



# **Governance of transnational environmental crime: Case study research on the illegal trade in e-waste and tropical timber**

Thesis submitted to obtain the academic degree of  
Doctor (PhD) in Criminological Science  
at Ghent University, Faculty of Law  
by **Lieselot Bisschop**



September 2012

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PhD thesis in Criminology • Ghent University • Faculty of Law • Sept. 2012

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Cover photo's: Agbogbloshie dump site, Accra (L. Bisschop)  
Cameroon logging (Greenpeace.org)



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## ABSTRACT

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This PhD research responds to the call for more research on transnational environmental crime. It provides insights into the empirical reality of governing transnational environmental crime flows. The studied cases are the illegal trade in electronic waste (e-waste) and the illegal trade in tropical timber. This PhD study analyses the emergence and social organisation of these two cases. This entails looking at the scope and impact of the flows and at which legal, illegal and informal actors are involved, how they interact and what drives them. Building on the gained insights, this study analyses the governance reality for the two cases. Relating back to the responsive regulatory pyramid and networked governance, this study enquires which actors are involved in the governance of e-waste and tropical timber flows and provides insights into these governance arrangements for actors individually and in interaction.

The focus of this study is on the flows that pass through the research setting of the Port of Antwerp and especially those between Europe and West and Central Africa. This implies that attention is paid to source, transit as well as destination locations of the goods.

This research is based on a qualitative multi-method research design combining a document analysis of various primary and secondary sources, 81 interviews with key informants, and field visits. The document analysis is based on governmental sources, research reports, corporate documents and documents by civil society actors. The interviewees work for national and international government agencies, corporations involved in production, transport, refurbishment and recycling of electronics, and in trade and certification of tropical timber, environmental NGOs and labour unions. The field visits in Antwerp and Ghana were limited to crucial sites and actors in the illegal flows in order to allow for the necessary contextualized information.

The core of this PhD thesis consists of five articles. The first article is a theoretical exploration of transnational environmental crime.<sup>1</sup> The second<sup>2</sup> and third<sup>3</sup> article focus on the social organisation and the governance of the illegal trade in e-waste. The fourth<sup>4</sup> and fifth<sup>5</sup> article focus on the social organisation and governance of the illegal trade in tropical timber.

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<sup>1</sup> Bisschop, L. (2011). Transnational environmental crime: exploring (un)charted territory. In M. Cools, B. De Ruyver, M. Easton, L. Pauwels, P. Ponsaers, T. Vander Beken, F. Vander Laenen, G. Vande Walle, A. Verhage, G. Vermeulen & G. Vynckier (Eds.), *EU Criminal Justice, Financial & Economic Crime: New Perspectives, Governance of Security Research Papers* (Vol. 5, pp. 155-183). Antwerpen: Maklu.

<sup>2</sup> Bisschop, L. (2012). Is it all going to waste? Illegal transports of e-waste in a European trade hub. *Crime, Law and Social Change, Online First: 30 July 2012*, 1-29 (DOI 10.1007/s10611-012-9383-0).

<sup>3</sup> Bisschop, L. (in review). Go with the e-waste flows. A nodal and networked governance analysis of the illegal transport of e-waste. In P. Van Duyne & J. Spencer (Eds.), *A Quarter Century of Organising Crime. Past threats and policies & New horizons in law enforcement* (Vol. 13). Nijmegen: Wolf Legal Publishers.

<sup>4</sup> Bisschop, L. (2012). Out of the woods. Illegal trade in tropical timber and a European trade hub. *Global Crime*. 13(3), 191-212 (ISSN 1744-0572).

<sup>5</sup> Bisschop, L. (accepted). Governance throughout the flows. Case study research on the illegal tropical timber trade. In P. Ponsaers, J. Shapland & P. Saitta (Eds.), *Formal, informal and criminal economy: An outlook on Northern and Southern Europe*. The Hague: Eleven Publishing.

## ACKNOWLEDGMENTS

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Although a PhD research is an individual endeavour, I was surrounded by people who advised, inspired and believed in me. I would like to take this opportunity to thank them.

Paul, about five years ago, you gave me – still (or already) green behind my ears - a job as a researcher. You taught me the ropes of doing research, first about the police organisation and later about the broader governance of security framework. You advised me to write project proposals – ‘continue shaking the trees’ – and thus helped me obtain the necessary funding to start my PhD. I want you to know that you were an inspiration as my supervisor (even if every now and then you baffled me, and maybe even the members of my doctoral guidance committee, with your philosophical or sociological comments). I might have sped up your retirement plans, by sticking to comparing two cases, writing (too) lengthy articles or re-writing more than what was asked for. Thank you for letting me follow my own “flow” while at the same time making sure I did drown. On a more personal note, I greatly value the honest and open conversations we have had throughout the years. Those are a testimony to your character and our good relationship. I wish you a well earned retirement and hope our paths will cross again, wherever in the world that may be.

Gudrun, I hope you realize that you are the one who triggered my interest in focusing on corporate and environmental crime (and not only because we share an “alternative” life-style). In the class on financial economic crime you inspired me with (guest) lectures about topics on a thin a line between legal and illegal. This led me to focus my master thesis on corporate environmental issues. A few years later, you helped me start my PhD research through a project proposal we wrote together. You continued to be a source of advice as my supervisor. You invited me to think about my research from a victimology point of view and supported me in taking a social harm next to a crime perspective. I hope we can continue to explore this avenue for future research, embarking upon joint research or publication endeavours. Finally, on a personal note, I experienced you to be always honest and integer in your work and it will not come as a surprise to you that this is something that I highly value.

Tom, I once had the honour and challenge to review the MAVUS-study. This undoubtedly influenced me in my choice to focus on illegal waste transports. It was, therefore, no surprise that you ended up as a member of my doctoral guidance committee. Your questions and comments were thought-provoking, taking me three years to answer to the most pertinent ones. Throughout the years, I realized that, though challenging, your honest feedback had my best interest at heart and ultimately helped me keep the bigger picture in mind. This allowed for the seamless transfer of supervisors now that Paul is retired. I am honoured that you stepped in and ‘adopted’ me as your PhD student.

Wim, during my studies, I read your PhD thesis and it taught me a lot about empirical research on environmental crime, corporate crime and the difficult balance between profit and ethics. Having you as a member of my doctoral guidance committee felt like a perfectly logical next step. I am honoured that you were willing to devote your scarce time to provide me insightful

feedback, theoretical advice and practical suggestions. In your kind and gentle way, you took into account that which was scientifically relevant, practically feasible and personally enriching for me as a researcher.

This brings me to a second diverse set of actors who guided me in my research. I had the honour of having two ‘networks’ of colleagues – and even friends - who surrounded me.

First of all, my thanks go to my colleagues at the research group *Governing and Policing Security* (GaPS). The funding I received from University College Ghent is invaluable for my PhD research, but I take home so much more than that. Our ‘team days’ offered the perfect environment for critical review of the content, progress and gaps of my PhD study. Although we aren’t many – or maybe exactly because of it – the input you provided was always of great value. Marleen, Gudrun, Arne, Fien and Jeffrey, I am happy to have gotten to know you as my colleagues and especially appreciate there was always room for the human side of doing research.

My second research habitat was the research group *Sociale VeiligheidsAnalyse* (SVA) at Ghent University. It was always an inspiring work environment, where each of you contributed to teaching me “the tricks of the research trade”. I want to thank three people in particular. Gerwinde, it was always very welcome to have an honest opinion and listening ear close by, especially since you could relate to what I was going through. Jannie, you were a great help in taking over the editorial secretariat in times when my research no longer allowed me to. I appreciate your ‘West-Vlaamse’ common sense and work ethic and enjoy working with you. Last but not least, I want to thank Antoinette. You are a rock to build on and magically combine this with having a very big heart. Your support helped shape not only my PhD study but also our friendship.

In doing research in a globalized world on a transnational topic, there are many colleagues around through e-mail, Skype or on conferences who influenced my research. My thanks go out to them as well and I look forward to our paths crossing again.

My research would have been impossible without the willingness of my respondents to spend time answering my questions, referring me to other experts and guiding me through their world, be it in Belgium, Ghana or elsewhere. For reasons of anonymity I cannot name them, but I am indebted to them. Meda ase (‘Thank you’ in Asante).

