, raised by the arguments of the Commonwealth of Australia, of whether a restriction on property was either not an acquisition for the purposes of the Constitution or fell outside the ambit of the acquisitions clause, where such a restriction was motivated by regulation in the public interest, such as public health regulation. However, since there had been no acquisition of property in the first place, the said questions did not need to be addressed in the present case[18] :

> It is sufficient for present purposes to say that propositions of the width of those put by the Commonwealth have not so far been endorsed by decisions of this Court and that whether such propositions should be accepted would require most careful consideration on an appropriate occasion[19].

Justice Heydon (who dissented and held that there had been an acquisition under the Constitution) discussed the Commonwealth's argument that the trade marks were not property for the purposes of the acquisitions clause, as they were inherently susceptible to modification or extinguishment, notably on public health grounds. He disagreed with this proposition, since,

[17] *JT International SA v. Commonwealth of Australia [2012] HCA 43*, para. 30.
[18] Ibid., para. 158.
[19] Ibid., paras. 155-157.

inter alia, "the fact that the rights in question affect the public interest, and have often been regulated in the public interest, does not establish that they are not property"[20]. He rejected the Commonwealth's argument that an acquisition of property fell outside the ambit of the constitutional clause:

> if the acquisition of property without compensation is no more than a necessary consequence or incident of a restriction on a commercial trading activity where that restriction is reasonably necessary to prevent or reduce harm caused by that trading activity to members of the public or public health[21] .

He justified his rejection as follows:

> Rights of private property would be much more at risk at the hands of the Commonwealth Parliament. The elements of the postulated test are so vague that it would very often be satisfied. Yet if the test is sound, why should it not be wider? If the stated principle is correct, why should it be limited to harm to members of the public or to public health? Why should it not apply to all of the worthy goals which the Commonwealth legislature has constitutional power to further in the public interest?[22]

Furthermore, Justice Kiefel noted the question of whether some legislative purposes, such as public health, may justify an infringement of the acquisitions clause in the Constitution, or an exception to the application of that clause. She compared the situation to that in the EU, where prohibitions or restrictions on the freedom of movement of goods may be justified on the ground of protection of health. She further noted that such prohibitions or restrictions would be strictly interpreted by the ECJ using the criterion of reasonable necessity (although no similar provision was present in the Australian Constitution). However, Justice Kiefel proceeded to remark that the

[20] *JT International SA v. Commonwealth of Australia [2012] HCA 43*, para. 209.
[21] Ibid., para. 229.
[22] Ibid., para. 230.

question was not relevant in the present case, which turned on the constitutional definition of "acquisition"[23] .

Although the court in *JT International* did not have to provide answers to the questions regarding the conflict between the trade mark rights and public health considerations, the statements above, albeit *obiter*, illustrate a very real conundrum. Circumstances can arise where it may become necessary to answer the wider question of how to reconcile property rights created and operating in a regulatory environment with other, conflicting public policy (and conceivably even private) interests worthy of legal protection. The possibility that the Australian case has raised is that, just because a right has been labelled property in law, does not necessarily mean that its boundaries and enforceability are guaranteed across the board, in all contexts. This is particularly the case with rights owing their existence exclusively to statute and whose purpose is to pursue certain regulatory goals, as implied by the *dicta* of Chief Justice French quoted above. *JT International* illustrates the potential limitations on intellectual property rights from the perspective of the entitlement of exclusion, specifically the availability of compensation for state interference. It is just as likely that similar clashes between rights created for regulatory purposes and other interests can occur in other circumstances, where it may be necessary for the law to restrict the scope of transfer or use of such rights.

By way of example, in the particular context of the EU ETS, based on the logic employed in *JT International*, it can be argued that a permanent retirement of emissions allowances from the market in order to tackle the current price-depreciating surplus would not amount to expropriation. Such an approach would send a clear signal that regulatory intervention can and will occur in exceptional circumstances that seriously threaten the continued viability of the emissions market. Armed with the knowledge of predictable regulatory intervention, market participants would be able to hedge against pricing and supply risks by structuring their contractual relationships so as to take into account the timing and likelihood of such intervention. On the other hand, the retirement approach enhances the authority of the EU ETS

[23] *JT International SA v. Commonwealth of Australia [2012] HCA 43*, paras. 342-344.

legal framework, as it articulates a clear message that, although emissions entitlements may have necessarily acquired certain characteristics of property as between private parties, the fundamental nature of the instruments remains regulatory. It is crucial for the continued viability of the EU emissions market that the holders of allowances can exclude other private parties, that allowances are freely tradable and that they are capable of being put to the kind of commercial uses that would be expected of conventional commercially valuable market instruments, namely the creation of sufficiently protectable and enforceable security interests. At the same time, it is also vital that the EU ETS legal framework clarifies that allowances are not enforceable against the issuing authority, and at the same time that allowances will not be cancelled or confiscated at will, but only under clearly delimited circumstances.

