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Fraud on the European Union Emissions Trading Scheme: Effects, Vulnerabilities and Regulatory Reform

Katherine Nield* and Dr Ricardo Pereira**

Abstract

As the European Union Emissions Trading Scheme (EU ETS) has grown in size and value, it has become an increasingly attractive playground for fraudsters. The past two years have seen value-added-tax (VAT) fraud and emissions allowance thefts emerge as major threats to the EU ETS market. This study explores the effects that these forms of fraud have had on parts of the EU carbon market; uncovers vulnerabilities in the regulation of the registries (the “banks” of accounts in which emissions allowances are kept and from which they are traded) and the oversight of the EU ETS market; and analyses the adequacy and wider implications of the regulatory reforms recently proposed by the European Commission. A series of semi-structured interviews conducted for this study exposes a significant amount of discomfort amongst stakeholders regarding the proposed reforms to the regulation of the registries system, which is felt could still leave the system vulnerable to fraud and its effects. The potential extension of the EU financial markets oversight regulations has also led to fear that the future regulatory framework may be disproportionately burdensome for some market participants, potentially compromising the cost-efficiency of this emissions abatement tool. Moreover, the paper highlights the difficulties involved in the investigation and prosecution of fraud in the carbon markets and assesses the extent to which recent developments in EU criminal law, in particular since the ratification of the Lisbon Treaty in 2009, hold the potential to overcome some of the existing barriers to the effective criminal law cooperation between the Member States.

I. Introduction

The European Union Emissions Trading Scheme (EU ETS) is the cornerstone of the EU's climate change policy. Introduced in 2005,¹ the main aim of this cap-and-trade system is the cost-efficient delivery of predictable carbon dioxide (CO₂) emissions reductions. By limiting the overall amount of permitted emissions, apportioning this overall limit amongst installations via the allocation of 'emissions allowances', and allowing these allowances to be traded between installations, this market-based instrument aims to apportion emissions abatement to where it can be achieved at the lowest cost.

Currently in its second phase, the EU ETS is being implemented in three main stages. Phase I ran from 2005 to 2007, and acted as a test phase to ensure effective emissions reporting and verification systems. Phase II saw the introduction of new industrial sectors, such as glass and petrochemical production, and runs from 2008 to 2012. Phase III, due to start in 2013, will run until 2020 and, building on lessons learnt from the previous two phases, will require an increased proportion of installations to buy emissions allowances via auction rather than receive free allocations. Moreover, Phase III is marked by the abolition of the national allocation plans and adoption instead of a more centralised emissions cap.

The EU ETS has grown rapidly since its inception. Now the largest carbon market in the world, it covers over 11,000 installations in 30 different countries,² and was worth an estimated €103 billion in 2009.³ The sophistication and complexity of the associated market for tradable allowances has mirrored this growth, with market participation extending beyond those interested purely in the emissions compliance use of the underlying commodities ('compliance entities'). Financial intermediaries⁴ quickly joined the EU ETS market, both to profit from buying and selling emissions allowances on their own accounts (known as 'financial trading') and to provide trading and risk management services for compliance firms ('brokering').⁵ Sophisticated trading platforms have also emerged as the market has matured, with the majority of trade now carried out on electronic trading platforms ('exchanges'), through which buyers and sellers can enter their orders and carry out trades anonymously and rapidly.⁶

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¹ By the implementation of Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003, establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC.

² The 27 EU Member States, and Iceland, Lichtenstein and Norway. (European Commission, http://ec.europa.eu/clima/policies/ets/index_en.htm)

³ Kossoy, A. and P. Ambrosi, "State and Trends of the carbon market 2010", [2010], Carbon Finance at the World Bank, Washington DC, USA.

⁴ These can be banks, credit institutions or investment firms.

⁵ Ellerman et al., *Pricing Carbon: the European Emissions Trading Scheme* (2010) p. 135-137. Cambridge University Press, Cambridge, UK

⁶ *ibid*

On top of more basic contracts for the immediate delivery of emissions allowances (spot contracts) financial intermediaries have developed a variety of more complex derivative products with different delivery dates and options to help appropriately manage price risk for their clients. 'Forwards' and 'futures' for example represent contracts for the delivery of a set volume of a commodity on a specified future delivery date. These instruments allow firms to be certain of the price they will be paying (or receiving) for allowances in the future, and to hedge the risk of fluctuation in the price of allowances.⁷

This broad involvement and diversity of products within the market has been important in driving liquidity and market efficiency⁸ and has itself fuelled further market growth. But as the EU carbon market has grown in size and value, it has also become an increasingly attractive playground for fraudsters. As such, fraud has materialised on this market in a variety of sophisticated forms, including VAT carousel fraud and emissions allowance thefts. The emergence of this activity has raised concern that the development of the regulation of the EU ETS has lagged behind the growth in value and complexity of the scheme. Although fraud is of course present on many other functioning markets, the EU ETS appears to be uniquely vulnerable to certain types of criminal activity. According to a senior representative of a leading bank heavily involved in trading on the EU ETS, "there is no other market in the world that is more open to misuse",⁹ stating that criminals specifically target the EU carbon market compared to others. In recognition of this vulnerability, the European Commission has recently proposed reforms to the Regulation governing the running of the system of accounts ('registries') in which emissions allowances are kept and traded (in the form of a draft registries Regulation),¹⁰ and launched a stakeholder consultation to explore potential reforms to the way in which the emissions trading market is regulated.¹¹ There are concerns however regarding the appropriateness and potential effectiveness of these reforms. With Phase III approaching, it is essential that the reforms put in place to strengthen the resilience of the system against fraud and the confidence of market participants are both effective and appropriate, to avoid the need for further regulatory change and uncertainty in the near future.

Additional to the governance of the trading system itself, the effectiveness of criminal investigations and prosecutions plays an important role in the prevention of criminal activity on the EU ETS. The transnational nature of the market and the fraud that affects it however creates difficulties in the coordination of these activities.

⁷ Ellerman et al. (2010), above n. 5.

⁸ Daskalakis et al., *Financial Aspects in Energy: The European perspective* (2010) Chapter 4: "The CO2 trading market in Europe: a financial perspective". Springer [online].

⁹ Anonymous, senior representative of leading carbon trading bank, interview (07.07.2011).

¹⁰ Commission DRAFT Regulation (EU) No .../. of XXX establishing a Union Registry for the trading period commencing on 1 January 2013, and subsequent trading periods, of the Union emissions trading scheme pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision 280/2004/EC of the European Parliament and of the Council and amending Regulations (EC) No 2216/2004 and (EU) No 920/2010, Reference number: D014910/02, Brussels, Belgium.

¹¹ Communication from the Commission to the European Parliament and the Council, "Towards an enhanced market oversight framework for the EU Emissions Trading Scheme" [2010] Brussels, Belgium.

This research paper aims to examine the major forms of fraud on the European Union Emissions Trading Scheme (EU ETS); assess the effects that these types of fraud have had on the system; analyse the vulnerabilities in the regulation of the EU ETS that leave it exposed to this type of activity; and assess the appropriateness and effectiveness of the regulatory reforms proposed by the European Commission aimed at strengthening the system and addressing these vulnerabilities. This paper also explores how changes to EU criminal law and the regime governing the coordination of criminal investigations laid out in existing EU criminal legislation and in the 2009 Lisbon Treaty could help overcome the existing difficulties involved with the prosecution of cross-border fraud on the EU ETS.

To gain qualitative data and help guide this analysis, semi-structured interviews with a variety of stakeholders were conducted, the views of whom are included throughout this article.

1.1. Overview of the EU Emissions Trading Scheme

The reader of this review is likely to be well versed with the principles underlying the operation of the EU ETS. Yet it is necessary for this paper to give a brief general outline of the scheme prior to the analysis of the specific vulnerabilities of the scheme to fraud.

The European Community (EC) and the then EU-15 Member States signed the Kyoto Protocol on 29 April 1998, and was formally ratified in 31 May 2002 by the EC and its Member States. Under the Protocol, the EU and Member States made the commitment to reduce CO_{2e} emissions in 2008-2012 by 8% below 1990 levels. Under the EU Luxembourg 'Burden Sharing Agreement' the Kyoto target for the EU was redistributed between individual Member States based on national circumstances.¹² Presently the EU ETS covers all the EU-27 Member States, as well as Norway, Iceland and Liechtenstein, who are part of the European Economic Area (EEA). It covers about 50% of all CO₂ emissions in the EU (or about 30% of its total Kyoto emissions) and most industrial sectors (around 11,500 of the EU's major emitters). The scheme is expanding to cover more gases (initially limited to CO₂) and more industrial sectors.

The EU ETS is a "cap and trade" scheme, where national caps are established for each industrial installation by individual member States, in line with their Kyoto target, in 'National Allocation Plans'. The use of cap-and-trade policy instruments have been favoured by the European Commission, which regards them as a cost-effective and flexible means to meet environmental imperatives. Each installation is allocated a certain number of 'allowances', or emissions rights, equivalent to one tonne CO_{2e}, which it must surrender at the end of each compliance year. If an installation has emitted more than the number of allowances it holds in the registry, it must purchase more allowances from the market. Conversely, if an installation, due to lower production or improved processes has more allowances than enough to cover for its actual emissions, it is in a position to sell. It therefore enables the Kyoto targets to be achieved at least cost overall by using the market. As will be discussed below, these type of transactions are normally carried out in the spot and derivatives markets by firms which have compliance obligations under the EU ETS.

To ensure its robustness, effectiveness and environmental integrity, the trading scheme needs a high standard of compliance across Europe, with enforcement sanctions in the form of financial penalties to operators.¹³ The scheme is underpinned by a solid registries system to track allowances between installations and between countries. Each allowance is subject to a verification trail by independent third parties. The scheme is also supported by strict monitoring and reporting requirements for operators, using a hierarchical tier system of methodologies applicable to specific industrial processes.¹⁴

¹² Since the EU enlargement in 2004, the new Member States (except Malta and Cyprus) ratified the Kyoto Protocol (their individual targets range from 6-8% individual reductions, but are not part of the burden sharing agreement). Under the Burden Sharing Agreement, while some countries have accepted tough reduction targets (e.g. Austria (-13%), Denmark (-21%)), others, such as Portugal, Ireland and Greece have been allowed to increase their emissions (e.g. Greece (+25%) and Ireland (+13%)), taking into account economic growth projections. France, because of the high reliance on nuclear power and hydro, was given a stabilisation target (the same applied for Finland).

¹³ M Pohlmann, 'The EU Emissions Trading Scheme', in Freestone and Streck (eds.), *Legal Aspects of Carbon Trading* (OUP, 2009)

¹⁴ *Ibid.*

The mechanism whereby allowances were allocated (i.e. grandfathered, so allocated for free to operators based on historical emissions)¹⁵ and the lenient caps set by the Member States have led to the over-allocated allowances to operators in Phase I (which ran between 2005-2007), and consequently to a sharp fall in the carbon prices.¹⁶ In order to prevent the problem of over-allocation of allowances from re-occurring in Phase II (2008-2012) - which coincides with Kyoto's first commitment period - the European Commission adopted a much more stringent approach to caps in Phase II. As a result, the aggregate cap for the second trading period is below business as usual emissions, rather than historical emissions.¹⁷

As part of the third climate and energy package agreed by the EU Council in December 2008, the EU adopted a Directive to amend the ETS Directive 2009/29/EC¹⁸, with the view of strengthening the ETS rules in the period between 2013-2020. The EU Member States are the only countries to have set binding 2020 targets for GHG emissions reductions, with an overall goal of slashing GHG emissions by 20% by 2020. Moreover, the EU Aviation Directive was adopted in November 2008, requiring civil aviation to be included in the EU ETS as of January 2012.¹⁹

The EU ETS amending directive 2009 abolishes the notion of national allocation plans (NAPs). Instead, the Commission sets a EU-wide cap for particular sectors, which is to be calculated for the year 2013 on the basis of the average annual EUA allocations during Phase II. Moreover, auctioning becomes the main allocation method in Phase III, although it will be introduced gradually.²⁰ Yet, in recognition that some industries might be in risk of relocation to other countries outside the EU with the expansion of auctioning as the main method of allocation, allowances will be allocated free of charge (i.e. grandfathered) to the installations which are exposed to serious risk of carbon leakage (i.e. relocation) – this possibility is however not available to the power sector.

¹⁵ Although the Directive allowed in principle up to 5% auctioning in Phase I, only three Member States have done so.

¹⁶ The EU ETS Directive 2003/87/EC did not indicate how many emissions should ultimately be reduced by sector in each Member, which was left to the National Allocations Plans (NAPs). It thus left Member States with ample regulatory discretion in setting a cap that applies to their industries (Art. 9).

¹⁷ Moreover, the Commission allows Member States' operators of covered installations to form a pool from the same activity and to jointly surrender EUAs for its combined verified emissions in the preceding year. In principle, up to 10% of allowances could be allocated through auctioning in Phase II (*Ibid*)

¹⁸ DIRECTIVE 2009/29/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL 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

¹⁹ The US brought a case before the WTO Panels against the Aviation Directive arguing that its 'extraterritorial' application breaches WTO law, in particular the non-discrimination and most favourite nation (MFN) principle. The legality of the Directive is also at the time of writing under review before the ECJ. On the WTO law principles, see http://www.wto.org/english/thewto_e/whatis_e/tif_e/fact2_e.htm (accessed on 13/06/11).

²⁰ It starts in 2013 with the power sector (electricity producers and CCS plants), due to the possibility of that sector to pass costs on to energy consumers. Thus, for the power sector all allowances will be auctioned (the Commission estimates that 60% of total allowances will auctioned by 2013). This is to gradually increased to include other sectors (70% of the installations covered by the scheme in 2020), 'with view of reaching' full auctioning in 2027. The Commission sets a cap on the total allowances to be auctioned in the Member States, in line with the burden sharing agreement.

II. Fraud in the EU ETS (I): Value-added-tax (VAT) fraud

2.1. Introduction

The VAT regime that currently applies to the trade of emissions allowances has left the EU ETS open to exploitation by criminals for the purposes of VAT fraud. The precise domestic rules dictating the amount of VAT that allowance transfers are subject to, as well as how and from whom this tax is collected, are not harmonized across the EU and therefore vary from State to State. Many European countries therefore currently treat the domestic transfer of emission allowances as a taxable supply of services, subject to VAT. All cross-border transactions *between* EU countries however are subject to 0% VAT (i.e. are “zero-rated”).²¹ Although criminals have found many sophisticated ways to exploit this system, the basic premise behind this class of fraud is the same. In the context of carbon trading, by buying emissions allowances from a company in another country at a price non-inclusive of VAT (since cross-border transactions are zero-rated), selling them on domestically at a price that is inclusive of VAT and disappearing before surrendering this VAT “profit” to the treasury of the country in which the sale was made, large amounts of money can be fraudulently raised. This type of activity is more commonly known as “missing trader intra-community” (MTIC) fraud, as the trader (or company) goes missing before being traced by the authorities to surrender the VAT that they owe.

Carousel fraud is a form of MTIC fraud involving an organized group of fraudulent traders or companies acting in concert to augment the VAT that can be fraudulently acquired. By trading emissions allowances via a series of “carousels” (see figure 1), the amount of VAT that can be fraudulently acquired is multiplied each time the allowances are circulated between this carousel of conspirator companies.²²

2.2. The emergence of VAT fraud on the EU ETS

“Missing trader intra-community” (MTIC) and carousel fraud have historically focused on mobile telephones, computer chips and other *high value, low volume goods*, due to their ease of transportation and the high VAT revenues that can be generated from them.²³ EU emissions allowances also satisfy these characteristics, and therefore can be subject to this type of fraud. With a high value (generally reaching €10-30) and no physical volume (being entirely electronic), emissions allowance transfers can be completed rapidly on the spot market (in as little as 15 minutes) whilst avoiding the cost and delay involved in physical delivery.²⁴ As a result, fraudulent traders can transfer large volumes of allowances, and conduct multiple “carousels” before being traced by the authorities; allowing them to maximize the amount of VAT they cash out.

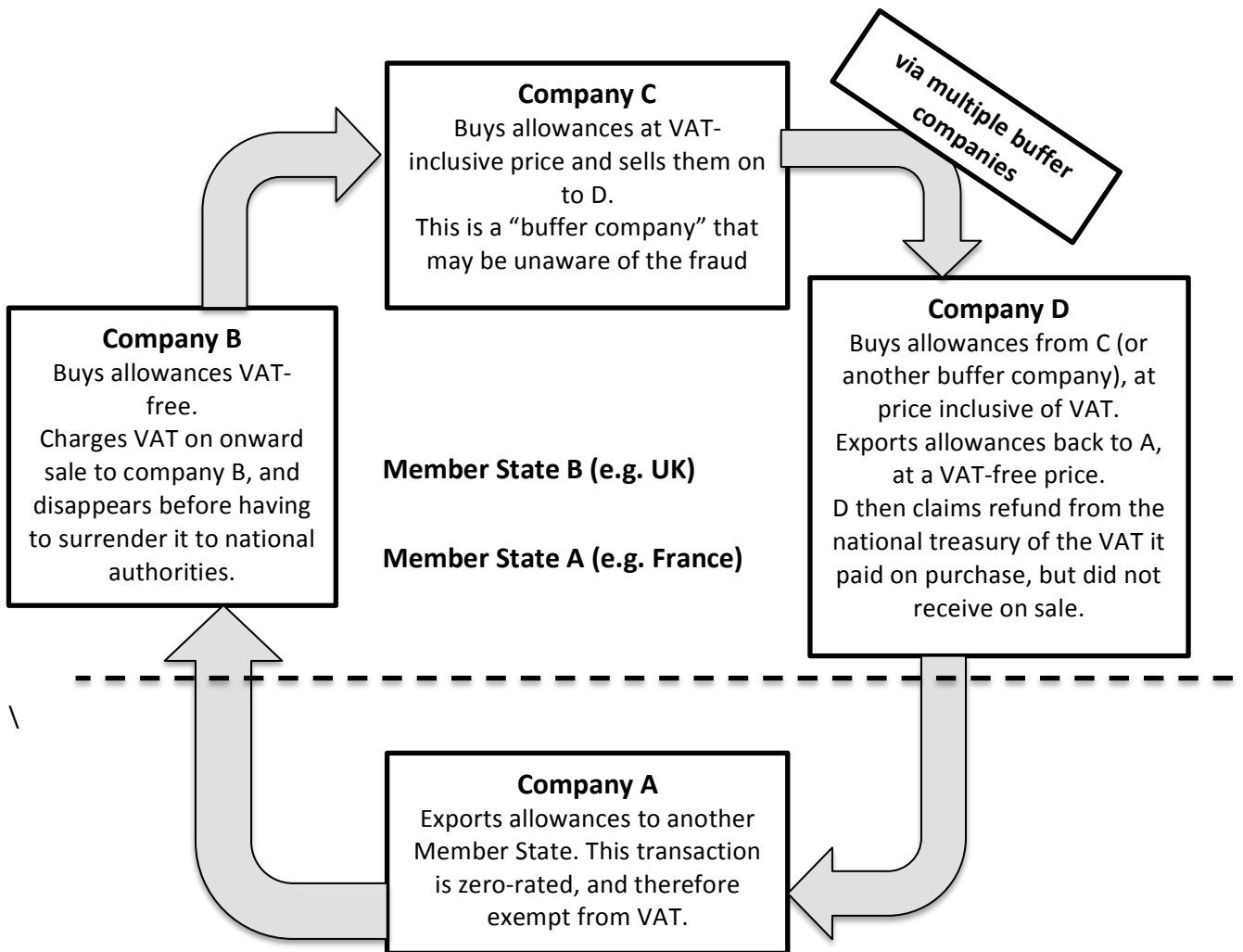
²¹ Keen, M. and S. Smith, “VAT fraud and evasion: what do we know and what can be done?” [2007], IMF working paper WP/07/31, International Monetary Fund, New York, USA.