Although the support and advice of supervisors and colleagues proved invaluable over the years, a good support network outside of academia is important to survive and put things into perspective. The love of my family and friends provided inspiration and was my driving force.

My parents – I am blessed with four of them – each influenced and inspired me. Mams, thank you for listening to my stories and worries and for sharing yours. I undoubtedly got my passion for reading and learning from you. You supported me throughout my studies, even when that got you worried because I was in Ghana or because you feared I would ‘step on the toes’ of the ‘waste mafia’. Paps, you taught me to never be afraid of addressing people and to be confident about the work I do and the choices I make. You passed on your love for cooking to me, which

proved a great distraction in stressful PhD times. Frank, thank you for igniting my sense of adventure, for showing me the value of nature and for welcoming me into your home as a sister for Merel. Dodo (Dora), thank you for sparking my curiosity, for teaching me the value of being able to study and for loving me as your daughter. I thank all four of you for your unconditional love. You also taught me the value of loving the work you do and enjoying to (every now and then) work hard to reach your goals. Most importantly, you gave me a warm home to grow up in where anything can be discussed as long as you respect each other's opinion and – perhaps most important of all - where a warm hug is always there when needed.

Dear friends, unfortunately I've been neglecting you the last couple of months (or has it been years?). I had to make choices not to be at parties, music festivals or at least had to go home early to guarantee a good night's sleep. You all know how difficult that was for me, being a 'social animal' and all. Thank you for never failing to ask me how I was doing and for trying to understand what all the PhD fuss was about. Thank you for showing me the relativity of it all by hiking side by side in the mountains or by silently looking at the stars above. Now that the greater goal is within reach, I'll gladly say yes to invitations, but most importantly, I look forward to spending hours talking about what moves you, what compels you. You, my friends, are the stars I navigate home by.

Hannes. Finally, we are there, both of us. We had a serious challenge these last years. Two PhD students together indeed sometimes resulted in stacks of books, papers, dishes or laundry. In the least, I had a partner in crime who understood what I was going through when insecurity hit or yet another deadline was approaching. You calmed me down when I jumped to conclusions. Your incessant enthusiasm for academia was sometimes a source of concern, but also, more importantly, a source of inspiration and motivation for my PhD research. Even when the contents of our PhD studies sometimes got lost in the translation across disciplines – e.g. the long-standing debate between quantitative versus qualitative - we share a passion for integrity and, both of us, in our own way, want to make this world a better place. What I value most, however, is that you know, accept and love me for who I am. You keep me strong and passionate. Even though the two of us probably look like serious and dorky academics to our friends and family, it is wonderfully comforting to know we can be goofy as well. I think now is the time to take that boat to the end of the world, because together, you and me, we can do anything.

## CHAPTER I: INTRODUCTION

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### Introduction

This first chapter outlines the problem formulation and method of this PhD research. First, the topic is contextualized and the scientific relevance for this research is explained. Second, the problem formulation, research aims and questions are discussed. Third, the research design and its operationalization are described. A final section outlines the structure and publications of this PhD study.<sup>6</sup>

#### 1. Contextualization and scientific relevance

The United Nations Environment Programme, Global Environmental Outlook, International Panel on Climate Change and various NGO reports repeatedly stressed the endangered state of the environment, pointing to biodiversity loss and air, water and soil pollution. Although it is hard to grasp the potentially wide-range consequences, pollution is known to be a cause of death and disease, whether it is through contaminated water, soil or air. The earth's unsustainable development is therefore hard to deny. Although interpretations of and responses to the state of the ecology might differ, the international community has generally acknowledged the importance of addressing these issues.<sup>7</sup> Given the cross-border nature of environmental degradation and pollution, the development of international treaties on environmental issues and the globalized economy, the environment is - now more than ever - a topic of concern on the agenda of international organisations, national governments, (multinational) corporations and non-governmental organisations (NGOs). Many of the environmental problems are a result of human activity through consumption and production of which the actual harm as well as the potential endangerment is often hard to assess. The global interconnections have potential - and often unpredictable - worldwide consequences (Keohane & Nye, 2000). In this age of globalization, environmental flows<sup>8</sup> are a very good illustration of the transnational dimension and the environmental motto that 'everything is connected to everything else'. A first contribution of this PhD study therefore resides in today's inevitable significance of environmental problems and their transnational dimension.

Given the societal importance of the environment and the occurrence of transnational environmental crime, it is remarkable that relatively little attention has been given by criminology to the study of transnational environmental issues. On both the transnational and the environmental dimension there is room for improvement. The transnational nature of crimes is in

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<sup>6</sup> This research was funded by the Research Fund of University College Ghent.

<sup>7</sup> See for example: United Nations Framework Convention on Climate Change, New York, 9 May 1992 (entered into force 21 March 1994); Rio Declaration on Environment and Development, adopted at the UNCED in Rio de Janeiro, Brazil, 3-14 June 1992.

<sup>8</sup> Flows refer to departure locations, followed routes and final destinations of goods.

need of more criminological research that grasps the complexity inherent to transnational crime phenomena (Aas, 2007; Sheptycki & Wardak, 2005). Criminological research on environmental issues is also limited and more in particular on the characteristics of specific types of environmental crime. Scholars have started filling the green criminological chart in recent years (Edwards, Edwards, & Fields, 1996; Gunningham, Norberry, & McKillop, 1995), but a need remains to avoid criminology from painting a limited picture of contemporary crime (Gibbs, Gore, McGarrell, & Rivers, 2010; Halsey, 2004; South, 1998; White, 2003, 2011). A second motivation for this PhD study is therefore the relative dearth of research on transnational environmental crime.

In response to the ecological challenges the world faces, many multilateral environmental agreements (MEAs) and national environmental regulations have been drafted. These attributed a focal role to the state and corresponded to the so-called command and control regulation (Holley, Gunningham, & Shearing, 2012). Over the years, corporate actors have also developed environmental self-regulation, which sometimes goes beyond the requirements set in legislation (Bartley, 2007; Gunningham, Kagan, & Thornton, 2003). Moreover, civil society actors such as non-governmental organisations (NGOs) can play a role in this governance<sup>9</sup> framework. This resulted in various regulatory hybrids where responses to (transnational) environmental issues can be found within government institutions such as the criminal justice system, but also involve regulatory initiatives in interaction with corporate and civil society actors. The governance actors and initiatives are also increasingly reaching across the geographical boundaries of states and shifted upwards to transnational institutions. Governments as well as business, civil society and international organisations shape governance and regulation, but it is not clear what governance frameworks this led to in practice (Braithwaite, 2008). There is a need for research that examines this governance reality and looks at the involvement of government, business and civil society actors<sup>10</sup> in regulating transnational environmental crime (Braithwaite, 2008; Huisman, van Erp, & van Wingerde, 2009; Shearing & Johnston, 2010). This constitutes the third motivation of this PhD.

A more elaborate state of the art of research on the conceptualisation, aetiology and governance of transnational environmental crime is discussed in *Chapter II: Theoretical Framework. Transnational environmental crime: exploring (un)charted territory* (p.36) and in theoretical sections of the four articles.

## **2. Problem formulation, research aims and research questions**

This PhD research responds to the call for more research about transnational environmental crime and its governance. Knowledge about the governance reality of transnational environmental flows

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<sup>9</sup> Keohane and Nye (2000, p. 10) wrote: "Governance refers to the emergence and recognition of principles, norms, rules, and procedures that both provide standards of acceptable public behavior, and that are followed sufficiently to produce behavioral regularities." Governance differs from government, because it is not limited to the engagement of governmental actors (Holley, et al., 2012; Parker & Braithwaite, 2003). It includes different social and political units (corporations, international organizations, NGOs, etc.) that govern social interactions. In this study, the term governance is used to refer to governance of security in the sense of aiming to prevent the illegal transports from occurring. It is not a reference to the general governance of economic flows or trade.