Post-*JT International*, the realisation that seemingly stable entitlements with regulatory goals can be considerably restricted seriously undermines the strength traditionally ascribed to property rights, due to the implied potential subordination of property to extraneous interests which cannot be defined *ex ante*, but arise on a context-by-context basis. As Gray notes, the nature of property in a regulatory environment signals a shift from the idea of the private right of exclusion and towards a recognition that public interests should benefit from obligations placed on the holders of property rights[24] . In the absence of tested precedent, it is precarious to seek comfort in the supposition that the law will take a strict view of the discretion to interfere with property and will only give precedence to competing interests when reasonably necessary, as in the case of freedom of movement of goods in the EU. Moreover, as Justice Heydon warned, once the floodgates have been opened, there may be little in the way of all sorts of interests competing for legal protection as against property rights.

[24]Gray, "Regulatory Property and the Jurisprudence of Quasi-Public Trust", at 239.

6.3 How "instrumental" is instrumental property?

The thesis has argued, fundamentally, that the notion of private property as a generic concept (as viewed in legal theory) has no meaningful core in a regulatory environment, unless it is specifically defined by the public policy goals of the particular regime and also by the influence of other extraneous public or private interests which the law views as deserving of protection.

One possible criticism of this assertion is that dismissing the usefulness of the general notion of property in a regulatory context ignores the importance of the three constituent characteristics of exclusion, transfer and use which were employed by the thesis to provide an analytical construction of entitlements with public policy purposes. If the property rights which the three elements constitute cannot act as helpful regulatory tools, then how are these elements requisite or relevant at all? However, as the thesis has demonstrated, the core elements can only be meaningfully conceptualised if they are analysed by reference to the regulatory goals which the particular type of entitlement under scrutiny has been created to achieve. The notion of instrumental property emphasises that property, in order to become an effective tool of regulation, requires more than just a theoretical composition of exclusion, transfer and use. In other words, the precise scope and limitations of these three elements are necessarily determined by the regulatory context in which property operates. For instance, to understand why intellectual property rights and emissions entitlements are freely transferable and, conversely, why milk quotas and spectrum licences are not, it is necessary to refer to the (public policy) purposes for which these instruments exist in the first place.

Another criticism that may be levelled against the notion of instrumental property articulated by the thesis is that regulatory goals are often conflicting, as the particular context of the EU ETS has demonstrated. If these goals cannot be easily reconciled with one another, how can we determine the nature of the entitlement at stake with any precision? Moreover, if the nature of the entitlement cannot be easily determined, what remains of the

likelihood of achieving such goals? The thesis has argued that the existence of multiple and potentially conflicting regulatory goals is no barrier to crafting an analytical construction of the instruments created for these purposes in a given public policy context. For example, the EU ETS seeks to maintain a viable emissions market while at the same time attaining scientifically necessary levels of emissions reductions. An analysis of emissions entitlements as belonging to the category of instrumental property can articulate the contents of emissions entitlements which best reconcile these aims with each other, so that the EU ETS can be an environmental success. For instance, the free transferability required for the emissions market to function is counterbalanced by the retained regulatory discretion to intervene in this market as the environmental goal requires. Together with the requisite additional EU-level input on the scope of regulatory intervention and the private law usability of emissions entitlements, this balancing exercise rests on acknowledging the instrumental function of emissions entitlements. Specifically, they can be defined in such a way as to facilitate the achievement of a variety of competing (but not incompatible) public policy goals.

It may also be asked at this point how instrumental property differs from traditionally conceptualised private property. According to the thesis, the difference is that, in the former case, the object of property itself has to be protected, as well as the interests of its holders. If instrumental property can shift shape so easily according to context, how can it adequately protect its objects? It must be emphasised that the protection afforded by instrumental property to its objects is by no means held to be absolute. Such protection is necessarily balanced against other relevant interests, whether internal or external to the specific regulatory regime under scrutiny. For instance, devising a system of tradable instruments intended to maintain a certain composition of the atmosphere requires the setting and calibration of caps which are scientifically viable and at the same time enable regulated entities to reduce emissions in an economically efficient manner. More widely, as the thesis has shown, the EU ETS needs to be viewed as part and parcel of Union-wide environmental policy, which includes a proposed transition to a low-carbon economy. This contextualisation demands, in particular, a sufficient emis-

sions price to incentivise green technology investment, which in turn requires maintaining the viability of the emissions market. It is therefore not as simple as saying that emissions have to be reduced to a certain level: they need to be reduced cost-effectively, and so as to permit market operation. This is a prime example of the balancing exercise that instrumental property can and must conduct in order to achieve regulatory goals.

It is impossible to predict what the future holds, but one thing is certain: property law must learn to live with the realisation that the rights are susceptible to considerable change when they have been created and continue to operate in a regulatory environment. Whether or not we are ready to place all such rights (including intellectual property) in the new category put forward by the thesis, we should at least be prepared to admit that private property as a generic, decontextualised concept is likely to be devoid of meaning in the regulatory state[25] . For property to act as a credible tool of regulation in any given context, its analytical construction needs to accommodate a range of changing and conflicting goals that are deemed worthy of being furthered for public (and potentially even private) interests.

[25]Gray, "Property in Thin Air", at 50, "beyond the irreducible constraints imposed by the idea of excludability, 'property' terminology is merely talk without substance".

Appendix A

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A.5 Reports and Papers

Reports and Papers

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A.6 Standard Form Documents

Standard Form Documents

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A.7 News and Market Information

News and Market Information

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