²² *ibid*

²³ Eurojust, “Fraud” [2011] Eurojust News, Issue No.4, July 2011, Eurojust, The Hague, The Netherlands.

²⁴ Ainsworth, R., “CO2 MTIC fraud – technologically exploiting the EU VAT (again)”, [2010], Boston School of Law Working Paper 10(01), Boston, USA

Figure 1: VAT carousel fraud (adapted from Keen and Smith 2007)



VAT fraud on the EU ETS was first suspected due to an unprecedented rise in EU emissions allowance (EUA) spot trading volumes towards the end of 2008. This peaked on June 2nd 2009, when a record 19.8 million metric tons of CO_{2e} was traded on the Bluenext spot exchange (the largest carbon spot exchange in Europe).²⁵ Rumours that these volumes were being driven by VAT carousel fraud prompted Bluenext to close its spot exchange.²⁶ Before allowing the exchange to reopen, the French authorities imposed a zero-rated VAT status on domestic trades of emissions allowances, effectively blocking the ability of fraudsters to conduct MTIC fraud in France. Upon reopening the exchange, Bluenext's daily spot trading volumes had plummeted by over 85%, leveling out at roughly 2.5 million tons CO_{2e} (see figure 2.).

2.3. Effects of VAT fraud

The most evident effects of VAT fraud are the losses suffered by tax revenues in the countries in which goods are "carouseled". In total, across all EU Member States, Europol estimated in 2009 that VAT fraud on the EU ETS had thus far cost taxpayers roughly €5 billion.²⁷ This figure is disputed, and may even be an underestimation.²⁸ Although heightened spot trading volumes are also evident from looking at pure trading volume data (see figure 2), these volumes cannot necessarily be directly attributed to VAT fraud. Forensic econometric techniques employed by Frunza *et al.* (2010) however do suggest that during its peak in 2009, VAT carousel fraud was driving spot trading volumes as much as ten times higher than would have normally occurred.²⁹ Their research found that these inflated trading volumes were having a distorting effect on the carbon price signal, which in turn could have compromised the market's efficiency and ability to incentivise emissions abatement. This price-distorting effect has also been seen on the Italian spot exchange (GME) that, during suspicious surges in trading volume in 2010, was trading EUAs at a significant price discount.³⁰

Figure 2: Rise in Bluenext EUA spot volume driven by VAT-fraud³¹

²⁵ Bluenext, Bluenext spot volume data, [2011], Bluenext exchange website, [online], available at: http://data.bluenext.fr/downloads/20110831_BNS_STATS.xls

²⁶ Frunza, M., D. Guegan and A. Lassoudiere, "Missing trader fraud on the emissions market", [2010], Journal of Financial Crime, 18(2) at p183

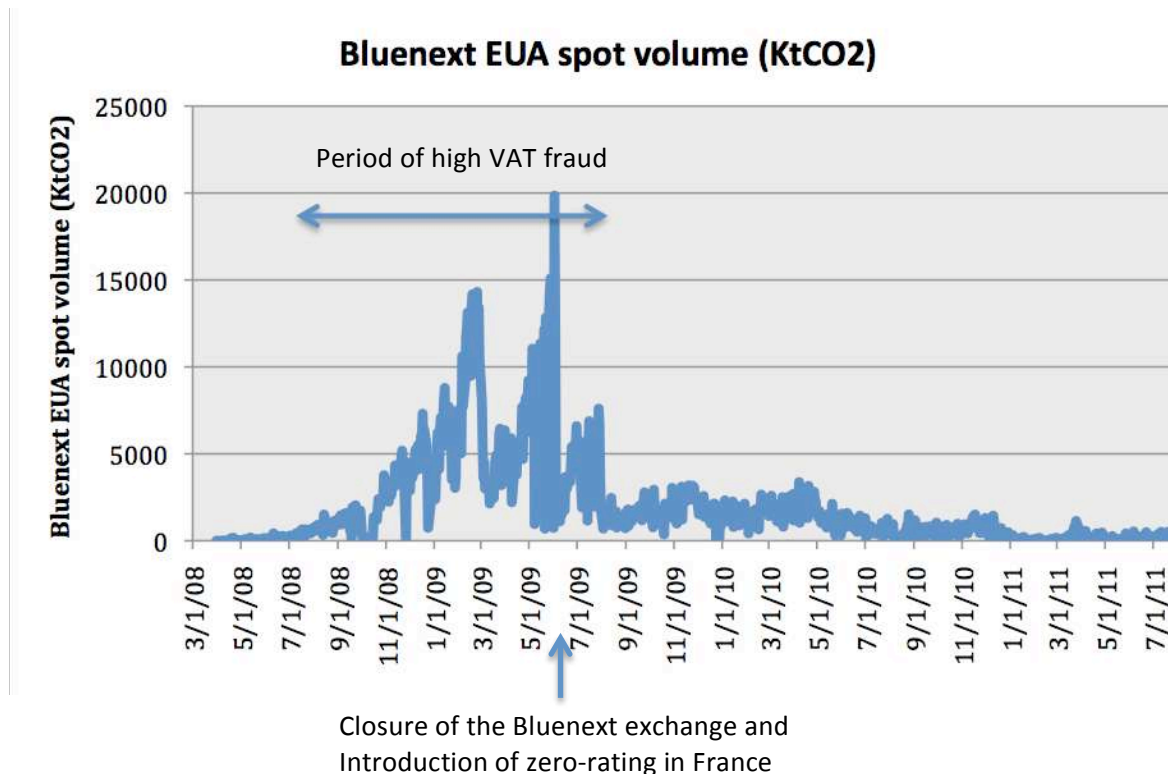
²⁷ Europol, "Carbon credit fraud causes more than 5 billions euros damage for European tax payer", [2009], Europol website, [online] available at: <http://www.europol.europa.eu/index.asp?page=news&news=pr091209.htm>

²⁸ Ainsworth [2010], above n. 24.

²⁹ Frunza et al. [2010], above n. 27.

³⁰ Reuters, "Italian bourse sees surge in spot EU carbon trades", [2010], Reuters news website, [online] available at: <http://uk.reuters.com/article/2010/11/24/carbon-gme-idUKLDE6AN1VM20101124> (accessed on 19 October 2011)

³¹ Data from Bluenext (2011), above n.26



2.4. The Reverse Charge Mechanism

Since France's adoption of a zero-rating mechanism following the initial VAT fraud scare, a number of other Member States have also altered their domestic VAT treatment of emissions allowances in order to similarly block VAT fraud within their own jurisdictions. In 2009, the UK imposed zero-rating rules on domestically traded emissions allowances.³² The Netherlands has introduced a "reverse-charge" mechanism, whereby the buyer and not the seller is responsible for surrendering VAT on domestically traded emissions allowances. Thus, a reverse charge system obligates the buyer to pay the VAT on purchased allowances directly to the authorities, rather than including the VAT in the purchase price and leaving the seller responsible for the payment of this amount to the authorities. These changes in domestic VAT rules have effectively put a stop to VAT fraud within jurisdictions containing three of the largest emissions trading exchanges in Europe; Bluenext (France), Climex (Netherlands) and ICE ECX (UK).

The EU itself has also taken centralized action. In 2010, revisions to the 2006 VAT Directive were adopted.³³ These revisions enabled Member States to apply a reverse charge mechanism to the VAT treatment of emissions allowances (as well as other VAT-fraud susceptible goods), a measure that, if implemented consistently across the EU, would prevent the possibility of VAT fraud on the EU ETS.³⁴ However, this Directive only imposed

³² HMRC, Revenue and Customs Brief 46/09, [2009], HM Revenue and Customs website, London, UK, [online] available at: <http://www.hmrc.gov.uk/briefs/vat/brief4609.htm>

³³ Council Directive 2010/23/EU of 16 March 2010 amending Directive 2006/112/EC as regards an optional and temporary application of the reverse charge mechanism in relation to supplies of certain services susceptible to fraud.

³⁴ HMRC, Reverse charge on specified goods and services, [2011], HMRC manuals, VATF44200, HM Revenue and Customs website, London, UK [online] available at: <http://www.hmrc.gov.uk/manuals>

the *option* for Member States to temporarily adopt this regime. Since it entered into force in April 2010, many Member States have failed to implement this reverse-charge system, with Estonia flatly refusing to do so, claiming that it wants to retain simplicity in its taxation system.³⁵ Many other Member States are still exposed to the use of emissions allowances as vehicles for MTIC and carousel fraud within their jurisdictions due their existing VAT rules. This leaves parts of the EU carbon market exposed to VAT fraud, and as a result, many interviewees suggested that this type of fraud is still viewed as a significant problem on the EU ETS.³⁶ The Italian spot exchange (Gestore Mercati Energetici (GME)) for example experienced a suspicious surge in spot trading volume as recently as December 2010, when weekly trading volumes reached nearly 2.8 million compared to only 10,000 the year before.^{37,38}

Although it is tax rules that ultimately allow for MTIC fraud on the EU ETS, there are additional characteristics of the way that the market and the registries are run that facilitate the EU ETS's *vulnerability* to VAT fraud. Although an in-depth analysis of VAT rules is not within the remit of this research, this paper further discuss how reforms to the regulation of the registries and market oversight mechanisms could help decrease this vulnerability while we wait for a comprehensive VAT solution to be reached.

³⁵ Tax News, "Estonia Rejects Reverse Charge Mechanism", [2011], Tax news website, [online] available at: http://www.tax-news.com/news/Estonia_Rejects_Reverse_Charge_Mechanism_50723.html

³⁶ Stig Schjolset, Point Carbon (Norway), phone interview (16.6.2011); ³⁶ Anonymous, senior representative of leading carbon trading bank, interview (07.07.2011)

³⁷ Bloomberg, "GME Exchange in Italy Halts EU Carbon Trading, Cites 'Abnormal' Activity", [2010], Bloomberg news website, [online] available at: <http://www.bloomberg.com/news/2010-12-02/gme-exchange-in-italy-halts-eu-carbon-trading-cites-abnormal-activity.html>

³⁸ Reuters, "Italian bourse sees surge in spot EU carbon trades", [2010], Reuters news website, [online] available at: <http://uk.reuters.com/article/2010/11/24/carbon-gme-idUKLDE6AN1VM20101124>

III. EU ETS Fraud (II): Emissions allowance thefts

3.1. Introduction

“Account or facility takeover” is a form of fraud, prevalent in the banking and credit industries, which occurs when a fraudster, posing as the genuine account holder, gains control of that account and initiates unauthorised transactions. Access is usually gained by “phishing” for account identity and password information, this can be done by simple deceptive email requests, or by more aggressive cyber-hacking methods³⁹. This form of fraud has recently extended to facilitate the fraudulent theft of emissions allowances from companies’ EU ETS registry accounts. The first instance of thefts occurred on 28th January 2010, when a widespread phishing attack hit emission traders in Germany. “Phishers” posing as registry administrators sent emails to thousands of firms, instructing registry account holders to disclose their user identification numbers and passwords on a fake registry website infected with a phishing virus. The fraudsters subsequently used this access information to gain control of accounts and authorise the transfer of emission allowances to their own accounts from which they could be traded. 250,000 allowances, worth over three million euros, were allegedly stolen from six German companies in this way.^{40 41}

A second instance of more sophisticated hacking attempts followed in late 2010-early 2011 (see table 1). In November 2010, allowances were stolen from accounts in both the Romanian and Italian registries. In January 2011, accounts in the Austrian, Czech and Greek registries were also fraudulently accessed, resulting in the theft of over two million allowances. The European Commission reacted by suspending spot-trading from accounts in all national registries on 19th January 2011.⁴² Registries were then only permitted to reactivate once they were able to prove that they met minimum security standards. Some registries took months to do so, and only opened again in mid-April 2011.

Table 1: Allowances stolen via registry hacks (late 2010/ early 2011)

National registry targeted	Number of allowances stolen*	Company account targeted	Date	Number of allowances returned or traced*
Romania	1,600,000	Holcim	16th November 2010	600,000 returned (from Lichtenstein)

³⁹ Serious Fraud Office (2011) Taxonomy of Fraud, Serious Fraud Office website, [online] available at: www.sfo.gov.uk/taxonomy.swf

⁴⁰ BBC news, “Phishing attack nets three million euros of carbon permits”, [2010], BBC news website, [online] available at: <http://news.bbc.co.uk/1/hi/technology/8497129.stm>

⁴¹ The Guardian, “Carbon trading fraudsters steal permits worth £2.7m in 'phishing' scam”, [2010], The Guardian news website, [online] available at: <http://www.guardian.co.uk/environment/2010/feb/04/carbon-trading-fraudsters-steal-permits>

⁴² European Commission, “Announcement of transitional measures: the EU ETS registry system”, [2011], European Commission Climate Action News Archive, [online] available at: http://ec.europa.eu/clima/news/articles/news_2011011901_en.htm

Italy	267,911	TCEI	24th November 2010	[figures not available]
Austria	488,141	Austrian government account	10 th 2011	All returned (from Lichtenstein and Sweden)
Czech Republic	950,000	Blackstone Global Ventures; CEZ	18 th 2011	225,001 returned (from Estonia)
Greece	300,000	Halyps	18 th 2011	[figures not available]

* Indicates that figures may not be exact.

The figures are according to lists published by: the Greek registry (2011), (Czech registry, 2011); (Italian registry, 2011); (Austrian registry, 2011); and (Dutch emissions authority (NEA, 2011).

3.2. Direct financial impacts and risks of allowance thefts

The number of emissions allowances stolen (approx. 3 million) represents only 0.003% of the total number allocated (approx. 2 billion), and were taken from the accounts of only a handful of companies. Thus, the direct financial implications of the thefts were not very significant to the market as a whole, but localised to a few unfortunate individuals. Furthermore, the financial effects of the thefts have been ameliorated for some of the firms targeted, as a large proportion of allowances have been identified and returned to their original owners (see table 1). This was the case for the hundreds of thousands of allowances stolen from the Austrian registry, all of which were quickly traced to accounts in Lichtenstein and Sweden, and frozen within these accounts before being returned to the Austrian registry.^{43 44} Tracing and returning stolen allowances has been difficult in many other cases however due to the elaborate onward transfers used by the criminals involved. By splitting up blocks of stolen allowances and subjecting them to a chain of complex transactions, these goods can become infiltrated within the system and thus very difficult to trace.⁴⁵ Although the publication of lists of serial numbers (the unique numeric unit codes associated with individual allowances) of supposedly stolen allowances by both victim companies⁴⁶ and national registries^{47 48} has helped efforts to trace and return them to their original owners, hundreds of thousands remain unaccounted for and are still in circulation.

⁴³ Bloomberg, "Austria asks Sweden to return carbon permits worth \$3.9 million", [2011], [online] available at: <http://www.bloomberg.com/news/2011-02-02/austria-asks-sweden-to-help-return-3-9-million-of-stolen-carbon-permits.html>

⁴⁴ Emissions Handels Register, [2011], website, [online] available at: <http://en.emissionshandelsregister.at/register/>

⁴⁵ *ibid*

⁴⁶ Holcim, "List of stolen allowances", [2010], Holcim website, [online] available at: http://www.holcim.ro/fileadmin/templates/RO/doc/EUA_identification_numbers.pdf

⁴⁷ OTE, List of allowances from illegal transactions on 18th January 2011, [2011], OTE website, [online] available at: <http://www.ote-cr.cz/about-ote/file-news/blocks-cz-20110118-public.pdf>

⁴⁸ Note that these are lists of *allegedly* stolen allowances, and do not claim to be comprehensive or reliable.

There is currently no comprehensive compensation regime for allowances stolen from registry accounts,⁴⁹ and the location of liability for the consequences of registry security breaches remains unclear⁵⁰ as many national registries have disclaimers freeing them from any liability for loss or damage that might be suffered by their account holders.⁵¹ There is therefore in many cases currently no available formal method of redress for the financial loss suffered by victims of security breaches.

In addition, there are *systemic market risks* associated with stolen allowances. As stolen allowances remain in circulation on the market, participants are at risk of inadvertently purchasing them. Although on the surface this risk of accidental purchase may not seem like a significant issue as the European Commission has confirmed that stolen allowances are still valid for compliance with EU ETS emissions obligations;⁵² there are legal complications that result in buyers of these allowances risking both financial loss and criminal charges in certain jurisdictions. As a result of these systemic risks, the most significant impacts of allowance thefts extend beyond those companies directly targeted by the attacks.

The purchase of stolen goods can result in the purchaser not having legitimate ownership rights (“good title”) over these goods. Buying on a market in which stolen emissions allowances are in circulation carries the risk of paying for allowances to which the buyer does not gain good title, and therefore cannot sell on. As a result, purchasers risk financial loss of the face value of the allowances they buy that are not used for compliance. The nature of these risks varies however between Member States, as the law applicable to stolen goods, emissions allowances (see table 2) and the acquisition of good title is complex and is not harmonised across the EU. In the UK for example, laws surrounding the handling of stolen goods mean that regardless of whether the purchase has been made in good faith with no knowledge of the stolen nature of that purchased good, good title cannot be acquired if it is found to be stolen, and also risk facing criminal charges.^{53 54} In contrast,

⁴⁹ Although victims of the attack on the Czech Registry have been demanding compensation from the company responsible for the administration of this registry for their negligence in implementing security measures: Bloomberg, “CEZ, Blackstone may get Czech paybacks for stolen CO2 permits”, [2011], Bloomberg news website, [online] available at: <http://www.bloomberg.com/news/2011-02-16/cez-blackstone-may-get-czech-compensation-for-stolen-emission-permits.html>

⁵⁰ Wemaeres, M., “Fraud in the EU emissions trading scheme: a number of legal questions are still pending”, [2011], Tendances Carbone, No57

⁵¹ For example the UK Registry’s disclaimer includes the statement: “In no event do we accept any liability whatsoever for any loss or damage (financial or otherwise) including, without limitation, indirect or consequential loss or damage, or any loss or damages whatsoever arising from use of data derived from this website. It is always wise for you to run an anti-virus program on all material downloaded from the Internet. We cannot accept any responsibility for any loss, disruption or damage to your data or computer system which may occur whilst using material derived from this website.” [available at http://etr.defra.gov.uk/Web_TsAndCs.asp].

⁵² Delbeke, J., “Statement on the recent incident of unauthorised access to EU ETS registry accounts in Romania, Statement made by Director-General, DG Climate Action”, [2011], European Commission website, [online] available at: <http://ec.europa.eu/environment/ets/>

⁵³ Holman Fenwick Willan, “Are you a victim of stolen carbon credits?”, [2011], Client Briefings, Holman Fenwick Willan website, London, UK, [online] available at: <http://www.hfw.com/publications/client-briefings/are-you-a-victim-of-stolen-carbon-credits>

⁵⁴ IETA, “IETA position paper on Registry Security as response to EU stakeholder meeting on 15th March 2011 on registry security”, [2011], IETA website, [online] available at: <https://ieta.org>

German law recognises the acquisition of good title to stolen goods if purchased in good faith. Due to these discrepancies, it is important to examine the individual Member State jurisdiction in which the transaction is being made when determining the specific status of stolen allowances and the liabilities attached with inadvertently handling them. Many Member States' national laws however do not directly address the specific legal nature of emissions allowances (see table 2).⁵⁵ This leaves the accurate assessment of the risks involved in market participation a difficult one to make.

The legal implications of buying stolen allowances would of course be avoidable if it were possible to affirm that allowances have not been stolen prior to their purchase. Multiple decentralised lists exist identifying *allegedly* stolen allowances. These have been used by some exchanges and services companies to create short-term solutions to help market participants protect themselves from the legal risks involved with participating in the EU ETS. For example in May 2011 the BlueNext exchange opened a 'safe trading zone', in which only allowances that have had their chain of title traced back to the source of issuance and verified not to have been stolen can be traded.⁵⁶ The creation of this "verified spot" has helped the recovery of confidence in the spot market to some extent.^{57 58} The market analyst company Tschach Solutions also offer an 'allocation identifier tool' which claims to enable companies to identify allowances that were part of their counterparty's initial allocation (if trading with a firm with compliance obligations). These allowances carry a greatly reduced risk of having been stolen as, if they are still in the account of the firm they were initially allocated to, it is less likely they have ever been traded.⁵⁹ Although these tools provide useful ways in which trading entities can manage their market participation risks to some extent, they come at a cost and by no means represent long-term comprehensive solutions to protect the market from the confidence-disabling impacts of allowance thefts.