<sup>10</sup> These actors are sometimes referred to as nodes. These can refer to individuals, groups, organizations and even states. This was used with regard to communication in society (Castells, 2000) and applied to governance and security issues (Shearing & Johnston, 2010).



is a first step in knowing whether the governance framework can contribute to preventing/managing the phenomenon and the harm it causes. Therefore, the objective of this research is to provide insights into the empirical reality of governing transnational environmental crime flows. This study aims to contribute to theories about transnational environmental crime and environmental governance by further grounding these theories in empirical findings. The results could also prove useful for practitioners who govern the flows.<sup>11</sup>

Criminology traditionally looks at criminalized phenomena. Determining what is right or wrong, however, is not as straightforward for transnational environmental crime as it is for more traditional crimes. The transnational dimension refers to crimes which involve cross-border transferences. These transferences involve processes and trends that constitute a movement of perpetrators, victims or the crime itself between levels or geographies, and are inherently linked to globalization (White, 2011). This makes it difficult to track the movement of crime and to understand its occurrence, causes, let alone responses to it (Aas, 2007). The environmental dimension refers to the effect on eco-systems, humans and animals. Traditionally this refers to pollution and wildlife crime, but more broadly it includes harms affecting humans, environments and animals regardless of their legality (Beirne & South, 2007). The conceptual discussion in green criminology about crime and social harm makes clear that there is more to it than that which has been criminalized. This highlights the importance of a continued discussion on the definition of crime (Lynch, 1990; Lynch & Stretesky, 2003). The trade in endangered species and hazardous waste can be conceptualized in terms of legality and illegality because they are subject to international conventions. Nevertheless, also for these phenomena, the line between legal and illegal changes along with the perspective taken and varies over time and place (White, 2011).

The question is what the governance implications are when a phenomenon is on a thin line between legal and illegal. The transnational dimension disconnects it from the nation state frame of reference and the national legislative framework, which leads to moral ambiguity about the harmfulness and culpability. The corporate and environmental dimension often results in the criminalisation of regulatory misconduct (e.g. administration) whereas the behaviour itself does not get criminalized (Vaughan, 1999). Being on a thin line between legal and illegal – on the outskirts of crime if you will – how does that affect the governance framework? Once again this relates back to established theories about regulation and governance (Braithwaite, 2008; Gunningham, et al., 2003; Shearing & Johnston, 2010). Behaviour that has been criminalized should have the criminal justice framework or at least the administrative or civil justice framework to fall back on. Behaviour that is not criminalized relies on the ‘goodwill’ of corporate actors to take initiatives that go beyond what is strictly required (beyond compliance). Different actors can then be involved in the governance (or policing) of this phenomenon and have a potential to interact. Question is whether they interact and how this governance framework takes shape (cf. networked governance or responsive regulatory pyramid).

A first step in studying the governance of the transnational environmental crime flows is understanding the aetiology of the phenomena. Elements of several theories about the aetiology of

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<sup>11</sup> Policy recommendations (p.167).

crime can be connected to transnational environmental crime. The involvement of corporate actors connects it with theories on white collar crime, corporate crime and other crimes of the powerful (Croall, 2009b; Heine, 2006; Nelken, 2002). In turn, the connection with organised crime makes those theoretical assumptions apparent (Ruggiero, 1996; Szasz, 1986) as does the inherent transnational frame of reference (Franko, 2008).

This PhD study examines the empirical reality of two cases of transnational environmental crime: the illegal trade<sup>12</sup> in electronic waste (e-waste<sup>13</sup>) and tropical timber. The case selection is explained in 4.2. *Case selection* (p.16).

The above translates to the following central research question:

***What are the governance consequences of controlling and preventing transnational environmental crime flows?***

In order to answer this research question, two sub-questions were determined:

Sub-question 1: *What elements characterise the social organisation and emergence of illegal transports of e-waste and tropical timber?*

As mentioned earlier, transnational environmental crime can be perceived to be on a thin line between legal and illegal. In first instance, this research therefore examines whether the cases have been criminalized by the international community and what arguments lie behind this. This implies that the scope of the flows will be examined together with their impact. This PhD study examines whether a thin line between legal and illegal can be found in the social organisation of transnational environmental crime. It may prove difficult to draw a line between legal and illegal actors and their practices, but nevertheless this study aims to gain a more accurate view of the network of actors and their interrelations (Passas, 2002). In this study, a wide range of possible actors are considered, beyond white-collar crime, organized crime or state crime conceptualisations. In the analysis, attention is paid to the push, pull and facilitating factors that shape these transnational environmental crime flows. The operationalisation of the first research sub-question is clarified later on in this introductory chapter: *Phase 3: Social organisation and emergence of illegal transports of e-waste and tropical timber* (p.22).

Sub-question 2: *What elements characterise the governance of illegal transports of e-waste and tropical timber?*

Building on these questions about the social organisation and emergence of transnational environmental crime, the second research sub-question addresses the governance framework. This examines the governance reality of the two cases of transnational environmental crime. It aims to map the governance actors in the flows. It pays attention to their interactions, potentially different finalities and to gaps and limitations in their governance. This empirical reality is compared with theoretical models that exist on governance and regulation of corporate and environmental crime.

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<sup>12</sup> The concepts *illegal trade*, *transports* and *flows* will be used interchangeably in this thesis.

<sup>13</sup> E-waste is waste from electronic and electric equipment, such as television sets, refrigerators, computers, mp3 players, batteries, etc.

The operationalisation of the second research sub-question is clarified later on in this introductory chapter: *Phase 4: Governance of illegal transports of e-waste and tropical timber* (p.24).

### **3. Research design and operationalisation**

Having allowed passion, fascination, or indignation to influence the choice of the topic, the researcher then faces a very different kind of task: devising a research strategy.  
(Geddes, 2003, p. 38).

The above-mentioned research objectives and questions are studied by means of a theoretical analysis in the literature review and a comparative case study research into the social organisation, emergence and governance of illegal transports of e-waste and tropical timber. This section provides more information on the research design and strategy of this PhD study. The qualitative case study methodology, case selection, research setting, research phases, data analysis and scope and limitations of the research are explained.

#### **4.1. Qualitative case study**

This PhD study has a qualitative research design, namely the case-study method. This study looks at phenomena which have received limited attention in previous research. For the Belgian research setting in particular no criminological studies have – to my knowledge - focused on illegal transports of e-waste and tropical timber. This study examines this empirical field and explores and interprets the activities and perceptions of different actors. It aims to understand and analyse the dynamics rather than simply identifying them. It is this study's explicit aim to understand the cases within their real life context and explore, describe and interpret the complex makeup of factors which set down the social organisation and governance of environmental flows. Both phenomena are inherently connected with their context. In these circumstances, it is hard to control the research setting (e.g. in view of an experimental design or action-research). Due to their flexibility, qualitative methods allow for a comprehensive analysis of phenomena. Once more research on transnational environmental crime is developed it might be useful to further the knowledge base with quantitative studies. The quantitative representative testing of hypotheses is not the intent of this PhD thesis.

The case-study methodology is particularly suited for gaining context-dependent knowledge. Much of the research in social sciences generated knowledge based on case study designs (George & Bennet, 2005). Many things come to mind when thinking about what a case study is and there is quite some inconsistency in the interpretation. A case study is a research method or strategy that focuses on one or more particular phenomena, observed at a certain period or moment in time (Gerring, 2007, p. 19). Typical for case studies is that they investigate a phenomenon within its real life context (Yin, 2003). This interaction of the phenomenon with its context is essential. The unit of analysis can vary from countries over organisations to individuals, depending on the discipline and aim of the research. The number of cases is usually limited to ensure the in-depth analysis. Case studies can be analytical, comparative and policy relevant. The purpose of a case study is to go beyond the studied case(s) and shed light on a broader population. They can therefore have theoretical implications as well. The case study of this PhD thesis is descriptive, interpretative as

well as evaluative. It is descriptive because it provides a detailed account of a phenomenon about which there is little research available. It is interpretative as well because it intends to empirically illustrate prior theories about organisational crime and environmental governance. This PhD study is also evaluative because it intends to explain and evaluate the governance framework for transnational environmental crime for the chosen research setting and cases.

A case study benefits from the prior development of propositions to guide data collection and analysis (Yin, 2009). This study builds on existing theories and research on related topics such as transnational environmental crime, organisational crime, crime control and governance. A theoretical triangulation was thus applied (Maesschalck, 2009; Yin, 2003).<sup>14</sup> To a certain extent, this study used this established knowledge from the outset. It for instance provided a list of topics for the data gathering and analysis. Theory is the guide for the empirical exploration but findings were interpreted as close to the empirical reality as possible. The research went back and forth between theory and empirical data to reach the most adequate description and explanation for the phenomenon under study.

Case studies can be both quantitative and qualitative and the biggest strength is in a multi-method approach. The method of this PhD study is a qualitative comparative case study. Despite the likely richness of the gathered qualitative data, there is a possible bias when using one technique.<sup>15</sup> Within the case-study design different methods of qualitative data-gathering and analysis were therefore triangulated (Loosveldt, Swyngedouw, & Cambre, 2007). This PhD study combines document analysis, semi-structured interviews and field visits (4.5. *Research method, data gathering and analysis*, p. 28). Data was collected on as many observable implications of the studied phenomenon as possible to improve the quality of the data (King, Keohane, & Verba, 1994). This PhD research consists of a comparative case study, which implies the two cases were studied individually (within the case) and then later on compared (between the cases).<sup>16</sup>

## 4.2. Case selection

Due to the disparity and specificity of transnational environmental crime, this research was limited to two particular phenomena: the *illegal trade in waste* and the *illegal trade in natural resources*. A description about these cases can be found in *Chapters III* and *IV* of this PhD thesis. This was further narrowed down to two particular cases: *illegal trade in e-waste* and *illegal trade in tropical timber*. This limitation of the research scope was necessary to allow a detailed analysis of the characteristics and dimensions of these two phenomena and their governance. This case selection strikes a balance between control and variation required for the research topic (George & Bennet, 2005). The reasons for this case selection are explained below.

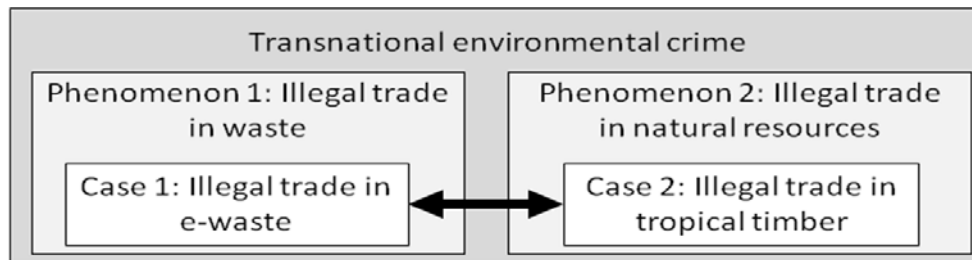
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<sup>14</sup> See *Chapter II: Theoretical Framework. Transnational environmental crime: exploring (un)charted territory*. (p.36) for a more elaborate explanation.

<sup>15</sup> See also 3.6. *Research scope and limitations*, p.33.

<sup>16</sup> The selection of these cases is explained in the next section.

**Figure 1: Case study design**



Both of these cases have been acknowledged as major forms of environmental crime by different international organisations.<sup>17</sup> Both illegal transports of waste and natural resources have in fact been subject to international laws or multilateral agreements. Waste has generally received priority in policy making and has been criminalized.<sup>18</sup> Natural resource crime is less of a priority but was nevertheless subject to some, albeit less all encompassing, environmental laws.<sup>19,20</sup> On the dynamic continuum from legal to illegal these cases are thus differently positioned. Both have been the topic of international and national policy making, but they differ in the extent to which they have been criminalized. Focusing on these phenomena allowed using comprehensive definitions – staying near the law - without getting lost in normative discussions (Passas, 1999). As explained earlier, they are at the outskirts of the focus of criminology.

The transnational dimension was explicitly taken into account in choosing the cases. Both phenomena are in fact generally speaking of an opposite transnational nature. For illegal transports of waste, Belgium is mainly an export country or a transit country for waste originating in other European states. These transports mostly go to West Africa or South East Asia. For illegal transports of natural resources the transnational dimension is differently oriented, given that Belgium is mainly an import country or a transit country towards other European countries. In view of the comparative design, the cases of illegal transports of e-waste and tropical timber therefore present us with opposite transnational dimensions.

<sup>17</sup> Interpol, European Union, United Nations Environment Programme (UNEP).

<sup>18</sup> For instance: Basel Convention on the control of transboundary movements of hazardous wastes and their disposal (adopted on 22 March 1989, entered into force on 5 May 1992); Montreal Protocol on ozone-depleting substances Montreal, 16 September 1987 (entered into force 1 January 1989); OECD Decision on control of cross-border movements of waste destined for recovery operations (Decision of the Council C(2001)107/Final (as Amended By C(2004)20). European Waste Shipment Regulation (Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste (OJ L 190, 12.7.2007, 1-98)); Bamako Convention on the ban of the import into Africa and the control of transboundary movement and management of hazardous wastes within Africa (Signed 30 January 1991, entered into force on 22 April 1998); etc.

<sup>19</sup> For instance: Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES – Convention of Washington 1975); European Union the Wildlife Trade Regulations (338/97/EC & 865/2006/EC), Forest Law Enforcement, Governance and Trade Action Plan (FLEGT).

<sup>20</sup> More information about the legislative framework can be found in chapters III (e-waste) and IV (tropical timber). For a more complete list of multilateral environmental agreements, please see the International Environmental Agreements (IEA) Database Project <http://iea.uoregon.edu/page.php?file=home.htm&query=static> [last consulted 6 July 2012].

**Figure 2: Transnational dimension**



The selection of the two cases was further based on the exploratory interviews with key informants (N=7) at the beginning of this PhD research. Two NGO representatives, a member of European parliament, a police officer responsible for environmental issues, a customs officer, an investigative journalist and a representative from a waste sector federation were contacted. Moreover, media communication on transnational environmental crime was analysed which allowed to identify the concerns raised in both Belgian and international newspapers. The archives were searched for the period 2000-2010 for the Belgian newspapers by means of *Mediargus*<sup>21</sup>. Foreign newspapers were searched with *LexisNexis*<sup>22</sup>. Both of these sources revealed the particular relevance of illegal transports of e-waste within the chosen research setting. For natural resources, both the exploratory interviews and the media search pointed towards the importance of smuggling of endangered species (e.g. for Chinese medicines and ivory) and tropical timber. Given that it was theoretically interesting to look at phenomena with a link to economic sectors, the choice was made to focus on the latter. The selection of the cases was, therefore, mostly grounded in content-wise considerations. The selected cases are two extreme cases on the continuum from legal to illegal, which show variation in regulation and in the extent to which the line between right and wrong is clear. Practical elements played a role as well, for example the accessibility of the cases (Leys, 2009; Yin, 2003, 2009).

### **4.3. Research setting**

This PhD research focuses on transnational environmental crime and thus these processes and trends that constitute a movement between levels or geographies. This topic requires paying attention to the intertwining of both local and global elements (Aas, 2007). The cases that are studied in this research are transnational environmental flows. The goods cross national boundaries in their route from locations of departure over transit to final destinations. The cases were analysed by following the flow of goods throughout the various steps (Spaargaren, Mol, & Bruyninckx, 2006). Perceiving them as a transnational environmental flow, however, risks resulting in too relativistic approaches. It is important to ground the governance analysis of transnational environmental flows in empirical data. The literature review provided the inspiration to base this research in a local research setting, relevant to both phenomena (Gille, 2006). This case study focuses on a European research setting, because Europe can be considered a forerunner in environmental policy making (Vig & Faure, 2004). More in particular, the research setting is the port of Antwerp in Belgium.

<sup>21</sup> *Mediargus* is a search engine containing Dutch and Flemish news articles.

<sup>22</sup> *LexisNexis United Kingdom* is a search engine for English language news articles.

This setting was chosen because Antwerp is an economically important port. It is amongst the top three ports in Europe, with Rotterdam and Hamburg.<sup>23</sup> The Port of Antwerp handled 187.15 million ton of freight in 2011<sup>24</sup>, of which 8.66 million TEU<sup>25</sup> of container volume.<sup>26</sup> The port of Antwerp is at the crossroad of trade routes, with multiple connections towards Europe's hinterland. It is a typical transit hub: 37% of all freight is loaded back onto sea-going vessels; 35% goes to neighbouring countries by inland shipping and rail; 12% is destined for companies located in the Port of Antwerp; and the remaining 16% is distributed in Belgium.