The disclaimers surrounding lists of allegedly stolen allowances and associated tools suggest that they are not entirely reliable. As criminal investigations are yet to be completed, the European Commission itself has not published a central and official resource with which participants can easily and assuredly identify stolen allowances. Furthermore, as there is currently no comprehensive regime in place to compensate for the losses suffered by inadvertent purchasers of stolen allowances, this anonymity of stolen allowances, means that, as recognised by the International Emissions Trading Association (IETA) 'the law does not protect you and you can not protect yourself'.⁶⁰

⁵⁵ IETA, "IETA position on market disruptive impacts of stolen allowances in the EU ETS", [2011], IETA website, [online] available at: <http://www.ieta.org/>

⁵⁶ BlueNext, [2011], The Safe Harbour Initiative™ website, [online] available at: <http://safe-harbour-initiative.com>

⁵⁷ Point Carbon, "Spot EUA discount to futures plummets on new safeguards", [2011], Point Carbon news website, [online] available at: <http://www.pointcarbon.com/news/1.1533192>

⁵⁸ Point Carbon, "Five Firms pledge to kickstart BlueNext spot trade", [2011], Point Carbon news website, [online] available at: <http://www.pointcarbon.com/news/1.1529373>

⁵⁹ Tschach Solutions, "Allocation Identifier – Enable your company for Spot Trading by reducing your risk to accept stolen EUAs", [2011], Tschach Solutions website, [online] available at: <http://www.tschach-solutions.com/products/tools/allocation-identifier/>

⁶⁰ *ibid*

In addition, there are *reputational risks* which may ensue from participating in a market in which stolen allowances are circulating. Firms do not want to be seen in possession of stolen allowances, as this could taint their corporate image. This reputational effect is arguably more important in countries such as Germany, in which there are no well defined criminal liabilities and financial risks attached to the purchase of stolen allowances.⁶¹

Table 2: National legal definitions of emissions allowances⁶²

Country	Allowance definition
UK	Undefined
Germany	Undefined, but specified as <i>not</i> being securities
Bulgaria	Undefined
Estonia	Undefined
Finland	Undefined
Ireland	Undefined
Italy	Undefined
Lithuania	Undefined
Poland	Undefined
Slovakia	Undefined
Slovenia	Undefined
Sweden	Undefined
Belgium	Administrative rights
Greece	Administrative rights
Romania	Financial instruments
Austria	Property
Denmark	Property
Spain	Property
Netherlands	Property

3.3. Impacts of allowance thefts on market confidence, trading volumes and liquidity

The inability of market players to accurately evaluate or avoid the risks of trading on the EU ETS has had a crippling effect on market confidence and trading volumes on the spot market.⁶³ Following the allowance thefts of early 2011, the closure of national registries and spot exchanges inhibited all spot transactions from taking place. But even after all registries had re-opened, trading volumes failed to recover fully. In August 2011, four months after the complete reopening of the registries, the BlueNext spot exchange daily trade volume had levelled out to roughly 200 KT/day (after a peak in volume around the April 30th

⁶¹ Simone Ruiz, IETA, phone interview (15.07.2011); And anonymous, Associate, Leading London law firm, interview (21.07.2011)

⁶² Data sourced from: Prada, M., "The regulation of CO₂ markets: Assignment report by Michel Prada, Emeritus General Inspector of Finance", [2010], Paris, France.

⁶³ Anonymous, senior representative of leading carbon trading bank, interview (07.07.2011)

compliance date), compared to the near 800KT/day figure the exchange was functioning at prior to the thefts (see figure 3).⁶⁴ This decreased liquidity is estimated to have cost the market €110 million.⁶⁵

The blow to spot market confidence is suspected to have been most marked in the trading behaviour of firms that participate for purely financial rather than compliance reasons. Compliance firms could still use purchased stolen allowances for compliance purposes,⁶⁶ and therefore are less at risk of financial loss. Some banks, such as Barclays Capital, withdrew completely from spot market trading following the allowance thefts of January 2011.⁶⁷ When they re-joined the market, Barclays limited their spot trading activity to bilateral trades with compliance companies of initially allocated allowances, and did not take delivery from any intermediaries or exchanges. Allowances from these sources could be sure to have never entered the market since allocation and it could be certain therefore that they carried no liability risks.⁶⁸ Although some other financial trading bodies continued trading spot contracts in a similar way to Barclays, many withdrew from trading spot altogether.⁶⁹ This had a severe impact on the trading volume and liquidity of the spot market.

Although the spot market only accounts for a small proportion of overall trading volume (approx. 10-20%) on the EU carbon market, its importance must not be underestimated. According to Konrad Handschmidt, analyst at Bloomberg New Energy Finance, the spot market is an important tool for firms with compliance obligations under the EU ETS, especially small industrial players. Trading spot allows these firms to quickly sell or buy emissions allowances to meet their compliance obligations, or cash in excess allowances.⁷⁰

⁷¹

Furthermore, risks within the spot market threaten to spill over into other market segments. The spot market is not completely isolated from the futures market. Futures contracts are settled by spot transactions at the time of the delivery dates specified in the contract (these delivery dates tend to be in March or December). If the systemic risks within the spot market are not resolved by the approaching December 2011 delivery date, market confidence effects may be seen to spread onto the futures market.^{72 73} This spillover has already become apparent in the uneconomic spread between December 2011 and December 2012 contracts. Out of concern about the residual liability risks associated with stolen allowances that may still be in circulation in December 2011, traders are looking to

⁶⁴ Stig Schjolset, Point Carbon (Norway), phone interview (16.6.2011)

⁶⁵ Point Carbon, "EU carbon registries reopen after recent hacking attacks", [2011], Point Carbon news website, [online] available at: <http://www.pointcarbon.com/aboutus/pressroom/pressreleases/1.1503820>

⁶⁶ As confirmed by the European Commission, see Delbeke (2011), *above* n.55

⁶⁷ Financial Times, "EU spot carbon market set for partial restart", [2011], Financial Times website, [online] available at <http://www.ft.com/cms/s/0/c5d1392e-2efa-11e0-88ec-00144feabdc0.html#ixzz1P9fZ5h9t>

⁶⁸ Anonymous, senior representative of leading carbon trading bank, interview (07.07.2011)

⁶⁹ *ibid*

⁷⁰ Ellerman, 2010, *supra* n. 5.

⁷¹ Konrad Handschmidt, Bloomberg New Energy Finance, interview (15.06.2011)

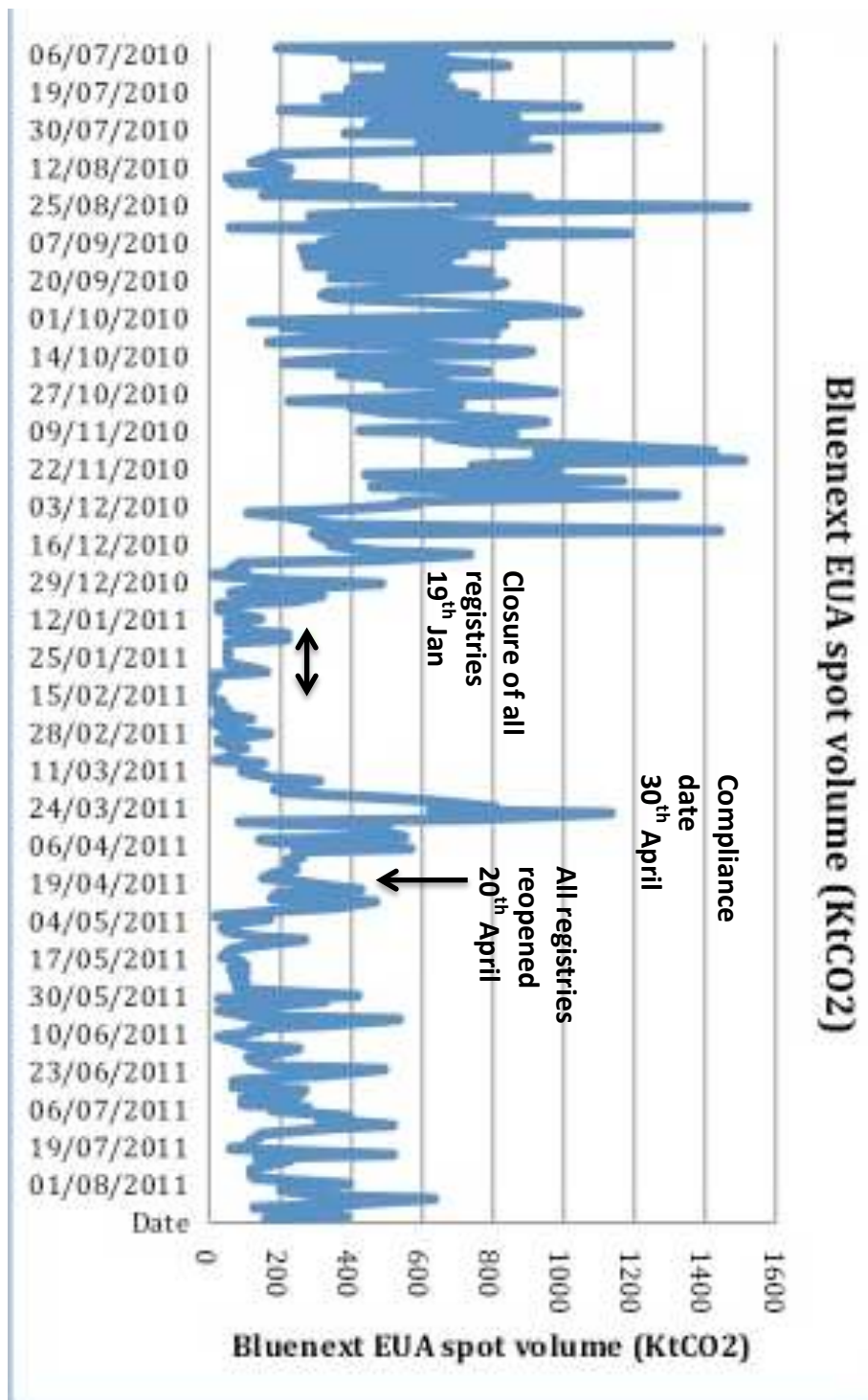
⁷² Reuters, "Slim pickings in 'dead' carbon market", [2011], Reuters news website, [online] available at: <http://www.reuters.com/article/2011/03/02/us-carbon-eu-idUSTRE7214JK20110302>

⁷³ Anonymous, Emissions exchange representative, interview (05.07.2011)

sell these futures contracts and in turn buy December 2012 contracts. This shift in demand has caused the spread between December 2011 and December 2012 contracts to widen, with the value of the former depreciating due to the fear of remaining legal risks.⁷⁴ As trade in futures contracts represents approximately 80-90% of market trading volume on the EU ETS, this spill-over effect has the potential to result in wider reaching impacts than experienced so far.

⁷⁴ Anonymous, Senior representative of leading carbon trading bank, interview (07.07.2011)

Figure 3: Decreased spot market volume on the Bluenext spot exchange following allowance thefts⁷⁵



3.4. Common impacts of VAT fraud and allowances theft on the EU carbon markets

⁷⁵ Data sourced from: Bluenext, Bluenext spot volume data, [2011], Bluenext exchange website, [online], available at: http://data.bluenext.fr/downloads/20110831_BNS_STATS.xls

The impacts of both VAT fraud and emissions allowance thefts have extended beyond those directly involved in the EU ETS market. General public confidence in emissions trading as an efficient and appropriate policy tool in the EU and elsewhere has also suffered. Stig Schjolset, of Point Carbon, stated that recent allowance thefts 'have had an extremely negative impact on the public perception of the EU ETS'.⁷⁶ Similarly, referring to the effects of VAT fraud, Mr Wainright, Director of Europol suggests that '[t]hese criminal activities endanger the credibility of the European Union Emission Trading System...'.⁷⁷

Although neither VAT fraud, nor emissions allowance thefts have directly affected the environmental integrity of the EU ETS, as they have not changed the total number of emissions allowances in the system, they have had negative impacts both on the functioning of the trading system as a whole, and general confidence in it as an appropriate emissions reduction tool. It is therefore integral to the future functioning and public support of the EU ETS that the weaknesses that leave this market open to fraud are appropriately tackled in regulation.

IV. EU ETS Fraud (III) - CER Recycling and Market Abuse

Another major instance of fraud to have hit the EU carbon market over the past two years was the recycling of Certified Emission Reduction units (CERs).⁷⁸ This occurred in March 2010 when the Hungarian government converted 1.7 million tonnes worth of CERs that had already been surrendered for compliance by Hungarian installations, into Assigned Amount Units (AAUs).⁷⁹ They then legitimately sold these AAUs on the international market. Although these "resold" credits were valid for use internationally for Kyoto compliance, they remained invalid when subsequently re-sold onto the EU market as they had already been surrendered for EU ETS compliance.⁸⁰

Although the sale by the Hungarian government was achieved legitimately under EU ETS legislation, and is itself not technically a form of fraud, these surrendered credits were not supposed to re-enter the market. There was nothing physically stopping them doing so however and when they did, EU market players were put at risk of inadvertently buying worthless "recycled" CERs that would be invalid for compliance use.⁸¹ The presence of this

⁷⁶ Stig Schjolset, Point Carbon (Norway), phone interview (16.06.2011)

⁷⁷ Europol, "Carbon credit fraud causes more than 5 billions euros damage for European tax payer", [2009], Europol website, [online] available at:

<http://www.europol.europa.eu/index.asp?page=news&news=pr091209.htm>

⁷⁸ Certified Emission Reductions (CERs) are a type of emissions unit (or carbon credits) issued by the Clean Development Mechanism (CDM) Executive Board for emission reductions achieved by CDM projects in non-Annex I countries, and verified by a DOE under the rules of the Kyoto Protocol. CERs can be used by Annex 1 countries in order to comply with their emission limitation targets or by operators of installations covered by the European Union Emission Trading Scheme (EU ETS) in order to comply with their obligations to surrender EU Allowances, CERs or Emission Reduction Units (ERUs) for the CO₂ emissions of their installations.

⁷⁹ An Assigned Amount Unit (AAU) is a tradable 'Kyoto unit' or 'carbon credit' representing an allowance to emit greenhouse gases comprising one metric tonne of carbon dioxide equivalents calculated using their Global Warming Potential. Assigned Amount Units are issued up to the level of initial "assigned amount" of an Annex 1 Party to the Kyoto Protocol.

⁸⁰ Prada, 2010; *above* n. 65

⁸¹ *Ibid*

risk had a damaging effect on market confidence, and the “double-counting” of emissions damaged the reputation of the EU ETS as an emissions reduction tool.⁸²

To block a repeat of this type of activity, the European Commission reacted quickly, amending the Registries Regulation to include provisions that required surrendered CERs be immediately retired and prevented their sale outside of the EU. This in turn prevented the recycling of CERs back into the EU market. CER recycling is therefore no longer seen as a major risk to the EU ETS.⁸³

Another common form of fraud on many markets is market abuse, specifically defined in the Market Abuse Directive (Directive 2003/6/EC) as including market manipulation and insider dealing. Market manipulation occurs when a market player acts to control the rest of the market’s perception of the state of supply and demand, and then takes a position to exploit the resulting effect on price. For example, it could happen by a market participant “squeezing” the market by buying off and retaining a large amount of allowances to give a false impression of scarcity, waiting for prices to rise as a result, and selling them on at this inflated price).⁸⁴ According to Stig Schjolset, Senior Analyst at Point Carbon, despite initial worries when the market was set up, market manipulation has not materialised as a major issue on the EU ETS. Unlike in the electricity market, no operators in the EU ETS market find themselves in a dominant position from which to easily manipulate the market. This is partly due to the involvement of financials in the market greatly increasing the number of market players.

Another type of market abuse is insider dealing, which happens when a trader makes trading decisions or deals based on “inside information”.⁸⁵ “Inside information” includes information that is not publically available but is likely to have an affect on price.⁸⁶ John Herbst, financial services Partner at the law firm Norton Rose LLP, claims that it is not clear what would actually constitute inside information on the EU carbon market. Compared to the oil market, in which the non-public knowledge of the shutting down of an oil rig for example be classified as inside information, there appears to be no equivalent in the EU ETS.

Market abuse does not appear to be currently a threat to the EU ETS. However, it is difficult to assess the real risk of market abuse in a market. The fact that the EU ETS has not yet been subject to significant market abuse does not mean that the risk of this happening in the future is not real. As the market grows in value, and attracts larger financial players such as hedge funds and pension funds, the risk of these market participants being able to gain dominance and market manipulation power increases.⁸⁷ Although difficult to assess, the market should be appropriately protected from these future risks.

⁸² The Guardian, (2010) *Carbon Traders Voice Fears Over Recycled Carbon Credits*, 18 March 2010, available at <http://www.guardian.co.uk/environment/2010/mar/17/carbon-traders-recycled-credits>

⁸³ European Commission, 2010a, above n. 11.

⁸⁴ Prada (2010), above n.65.

⁸⁵ Serious Fraud Office (2011), above n.41

⁸⁶ Prada (2010), above n.64.

⁸⁷ *Ibid.*

Since neither CER recycling nor market abuse are considered to presently pose a major threat to the EU carbon markets, this paper will not discuss them in further detail.⁸⁸

V. The EU ETS registry system: vulnerabilities to fraud

5.1 Introduction

The EU-ETS Registries keep account of the ownership of emissions allowances, track allowance trade transactions, as well as record the verified emission levels of individual installations. In this way these ‘standardised electronic databases’⁸⁹ keep track of both the emissions compliance of installations covered by the scheme, as well as the trading activities of all those involved in the EU-ETS market (regardless of whether they are compliance, financial or individual traders). In order to trade and participate in the EU ETS, a company or individual must open a Registry account.⁹⁰ The rules governing how these Registries operate are therefore integral in determining how the market itself functions, as they not only determine who can gain access to and participate in the market, but also govern the way in which allowances are transferred between accounts. Furthermore the level of security surrounding access to these registry accounts is important in determining the vulnerability of the whole market to fraudulent activities, in particular allowance thefts. These rules and security requirements are laid out in the ‘Registries Regulation’.⁹¹ This piece of EU legislation has been frequently amended, and there is currently a new draft under scrutiny by the European Parliament and Council.⁹² This section outlines the vulnerabilities in the way the Registries are run and discusses the effectiveness of past changes to the Registries Regulation.

5.2. Registry account open-access: fostering liquidity and attracting fraud in the early market

Emissions allowances are not real physical goods, but represent tradable dematerialised permits that exist electronically and have been created entirely by policy. As a result the market is a contained one, as in order to own EU emissions allowances one needs to have a registry account in which to electronically store them. Unlike other commodity markets, such as gold or cotton, there is no way that emissions allowances can escape the system, as they only exist as codes within registry accounts and can only be traded from one registry account to another. It is therefore impossible to steal emissions allowances, or conduct VAT fraud without a registry account. The restrictions determining those who can open an

⁸⁸ The EU Market Abuse Directive is discussed in section VII below, within the context of EU financial regulations reform.

⁸⁹ Commission Regulation 920/2010 of 7 October 2010 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; Art 3.1

⁹⁰ Unless no actual *physical* delivery of emissions allowances occurs – as for onward traded futures contracts (see box 4.1.), in which case a Registry account is not required (see Ellerman et al., 2010, above n. 5).

⁹¹ Regulation 920/2010

⁹² Commission DRAFT Regulation, above note 10.

account are therefore an important level of upstream control to prevent fraudsters or thieves accessing the market.