More importantly, the port of Antwerp has been referred to in the past as a hub for both waste<sup>27</sup> and timber<sup>28</sup>. Particularly the illegal e-waste flow from Antwerp to West-Africa has been mentioned. For transit and export of second hand vehicles, which play an important role in e-waste transports, Antwerp is the most important port in Europe. Antwerp (and Belgium in general) is also an important destination for tropical timber originating in West Africa and the Congo Basin and these countries of origin have the biggest trade share<sup>29</sup> in the port of Antwerp.

Based in the port of Antwerp, this research pays attention to the different transnational flows influencing this locality. The cases were studied by placing e-waste and tropical timber within the broader dispositive of their (transnational) end-users and other involved actors (Spaargaren, Mol, & Buttel, 2006). In the exploratory phase of this study, both the media analysis and the expert interviews informed the decision to choose this research setting and for the connection between Antwerp and African countries of origin (timber) and destination (e-waste).<sup>30</sup>

Practical considerations also played a role in choosing this research setting of the port of Antwerp. In order to keep this research feasible, this limitation to one particular research setting was necessary. Attention is paid, however, to transport flows that pass through this locality. The research domain is transnational environmental crime and the particular empirical reality that is analysed are the illegal flows of e-waste and tropical timber that pass through the port of Antwerp. Throughout the transport flows, this study comes across actors in locations of origin, transit and destination that might well be located outside Belgium. The core focus of this PhD study is on the transports, given the transnational focus, and not on the production process as such. This study does pay attention to how other actors in environmental flows can influence the illegal transports and their governance.

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<sup>23</sup> Antwerp was the second European port after Rotterdam until February 2012, when it was passed by in terms of container volume by Hamburg. It remains the first for second hand vehicles.

<sup>24</sup> *Jaarverslag 2011 - Port of Antwerp*. Retrieved on July 13<sup>th</sup> 2012 from <http://www.portofantwerp.com/nl/jaarverslag-2011>.

<sup>25</sup> TEU refers to *twenty foot equivalent unit*, a container of 20 feet long, 8 feet high and 8 feet wide. This is used a standard measuring unit for container traffic.

<sup>26</sup> Besides the 8.66 million TEU, 46 million ton of fluid bulk goods and 19 dry bulk goods was loaded or unloaded, and an additional 12.7 million ton of bulk goods and 4.2 million RoRo (*roll-on roll-off*).

<sup>27</sup> See for example Belgian news reports (Blokland, 2008; Coosemans, 2009; Holderbeke, 2010; VlaamsParlement, 6 februari 2009).

<sup>28</sup> See for example Belgian news reports (Lefevere, 1999; Vanacker, 2010; 2010).

<sup>29</sup> Based on the 2010 timber imports into Port of Antwerp, data received from Antwerp Port Authority, 25 August 2011. See also *Out of the woods. The illegal trade in tropical timber and a European trade hub* (p.110).

<sup>30</sup> This research studied the illegal tropical timber trade and e-waste between Africa and Europe, and Belgium in particular. This article makes no claims for generalisation of the findings towards the other regions and timber flows.

Many actors are at work in the port. First, multiple shipping lines have trade routes that pass through the port of Antwerp to various parts of the world. There are numerous other businesses working in the port: terminal operators, shipping agents, and storage and handling corporations. More than 200 expeditors, 300 transports corporations and numerous handlers take care of the loading and unloading of about 14,800 sea vessels, 57,000 inland waterway vessels and along the 160 km of docks.

There are multiple authorities responsible for the port of Antwerp. The port area is located on the left and right banks of the Scheldt estuary which each have different *judicial and municipal authorities*. This includes territories of the city of Antwerp and the municipalities of Beveren and Zwijndrecht. The port is not only a territory of the province and judicial district of Antwerp, but also of the judicial district of Dendermonde and the province of East-Flanders. Authorities on both side of the Scheldt govern the port. Depending on the locus operandi, the judicial authority is either in the district of Antwerp or Dendermonde. The *Antwerp Port Authority* determines strategic options and long-term policy guidelines for the port and is responsible for the coordinating and management.<sup>31</sup> The *Harbourmaster's Office*, which is part of the Antwerp Port Authority, has the responsibility to safeguard the security, peace, public order, integrity and environment of the port area. This happens through regulations of storage and handling, of port access and other policing activities. *Customs* play an important role as well. They are responsible for fostering international trade and for the security and safety of society.<sup>32</sup> Customs has a department that is responsible for risk analysis for the waste transports as well as a department that is responsible for controlling timber traffic. Both services were therefore contacted in this study. The *Maritime Police* guarantee an integrated and consistent police policy in Belgian ports and waterways. Besides policing ports and waterways, the maritime police are the first line actors for a number of particular phenomena in which they aim for high quality determinations. These phenomena are: illegal immigration and human trafficking, drugs, environmental degradation, theft, terrorism and traffic safety. Of particular interest to this study is their responsibility for environmental issues.<sup>33</sup> Besides the port Authority, the Maritime Police and customs, the *environmental inspectorates* are important actors in the research setting of this PhD. For all transit goods, the federal environmental inspectorate is the responsible authority. For all imported and exported goods, the Flemish environmental inspectorate, or its counterparts in the Brussels region and the Walloon region, are responsible. The responsibilities of each of these actors are discussed in detail in the case studies.<sup>34</sup>

#### 4.4. Research phases

This PhD study has five research phases. These five phases overlap to a certain extent and influence each other. This is visualised in the below research model (Inspired by Verschuren & Doorewaard, 2010, Chapter 3). Each of the phases has particular aims and intended outcomes, which are

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<sup>31</sup> Port Glossary [http://www.portofantwerp.com/portal/page/portal/POA\\_EN/Havenhandboek/Havenlexicon](http://www.portofantwerp.com/portal/page/portal/POA_EN/Havenhandboek/Havenlexicon) (last consulted on December 28<sup>th</sup> 2011).

<sup>32</sup> Missie, <http://fiscus.fgov.be/interfdan/nl/publications/missie.htm> (last consulted on December 29<sup>th</sup> 2011) and European Customs Information Portal <http://ec.europa.eu/ecip/> (last consulted on January 21<sup>st</sup> 2012).

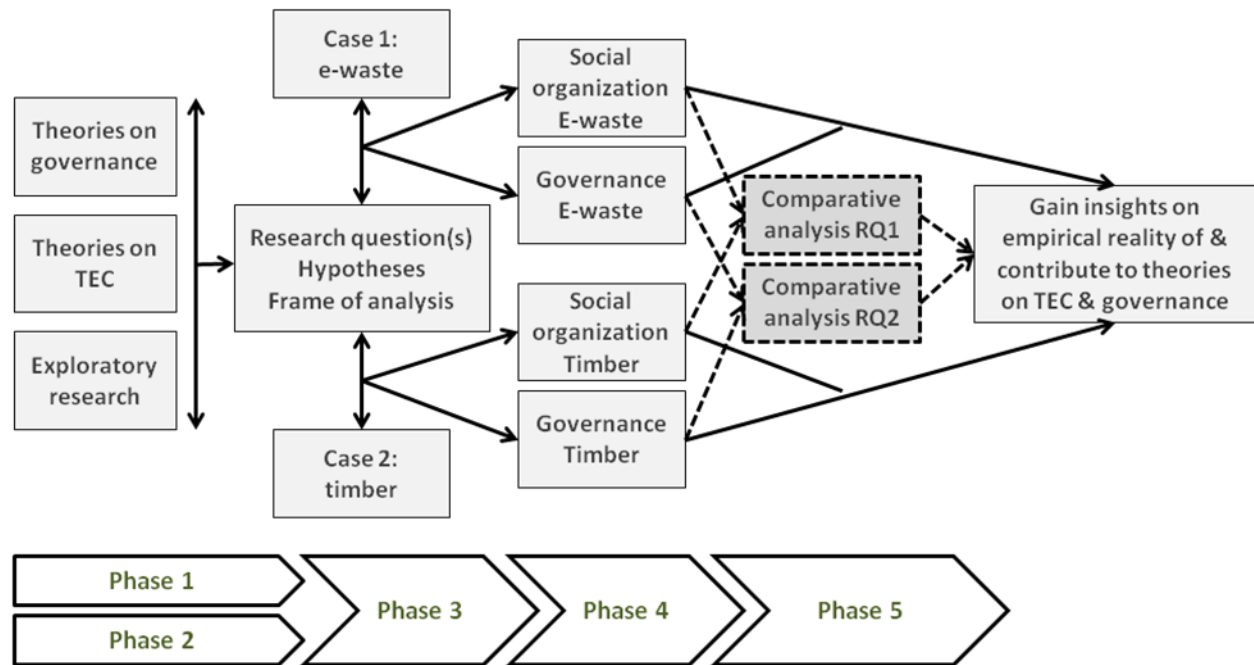
<sup>33</sup> De Scheepvaartpolitie [http://www.polfed-fedpol.be/org/org\\_dga\\_spn\\_nl.php](http://www.polfed-fedpol.be/org/org_dga_spn_nl.php) (last consulted January 21<sup>st</sup> 2012).