There were initially very few barriers to opening a registry account and entering the EU ETS market. In fact, Article 19 of the EU ETS Directive explicitly states that “any person may hold allowances”.⁹³ An account can easily be opened online via any national registry’s website.⁹⁴ Under the 2008 registries Regulation,⁹⁵ the only information required by the registry administrator was the name, address, email and telephone number of the person requesting to open the account, as well as evidence to support the identity of that person – although the type of evidence needed was not specified.⁹⁶ This open-access regime was initially aimed at fostering liquidity and growth in the nascent market, unfortunately however, the associated low-level minimum access requirements left room for some national registries to be particularly lax in the “know-your-customer” (KYC) checks they carried out before approving account applications, allowing anyone, including criminals, easy access to the market.

In response to the rise of fraud over the past couple of years, some national registries have independently taken action to improve the checks carried out on their account holders. For example, following the peak of VAT fraud activity in 2009, the Danish Registry introduced a basic but effective check by asking all registry account holders the simple question: “what is the purpose of you holding this account?” They only received answers from 10% of all account holders, and closed down the accounts of the remaining 90%. Some of these accounts were even registered under suspicious email addresses linked to establishments such as Chinese fast food restaurants and Spanish garages.⁹⁷ Due to the unlikely chance that such outfits had genuine legitimate interests in participating in the EU ETS, it may be assumed that they were acting as fronts for criminal activities.

Central EU action to tighten access to the market has also been taken. In April 2010 the registries Regulation was amended following the inclusion of aviation into the EU ETS.⁹⁸ The European Commission used this revision as an opportunity to introduce additional registry account access measures within the registries Regulation. The amendments included additional minimum KYC checks, requiring applicants to provide specific types of proof of identity in order to open an account (see table 3.),⁹⁹ and gave registry administrators the power to close accounts if they believed account holders to be engaging in suspicious activities, or if they failed to provide appropriate documentation.¹⁰⁰ These new minimum access requirements entered into force in October 2010, but by January 2011 they had been

⁹³ Commission Directive 2003/87/EC of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC

⁹⁴ European Commission, “Market Oversight, Ensuring the integrity of the European Carbon Market”, [2011], European Commission website, [online] available at: www.ec.europa.eu/clima/policies/ets/oversight_en.htm.

⁹⁵ Commission Regulation 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

⁹⁶ Regulation 994/2008, Annex I

⁹⁷ Simone Ruiz, IETA, phone interview (15.07.2011)

⁹⁸ Regulation 920/2010

⁹⁹ *ibid*, Article 13 and Annex IV

¹⁰⁰ *ibid*, Article 27

implemented by only half of the national registries.¹⁰¹ At the time of the emissions allowance thefts of 2010/11 it was therefore still relatively easy for anyone with fraudulent motives to open and start trading from a registry account, especially in countries with more lenient requirements.

Table 3. : Additional “know-your-customer” checks and security requirements introduced by the 2010 Registries Regulation (Regulation 920/2010)

Additional account-holder information required:
VAT registration number and country code (Annex IV)
Proof that the person requesting the account opening has an open bank account in a member state of the European Economic Area (Annex IV)
Evidence to support the identity of the person requesting the account opening – this could be a passport or ID card issued by an EEA state, or validated by an EU embassy (Annex IV)
Evidence to support address of permanent residence of account holder (Annex IV)
The Member State of the national administrator <i>may</i> also require that those requesting the account opening have their permanent residence or registration in the member state of the national administrator administering the account (Art 13.2.)

5.3. Low level of account security

Under the 2008 registries Regulation, account holders or authorised representatives only required one username and password to gain access to their registry account.¹⁰² No further authentication was required to initiate allowance transfers to other accounts. When compared to the substantial security requirements on financial markets, or even online personal banking, this single level of security is shockingly low, and represented a small hurdle for cyber hackers to overcome in order to gain access to and transfer allowances from other individuals’ accounts.

Although the 2010 registries Regulation amendments introduced requirements for secondary authentication for account access and transaction approval,¹⁰³ these security improvements were not made obligatory for all member states. According to Simone Ruiz, European Policy Director at IETA, many states were reluctant to implement the security up-scaling, mainly due to the costs involved. Some further justified their refusal to implement changes by claiming that at that stage only Germany had suffered security breaches, and as a result there was no need for all states to implement improvements if they were not also

¹⁰¹ Cdc climat Research, “Closing the door to fraud on the EU-ETS”, [2011], Climate Brief No. 4

¹⁰² Regulation 994/2008, Article 80(3)

¹⁰³ Regulation 920/2010, Article 63.3

vulnerable.¹⁰⁴ However, the widespread vulnerability of registries that had failed to implement these changes was soon exposed during the run of allowance thefts in 2010/11.

Following these security breaches, on January 18th 2011, the Commission suspended transactions from all national registries. Individual registries were only permitted to re-open once they had proven that their security systems met minimum standards.¹⁰⁵ Although the precise criteria of these standards were not made publically available, it is known that a compulsory double layer of authentication was introduced, as included as a non-compulsory requirement in the 2010 registries regulation.¹⁰⁶ Some registries took over three months to come back on line, both due to the large costs involved, and the difficulties of finding appropriate auditors to verify compliance with these standards.¹⁰⁷ ¹⁰⁸ This emergency measure only represents a short-term solution and official legislative security improvements are urgently required.

5.4. A decentralised system

Under the current system, each Member State has a separate registry run and administered by that Member State. The national registries play an important role in the governance of the EU ETS market, including for the prevention and detection of fraudulent activities. Although each registry could be a separate target for criminals, fraudulent activities conducted through each can have impacts across the whole market. As a result the whole EU ETS system is currently only as strong as its weakest registry link.

This system is due to change however. The revised 2009 EU ETS Directive provides for the centralisation of national Registries into a single Union Registry - the European Union Transaction Log (EUTL) - operated by the Commission, and which will replace the individual Member States registries.¹⁰⁹ This revision is due to come into force on 1st January 2013, from which time all issued allowances will be held in accounts in the central Union registry. The general consensus amongst interviewees is that this will have a positive impact on the security of the EU ETS. According to Mr Schjolset, the movement away from the current decentralised system will prevent implementation problems exemplified by 'the cumbersome and time-consuming process of security improvements following the registries' closure in early 2011', and avoid the existence of individual registries with lower security levels: the weak links that have so far been the main targets of security breaches.¹¹⁰

Although a central registry would avoid individual national security weaknesses, it must not be forgotten that the Union registry would not necessarily itself be immune to cyber attacks. Being larger than individual national registries, it may even be a more attractive

¹⁰⁴ Simone Ruiz, IETA, phone interview (15.07.2011)

¹⁰⁵ European Commission, "Announcement of transitional measures: the EU ETS registry system", [2011], European Commission Climate Action News Archive, [online] available at: http://ec.europa.eu/clima/news/articles/news_2011011901_en.htm

¹⁰⁶ Simone Ruiz, IETA, phone interview (15.07.2011)

¹⁰⁷ Simone Ruiz, IETA, phone interview (15.07.2011)

¹⁰⁸ Cyprus, Lichtenstein, Hungary, Lithuania and Malta only reopened on the 20th April.

¹⁰⁹ 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

¹¹⁰ Stig Schjolset, Point Carbon (Norway), phone interview (16.06.2011)

target for criminals. It is important therefore that high security standards are implemented in the Union Registry upon its creation.

5.5. Speed of allowance transfers

Due to the dematerialised nature of emissions allowances, transactions on the spot market are virtually immediate as they are entirely electronic and there is no need for actual physical transportation.¹¹¹ Allowances are quickly transferred from one account to another, and under current legislation are not subject to any additional delay, with spot transactions on the Bluenext exchange taking roughly 15 minutes.¹¹² Although this speed allows for rapid and liquid trade, it also leaves the spot market open to illegitimate use. Allowances can be quickly stolen and cashed-out before the theft is detected, and transactions facilitating VAT fraud can be rapidly conducted, allowing multiple carousels to be carried out before it comes to the attention of the authorities or account holders.

5.6. Uncoordinated response to security breaches

The sooner it is flagged up that allowances have been stolen, their serial numbers identified and their movement frozen, the shorter and less complex the chain of onward trades through which stolen allowances can infiltrate the market. Many of the EU ETS national registries however lack a comprehensive protocol to appropriately respond to the detection of allowance thefts. This is exemplified by the reaction to the theft of allowances from Holcim's account in the Romanian registry in 2010. Although the security breach was identified within two hours, it took a long time for the authorities to subsequently react. Holcim was not able to immediately contact the Romanian registry, as the registry administrators were only contactable between 9am and 1pm, with no available emergency contact phone number.^{113 114} The Czech registry's response to allowance thefts was also allegedly delayed by a number of hours, due to the lack of IT mechanisms within the registry with which the stolen allowances could be quickly identified.¹¹⁵

Articles 83 and 84 of the 2008 registries Regulation provide that registry administrators may suspend access to the registry in the case of a security breach.¹¹⁶ However, obligatory mechanisms by which registry administrators can be alerted to security breaches are not required. Although Article 60 of the 2010 registries Regulation introduced the obligation that national administrators provide a "help desk" through which assistance and support can be provided to account holders, it does not specify how or when this desk should be accessible.¹¹⁷ These details are left to the discretion of Member States, allowing some registries to have much less robust response mechanisms than others. Given the wider effects of the consequences of such breaches, there is an evident need for a better

¹¹¹ Stig Schjolset, Point Carbon (Norway), phone interview (16.06.2011)

¹¹² Ainsworth (2010), *supra* n.25.

¹¹³ Simone Ruiz, IETA, phone interview (15.07.2011)

¹¹⁴ Romanian Emission Trading Registry Secretariat, "The Romanian Emissions Trading Registry Procedures", [2007], Romanian Emission Trading Registry Secretariat website, [online] available at: http://www.anpm.ro/files2/Annex%208.2.6_%20-%20Romanian%20procedures%20for%20ERT_20095.pdf.

¹¹⁵ ICIS Heren, "Stolen allowances still missing, Polish Police alerted", [2011], ICIS Heren website, [online] available at: <http://www.icis.com/heren/articles/2011/01/19/9427602/emissions/edcm/stolen-euas-still-missing,-polish-police-alerted.html> (accessed on 19 October 2011)

¹¹⁶ Regulation 994/2008

¹¹⁷ Regulation 920/2010

coordination and speed of security breach responses across the whole the EU ETS registry system. Yet as discussed above, in Phase III the centralised EU registry will prevent uncoordinated responses to security breaches from posing a problem to the operation of the trading scheme.

5.7. Lack of legal definition of emissions allowances and comprehensive treatment of stolen allowances

Neither the EU ETS Directive, nor the 2010 or 2008 registries Regulations clarify how allowances should be treated legally in cases of theft (i.e. whether a buyer acting in good faith can acquire good title to originally stolen allowances). Without any further clarification from the European Commission these issues are left to the discretion of Member States' jurisdictions. The resulting discrepancies have created confusion as to the legal risks of involvement in a market in which stolen allowances are still in circulation, therefore augmenting impacts on market confidence.

This and other gaps in the existing registries regulation discussed in this section call for regulatory reform – a question which will be addressed in the next section of the paper.

VI. Proposed reform of the registries system

6.1 Introduction

Despite improvements introduced in the 2010 registries Regulation, weaknesses in the way that registries are run and the way allowances are treated remain. Although security requirements have increased, implementation of these measures has been relatively low. Furthermore the extent of information required for individuals or companies to be able to open an account remains lenient. This leaves the market exposed to fraudulent account access and VAT fraud. Perhaps even more significantly, the lack of harmonisation of the legal status of stolen emissions allowance transfers facilitates the disruptive effects of circulating stolen emissions allowances.

These weaknesses were brought to into harsh light during the registry attacks in early 2011. In response to these events and following lobbying from industry associations and individual stakeholders, the Commission has recently published a draft Registries Regulation.¹¹⁸ The proposed changes aim to help reduce the risk of fraud on the EU ETS, improve response mechanisms and avoid the market disruptive effects of fraud (see table 4). This draft was approved on June 17th, 2011 by the EU Climate Change Committee, but awaits endorsement from the European Parliament and the Council before it can be adopted.¹¹⁹ Although in its current form the draft addresses many important weaknesses in the Registries system, significant problems remain. The main provisions of the proposed legislation will be discussed in this section.

Table 4. The main provisions of the 2011 draft registries regulation¹²⁰

Measures aimed to prevent fraud	Article	Date of application
Two factor authentication of transfers		Early 2012
Out-of-band confirmation of transfer		Early 2012
Introduction of trusted account list		Mid 2012
Obligatory four-eyes principle		Early 2012
Strengthened know-your-customer checking procedures for account holders and representatives		Immediately upon entry into force of draft regulation
New account categories: holding accounts and		Mid 2012

¹¹⁸ Commission DRAFT Regulation, above n. 10.

¹¹⁹ European Commission, "Member States endorse more secure Registry rules", [2011], European Commission Climate Action news, [online] available at: http://ec.europa.eu/clima/news/articles/news_2011061702_en.htm (accessed on 19 October 2011)

¹²⁰ Adapted from: Europa, "Questions and Answers on emissions trading: new Registry rules", [2011], Europa website, [online]

trading accounts	
Measures aimed to respond quickly and effectively in response to fraud	
26 hour delay of transfers between Registry accounts	Early 2012
National administrators' ability to freeze allowances and Registry accounts in cases of suspicion of fraud	Immediately upon entry into force of draft regulation
Wider access for competent national authorities to confidential information held in the Union Registry	Immediately upon entry into force of draft regulation
Strengthening of anti-money laundering provisions	Early 2012
Measures aimed to avoid market disruption following fraud outbreaks	
Allowances defined as fully fungible	Early 2012
Those who have purchased allowances in good faith will gain full entitlement to them	Early 2012
Non-disclosure of serial numbers of allowances	Immediately upon entry into force of draft regulation
Non-display of serial numbers of allowances – only visible to registry administrators (and to competent national authorities upon request)	Early 2012

6.2. Strengthened know-your-customer (KYC) procedures

The new draft regulation proposes to strengthen the documentation and checks required for an individual or company to open an account. On top of the requirements introduced in the 2010 revised registries Regulation (see table 3), the draft regulation, if adopted, would introduce the obligation for any legal person wanting to open up an account to provide:

- bank account details;
- confirmation of VAT details;
- a copy of the company's annual report of latest audited financial statements;
- criminal records of the company's directors.¹²¹

Administrators may further refuse ownership of an account if:

“the account holder, or if a legal person [i.e. a company], any of the directors, is under investigation or has been convicted in the preceding five years for fraud

¹²¹ Commission DRAFT Regulation, above n. 10, at Annex III (5) and (7)

involving allowances or Kyoto units, money laundering, terrorist financing or other serious crime for which the account may be an instrument”,¹²² (emphasis added)

or if they have “reasonable grounds” to believe that the accounts may be being used for these purposes.¹²³

If adopted, these provisions would help prevent access to the market by convicted or suspected criminals. Moreover, requiring that account holder details are disclosed should make access more difficult for companies or individuals who aim to launch fraudulent acts against the EU ETS. The mere administrative burden of the provision of this level of documentation would be a disincentive in itself.

However, there are mixed views among stakeholders as to whether these restrictions would sufficiently protect the EU carbon market from fraud. The additional ‘know your customer’ (KYC) requirements would not drastically alter the general open-access regime of previous regulations. Barclays Capital and some Member States are currently proposing the restriction of the market to regulated firms (i.e. financial traders regulated under the EU financial regulation, as will be discussed below) and compliance entities, claiming that the related licensing requirements would be a useful measure to restrict access to the market to those with legitimate interests in participating in it. According to one interviewee, the Commission has rebuffed this proposal due to a willingness to maintain and attract further liquidity in the market in the interests of market efficiency.¹²⁴ This reasoning exposes that this conflict is not merely a technical discussion on how to maximise security, and prompts more fundamental political questions about where the balance should lie between open market competition and the minimisation of systemic market risk. One interviewee suggests that over 95% of legitimate trading is currently conducted through compliance entities and regulated firms anyway. Hence it is a political choice whether restricting the remaining competition is justified by the associated decrease in the risk of fraud. The Commission needs to further consider and analyse the security and competition implications of tighter access restrictions, so that the choice as to where the balance between the two interests lies is a more informed one.

It is also likely that procedural issues contribute to the Commission’s rebuttal of this proposal. Introducing sectoral restrictions would require amendment to Article 19 of the EU ETS Directive.¹²⁵ This would not only involve a lengthy process, but would open the Directive to further unassociated changes.¹²⁶ The Commission is not currently willing to do this at a time of considerable uncertainty leading up to Phase III. Yet the possibility of such

¹²² *ibid*, at Art 20, 2(b); emphasis added

¹²³ *ibid*, at Art 20, 2(c); The regulation does not provide any further clarification of what “reasonable grounds” might consist of however, and what level of suspicion or evidence would be required to refuse the opening of an account. If the draft regulation is passed, it will be interesting to see to what extent this provision is used in different Member States, and how exactly it is implemented.

¹²⁴ Anonymous, senior representative of leading carbon trading bank, interview (07.07.2011)

¹²⁵ Article 19 states that “any person may hold allowances”

¹²⁶ During scrutiny of draft Regulations the Council and the Parliament can either accept or reject the whole draft; scrutiny of Directives on the other hand are much more burdensome and time consuming as all original provisions are open to scrutiny, not just the proposed amendments.

restrictions becoming applicable under future legislation should not be completely dismissed.

6.2. Strengthened account security

Art 69(3) of the draft Regulation proposes to introduce the *requirement* for two-factor authentication in order to access accounts. Although this secondary level of security has already been introduced as a short-term required standard before national registries could be opened after their closure in early 2011, its inclusion within the registries regulation would introduce it as an obligatory measure that would also be subsequently applicable to the Union registry in Phase III. Art 36(1) further requires that an out-of-band confirmation is needed for transfers between accounts to be initiated.¹²⁷ This means that transactions would have to be confirmed over two different networks (i.e. once via email and once via telephone) by two different authorised individuals. This level of security would make hacking into accounts and stealing allowances much more difficult as two account holder networks, each with different representatives and therefore different account names and passwords, would have to be illegally accessed.

Most interviewees agreed that these measures would significantly and adequately strengthen the security of the registry system. Furthermore, with the introduction of the Union registry in 2012, implementation delays previously experienced with past security improvements would no longer be an obstacle. According to a recent report by the European Union Committee of the House of Lords on ‘The EU Internal Security Strategy’, the sophisticated tactics used by cyber criminals are constantly evolving.¹²⁸ It is therefore essential that the registry security system evolves at the same pace and the Commission periodically assesses and reviews measures to ensure the effectiveness of the scheme.

Moreover, the draft regulation proposes the creation of ‘trusted account’ lists which would differentiate between ‘holding accounts’ and ‘trading accounts’.¹²⁹ These accounts would be subject to different controls and restrictions with respect to the counterparty accounts they are permitted to transfer allowances to. Holding accounts may only transfer allowances to accounts that are listed under the “trusted accounts” of the account holder. Accounts can be added to the trusted account list following authorisation by two account representatives, and a seven-day delay is applicable.¹³⁰ This restriction adds an extra level of safety to prevent the fraudulent initiation of transactions by cyber hackers. Trading accounts, on the other hand, may transfer allowances to accounts outside of the holder’s trusted counterparty list. Hence the level of security applicable to allowance transfers in trading accounts is not as strong as that applicable to holding accounts, therefore requiring further regulatory oversight of trade between ‘trading accounts’.

6.3. The 26 hours delay

According to the draft Regulation, the different transfer types between holding and trading accounts would be subject to differential time delays. A 26-hour delay would apply between

¹²⁷ This does not include transfers from trading accounts, or from holding accounts to a trusted account list, as discussed below.

¹²⁸ House of Lords, “The EU Internal Security Strategy”, [2011], 17th Report of the Session 2010-2012, European Union Committee, House of Lords, London, UK.

¹²⁹ Commission DRAFT Regulation, above n. 10, at Art 60; Art 61; Annex I

¹³⁰ *ibid*, at Art 24

initiation and finalisation of *all* transfers of allowances from holding accounts, as well as of transfers from trading accounts to accounts *not* on the trusted account list of the trading account holder.¹³¹ Within the first 24 hours of this delay, ‘if an account holder suspects that a transfer was initiated fraudulently...they may request the national administrator to cancel the transfer on their behalf...’.¹³² This delay system aims to overcome the vulnerability of the spot market to VAT fraud and allowance thefts due to the speed of allowance transfers under the current registry system. However, the proposed legislation maintains trade flexibility by enabling the immediate transfer of allowances to trusted accounts. According to Simone Ruiz, if such a delay had previously been in place, some of the allowance thefts that occurred in 2010/2011 would not have happened, as the thefts would have likely been flagged up within the delay period imposed, hence before the completion of the transfer into the thief’s account.¹³³

However, there remains uncertainty as to the level of suspicion or proof of fraudulent involvement that would be required for an account holder to be able to cancel a transfer. As stated by an associate a leading UK law firm, ‘the question is: what is the basis on which you suspect [fraudulent initiation of a transfer]? Do you see an article in the news that says that the person that you have been buying from has stolen a bunch of EUAs? Is this suspicion?’ Nevertheless, according to one interviewee ‘most people seem to be happy about this [delay], and 26 hours appears to be a good length of time [...] to give people confidence that there will be a window in which to flag things up’.¹³⁴ But some stakeholders remain sceptical as to whether this measure would significantly reduce the system’s vulnerability to fraud.¹³⁵

There are also potential short-term implementation problems given the discrepancy between the implementation dates of different measures. With the introduction of the 26-hour delay due in “early 2012”, and the opportunity to open trading accounts with associated trusted account lists proposed to be introduced in “mid 2012” (see table 4), there is potentially a six month period in which immediate transfers would not be possible. This is so because there would be no mechanism within that period of potentially 6 months in which allowance transfers could be exempt from delay, i.e. as would be the case of trade between two trusted accounts. Before adoption of this draft, the Commission needs to specify the timescale for these changes and how it plans to avoid the potentially disruptive discrepancies in implementation dates.

6.4. Title transfer rules and the non-disclosure of allowance serial numbers

The draft regulation proposes the irrevocability of allowance transfers and the non-disclosure of the serial number of allowances, which together specifically aim to attenuate the disruptive consequences of allowance thefts by harmonising the legal status of the transfer of stolen allowances. By making serial numbers confidential and unavailable to the public and account holders,¹³⁶ lists of stolen and allegedly stolen allowances cannot be

¹³¹ *ibid*, at Art 36. (3)

¹³² *ibid*, at Art 36 (4)

¹³³ Simone Ruiz, IETA, phone interview (15.07.2011): In one case, the delay would definitely have prevented the theft, as due to email spamming, it took two hours to see what had happened as the email notification on the transfer got ‘lost’.

¹³⁴ Anonymous, associate, leading UK law firm, interview (21.07.2011)

¹³⁵ Anonymous, senior representative of leading carbon trading bank, interview (07.07.2011)

¹³⁶ Commission DRAFT Regulation, above n.10, at Art 83; Annex XII

published, making it impossible for traders to undertake due diligence checks on EUAs being purchased.

Although the non-disclosure of serial numbers as an isolated measure would in fact increase market participants' exposure to legal and financial risks, Article 37 of the draft Regulation defines emissions allowances as "fungible, dematerialised" instruments (thus rendering all emissions allowances completely substitutable). It further states that allowance transactions are *final and irrevocable*, and that "no law, regulation, rule or practice on the setting aside of contracts or transactions shall lead to the unwinding in the registry of a transaction that has become final and irrevocable under this Regulation". Importantly, Article 37 also states that purchasers acting in good faith acquire good title to purchased allowances despite any defects in the ownership title of the seller – meaning that inadvertent purchasers of stolen allowances would retain ownership of those purchased allowance.

By confirming the good title to purchases in good faith, and preventing the unwinding of transactions involving stolen allowances, the draft Regulation evidently aims to remove the risks of financial loss and criminal liabilities associated with inadvertently purchasing stolen allowances. Although it is evident that that is the aim of the Commission, vagaries in the extent of application of Article 37, and contradictions between its provisions and domestic law in some Member States have resulted in a lack of clarity in the consequences of its potential implementation. The recognition of good title to inadvertently purchased stolen allowances for example would directly contradict national law in Member States such as the UK. UK common law dictates that good title of stolen goods cannot be obtained by purchasers of those goods, even if they are acting in good faith. Complete implementation of Article 37 in the UK would therefore require the revocation of hundreds of years of established case law. If that measure did not turn out to be practicable or easy to implement, then the introduction of the non-disclosure of serial numbers as a measure on its own might further expose market participants to legal and financial risks.¹³⁷

Article 37 is the most contested proposal within the draft regulation and many legal questions crucial to the effectiveness its provisions remain unanswered. Although it is rumoured that a QC opinion is currently pending;¹³⁸ to effectively reduce the market disruptive effects of fraud the Commission needs to clarify the meaning and practicalities of implementation of this Article before it is adopted.

6.5. A compensation scheme for stolen allowances

If title transfer rules cannot be appropriately harmonised within the draft Regulation due to inhibitory incompatibilities between the proposed EU rules and Member States' existing rules on title acquisition of stolen goods, alternative instruments could be used to prevent the market-disruptive effects of allowance thefts. Market participants and industry groups are currently pushing for a mechanism by which traders or compliance firms who inadvertently find themselves in possession of stolen allowances could retire stolen emissions allowances and be compensated either financially, or with replacement "clean"

¹³⁷ Anonymous, associate, leading UK law firm, interview (21.07.2011)

¹³⁸ *ibid*

allowances.^{139 140} This could be financed by a “mutual pool” compensation fund,¹⁴¹ which could be fed by levying a low tax on each emissions allowance transaction.¹⁴² This would reduce the financial risks of participating in a market in which stolen allowances are circulating. However, creation of a compensation scheme is not presently foreseen in the draft registries reform regulation.

6.6. Conclusions on proposed Registry Reform

Implementation of the proposed draft registries Regulation would successfully strengthen security weaknesses that exist in the current EU ETS registry system and the imminent creation of a central Union registry will also avoid implementation problems that have previously delayed security improvements. However, questions remain concerning the appropriateness of the relatively open-access regime that the proposed regulation maintains. This raises broader questions both the European Commission and individual Member States need to address about where the future balance between free-market competition and systemic risk should lie. The most striking gaps and ambiguities in the draft reforms however lie in the attempts to minimise the market-disruptive effects of allowance thefts. How proposed rules regarding the irrevocability of emissions allowances would apply within certain Member States’ jurisdictions, including the UK, is particularly unclear.¹⁴³ This in turn brings the non-disclosure of emissions allowance serial numbers into question as an appropriate measure. Due to inherent difficulties in harmonising Member States’ title transfer rules, and the unlikelihood of being able to impose swift changes in Member States’ legal treatment of stolen goods, the Commission should perhaps instead consider, at least in the short term, to establish a compensation mechanism as an alternative mechanism to reduce the financial risks associated with buying stolen allowances.

VII. EU ETS market oversight and financial regulations

A large range of EU-level market oversight regulation applies to commodity trading in general including that in emissions allowances. The main purpose of this regulation is to enable fair and efficient trading conditions for all participants, as well as to prevent the inappropriate use of markets for fraudulent activities.¹⁴⁴ Yet the risk of “unfairness” and market misuse posed by different segments of commodity markets can differ considerably according to the nature of the trading product (whether derivatives or spot), the platform through which the trade is executed and the entity carrying out the trade. As such, the weight of EU market oversight regulation applied to different segments of commodity markets vary according to different factors.

¹³⁹ IETA, “IETA position on Registry Security as response to EU stakeholder meeting on 15th March 2011 on registry security”, [2011], IETA website, [online] available at: <https://ieta.org>

¹⁴⁰ Bloomberg, “Carbon traders seek fraud-compensation system, Norton Rose says”, [2011], Bloomberg news website, [online] available at: <http://www.bloomberg.com/news/2011-02-01/emission-traders-seeking-fraud-compensation-system-norton-rose-says.html> (accessed on 19 October 2011).

¹⁴¹ Above note 119

¹⁴² Wemaera [2011], above n. 53.

¹⁴³ Commission DRAFT Regulation, above n.10, at Art 37

¹⁴⁴ European Commission, “Emissions trading: Questions and answers on enhanced market oversight for the European carbon market”, [2010], European Commission website, [online] available at: <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/10/697>

This differentiation in weight of regulation also applies to the EU carbon market. Yet emission allowances differ significantly to most other physical commodities in that they are dematerialised instruments with a high value and zero volume. The extent of fraud on the EU ETS over the past few years has exposed the additional risks of market misuse that these features create, especially on the spot market, and gives cause for concern that certain market segments may not be appropriately regulated. This section outlines the current application of market oversight regulation to the EU carbon market and discusses the gaps and weaknesses that currently exist in regulation.

7.1. The derivatives market

The derivatives market include forwards and futures contracts; and swaps and Options. Forwards and futures are contracts for the delivery of a set volume on a specified future delivery date. These instruments allow firms the certainty of knowing the price they will be paying (or receiving) for allowances in the future, and allows them to hedge the risk of fluctuation in the price of allowances. The date for which the future physical delivery is contracted is called the “delivery date”, at which point the contract “matures”. Forward contract trades are traded bilaterally or over-the-counter. Those that result in physical delivery of allowances are often referred to as “commercial forward contracts.” Futures contracts are similar instruments, but are instead traded on exchanges.

In turn, a swap is a contract through which one asset is substituted for another. For example futures contracts with different delivery dates can be “swapped”, or EUA and CER allowances can be swapped. Options are contracts through which the buyer is granted the right (but not the obligation) to purchase a certain volume at a specified date for a set price. This allows firms to manage the price risk of buying allowance that they may need in the future, whilst giving them the option not to buy the allowances if they realised that they do not need them at the time, or if they could get them cheaper at market price at the time of delivery. Both these more sophisticated instruments allow companies to better manage their carbon price risk.¹⁴⁵

The trade of derivatives makes the majority of market activity on the EU ETS. In 2009, nearly 80% of all trading activity was in derivative products.¹⁴⁶ These instruments play an important role in the EU ETS market, as they provide compliance entities with flexible ways in which they can manage their carbon price risks. These products tend to be offered by financial intermediaries (banks and credit institutions) who are capable of taking on the price risks involved. Emissions allowance derivatives, as with all other commodity-based derivatives, are classified as “financial instruments” and as such their trade is subject to substantial EU financial markets regulations.

¹⁴⁵ See further Ellerman et al., 2010, above n. 5, p135-137.

¹⁴⁶ European Commission, “Towards an enhanced market oversight framework for the EU Emissions Trading Scheme”, Communication from the Commission to the European Parliament and the Council, Brussels, Belgium.

The Markets in Financial Instruments Directive (MiFID)¹⁴⁷ represents the main body of EU financial regulation that applies to derivatives markets. This legislation acts to protect investors (particularly retail investors), by regulating the financial intermediaries that provide derivative products. The Directive stipulates that intermediaries require authorisation before they can offer these types of trading products. Once licenced, their activities are then closely supervised by the Member State's financial regulator (e.g. the Financial Services Authority in the UK) to ensure that they abide by a number of operational and reporting requirements aimed at ensuring transparency and investor protection.

Products defined as financial instruments under MiFID are also subject to other cross-sector economic regulation such as the Market Abuse Directive (MAD)¹⁴⁸ and the anti-money laundering Directive.¹⁴⁹ The MAD aims to prevent insider dealing¹⁵⁰ and market manipulation¹⁵¹ via the imposition of measures to detect and sanction abuse. The anti-money laundering Directive introduces know-your-customer (KYC) requirements for credit institutions and investment firms to check the identity of their clients, as well as the nature of their trading activities. Further related financial regulations include the settlement finality Directive¹⁵² and the capital requirements Directives.¹⁵³

This web of derivative market oversight regulation is complex and burdensome. Yet certain exemptions limit the extent of its application to ensure that regulation targets those who pose the greatest risk to the integrity of the market (see table 5). These exclude commodity traders and trading entities of compliance firms from both MiFID and MAD requirements. However, the MiFID and MAD are both currently under review and it is possible that these exemptions will be narrowed, and thus the reach of financial regulation of the EU ETS extended.¹⁵⁴ ¹⁵⁵ The EU ETS derivatives market has not as yet been subject to any significant

¹⁴⁷ Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments amending Council Directives 85/611/EEC and 93/6/EEC and Directive 2000/12/EC of the European Parliament and of the Council and repealing Council Directive 93/22/EEC

¹⁴⁸ Directive 2003/6/EC of the European Parliament and of the Council of 28 January 2003 on insider dealing and market manipulation (market abuse)

¹⁴⁹ Directive 2005/60/EC of the European Parliament and of the Council of 26 October 2005 on the prevention of the use of the financial system for the purpose of money laundering and terrorist financing

¹⁵⁰ As discussed above, insider dealing is when a trader makes trading decisions or deals based on "inside information" (Serious Fraud Office, 2011). "Inside information" includes information that is not publically available but is likely to have an affect on price (Prada, 2010, above n. 65).

¹⁵¹ As discussed above, market manipulation occurs when a market player acts to control the rest of the market's perception of the state of supply and demand, and then takes a position to exploit the resulting effect on price. For example, "squeezing" the market by buying off and retaining a large amount of allowances to give a false impression of scarcity, waiting for prices to rise as a result, and selling them on at this inflated price (Prada, 2010, above n. 65).

¹⁵² Directive 2009/44/EC of the European Parliament and of the Council of 6 May 2009 amending directive 98/26/EC on settlement finality in payment and securities settlement systems and directive 2002/47/EC on financial collateral arrangements as regards linked systems and credit claims

¹⁵³ Directives 2006/48/EC and 2006/49/EC

¹⁵⁴ European Commission, *Public Consultation, Review on the Markets in Financial Instruments Directive*, [2010], Directorate General Internal Markets and Services; MiFID was open to Stakeholder consultation from 8th December 2010 to 2nd February 2011

¹⁵⁵ European Commission, *Public consultation, A revision of the Market Abuse Directive (MAD)*, [2010], Directorate General Internal Markets and Services; MAD was open to stakeholder consultation from 28th June

instances of fraud, and as discussed above, market abuse has not yet emerged as a problem. As such, the current level of regulatory oversight of the derivatives market seems appropriate to tackle fraud in the EU ETS.

7.2. The spot market

Spot contracts account for trades that are delivered between 24 and 48 hours after they are negotiated. The spot market accounts for 10-20% of trading activity on the EU-ETS,^{156 157} and presents an important way for compliance entities to quickly sell or acquire emissions allowances to meet their compliance obligations.¹⁵⁸ The EU ETS spot market, like any other spot commodities market, is unregulated at the EU level. This leaves the oversight of spot trading up to Member State domestic legislation. However, only a few Member States have applied additional regulation to their domestic spot emissions trading markets.¹⁵⁹ There is therefore no obligatory licencing of spot market participants, supervision of their activities, or reporting requirements.

Although most commodity spot markets are similarly unregulated, unlike other commodities, the completion of spot transactions of emissions allowances are near immediate and lack the requirement for delivery of any physical product. As previously discussed, the “dematerialised” nature of this product makes the market particularly vulnerable to fraud as compared to other commodity spot markets. Given these additional vulnerabilities and the evident focus of allowance thefts and VAT fraud on the spot market, there is concern that the current level of market oversight is inappropriately low and is leaving this market open to misuse.

2010 to 23rd July 2010. Both are currently under review. MiFID consultation document and responses available [online] at: http://ec.europa.eu/internal_market/consultations/2010/mifid_en.htm

¹⁵⁶ this proportion may have decreased however following the 2010-11 allowance thefts

¹⁵⁷ European Commission (2010a) Towards an enhanced market oversight framework for the EU Emissions Trading Scheme, Communication from the Commission to the European Parliament and the Council, Brussels, Belgium.

¹⁵⁸ Ellerman [2010], *supra* n.5.

¹⁵⁹ In August 2010 France passed legislation to allow for the extension of regulated markets rules to the spot carbon market; Germany already regulates commodity spot trades that take place through exchanges (EC, 2010); Romania defines emissions allowances as financial instruments.

Table 5. : The EU-level regulation of different trading entities [adapted from Prada, 2010]]

Type of entity	Current regulation framework
Investment firms and credit institutions	MiFID; Anti-money laundering Directive Spot and commercial futures activities are not regulated
Traders specialising in commodities	No EU-level regulation ¹⁶⁰
Trading entities of electricity producers and industrial players (i.e. trading arms of compliance traders – provided this is ancillary to their main business)	No EU-level regulation
Brokers who intervene on financial instruments markets	MiFID; Anti-money laundering Directive; Spot and commercial futures activities are not regulated
Brokers and traders who intervene only on the spot market, or with commercial forward contracts (traded bilaterally – not on regulated markets/multi-lateral trading facilities)	No EU-level regulation
Credit originators	No EU-level regulation

7.3. Legal status of allowances

On top of the existing complex regulations, the market oversight framework surrounding the EU ETS is further complicated by the lack of a clear and common legal definition of EU emissions allowances. This has not only created decreased market confidence through the associated lack of clarity surrounding ownership and liability rules, but may also detract potential investors, especially from outside the EU, who are unsure whether they are legally allowed to trade according to market oversight regulations.¹⁶¹

¹⁶⁰ Although narrowing these exemptions is being considered by the MiFID consultation.

http://ec.europa.eu/internal_market/consultations/docs/2010/mifid/consultation_paper_en.pdf

¹⁶¹ IETA, “IETA response to MiFID consultation”, [2011] International Emissions Trading Association website, [online] available at:

Although MiFID has established a legal framework for emissions allowance *derivatives* by defining them as “financial instruments”,¹⁶² this does not constitute a comprehensive legal approach and leaves the question open as to how emissions allowances that do not fall under the MiFID definition of financial instruments (such as spot traded allowances, and futures contracts) should be treated. With no guidance from the EU on this issue, Member States have been left to decide for themselves how allowances are treated under their own national jurisdiction, leading to a heterogeneous approach across Europe (see table 2). However, some level of legal harmonisation in the way emissions allowance transactions are treated has been achieved by the reliance on standardised trading contracts, such as that drawn up by IETA.¹⁶³ But both IETA and the Prada report (2010)¹⁶⁴ stress the importance of a common formal legal definition in ensuring the good functioning of the market and clarity over how it is regulated.^{165 166}

7.4. Options for reform of market regulatory oversight

Regulation of the trade of emissions allowance *derivatives* is extensive, and beyond changes being proposed by the Commission’s on-going revision of MiFID and MAD, additional rules would not appear necessary to ensure the appropriate regulation of this segment of the EU carbon market. Yet there is an evident lack of appropriate regulatory oversight of the spot market, to which those pieces of EU legislation do not extend. This exposure has been recognized by the Commission, who has subsequently launched a stakeholder consultation to explore potential reforms of the EU carbon market’s oversight framework.¹⁶⁷ As part of this review, the Commission has put forward two general proposals that aim to fill the regulatory gaps, which will be examined in this section:

- the classification of emissions allowances as **financial instruments**;¹⁶⁸ or
- the application of a **bespoke regulatory regime** for the EU carbon market.

Option 1 - Classification of allowances as financial instruments

Classification of *all* emissions allowances as “financial instruments”, would extend the full scope of EU financial markets regulation to both the derivatives and spot markets. For this to happen, emissions allowances would have to be included within Annex I of MiFID. As this

https://circabc.europa.eu/faces/jsp/extension/wai/navigation/container.jsp?FormPrincipal:_idcl=FormPrincipal:libraryContentList:pager&page=3&FormPrincipal_SUBMIT=1

¹⁶² Directive 2004/39/EC, Annex I, Section C.

¹⁶³ IETA, “Emissions trading master agreement for the EU emissions trading scheme, Version 3.0”, [2008], IETA website, [online] available at:

http://www.ieta.org/index.php?option=com_content&view=article&id=229&Itemid=137

¹⁶⁴ See note 65.