<sup>34</sup> More information can be found in articles 3 and 5 on the governance of illegal transports of e-waste (p.83) and tropical timber (p.130).



explained below. The methods used for phase 3 and 4 – document analysis, interviews and field visits - are explained in 4.5. *Research method, data gathering and analysis* (p.28).

**Figure 3: Research model**



#### 4.4.1 Phase 1: Literature review

In this first phase, literature was reviewed on green criminology, environmental justice, organisational crime, transnational crime, environmental law, responsive regulation, governance, ecology, environmental sociology and other topics related to transnational environmental crime and its governance. This provided a state of the art of theory and research on the topic. It allowed me to get a grip on the knowledge base and the remaining gaps in literature. This helped frame the research questions about the social organisation and emergence as well as the governance of transnational environmental crime. Besides this review of the more generic literature, theory and research on illegal transports of waste and natural resources was reviewed. Available literature on illegal transports of e-waste and tropical timber was analysed as well. This research phase partially coincided with the other phases and was thus not limited to the first months of the research. As an iterative process requires, the analysis of data in phases 2, 3 and 4 and the writing up of the empirical articles brought me back to these theoretical foundations. The results of research phase 1 are reflected in the theoretical article of this PhD thesis (Bisschop, 2011), which can be found in *Chapter II: Theoretical Framework. Transnational environmental crime: exploring (un)charted territory* (p.36). Results of the literature review in later phases of the research - inspired by comments of the reviewers - is integrated in articles 2 through 5.

#### **4.4.2 Phase 2: Exploratory study of transnational environmental crime phenomena**

Different methods of data gathering were used for this exploratory study of transnational environmental crime phenomena. First, various open sources were studied such as reports by NGOs, environmental inspectorates and other national and international government agencies to get a first grip on the phenomena of illegal transport of waste and natural resources. Second, interviews were conducted with experts who worked for the federal police department for the environment, for two environmental NGOs, for the European Parliament, for Belgian customs, for a waste sector federation; one was an investigative journalist (N=7). These interviews were of an exploratory nature and were intended to guide the choices of the specific cases to study in the following research phases. A study of media communication on transnational environmental crime was conducted as well.<sup>35</sup> This allowed me to identify a number of cases of transnational environmental crime that came into the public attention in recent years. Together the interviews and media analysis revealed the relevance of illegal transports of e-waste and tropical timber within the research setting and thus allowed narrowing down the case selection. The information from this exploratory phase was included in the theoretical article (see chapter II) and helped describe the characteristics of the studied cases (see chapters III and IV). Five out of seven of the experts who were contacted for the exploratory interviews were contacted again in a later stage of the research (see phases 3 and 4).

#### **4.4.3 Phase 3: Social organisation and emergence of illegal transports of e-waste and tropical timber**

Phase 3 focuses on what elements characterise the social organisation and emergence of illegal transports of e-waste and tropical timber. The first objective in this third research phase is to put a finger on what the environmental problem is that is associated with illegal transports of e-waste and tropical timber, according to the different stakeholders. This entails illustrating the harmfulness (or potential harm) of the behaviours, their frequency, their market value, etc. because these arguments are at the basis of the choice to make this the topic of international environmental conventions and other agreements.<sup>36</sup> This is reflected in sub-question 1.1.

The second objective of this research phase moves beyond the descriptive. It aims to gain insights into the social organisation of illegal transports of e-waste and tropical timber (Passas, 2002; Szasz, 1986; van der Pijl, Oude Breuil, & Siegel, 2011). This study considers a wide range of possible actors, beyond white collar crime, organized crime or state crime conceptualisations (Nelken, 2002; Passas, 2002; Tjihuis, 2006). This allows a more accurate view on legal and illegal actors and their interrelations and can advance theoretical developments as well as provide input for policy making. This implies analysing who is involved and how they interact. The theoretical background for these legal-illegal interfaces in transnational crime is the framework developed by Passas (2002, 2003b) and further refined by Tjihuis (2006). The two broad categories are antithetical and symbiotic

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<sup>35</sup> For more information about this media analysis see 4.2. *Case selection*, p.16.

<sup>36</sup> I will not go into the reasons why certain behaviors are criminalized and others are not. This goes beyond the scope of this PhD research. It would be an interesting question for future research on transnational environmental crime.

interfaces. In general, antithetical interfaces are those where legal and illegal actors oppose each other, whereas symbiotic interfaces are those where they cooperate. These interfaces have not been studied often and therefore this research analyses the legal-illegal interfaces for two particular types of transnational crime: illegal trade in e-waste and tropical timber. This will allow the further analysis of the thin border between legal and illegal in transnational environmental crime. In this way, this study aims to gain insights into the social organisation of the cases. This is reflected in sub-question 1.2.

The social organisation of illegal transports of e-waste needs to be understood against a broader political, social, economic and cultural background. This can provide insights into the underlying causes - the aetiology of transnational environmental crime - which was long disregarded in criminology (Nelken, 2002; Rock, 2002). This research, therefore, pays attention to how the motivations of the different actors shape the flows of transnational environmental crime. In doing this, it pays attention to individual, organisational and societal levels of analysis as each contributes to the emergence of illegal e-waste and timber flows (Clinard & Yeager, 1980; Coleman, 1987; Huisman, 2001; Slapper & Tombs, 1999). Furthermore, the unlevel playing field in today's globalized world can play a role, because these asymmetries foster the demand for illegal goods or services, are an incentive to participate in illegal markets and hamper the ability of authorities to control (Passas, 1999, p.402).<sup>37</sup> For that reason, it is important to place transnational environmental crime within the broader context of today's globalized society that might facilitate crime (Ruggiero, 2009). Given the inherently transnational character of these flows, factors in countries of origin, transit and destination should be considered (Antonopoulos & Winterdyk, 2006; van Erp & Huisman, 2010). This PhD study, therefore, analyses how and why illegal trade in e-waste and tropical timber occurs. These reasons are referred to as push, pull and facilitating factors.<sup>38</sup> Push factors are forces that drive illegal transports away from their origin (supply). Pull factors are forces that draw illegal transports to their destination (demand). Facilitating factors are contextual elements that make illegal transports possible. This is the topic of sub-question 1.3.

This third research phase allows illustrating the criminalisation, social organisation and emergence of illegal transports of e-waste and tropical timber and aims to further ground the above-mentioned theories in empirical findings on transnational environmental crime. This will give added relevance to the governance part of this research (phase 4).

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<sup>37</sup> Applying this to environmental matters, asymmetries in environmental regulation or ambiguities in enforcement can contribute to jurisdiction (s)hopping, in which one goes in search of the most favourable (illegal) agreement for the trade of hazardous waste or for the space between laws. Heightened environmental awareness in industrialized countries (cultural asymmetry) led to the strengthening of environmental legislation and to the criminalization of certain behaviour (legal asymmetry), caused prices to go up (economic asymmetry) and gave extra incentives for illegal trading in waste to countries with lower environmental awareness, lower environmental regulatory standards and lower prices (Passas, 2000). Countries in the global South might allow waste imports into or timber exports out of their countries out of fear for the 'Northern' investors to move out (trade/economic asymmetry). Southern communities affected by the environmental crimes of pollution or deforestation might be unaware of their harmfulness (knowledge asymmetry) or do not have the economic means or political rights to oppose (economic/political asymmetry).