¹⁶⁵ IETA [2011], above note 171

¹⁶⁶ Prada [2010], above n. 65.

¹⁶⁷ European Commission, “Towards an enhanced market oversight framework for the EU Emissions Trading Scheme”, [2010], Communication from the Commission to the European Parliament and the Council, Brussels, Belgium.

¹⁶⁸ Romania is the only Member State to have independently applied this definition already.

Directive has recently been subject to stakeholder consultation and is currently under review by the Commission, the opportunity exists for this introduction. Indeed, one of the questions included in the MiFID consultation asks: ‘What is your opinion on whether to classify emissions allowances as financial instruments?’.¹⁶⁹ However, the mixture of responses received prove that stakeholders are divided on this issue.¹⁷⁰

The extension of EU market oversight regulations to the spot market would act to increase investor protection and transparency, as well as provide protection from future threats of market abuse and money laundering. Some of the consultation respondents argued that this is essential to supporting the integrity of the ETS system as a whole.¹⁷¹ MiFID and associated Directives also constitute a well-trying regime that has proved effective in other markets. It was further argued that applying the same regulatory framework across the market would provide a simpler regulatory landscape and a harmonised legal definition that would be less confusing for new investors.¹⁷² As trade in financial instruments is *exempt from VAT*, the extension of EU financial regulations to trade in emissions allowances would also provide a welcome market-wide solution to the problem of VAT fraud on the EU ETS.

Yet there is fear that the application of extensive EU financial market regulation to all trade in emissions allowances would introduce a large administrative and financial burden on compliance firms. The additional need for licensing, tighter contractual agreements, and higher trade-related reporting and supervisory requirements under MiFID (and associated regulation) would significantly increase the cost of trading for those firms that currently only participate in the spot market.

Economic studies have shown high trading costs within pollution permit markets can lead to a decreased willingness to trade among compliance firms, as the inclusion of these costs within firms’ micro-rational trading/abatement decisions may decrease the perceived benefit of trading.^{173 174} Decreased trading leads to decreased market liquidity, which in turn may hamper the market’s ability to efficiently signal an accurate price for pollution. This results in an inefficient use of allowances, and an increased cost-burden of abatement for firms. However, the factors affecting the trading and abatement decisions of firms specifically within the context of the EU ETS are not very well understood and have not been subject to extensive research. It is therefore difficult to accurately assess how increased costs associated with strengthened market oversight, if adopted, might impact trading decisions and market efficiency. Although the limited number of existing studies on EU ETS

¹⁶⁹ Question 66 of the MiFID consultation document (available at: http://ec.europa.eu/internal_market/consultations/docs/2010/mifid/consultation_paper_en.pdf).

¹⁷⁰ all consultation responses available at: <https://circabc.europa.eu/faces/jsp/extension/wai/navigation/container.jsp>

¹⁷¹ NASDAQ OMX, “European Commission Public Consultation on Review of Markets in Financial Instruments Directive (MiFID), Reply from NASDAQ OMX”, [2011], [online] available at: <https://circabc.europa.eu/faces/jsp/extension/wai/navigation/container.jsp> ; NASDAQ OMX run the Nordpool exchange, one of the largest EU emissions trading exchanges

¹⁷² *ibid*

¹⁷³ Stavins, R., “Transaction costs and tradable permits”, [1995], *Journal of environmental economics and management* 29: 133-148.

¹⁷⁴ Gangadharan, L., “Transaction costs in pollution markets: an empirical study”, [2000], *Land Economics*, 76(4): 601-614.

trading behaviour suggest that trading costs do not currently act as a prohibitive element to trading decisions,^{175 176} these findings cannot necessarily lead to the assumption that *increased* trading costs would not impact on cost-efficiency, especially in the context of Phase III of the scheme in which additional changes to the emissions trading landscape are planned. With a tightened emissions cap in Phase III, and the introduction of a central auctioning platform, more firms are likely to have to trade in order to meet their compliance obligations. Thus uncertainty regarding the potential implications of increased market oversight on the EU ETS requires that further research is carried out in order to inform future decisions on the most effective market oversight measures that must be taken.

These costs would be especially significant to small compliance firms who have no previous experience of trading in financial instruments and have fewer resources with which to absorb the increased cost burden. Although both small compliance firms and the trading arms of larger operators would come under exemptions in the current MiFID framework (see table 4), these exemptions are subject to revision in the on-going review process. It is possible that as a result of this revision, compliance buyers and trading subsidiaries could become subject to burdensome regulations.¹⁷⁷ Yet, according to the UK Treasury, these participants are unlikely to pose any significant threat to the market.¹⁷⁸ Extensive and burdensome regulatory requirements imposed by MiFID therefore seem wholly disproportionate. As a result, most energy companies and compliance operators who responded to the MiFID consultation understandably did not support the classification of emissions allowances as financial instruments.¹⁷⁹

In light of the potential negative impacts on the efficiency of the EU ETS from extending the application of EU financial regulations, even those respondents to the Commission consultation who had fundamentally declared that they welcomed the possibility of a more extensive definition of emissions allowances as financial instruments (such as the Czech ministry of finance and the Norwegian Ministry of Finance), stressed however that an in-depth study of the potential wider consequences is required before this regime is implemented.¹⁸⁰

The extension of the full scope of EU financial market oversight regulation could also be regarded as a disproportionate response to the impacts of fraud on the carbon market. MiFID provisions for example mainly act to protect investors, and ensure market transparency, with many of the associated safeguards focusing on the protection of uninformed *retail* customers. On the other hand, the EU ETS spot market does not tend to

¹⁷⁵ Jaraitė, J., F. Convery and C. Di Maria, "Transaction costs of firms in the EU-ETS: Lessons from Ireland", [2009], *Climate Policy* 10(2): 190-215

¹⁷⁶ Anderson et al., "Climate change policy and business in Europe. Evidence from interviewing managers", [2011], Centre for Economic Performance, Occasional Paper 27, London School of Economics, London

¹⁷⁷ Above note 180.

¹⁷⁸ UK Treasury and FSA, "UK response to the Commission Services' consultation on the Review of the Markets in Financial Instruments Directive (MiFID)", [2011], Contributions authorised for publication, Consultation on the review of the Markets in Financial Instruments Directive (MiFID), European Commission website, [online] available at: http://ec.europa.eu/internal_market/consultations/2010/mifid_en.htm

¹⁷⁹ For example EON; Council of European Energy Regulators; EDF trading; consultation documents available from above n. 180

¹⁸⁰ Responses available at *above* n. 180

attract investment from the general public. According to Johnathan Herbst, financial services Partner at the law firm Norton Rose, 'it is questionable whether compliance firms buying financial instruments on the spot market need the same level of investment protection as that applied to members of the public buying financial instruments'.¹⁸¹

Furthermore, the EU ETS spot allowance is a relatively simple product when compared to other complex derivative instruments. As such, many cross-sector economic regulations, such as MAD and the cash-settlement Directive, would not seem as relevant to the spot market.¹⁸² More specifically, market abuse is not recognised as evident risk to the carbon spot market. According to Stig Schjolset, Senior Analyst at Point Carbon market manipulation has not materialised as a major issue on the EU ETS. Unlike in the electricity market, no operators in the EU ETS market find themselves in a dominant position from which to easily manipulate the market. Additionally Johnathan Herbst, financial services Partner at Norton Rose LLP, claims that it is not clear what would actually constitute inside information on the EU carbon market. Compared to the oil market, in which the non-public knowledge of the shutting down of an oil-rig, for example, could be classified as inside information, there appears to be no equivalent in the EU ETS. It is therefore unclear how the regulatory burdens involved with the extension of the MAD to emissions trading in the spot market would benefit the system at all.^{183 184}

Perhaps more significantly, as argued by the UK Treasury in their MiFID consultation response, the measures imposed by this regulation do not even appropriately help prevent the types of fraud that are currently major threats to this market, such as VAT fraud and allowance thefts.¹⁸⁵ Although on the one hand the EU-wide adoption of the financial instrument definition to emissions allowances could clarify some important issues (such as rules on liability and extent of application of VAT to emissions trading), these benefits on the other hand could be offset by the costs of applying additional burdensome regulations.

Regardless of the irrelevance of much of MiFID and related financial market oversight rules, some stakeholders feel that defining emissions allowances as financial instruments is inappropriate in itself. Although emissions allowances share some notable characteristics with financial instruments, being both dematerialised and easily transferable, the two are entirely distinguishable. As pointed out by one interviewee, awkwardly applying a false classification may not necessarily help as much of the related case law will not be directly applicable.¹⁸⁶ Similarly, the International Swaps and Derivatives Association expressed concerns over this 'false classification'.¹⁸⁷

¹⁸¹ Johnathan Herbst, Norton Rose LLP, interview (29.07.2011)

¹⁸² Prada [2010], *supra* n.65

¹⁸³ Anonymous, associate, leading UK law firm, interview (21.07.2011); Johnathan Herbst, Norton Rose LLP, interview (29.07.2011): What inside information is there on the carbon market. There is no one with enough market power to manipulate the market.

¹⁸⁴ Simone Ruiz, IETA, phone interview (15.07.2011): mentioned that market participants cannot think of obvious instances of market manipulation or insider trading in the spot carbon market

¹⁸⁵ Anonymous, associate, leading UK law firm, interview (21.07.2011)

¹⁸⁶ Anonymous, associate, leading UK law firm, interview (21.07.2011)

¹⁸⁷ International Swaps and Derivatives Association, "ISDA's response to the European Commission's public consultation on the review of the Markets in Financial Instruments Directive (MiFID)", [2011], [online] available at: <https://circabc.europa.eu/faces/jsp/extension/wai/navigation/container.jsp>

Option 2 - A bespoke regulatory regime for emissions allowances

An alternative option for carbon market oversight reform proposed by the Commission is the design and application of a specific oversight framework for trade in emissions allowances. This could either be achieved by separately extending the application of *specific* existing MiFID and MAD rules, and/or by establishing an entirely new set of rules specifically tailored to the carbon market.¹⁸⁸ Such a regime could enable a mechanism to be put in place that is more appropriate to the specific nature of emissions allowances and the risks present within the market. This could avoid unnecessary regulatory burdens and costs falling on market participants that do not pose a significant risk to the market. For these reasons some argue that this constitutes a more proportionate approach than the adoption of a financial instruments definition,¹⁸⁹ whilst allowing room for the application of a legal definition more fitting to emissions allowances.

The implementation of regulatory changes outside of the MiFID regime could also be faster and more focused. It can take up to four years for revisions to complex Directives such as MiFID to be decided upon and implemented. Relying on the extension of MiFID could therefore delay the adoption of a market oversight framework for the EU carbon spot market – leaving it exposed in the mean time. If eventually adopted, the market runs the risk of being inappropriately regulated for a long period of time due to difficulties in subsequently adapting provisions. Furthermore, carbon market concerns are unlikely to receive the necessary level of attention within the decision making process surrounding the MiFID review due to the range of other issues open to discussion. Establishing a targeted EU carbon market oversight regulation through a bespoke regime on the other hand could constitute a more rapid and focused approach that is more sympathetic to the specificities of the carbon market.

The enhanced flexibility of a bespoke regime is especially attractive in light of adapting to future threats that might emerge in this still maturing market. For example, phase III of the EU ETS will see the introduction of a central auctioning platform through which a certain proportion of emissions allowances, previously allocated for free, will be open for purchase.¹⁹⁰ ¹⁹¹ Although this primary market will itself fall under the full extent of EU financial regulation, the Commission will need to assess how its introduction might affect risks of fraud and market abuse on the spot and derivatives markets, and adapts regulation accordingly.

¹⁸⁸ European Commission, “Discussion paper in view of a European Climate Change Programme (ECCP) stakeholder meeting on carbon market oversight organised by the Commission services”, [2011], Brussels, Belgium.

¹⁸⁹ Prada [2010], above n. 65.

¹⁹⁰ European Commission, “Emissions trading: Questions and answers on enhanced market oversight for the European carbon market”, [2010], European Commission website, [online] available at: <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/10/697>

¹⁹¹ Regulation 1031/2010 of 12 November 2010 on the timing, administration and other aspects of auctioning of greenhouse gas emission allowances pursuant to Directive 2003/87/EC of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowances trading within the Community

Yet, if regulatory measures were to be decided upon outside of the MiFID framework, decisions would be made by environmental policy makers (the Commission's DG CLIMA and DG Environment), many of whom may not have extensive knowledge of market supervisory issues. To optimise the sharing of knowledge between experts, Johnathan Herbst, lawyer at Norton Rose, stressed the importance of appropriate communication between the Commission's environmental (DG CLIMA and DG Environment) and financial market (DG MKT) directorates.¹⁹²

There seems to be a large weight of support for this type of *ad hoc* approach within the MiFID consultation responses.¹⁹³ However, the Commission would still need to assess the specific rules that would be appropriate for a bespoke regime. This process itself could take a significant amount of time, especially considering the range of different interest that exist within this heterogeneous market.

7.5. Conclusions on extension of EU financial markets regulation to EU ETS

Despite the evident drawbacks, the Commission appears to be advocating the adoption of the definition of emissions allowances as financial instruments in order to close the gaps in EU carbon market oversight. Whilst acknowledging the risks and potential drawbacks arising from the extension of EU financial regulations to the EU ETS, the Commission seems to be advocating a "better safe than sorry" approach aimed to prevent risks that may emerge in the future.¹⁹⁴ Market participants remain concerned however that the extension of this burdensome financial regulation would significantly increase trading costs, and thus would be disadvantageous to small compliance entities and affect their willingness to trade. This could compromise the efficiency of the whole trading system. If the application of MiFID were to be extended, the Commission would at least need to ensure that appropriate exemptions were in place to avoid the disproportionate regulation of market participants relative to the threat they pose. As stressed by Johnathan Herbst, "the Commission needs to seriously consider what is proportional and what is relevant...".¹⁹⁵ Hence in general the creation of a bespoke regime would be a more appropriate and proportionate response to fraud in the EU carbon market than extending the application of existing financial market regulations.

¹⁹² Johnathan Herbst, Norton Rose LLP, interview (29.07.2011)

¹⁹³ For example: HM Treasury, French Ministry of Finance and IETA all expressed support for a bespoke regime within their MiFID consultation responses.

¹⁹⁴ Anonymous, EU ETS policy expert, interview (15.07.2011)

¹⁹⁵ Johnathan Herbst, Norton Rose LLP, interview (29.07.2011)

VIII. EU criminal law and cooperation in criminal investigations

8.1. Introduction

The methods by which fraudsters target markets are constantly evolving. It is therefore unlikely that the EU ETS can be made entirely immune to criminal attacks. Even if “immunity” were possible, the administrative and operational costs borne by both the regulatory authorities and legitimate market participants could be uneconomical. It is important therefore that effective mechanisms are in place through which Member States can trace and prosecute criminal behaviour (such as the theft of emissions allowances and VAT fraud). Moreover, in order to offer a deterrent against ongoing criminal activity within the EU ETS, Member States may be required to penalise fraud and related activities affecting the carbon markets.

Although there has already been some level of successful investigatory response to fraud on the EU ETS, the cross-border nature of these crimes make the coordination of investigations and prosecutions between the different Member States involved difficult. EU criminal law and the administrative structures implementing it are currently undergoing extensive reform, and the resulting changes have the potential to help strengthen the coordination of the fight against fraud and organised crime in the future, both within the EU-ETS and in other sectors.

8.2. The coordination of investigations and prosecutions in the EU

Traditionally, decisions as to what activities are deemed criminal and the associated sanctions have been made at the national level.¹⁹⁶ However, since the ratification of the Maastricht Treaty in 1993, the EU Member States have found a forum for cooperation in criminal matters and harmonisation of criminal legislation (then known as the ‘third pillar’). As much of the serious criminal activities that have hit the EU carbon market, such as VAT fraud and allowance thefts, are of a transnational nature i.e. involving individuals located in more than one Member State coordinating cross-border transactions, they call for the effective criminal law cooperation and coordination between the Member States. As a result of the discrepancies between individual Member States’ criminal law and procedure, problems often arise when investigating and prosecuting such cross-border crimes. These include obstacles to obtain evidence from other Member States, and the mutual recognition by one Member State of judicial decisions made in another.¹⁹⁷

To help overcome some of these difficulties, the European Commission plays a key role in proposing legislation on mutual recognition as well as aimed to harmonise laws and procedures in the Member States against serious (transnational) criminal activity.¹⁹⁸ In addition, the European Police Office (Europol), the European Judicial Cooperation Unit (Eurojust) and the European Anti-fraud Office (OLAF) play important roles in coordinating the criminal policies of the Member States.

¹⁹⁶ Steiner, J. and L. Woods, *EU Law*, (10th edition, 2009), Oxford, UK: Oxford University Press

¹⁹⁷ European Commission, “The recognition of decisions between EU countries”, [2011], European Commission Criminal Justice website, [online] available at: http://ec.europa.eu/justice/criminal/recognition-decision/index_en.htm

¹⁹⁸ Steiner, J. and L. Woods [2009], *supra* n. 206.

The European Police Office (Europol), set up in 1992, is the European Union's law enforcement agency. Its main role is to assist Member States in their fight against serious international crime and terrorism. Europol acts to assist EU Member States through the provision of expertise and technical support, the facilitation of the exchange of information and data, and the coordination of cross-border investigations.¹⁹⁹ Since the 9/11 attacks, Europol has concentrated much of its activities and resources to counter-terrorism and action against organised crime. In addition, the **European Judicial Cooperation Unit (Eurojust)**, established in 2002, is responsible for facilitating coordination between judicial authorities in the Member States regarding the prosecution of serious criminal behaviour.²⁰⁰ However, neither Europol nor Eurojust have the power to bring prosecutions or start criminal investigations in the Member States, instead playing the role of coordinating the action of national authorities.

Particularly important in the context of the fight against fraud in the EU is the **European Anti-fraud Office (OLAF)**, which is responsible for the protection of the financial interests of the European Union, by combatting fraud and corruption affecting the supply or expenditure of the EU budget. Operationally independent from the rest of the EU organisations, OLAF acts to investigate fraud, corruption and any other illegal activities affecting the EU financial interests, both internally (within EU institutions) and externally (in Member States and further afield).²⁰¹ In addition to 'coordination cases' in which OLAF contributes to investigations carried out by national authorities or other Community departments through the gathering and exchange of information and contacts, OLAF also carries out external investigations in the Member States for the purpose of detecting fraud or other irregular conduct by natural or legal persons.

On the other hand, the European Commission does not have independent investigative powers. It is only able to respond to requests from the relevant Member State authorities and, whether appropriate, to bring action before the European Court of Justice under Article 258 TFEU against a Member State for its failure to control fraudulent activities against the EU budget or EU law. However, the Commission (as a rule) does not have the power to apply penalties directly against individuals or corporations for violations of EU law.

Alongside these coordination bodies, tools also exist on the EU-level to aid in obtaining evidence for use in cross-border criminal investigations (see the European Evidence Warrant 2008)²⁰² and for the surrender of citizens who have committed a serious crime in another EU country (the European Arrest Warrant 2002).²⁰³ But current instruments to facilitate

¹⁹⁹ Art 88 Lisbon Treaty, See, www.europol.europa.eu/;
http://europa.eu/agencies/pol_agencies/europol/index_en.htm.]

²⁰⁰ Art 85 Lisbon Treaty,
[source: <http://www.eurojust.europa.eu/>]

²⁰¹ [source: http://ec.europa.eu/dgs/olaf/mission/index_en-new.html.]
[Regulation 1073/1999; 2185/96; 2988/95]

²⁰² Council Framework Decision 2008/978/JHA of 18 December 2008 on the European evidence warrant for the purpose of obtaining objects, documents and data for use in proceedings in criminal matters

²⁰³ Council Framework Decision 2002/584/JHA of 13 June 2002 on the European arrest warrant and the surrender procedures between Member States

police and judicial cooperation in criminal matters in the EU are fragmentary, and significant obstacles still exist to their effective operation. Moreover, the impact that these instruments have on civil rights and liberties cannot be underestimated.²⁰⁴ The Commission itself has recognised this and expressed the need for a new approach to the way that cross-border crime is dealt with,²⁰⁵ in particular when launching the Action plan to implement the Stockholm Programme in April 2010, which sets out the priorities of EU criminal law for the following five years.²⁰⁶

The transnational nature of the EU ETS has made it an attractive vehicle for cross-border crime. Although some of the criminals involved have been successfully prosecuted, both VAT fraud and allowance thefts illustrate the obstacles that remain in the investigation and prosecution of crime conducted over multiple jurisdictions.

8.3. Investigation and prosecution of VAT fraud on the EU ETS

VAT fraud is difficult to detect and prosecute. In the case of carousel fraud, the crime is quick to execute and leaves little evidence. The crime is often embedded within a complex web of transactions, and therefore proof of fraudsters' failure to surrender VAT is difficult to obtain and involves sifting through a large amount of documentary evidence.²⁰⁷ Since the criminals involved are often based across a number of countries or use foreign companies as vehicles for their fraudulent transactions, it can be difficult and time-consuming to get access to this evidence.^{208 209} Some Member States also place limits on the use of evidence that has been collected from foreign jurisdictions,²¹⁰ although the European Evidence Warrant adopted in 2008 aims to facilitate the mutual recognition of evidence between the Member States. Furthermore, if suspects are located in countries that have not directly suffered the effects of the crime, the prosecution services of these States often do not have sufficient incentive to prosecute VAT-fraud cases, or aid in other States' investigations.²¹¹ ²¹²As neither Europol nor Eurojust have the means to initiate criminal investigations or prosecutions themselves, the decision as to whether or not to bring prosecutions or start investigations is left the discretion of the national authorities in the Member States, and criminals often go unpunished.

²⁰⁴ There is growing discontent in particular with the impact on civil liberties arising from the application of mutual recognition instruments, such as the European Arrest Warrant (see below).

²⁰⁵ European Commission, "Recognition of decisions between EU countries: Evidence", [2011], European Commission website, [online] available at: http://ec.europa.eu/justice/criminal/recognition-decision/evidence/index_en.htm

²⁰⁶ See COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF REGIONS Delivering an area of freedom, security and justice for Europe's citizens: Action Plan Implementing the Stockholm Programme, COM(2010) 171 final

²⁰⁷ Price Waterhouse Coopers, "How does organised crime misuse EU funds?", [2011], Study for Directorate General for Internal Policies, Policy Department D, European Parliament, Brussels, Belgium.

²⁰⁸ Crown Prosecution Service, "Central Fraud Group Frequently Asked Questions", [2011], Crown Prosecution Service website, [online] available at: http://www.cps.gov.uk/your_cps/our_organisation/cfg/our_work/frequently_asked_questions.html#a07

²⁰⁹ Eurojust [2011], above note 23.

²¹⁰ European Commission, "Communication on the protection of the financial interests of the European Union by criminal law and by administrative investigations", [2011], COM(2011)293 final, Brussels, Belgium.

²¹¹ *ibid*

²¹² Eurojust, "Annual Report 2010", [2011], Eurojust, The Hague, The Netherlands.

In order to help overcome obstacles to the prosecution of VAT fraudsters, in 2010 Eurojust established a strategic project to enhance information exchange and judicial cooperation between Member States in cross-border VAT fraud cases, and hosted a meeting on the subject in March 2011.²¹³ Europol has also been heavily involved in gathering information and data to help Member States target VAT fraudsters in the European carbon market, and has contributed to the coordination of successful investigations throughout the EU. In April 2010 a series of synchronised raids were conducted across Europe in coordination with the national authorities targeting VAT fraudsters operating on the EU ETS. The raids took place in the UK, France, Spain, Denmark and Holland, resulting in the arrest of over 100 people. Various other more localised arrests have also occurred in the UK, France and Italy.

Despite these successful operations tackling EU ETS fraud, many significant difficulties still exist in coordinating action against cross-border VAT fraud at the EU level. A recent analysis by Price Waterhouse Coopers found that the coordination between Member States in criminal proceedings targeting VAT fraud is still insufficient.²¹⁴ A similar conclusion was found by a recent EU Commission Communication.²¹⁵

8.4. Investigation and prosecution of allowance thefts

Following the initial allowance thefts from the Romanian registry in November 2010, DIICOT (Romania's equivalent to the UK's Serious and Organised Crime Agency (SOCA)) announced in January 2011 that they were conducting international investigations into the registry attacks.²¹⁶ Europol has also been coordinating investigations between other Member States affected by or involved in registry hacks, such as the UK,²¹⁷ Greece and Estonia. But despite these efforts in coordinating investigations against fraud, it appears that no arrests have been made. Details of on-going investigations are, quite understandably, not easy to obtain as they are not always publicly available, and it is therefore difficult to measure the extent, effectiveness and level of coordination of these investigations. As a result, this paper does not aim to give full account of the present levels of police and judicial cooperation between the Member States against EU ETS fraud. Yet there are evident barriers to the success of such investigations that are worth discussion.

Thefts of emissions allowances were a result of cyber-hacking attacks on accounts held within national registries. Since such cyber-attacks can be conducted remotely, the criminals responsible for these thefts could have easily been located in a different country to the registry victim of an attack. As with VAT fraud, this transnational element creates problems relating to investigatory and judicial cooperation. Authorities of countries in which criminals are located have no incentive to allocate resources to the investigation of a crime that may not have directly affected them. And, even if criminals responsible for the theft of allowances are traced and caught, discrepancies between national criminal law may hamper

²¹³ Eurojust [2011], above n.23.

²¹⁴ Price Waterhouse Coopers [2011], above n. 217

²¹⁵ European Commission [2010], 'Towards an Enhanced Market Oversight Framework for the EU Emissions Trading Scheme.'

²¹⁶ Ziare, "Romanian hackers attack the EU emissions trading system", [2011], [translation] Ziare news website, [online] available at: <http://www.ziare.com/articole/romania+certificate+emisii+gaze>

²¹⁷ SOCA has been working with Europol to coordinate investigations in which operatives at SOCA are posing as carbon traders in an attempt to expose fraudulent players on the EU ETS market involved in both allowance thefts and VAT fraud (BusinessGreen, 2011).

the resulting judicial proceedings. Criminal liabilities and sanctions relating to phishing, cyber-hacking and theft differ between Member State jurisdictions. These legal discrepancies are likely to be amplified by the lack of a common EU-wide legal definition of emissions allowances, creating further problems relating to the mutual recognition of judicial decisions in cross-border prosecutions.

8.5. Recent developments in EU criminal law and cooperation in criminal proceedings

In December 2009, the Lisbon Treaty came into force.²¹⁸ It introduced substantial reforms to the Treaty of the European Union and the Treaty Establishing the European Community that acted to abolish the previous “pillar” structure of European Community law,²¹⁹ thus abolishing discrepancies in competencies of the European Union in regulating the area of “freedom, security and justice” (previously falling under the “third pillar”).²²⁰ Under the reformed and newly named Treaty on European Union (TEU) and Treaty on the Functioning of the European Union (TFEU), legislative acts relating to European police and judicial cooperation as well as substantive criminal law, previously in the form of “Framework Decisions” and “Conventions” under the third pillar, now will be adopted in the form of “Regulations”, “Directives” and “Decisions”.²²¹

The Lisbon Treaty extended the power of the Commission to bring infringement proceedings against a Member State’s non-implementation of EU legislation before the European Court of Justice to the area of freedom security and justice, as well as the role of the European Parliament in the adoption of EU criminal legislation, thus enhancing the judicial scrutiny and democratic legitimacy of future and existing legislation in this field. This means that measures under all aspects of EU criminal law (the ‘Area of Freedom, Security and Justice’) will be determined by the ordinary legislative procedure of qualified majority voting and co-decision between the Council and European Parliament, unless otherwise specified.

The Lisbon Treaty also introduced additional tools to help overcome some of the main procedural deficiencies in the fight against cross-border crime, by strengthening the legal framework for mutual recognition in all Member States of judicial decisions and measures taken in one Member State, and in cases of fraud against the Union budget, the possible introduction of a European Public Prosecutor. **Moreover**, the Lisbon Treaty²²² provides a specific legal basis for the harmonisation of substantive criminal law (including the harmonisation of definition of offences and penalties) and procedural law. The instruments

²¹⁸ Treaty of Lisbon, 2007, amending the Treaty on European Union and the Treaty establishing the European Community, signed at Lisbon, 13 December 2007. (OJ C 306, 13.12.2007)

²¹⁹ The first pillar consisted of the EC Treaty; the second pillar: foreign and security matters; and the third pillar: the area of freedom security and justice.

²²⁰ Herlin-Karnell, E., “The Lisbon Treaty and the Area of Criminal Law and Justice”, [2008], European Policy Analysis **3**: 1-10, Swedish Institute for European Policy Studies

²²¹ Davoli, A., “Judicial Cooperation in Criminal Matters”, [2010], European Parliament website, [online] available at: http://www.europarl.europa.eu/ftu/pdf/en//FTU_4.12.6.pdf

²²² The Lisbon Treaty was signed on 13 December 2007 by the heads of government and state of the Member States and was ratified in November 2009, following the Irish second referendum and the Czech and Polish ratifications. It came into force in December 2009

adopted before the entering into force of the Lisbon Treaty, including Framework Decisions, are preserved until they are repealed, annulled or amended.²²³

8.6. Developments in substantive criminal law

The Lisbon Treaty provides enhanced competencies by which the EU can “establish minimum rules concerning the definition of criminal offenses and sanctions in the areas of particularly serious crime with a cross-border dimension...” (Article 83 (1) TFEU).²²⁴ These serious, cross-border crimes are listed to include organised crime and computer crime.²²⁵ The legal basis for criminalisation of cybercrime and organised crime potentially covers instances of EU ETS fraud. Yet it must be noted that the list of offences under Art. 83 (1) TFEU is exhaustive, and does not include fraud to the EU budget or allowances theft as such. Yet on the basis of developments in crime, the Council may adopt a unanimous decision identifying other areas of crime that meet the criteria specified in paragraph 1.²²⁶ Given the seriousness and cross-border dimension of EU ETS fraud, some of the related crimes would appear to fit the criteria specified in Article 83 (1).

Moreover, the approximation of criminal law is also possible under paragraph 2 of Article 83 TFEU:

If the approximation of criminal laws and regulations of the Member States *proves essential* to ensure *the effective implementation of a Union policy* in an area which has been subject to harmonisation measures, directives may establish minimum rules with regard to the definition of *criminal offences and sanctions* in the area concerned. Such directives shall be adopted by the same ordinary or special legislative procedure as was followed for the adoption of the harmonisation measures in question, without prejudice to Article 76. (emphasis added)

Thus all criminal provisions aimed at achieving the political objectives of the EU (which might include the environmental protection and economic imperatives of the EU ETS) are likely to be subject to harmonisation under Article 83 (2) TFEU. The rules covered by Article

²²³ Art. 9 of the Protocol No. 36 on Transitional Provisions

²²⁴ Art 83 (1), Treaty on the Functioning of the European Union (TFEU), 2010, Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union Charter of Fundamental Rights of the European Union (OJ C 83, 30.3.2010),

²²⁵ Paragraph 1 of Article 83 of the Treaty on the Functioning on the European Union states that: The European Parliament and the Council may, by means of directives adopted in accordance with the ordinary legislative procedure, establish minimum rules concerning the *definition of criminal offences and sanctions* in the areas of particularly *serious crime* with a *cross-border dimension* resulting from the nature or impact of such offences or from a special need to combat them on a common basis. These areas of crime are the following: terrorism, trafficking in human beings and sexual exploitation of women and children, illicit drug trafficking, illicit arms trafficking, money laundering, corruption, counterfeiting of means of payment, *computer crime and organised crime* (emphasis added)..

²²⁶ The Council must obtain the consent of the European Parliament.

83 (2) are not ends in themselves but a way to ensure the effectiveness of Union policies and further its political objectives.²²⁷

In light of these strengthened criminal law approximation capabilities, the Commission has released a proposal in 2010 for a Directive on attacks against information systems, repealing the previous 2005 Framework Decision.²²⁸ If adopted, the Directive could help in the coordination of investigations and prosecutions relating to cyber-crime and the hacking attacks on the EU ETS registry system by criminalising and harmonising the definition of offences. The Directive maintains the main key features of the Framework Decision, namely the criminalisation of illegal access, illegal system interference and illegal data interference, but also contains new elements aimed at strengthening the previous regulatory framework.²²⁹ Furthermore, the proposed Directive raises the level of criminal penalties to a maximum term of imprisonment of at least two years (or a maximum of 5 years under aggravated circumstances).²³⁰ Instigation, aiding, abetting and attempt of those offences will need to be penalised as well.

Moreover, under the Framework Decision 2001/413/JHA of 28 May 2001 on combating fraud and counterfeiting of non-cash means of payment, Member States are required to criminalise the following offences related to computer when committed intentionally: performing or causing a transfer of money or *monetary value* and thereby causing an unauthorised loss of property for another person, with the intention of procuring an unauthorised economic benefit for the person committing the offence or for a third party, by: without right introducing, altering, deleting or suppressing computer data, in particular identification data; or without right interfering with the functioning of a computer programme or system.

Furthermore, there is evidence that criminal organizations are infiltrated in fraud to the EU carbon market, which means that the 2008 Framework Decision on the fight against organized crime²³¹ - setting out definitions of offenses relating to the participation in criminal organisations²³² and the associated minimum sanctions - is applicable.²³³ The

²²⁷ Fletcher, Loof and Gilmore, *EU Criminal Law and Justice*, (Edward Elgar, 2008)

²²⁸ Proposal for a Directive of the European Parliament and of the Council on attacks against information systems and repealing Council Framework Decision 2005/222/JHA, Brussels, COM(2010) 517

²²⁹ The following new elements are proposed under the Directive: Penalisation of the use of tools (such as malicious software – e.g. 'botnets' – or unrightfully obtained computer passwords) for committing the offences; Introduction of 'illegal interception' of information systems as a criminal offence; Improvement of European criminal justice/police cooperation by strengthening the existing structure of 24/7 contact points, including an obligation to answer within 8 hours to urgent request and; and including the obligation to collect basic statistical data on cybercrimes

²³⁰ Aggravated circumstances under the Directive proposal occur when: (i) committed within the framework of a criminal organisation; (ii) committed through the use of a tool conceived to launch either attacks affecting a significant number of information systems, or attacks causing considerable damage, such as in terms of disrupted system services, financial cost or a loss of personal data. This provision would be particularly relevant to tackle the spread of malicious software that is now used widely to launch most dangerous cyber attacks.(iii) committed by concealing the real identity of the perpetrator and causing prejudice to the rightful identity owner.

²³¹ Framework Decision 2008/841/JHA of 24 October 2008 on the fight against organised crime

²³² *ibid*, Art 1

Framework Decision does not draw a list of offences; instead, it states that the aim of the criminal organisation must be to commit a 'serious offence' (of a maximum of at least four years)²³⁴ with the objective of pursuing a financial or other material benefits. Since legislation relating to organised crime varies greatly between Member States, with some States not providing for offenses relating to organized crime specifically, but instead having offenses relating to "conspiracy" and "joint enterprise",²³⁵ the approximation of national laws relating to organized crime will help improve police and judicial cooperation in relation to cross-border organized crime.²³⁶ However, the Framework Decision offers the Member States the option of criminalising either participation in a criminal organisation, or conspiracy,²³⁷ which means that countries such as the UK may continue to criminalise conspiracy instead of participation in a criminal organization.²³⁸ This means that criminalisation of organised crime is far from harmonised at EU level, which could hinder the cooperation between national judicial and police authorities across the EU given the substantial transnational dimension of organised crime.²³⁹

As a Framework Decision adopted under the third pillar, non-implementation of this legislation was not until the ratification of the Lisbon Treaty subject to infringement proceedings via the ECJ.²⁴⁰ As a result, the Framework Decision was not implemented (or correctly implemented) in all Member States. However, the Lisbon Treaty provides that Framework Decisions in existence prior its adoption will be subject to full ECJ jurisdiction after a 5-year period following the coming into force of the Treaty.²⁴¹ This is likely to increase the level of implementation of this framework decision and thus the harmonization of the Member States' rules on organised crime.

Therefore, the potential for further harmonisation of substantive criminal law in other relevant areas, such as cybercrimes, financial crimes and organised crime, could help overcome discrepancies in national laws relating to both carbon-based VAT fraud and registry hacking. It must be noted also that although the directive on the protection of the environment through criminal law adopted in 2008 requires the criminalisation of a number of environmental offences,²⁴² none of the pollution offences in the directive relate to GHG

²³³ *ibid*, Art 3

²³⁴ This four-year threshold is also found in the United Nations Convention against Organised Transnational Crime

²³⁵ Mitsilegas, V., "The third wave of third pillar law: which direction for EU criminal justice?", [2009], *European Law Review*, 34: p.523

²³⁶ The Framework Decision creates two offences that need to be criminalised by the Member States (Article 2):

- a) Directing a criminal organisation, which must be punishable by a maximum term of imprisonment of at least ten years (Article 3 (1)).
- b) Actively taking part in the organisation's activities, which incurs a maximum term of imprisonment which is no lower than five years.

²³⁷ (Art. 2),

²³⁸ Mitsilegas, V., *EU Criminal Law*, (Hart Publishing, 2009), p. 96.

²³⁹ Moreover, the harmonisation of organised crime offences is central to the mandate of Union criminal justice bodies such as Europol and Eurojust. (Mitsilegas 2009, *supra*)

²⁴⁰ Prior to the ratification of the Lisbon Treaty, a number of Member States have submitted declarations granting the ECJ jurisdiction over the validity of Framework Decisions adopted under the third pillar.

²⁴¹ Subject to transitional, and in the case of the UK, Ireland and Denmark, opt-in arrangements. See 10th Report of Session 2007-2008, *supra* note 83.

²⁴² Directive 2008/99/EC of the European Parliament and of the Council of 19 November 2008 on the

emissions or fraud to an environmental scheme such as the EU ETS,²⁴³ and the EU ETS Directive is not listed in Annex A or B as one of the pieces of EU environmental legislation, serious violations of which would need to be criminalised if falling under the definition of one of the offences under the directive.

8.7. Developments in procedural and jurisdictional cooperation

Under Article 82 TFEU, judicial and police cooperation in criminal matters shall include approximation of laws and regulations of Member States in the following areas: a) mutual admissibility of evidence, b) the rights of individuals in criminal procedure, c) the rights of victims, d) and any other specific aspects of criminal procedures among Member States in addition to aligning their substantive laws. Moreover, Art 82(2) of the TFEU enables the establishment of minimum rules “[t]o the extent necessary to facilitate mutual recognition of judgments and judicial decisions and police and judicial cooperation in criminal matters having a cross-border dimension...”. This paves the way for improvements in how remaining discrepancies between Member States’ legal systems are dealt with in cross-border criminal cases. The Commission is currently exploring the possibility of proposals for instruments aimed at strengthening mutual recognition and establishing minimum rules for the admissibility of evidence in Member States’ criminal courts.²⁴⁴

More specifically, in October 2010 the ‘Regulation on administrative cooperation and combating fraud in the field of VAT’ came into force.²⁴⁵ This introduces VAT information exchange obligations, and establishes the “Eurofisc” network. This network of national officials is designed to facilitate the swift exchange of VAT information between EU countries to aid in the early detection of VAT fraud and improve the administrative cooperation between EU States in cross-border VAT fraud investigations.²⁴⁶ This measure could enhance information-sharing and help overcome the administrative obstacles that exist in detecting and obtaining evidence in cases of cross-border VAT fraud.

protection of the environment through criminal law (Text with EEA relevance) For comments on the directive and the original proposal, see e.g. Pereira, *The Legal Basis for Harmonisation of Environmental Criminal Law in the European Union: Past and Future Challenges*, in *Theory and Practice of Harmonisation*, Andenas and Anderson eds. (Edward Elgar, 2012); Faure, M., (2010) *Effective, Proportional and Dissuasive Penalties in the Implementation of the Environmental Crime and Ship-source Pollution Directives: Questions and Challenge*, *European Energy and Environmental Law Review*, vol. 19 issue n. 6, Hedemann-Robinson, Martin (2008) *The emergence of European Union environmental criminal law: a quest for solid foundations, Part II. Environmental Liability*, 16 (4). pp. 111-136. Pereira, R. ‘Environmental Criminal Law in the First Pillar: A Positive Development for Environmental Protection in the European Union?’ (2007) 16 *European Environmental Law Review*.