<sup>38</sup> Push, pull and facilitating factors refer back to economic dynamics of supply and demand. These have been applied to transnational crimes in previous studies (Antonopoulos & Winterdyk, 2006; Morselli, Turcotte, & Tenti, 2011).

Results of research phase 3 are reflected in Chapter III, 4. *Is it all going to waste? Illegal transports of e-waste in a European trade hub.* (p.58) and Chapter IV, 6. *Out of the woods. The illegal trade in tropical timber and a European trade hub* (p.110). This research question about the social organisation and emergence of the flows translates to the following sub-questions, in order to avoid this from staying on a general and abstract level. The precise content of the questions is outlined in the checklist in annex I of this PhD thesis.

Research sub-question 1: *What elements characterise the social organisation and emergence of illegal transports of e-waste and tropical timber?*

RQ 1.1: *What elements of harmfulness or scope are taken into account in the criminalisation of illegal transports of e-waste and tropical timber?*

RQ 1.2: *How are illegal transports of e-waste and tropical timber socially organized?*

RQ 1.3: *Which push, pull and facilitating factors explain the emergence of illegal transports of e-waste and tropical timber?*

#### **4.4.4 Phase 4: Governance of illegal transports of e-waste and tropical timber**

Phase 4 focuses on the governance of illegal transports of e-waste and tropical timber. Building on the insights of phase 3, this examines the governance reality of transnational environmental crime. Traditionally, the government institutions in the nation states have the central responsibility for crime and security (Shearing & Johnston, 2010). In fact, a lot of the environmental issues have been dealt with through command and control regulation, which implies non-compliance will be met with punishment and rules are uniformly applied (Grabosky & Gant, 2000). This, however, provides only part of the solution to deal with the complexity of environmental problems (Gunningham, 2004). Compared to other international crimes such as drugs, the law enforcement resources invested in environmental crime can be perceived as limited since criminal prosecution of environmental cases is unlikely or at least met with low penalties (Faure, 2012; White, 2011).

In contemporary society, behaviour is not only regulated by government actors or by command and control regulation only. There are various regulatory hybrids that respond to transnational, environmental as well as corporate crime. In these hybrid arrangements non-state actors play a role, operating at different levels within the globalized context (van Koppen, 2006). Governments as well as business, civil society and international organisations play a role (Braithwaite, 2008; Gibbs, McGarrell, & Axelrod, 2010; Green, Ward, & Kirsten, 2007). The following briefly discusses two theoretical models about governance hybrids: responsive regulation and networked governance. These models both provided elements to take into account in the governance analysis of the cases.

A very influential theoretical model for dealing with corporate crime, and by extension with environmental crime by corporate actors, is the responsive regulatory pyramid. In this model, the approach is attuned (responsive) to the motivations and characteristics of particular sectors and/or situations (Ayres & Braithwaite, 1992) in an attempt to overcome the inflexibility and inefficiency of command and control (Wright & Head, 2009). The key assumption of this model is that the

choice of regulatory strategy should be responsive to what is more appropriate for a given situation, taking into account the strengths and weaknesses of each approach (Braithwaite, 2002, p. 29). There is, therefore, no standard regulatory reaction. At the bases of the pyramid, there is ample room for the offender to act responsible and for restorative justice. By allowing corporate actors to self-regulate and having the government actors 'meta-regulate', regulatory burdens are intended to be avoided. This requires the corporate actor to own up to responsibilities and is assumed to be the most successful in going beyond compliance (Gunningham, Grabosky, & Sinclair, 1998). The state is just one actor within this hybrid governance arrangement, since corporate and civil society actors also play a role. A prerequisite is that there is capability to escalate to punitive reactions when actors fail to regulate themselves and/or do not owe up to their responsibility (Braithwaite, 2008).

Networked governance<sup>39</sup> is a second model that embraces the idea of governance arrangements that go beyond the nation state paradigm and looks at the role played by non-state actors such as corporations and NGOs (Mazerolle & Ransley, 2006; Wood, 2006; Wood & Shearing, 2007). The basic assumption in networked governance is that different stakeholders act together towards commonly defined goals. Holley et al. (Holley, et al., 2012) applied this to environmental issues, referring to 'new environmental governance'. They detected five basic characteristics: collaboration of different stakeholders; participation of different groups on different levels of governance; deliberation about the goals and practice of governance; learning from practice; and accountability. Some claim that these broader governance arrangements are particularly relevant for environmental issues such as illegal timber trade because these natural resources go beyond the mere interest of the nation state (Matthew, Barnett, McDonald, & O'Brien, 2010). Although these hybrid arrangements seem the logic of today and tomorrow, many authors often still attribute a central role to state actors (Braithwaite, 2008; Gille, 2006; Jänicke, 2006)

In both these models, the chosen regulatory approach becomes necessarily tailor-made to the particular case or situation, involving a mix of regulatory instruments by state, corporate or civil society actors (Gunningham, et al., 1998). In many security matters, states are no longer the single actors but a plurality of actors in different interactions is involved (Crawford, 2006; Wood, 2006). It is not clear what governance frameworks this results in for transnational environmental crime. This PhD study therefore examines how this governance of security framework – in the sense of preventing illegal transports of e-waste and tropical timber from occurring – is organised. By investigating this on a case to case basis, insights can be gained on governance processes and behaviour. Do different forms of governance co-exist or is this mainly a government or rather a private actor responsibility (Braithwaite, 2002; Gunningham, et al., 1998)? Do these actors for instance cooperate or compete?

This PhD study followed the empirical suggestion of Shearing and Johnston (2010) to do a nodal analysis before a networked governance analysis. This implies an analysis of the separate nodes<sup>40</sup> (nodal governance analysis) and their governance characteristics before moving to an analysis of their interactions (networked governance analysis). Following this empirical advice should avoid the 'nodal-network equivalence fallacy', which is the failure to take into account the underlying

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<sup>39</sup> Networked governance owes many of its basic assumptions to the theory of the network society by Castells (2000).

<sup>40</sup> Instead of mentioning the term actor, the concept 'node' will be used as well. Nodes are actors involved in governance.

assumptions of individual nodes in a governance analysis. A first stage of the nodal analysis involves the 'mapping' of the governance nodes and networks (Wood, 2006). This mapping exercise can be difficult since not all of the actors are necessarily true 'security' actors as such. These nodes do not necessarily need to be formally institutionalized nor legally recognized. The role of civil society actors can be more important to define, censure and sanction deviant behaviour than that of the state (Green, et al., 2007). This is where the qualitative orientation of the research is indispensable. It allows me to analyse which formal and informal actors participate in the governance of illegal transports of e-waste and timber. This is reflected in sub-question 2.1.

In studying the governance nodes, attention is paid to both structural and cultural elements. This examines how the nodes problematise the topic of illegal transports of e-waste (mentalities), what they set as objectives (finalities) and what strategies they use to reach that goal (Johnston & Shearing, 2003). We could for instance assume criminal justice actors adhere to a punishment mentality whereas corporate organisations could be more relying on a risk mentality. Police organisations might primarily look for judicial evidence, whereas environmental inspectorates might do that as well, while at the same time advising corporations on how to comply. Customs might be primarily focused on excise duties, whereas port authorities might focus principally on fostering trade and guaranteeing safety. This could also reveal objectives that are not necessarily identical to those originally put forward by the organisation (cf. creative compliance). Their finalities might even lie outside the objective of environmental protection. This is reflected in sub-question 2.2 and 2.3.

After the nodal governance analysis, this study analyses how the different actors interact with one another and whether these relations are of a cooperative, competitive or non-existent nature (Sheptycki, 2005; Crawford, 2006). This relationship might be one of cooperation or competition and maybe one actor takes up a leading role. There might even be a lack of information exchange and overlap of functions and expertise hampering their cooperation (Sheptycki, 1995). In addition, this governance analysis pays attention to possible missing links between governance actors, where new connections could be advantageous. This is reflected in sub-question 2.4.