²⁴³ The environmental crime directive requires the criminalisation of the discharge, emission or introduction of a quantity of materials or ionising radiation into air, soil or water, which causes or is likely to cause death or serious injury to any person or substantial damage to the quality of air, the quality of soil or the quality of water, or to animals or plants.

²⁴⁴ European Commission, “The recognition of decisions between EU countries”, [2011], European Commission Criminal Justice website, [online] available at: http://ec.europa.eu/justice/criminal/recognition-decision/index_en.htm

²⁴⁵ Council Regulation (EU) no 904/2010 of 7 October 2010 on administrative cooperation and combating fraud in the field of value added tax (recast)

²⁴⁶ Reg 904/2010, Art 33-37

Although the principle of mutual recognition is the cornerstone of police and judicial criminal law cooperation in the EU, it often requires a degree of harmonisation of criminal offences and penalties so that mutual recognition measures are successful. Even though the European Arrest Warrant (EAW)²⁴⁷ abolishes ‘double criminality’ in the issuing and executing states for a list of 32 offences (which includes fraud, computer-related crime and organised crime),²⁴⁸ the issuing of an EAW is only possible (unless the sentence has already been passed)²⁴⁹ for acts punishable in the issuing state by a custodial sentence or a detention order for a maximum of at least three years imprisonment. Therefore, the successful operation of the European Arrest Warrant, as well as other more recent similar developments in the area of European judicial and police cooperation in criminal matters (e.g. the European Evidence Warrant²⁵⁰) could arguably be weakened by the present disparate sanctions presently adopted by Member States against EU ETS-related crime.

As regards jurisdiction allocation in criminal matters in the European Union, a Framework Decision on Prevention and Settlement of Conflicts of Jurisdiction in the EU was adopted in 2009²⁵¹ aimed at preventing multiple prosecutions for the same offence. The Framework Decision is closely linked to the principle of double jeopardy, i.e. which prohibits a person being prosecuted twice for the same facts. Yet the Framework Decision does not require the centralization of prosecution in one Member States,²⁵² only that the competent authorities in the Member States enter into ‘direct consultations’ when parallel proceedings exist. It could be argued that the coordination for jurisdiction allocation will result in the worsening of the position of the defendant, by aiming at allocating jurisdiction to investigate and prosecute to the Member States where it is easiest to obtain conviction.²⁵³

²⁴⁷ Council Framework Decision of 13 June 2002 on the European Arrest Warrant and the Surrender of Procedures between Member States, OJ 2002 L 190. The Framework Decision was amended by Council Framework Decision 2009/299/JHA of 26 February 2009 amending Framework Decisions 2002/584/JHA, 2005/214/JHA, 2006/783/JHA, 2008/909/JHA and 2008/947/JHA, thereby enhancing the procedural rights of persons and fostering the application of the principle of mutual recognition to decisions rendered in the absence of the person concerned at the trial

²⁴⁸ See Alegre S. and Leaf, M. ‘Mutual Recognition in European Judicial Cooperation: A Step too Far too Soon? Case Study – The European Arrest Warrant’, *European Law Journal*, (2004) 10.

²⁴⁹ In this case the threshold is of at least four months.

²⁵⁰ See generally Vervaele, J.A.E. *European Evidence Warrant: Transnational Judicial Inquiries in the EU*, Intersentia 2005.

²⁵¹ COUNCIL FRAMEWORK DECISION 2009/948/JHA of 30 November 2009 on prevention and settlement of conflicts of exercise of jurisdiction in criminal proceedings L 328/42 15.12.2009

²⁵² For comments on the original proposal see Peers, Steve. *Statewatch Analysis* ‘The proposed Framework Decision on conflict of jurisdiction in criminal proceedings: Manipulating the right to a fair trial?’ 12 March 2009, available at <http://www.statewatch.org/analyses/no-76-conflict-of-jurisdiction.pdf> [accessed on 13 March 2009] Mechanisms and criteria for allocation of jurisdiction also exist in sectoral third pillar instruments – e.g. the Framework on combating terrorism stipulates, when an offence falls within the jurisdiction of more than one Member State and when any of the States concerned can prosecute validly on the basis of the same facts, the Member States concerned must cooperate in order to decide where to prosecute, with the aim if possible to centralize the prosecution in one member state.

²⁵³ Mitsilegas (2009), above n. 254.

8.8. Action against fraud affecting the financial interests of the Union

In light of the current economic climate and the Union's corresponding budgetary austerity, the protection of EU taxpayers' money from fraudulent misuse is a high priority for the European Union.²⁵⁴ This is reflected by many of the provisions introduced by the Lisbon Treaty. Article 310(6) of the TFEU states that "[t]he Union and the Member States, in accordance with Article 325, shall counter fraud and any other illegal activities affecting the financial interests of the Union". Article 325(4) then goes on to lay the basis for the enactment of legislation to protect the financial interest of the Union, with equal effect across all Member States. Whereas prior to the ratification of the Lisbon Treaty, the EC Treaty appeared to rule out the possibility of harmonization of measures affecting the financial interests of the EU or customs cooperation, a clear legal basis for harmonization is now present for this under the TFEU. Indeed, following the ratification of the Lisbon Treaty, Art. 325 TFEU provides that the EU is competent to seek the harmonization of criminal law against fraud to the EU budget.²⁵⁵

Since a proportion of the EU's own resources are financed by taking a percentage cut of the VAT collected in Member States,²⁵⁶ by intercepting the flow of VAT to national treasuries, VAT fraudsters not only take away a source of tax revenue from Member States, but also interfere with a source of the EU's budget income.²⁵⁷ VAT fraud can therefore be classified as fraud against the financial interests of the Union. Extending EU-level anti-VAT-fraud legislation under the remit of Article 325 could therefore be used to harmonise legal measures against VAT fraud across the EU.

Article 86(1) of the TFEU allows for the creation of a European Public Prosecutor's Office (EPPO) with the role of combating "crimes affecting the financial interests of the Union...". If established the EPPO would be responsible for investigating, prosecuting and bringing to judgment, "perpetrators of, and accomplices in, offences against the Union's financial interests" and shall 'exercise the functions of prosecutor in the competent courts of the Member States in relation to such offences'.²⁵⁸ Moreover, the European prosecutor is likely to be itinerant, hence action against fraudsters would need to be brought before the national courts of the Member States.

The problems discussed involving judicial cooperation and the reluctance of Member States to take investigatory and punitive action against VAT fraud within their jurisdictions could be alleviated with the creation of the EPPO, which would be able to initiate criminal proceedings itself, rather than leaving this to the decision of the authority of Member States. Although practically this may facilitate bringing cross-national criminals to justice, potential conflicts arise concerning the creep of the EU's power disrupting national

²⁵⁴ European Commission, "Communication on the protection of the financial interests of the European Union by criminal law and by administrative investigations", [2011], COM(2011)293 final, Brussels, Belgium.

²⁵⁵ See Mitsilegas (2008) at 168.

²⁵⁶ In 2010 this contribution totalled 14 billion Euros (Price Waterhouse Coopers [2011]).

²⁵⁷ Price Waterhouse Coopers [2011], *supra* note 237

²⁵⁸ Art 86(2) TFEU.

sovereignty and applying penalties within individual Member States' criminal justice system.²⁵⁹

The Commission is currently calling for the establishment of the EPPO and in a recent communication claiming that it would "establish a common level playing field by applying common rules on fraud (...) in a consistent and homogenous way".²⁶⁰ Although this would help simplify cross-border criminal proceedings, the precise remit of this body, the limits of its involvement, its operational structure within Eurojust and relationship with other EU bodies are all yet to be articulated. It is therefore not clear exactly how an EPP would function and thus what contribution it could make to the fight against fraud at an EU level.

Article 86(4) of the TFEU enables the future extension of the remit of the EPPO to include serious crimes with a cross-border dimension. This would allow the inclusion of crimes that, although not directly affecting the financial interests of the Union, are deemed "serious" and affect more than one Member State. This could potentially include investigations and prosecutions involving large allowance thefts on the EU ETS if they were to reoccur. Such an extension would depend upon unanimous action by the Council, as well as consent from both the European Parliament and the Council; which is by no means an easy or rapid process.

8.9. Conclusions on EU Criminal Law Developments

Although some successful convictions have been made against fraud on the EU ETS, the transboundary nature of both VAT fraud and allowance thefts have exposed existing obstacles to cross-border investigations and prosecutions within the EU. Although some level of administrative and judicial cooperation is facilitated by existing EU bodies and instruments, these tools remain fragmentary. Major problems in criminal law cooperation still result from differences between Member States' definitions of criminal offenses and sanctions. This highlights the divergence between the increasingly co-ordinated regulation of the operation of the EU ETS and the very different national rules determining the sanctions applicable in the event of fraud.²⁶¹

To overcome such obstacles, the Lisbon Treaty provides the opportunity for the adoption of higher common standards relating to serious cross-border crime,²⁶² as well as strengthens the applicability of existing relevant legislation. The creation of a European Public Prosecutor's Office also has the potential to overcome problems relating to the initiation of investigations into crime affecting the financial interests of the Union, such as VAT-fraud and possibly also allowances theft. However, Member States' historical reluctance to transfer further powers to the Community, and eagerness to preserve peculiarities of national legal systems may still hamper agreements on common definitions and minimum sanctions.

²⁵⁹ Herlin-Karnell, E., "What principles drive (or should drive) European criminal law?", [2010], German Law Journal, 11(10): p.1115-1130.

²⁶⁰ European Commission [2011]. Above n. 270

²⁶¹ Wemaeres [2011], above n. 53.

²⁶² *Ibid.*

Moreover, although the harmonisation of substantive rules relating to EU ETS-related crime and the strengthening of mutual recognition instruments could lead to an improvement of police and judicial criminal law cooperation, the successful prosecution and investigation of cross-border offences requires additionally that such bodies as Europol, Eurojust, OLAF and a future EPP are able to coordinate their activities among themselves and with the Member States.

IX. Final conclusions and recommendations

Although neither VAT fraud nor emissions allowance thefts have directly affected the environmental integrity of the EU ETS, both these forms of fraud have had negative financial, market function and public confidence implications which ultimately impact on the operation and effectiveness of the EU ETS. Due to poor implementation of the reverse-charge VAT treatment of emissions allowances across Member States, parts of the market are still vulnerable to VAT fraud. Although a central registry under Phase III of the EU ETS would avoid individual national security weaknesses, the Union registry will not necessarily itself be immune to cyber attacks. Being larger than individual national registries, it may even be a more attractive target for criminals, therefore requiring that high security standards are implemented in the Union Registry upon its creation.

The current regulation of the registries systems also leaves the EU ETS a vulnerable target for to both emissions allowance thefts and VAT fraud. The main weaknesses include: insufficient account security; the ability of almost anyone to open up an account; near immediate transfer of allowances on the spot market; and the lack of a harmonised treatment of stolen allowances that exacerbates the *effects* that fraud has on the market. The draft registries Regulation recently proposed by the Commission, if adopted, would certainly strengthen the system against fraud. Yet the effectiveness of the irrevocability of allowance transfers, as proposed under the draft regulation, is uncertain given the potential incompatibility with the national laws in some Member States.

Moreover, the current gap in market oversight of the EU emissions allowance spot market poses important regulatory challenges. To fill this gap the Commission is currently considering the classification of emissions allowances as financial instruments. Many stakeholders however hold deep concerns regarding the adoption of this definition. Not only does the associated regulation fail to target the main forms of fraud to which the spot market is vulnerable, but the associated increased regulatory burden imposed on market participants risks increasing significantly trading costs. This may in turn decrease participants' willingness to trade and thus compromise the market's ability to facilitate lowest-cost emissions abatement.

The transboundary nature of both VAT fraud and emissions allowance thefts coupled with discrepancies between national definitions of criminal offenses and applicable penalties lead to difficulties in the coordination of criminal investigations and prosecutions. Yet recent reforms to the way that criminal law is legislated in the EU following the coming into force of the Lisbon Treaty could help overcome some of the current obstacles to the investigation and prosecution of cross-border fraud on the EU ETS. Under Lisbon, further powers are given to the Commission and Member States to seek the harmonisation of definitions of criminal offenses and sanctions relating to serious (cross-border) crime, thus paving the way for improved cooperation between Member States in the fight against crime on the EU ETS. The potential to establish a European Public Prosecutor's office (EPPO), capable of investigating, prosecuting and bringing to judgment perpetrators of fraud against the EU's financial interests, could overcome problems relating to Member States' reluctance to initiate investigations and judicial proceedings against those responsible for VAT-fraud in particular.

Beyond the effectiveness of the present regulatory framework, it is clear that the proliferation of fraud on the EU ETS has had a dramatic negative impact on the public perception of the EU carbon market and the perceived effectiveness of emissions trading as a whole. Financial institutions are likely to find that trade in the EU ETS is too risky and stop trading in this market. This effect has been exacerbated by other uncertainties present both internationally and within the EU, such as concerns about deadlock in international climate negotiations in Durban in late 2011; concerns over the introduction of auctioning of emissions allowance in Phase III of the scheme; as well as the inclusion of aviation into the EU emissions trading scheme from January 2012. Despite this blow to confidence, most stakeholders interviewed still believed that “the only way was emissions trading”, and despite the problems experienced so far, a EU-wide industrial carbon tax is unrealistic.²⁶³ Many stressed that the vulnerabilities of the market to fraud and its effects are not unsolvable and that solutions could be implemented to reduce the risks of the market to fraud.

As the rest of the world watches eagerly to assess whether the EU ETS template is a successful one with the potential to be implemented in other parts of the world, Mr Schjolset believes that loss of confidence as a result of market fraud ‘could be damaging to emissions trading on a more global scale’.²⁶⁴ Not only do these criminal activities endanger the credibility of the EU ETS, but also the credibility of emissions trading as a whole. This has not helped policy makers in countries such as South Korea who are already experiencing industrial resistance to the introduction of emissions trading policies.²⁶⁵ As stated by a senior representative of a leading financial EU ETS participant, ‘if you are on a knife edge politically [between a carbon tax and emissions trading] – you will be pushed over the edge towards taxation by fraud and criminality...’²⁶⁶ However, many others dispute this and believe that cap and trade is here to stay. According to Stig Schjolset of Point Carbon, ‘despite the initial teething problems, and recent security issues, there is no feasible alternative to EU emissions trading scheme, as the introduction of a carbon tax is still unrealistic.’²⁶⁷

For the successful operation of the proposed registries regulation, some of the significant gaps in the regulation of the EU ETS, such as the lack of a harmonised legal definition of emissions allowances, need to be addressed. This was an important shortcoming in the registries regulation which seems to be greatly underestimated by the Commission. Yet there are evident difficulties in reaching an appropriate common definition applicable across the EU, not least because of the lack of clarity as to the very nature of an emissions allowance. As the Prada report states, “...allowances constitute a hybrid instrument, halfway between intangible assets and ordinary commodities...”.²⁶⁸ As a result, finding an answer to

²⁶³ Although a EU-wide carbon tax has recently been proposed for the use of fuel in the transport and heating sectors, this does not imposed on the industrial emissions abatement facilitated by the EU ETS.

<http://www.euractiv.com/en/climate-environment/britain-set-veto-eu-carbon-tax-plans-news-504022>

²⁶⁴ Stig Schjolset, Point Carbon (Norway), phone interview (16.06.2011)

²⁶⁵ Reuters, “South Korea to start emissions trading in 2013-2015”, [2011], Reuters news website, [online] available at: <http://www.reuters.com/article/2011/02/07/us-carbon-korea-idUSTRE71611I20110207>

²⁶⁶ Anonymous, senior representative, leading carbon trading bank, interview (07.07.2011)

²⁶⁷ Stig Schjolset, Point Carbon (Norway), phone interview (16.06.2011)

²⁶⁸ Prada [2010], above n. 65, p54

how these “dual purpose” instruments should be treated legally is not a simple one. Further exploration of the appropriateness of different potential definitions, such as “administrative rights”, or “property” is therefore urgently needed.²⁶⁹

Although the open-market regime that has governed the EU ETS so far has played an important role in attracting liquidity and fostering the market’s maturation, it has also opened the market to risks of fraud and misuse. In order to make decisions regarding further future restrictions on those able to participate in the EU ETS an appropriate balance between the minimisation of systemic risk and the maximisation of free market competition needs to be found. Hence in order to justify increased regulation to counter EU carbon markets fraud, the Commission may need to demonstrate that the benefits of the liquidity brought by a higher number of participant sectors in the EU ETS outweighs the risks that the increased number of participants pose.²⁷⁰

9.1. Suggestions for further reforms to EU ETS

Based on the findings of this research paper, the authors argue that the following reforms could decrease the vulnerability of the EU ETS to fraud:

- **Immediate implementation of EU-wide obligatory VAT reverse charge mechanism for emissions allowances.**
This would be a relatively simple measure to implement and would effectively block MTIC fraud on the EU ETS.
- **Clarification of the title transfer rules in the draft registries Regulation.**
Indeed, rules regarding the acquisition of good title and irrevocability of allowances is integral to the effectiveness of this measure as a way to minimise the effects of fraud.
- **An EU consultation to explore the most appropriate legal definition of emissions allowances.**
The subsequent adoption of a harmonised legal definition would overcome many regulatory uncertainties regarding the applicable legislation to allowances transfers.
- **Integration of a comprehensive compensation regime within the registries Regulation.**
By providing compensation for inadvertent purchasers of stolen emissions allowances, the financial risks for those participating in a market in which stolen allowances are circulating will be minimised, and thus the major market-disabling

²⁶⁹ *ibid*

²⁷⁰ The difficulties and delays experienced in the implementation of anti-fraud measures on the EU ETS have also exposed deeper running EU governance questions. To what level is it practicable or appropriate to harmonise Member States’ national laws and procedures? And who is responsible for the implementation of these policies? Such issues will pose even more significant obstacles to the successful linking of the EU ETS to the Californian or Australian emissions trading scheme as is currently being proposed (The Guardian, 2011; Point Carbon, 2011) and to the development of a global emissions trading scheme that may be developed for a post-Kyoto commitment period (Ellerman, 2009).

impacts of allowance thefts avoided. At least in the short term, a compensation regime could be a more appropriate and proportionate response to the problem of allowance thefts than the adoption of EU-wide harmonisation of title transfer rules or the extension of EU financial regulations to the EU ETS.

- **Design of a bespoke market oversight regime for the EU emissions trading market.** This has the potential to avoid the unnecessary regulatory burdens associated with the classification of emissions allowances as financial instruments whilst specifically addressing the risks of fraud on the EU ETS. To ensure the specific measures adopted within this regime are both proportional and relevant, its design would have to incorporate an in-depth assessment of the effects of regulatory cost burdens on the trading behaviour of different market participants, and the risks that those market participants pose. An associated cost-benefit analysis could subsequently help find an appropriate balance between fraud risk reduction and the maintenance of market liquidity.
- **Strengthened efforts to establish the European Public Prosecutor's Office, and clarification of what the precise remit of this body would be.**

If there is political will for the establishment of a EU Public Prosecutor, the role of the prosecutor should include the power to bring prosecutions in the Member States against VAT-fraud, as a form of fraud to the EU budget. If the regulatory measures against allowance thefts discussed in the paper do not prove to be effective, it might be necessary for the powers of the prosecutor to be extended in future to cover theft in emissions allowances as well as other forms of cross-border fraud-related crime.