This study will also pay attention to facilitating and hindering factors in the governance of illegal transports of tropical timber and e-waste (Wood, 2006). It will be particularly interesting to look at the implications of the possibly contrasting finalities and mentalities. The analysis looks at opportunities for existing nodes to focus more intensely on the illegal transport of e-waste and timber. It also pays attention to governance gaps and missing nodes, which are individuals or groups who are currently not mobilized in these governance processes and this in spite of their relevant knowledge, capacities and resources in view of desired governance outcomes. This fifth governance aspect is reflected in sub-question 2.5.

Answering to these sub-dimensions of the governance analysis will provide empirical data on the governance reality of the illegal trade in tropical timber and e-waste. This empirical reality will be evaluated against the different theoretical models that exist on governance and regulation of corporate and environmental crime.

Results of research phase 4 are reflected in chapter III, 5. *Go with the e-waste flow. The governance reality of illegal transports of e-waste* (p.83) and chapter IV, 7. *Governance throughout the flows. Case study research on the illegal tropical timber trade* (p.130). This research question about the governance of the flows translates to the following sub-questions (Adopted from: Wood, 2006). The precise content of the questions is outlined in the checklist in annex I of this PhD thesis.

Research sub-question 2: *What elements characterise the governance of illegal transports of e-waste and tropical timber?*

RQ 2.1: *Who are the actors that participate in the governance of illegal transports of e-waste and tropical timber?*

RQ 2.2: *What knowledge, capabilities and resources do each of these actors make use of for the governance of illegal transports of e-waste and tropical timber?*

RQ 2.3: *What is the 'mentality' of these actors towards illegal transports of e-waste and tropical timber in particular?*

RQ 2.4: *How do these different actors interact?*

RQ 2.5: *What are the strengths and weaknesses in the governance of illegal transports of e-waste and timber?*

#### **4.4.5 Phase 5: Comparative analysis**

This fifth phase analyses the two case studies comparatively. Although case studies are very common in social sciences, the comparative merits of those are often underappreciated (Dellepiane, 2009). Although there is a debate about the transferability of conclusions from case-studies (Leys, 2009; Swanborn, 2008), the comparative and detailed analysis of these case-studies will contribute to the theoretical transferability of the findings (Maesschalck, 2009). The value of case studies is increased when used comparatively. It has the potential to provide more feel and understanding about the studied phenomenon and is at the nexus of empirical reality and theory (Zartman, 2005).

On the one hand, this comparative analysis takes the PhD study back to the central research question: what are the governance consequences of controlling and preventing transnational environmental crime flows? The case studies already provided insights on the empirical reality of the two cases, within the research setting. The comparative analysis of these cases will bring it back to the level of transnational environmental crime as a phenomenon. This comparative analysis contributes to the further development of theories on transnational environmental crime and its governance.

On the other hand, this comparative analysis will allow pinpointing differences and similarities between the two cases. This comparison will pay attention to how one case can inspire the other. This qualitative comparative case study will not reveal generalisable conclusions for all cases of transnational environmental crime. This PhD study can however add experience to what is already known through previous research.

## **4.5. Research method, data gathering and analysis**

Research phase 3 focuses on the characteristics of the criminalisation, social organisation and emergence of the illegal transports of e-waste and tropical timber. This is based on a document analysis of various primary and secondary sources as well as on interviews with key informants. Research phase 4 is also based on a multi-method approach. It included field visits in addition to the document analysis and interviews. Each of these methods as well as the data gathering and analysis is explained below.

### **4.5.1 Document analysis**

The document analysis of phase 3 was based on the foundations laid in phase 2. This was continued in phase 4, which particularly aimed to gather in-depth knowledge about the governance of the cases. The document analysis uses governmental sources (reports and statistics of inspectorates, police and customs, waste and timber trade statistics, data-bases of waste crimes/CITES-breaches), research reports (World Customs Organisation, Basel and CITES Secretariat, UNEP, INECE, IMPEL(-TFS), Interpol, World Bank, independent consultants and academics), corporate documents (press releases, websites, year reports, policy plans, ethical codes) and documents by civil society actors (environmental organisations, nongovernmental organisations (NGO), media). Some of those documents were publicly available. Others were provided by various key informants, after they received the permission of their authorities to use the documents. It was the intention to consult judicial files about both cases. The prosecution service could not grant insights into (e-)waste case files because they were still ongoing. The finished cases did not involve e-waste in particular and did not result in a prosecution and therefore it was better not to reveal the content of the dossier. For tropical timber there were no cases currently in prosecution in Belgium. The Flemish environmental inspectorate was reluctant to provide insights into their files about waste because many of those were still ongoing. They instead allowed me to ask questions about how these dossiers are handled. For the federal environmental inspectorates I was provided insight into ongoing cases, upon guaranteeing to treat this data anonymously.<sup>41</sup> Case files on tropical timber were not consulted since no case files were available from the last 5 years. Each of the inspectorates allowed contacting them several times with questions about the governance of these cases.

### **4.5.2. Interviews**

The selection of interviewees was based on purposive sampling and more in particular the sub-category of expert sampling (Trochim, 2006). It was the intention to gain insights from different perspectives and areas of expertise about the cases. These relevant experts are government, corporate and civil society respondents. Within these three major groups of respondents, the study aimed for a sample of people working in different organisations and departments. Given the

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<sup>41</sup> The cases of the federal environmental inspectorate used to be merely sent back to the country of origin. The alternative was to have the waste treated environmentally sound and send the bill to the owner. The recent change in the legislation now provides them with more opportunities for the follow-up of these cases. Their inspectorates, as officers of judicial police, are now allowed to write an official (police) report. No cases had been prosecuted at the time of the empirical research.



transnational focus, respondents in other countries involved in the flows of e-waste and tropical timber were also contacted. Based on available literature and the document analysis, a list of relevant stakeholders was drafted.

A total of 73 semi-structured interviews<sup>42</sup> were conducted related to research phase three with 38 government actors, 24 corporate actors and 22 civil society actors. The fourth research phase is based on the same interviews as research phase 3, but 8 extra interviews were conducted. This brings the total number of semi-structured interviews to 81 (43 government actors, 28 corporate actors and 23 civil society actors).<sup>43</sup> The governmental actors are national and international government agencies (Belgian, Dutch, supranational), such as customs, environmental inspectorates, police organisations, prosecutor service and administrations. The civil society respondents are representatives of national and international environmental NGOs, labour unions and investigative journalists. The corporate representatives are producers of (inter)national computer hardware, e-waste collectors, refurbishers and recyclers, timber importers, certification organisations and transport corporations.<sup>44</sup>

In order to get in touch with these different key-informants, government agencies, corporations or civil society organisations were contacted. In addition, each of the respondents were asked whether they could refer me to other experts, which allowed me to 'snowball' to a broader sample (Babbie, 2007; Decorte & Zaitch, 2009). After a period of about 18 months of interviewing, I noticed that the interviewees often referred to the same experts.<sup>45</sup>

The semi-structured interviews were intended to gather firsthand experience about the cases. The respondents provided their perspective about the social organisation, emergence and governance of illegal transports of e-waste and tropical timber. The interviewees of phases 2, 3 and 4 each received information about the aims of the research. They were sent this information digitally before the interview and were asked whether they were willing to participate. I also guaranteed the results would be reported about anonymously. From the very outset, I chose to be open about the goals of my research and revealed I was mainly interested in illegal transports of e-waste and tropical timber. Although this transparency might have scared away some potential respondents, I preferred to be open about this. Depending on whether I contacted government, corporate or civil society actors, I did highlight other aspects. For example, for corporate actors, I focused on how economic sectors are affected by illegal transports rather than directly asking about their potential involvement. For the case of e-waste, this did not pose any trouble. Many corporations were willing to participate in the research. Some even hoped their companies' names would be mentioned in the study. For tropical timber the picture was different. Many tropical timber importers simply answered me they were not involved in illegal imports and were therefore not willing to

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<sup>42</sup> Interviews ranged from 45 minutes to 2 hours in length.

<sup>43</sup> The number of interviews and number of respondents differs because some actors chose to address me in pairs and 6 actors were interviewed twice. In addition, there was one group interview with 13 government respondents, 4 of which had already been interviewed separately.

<sup>44</sup> These respondents were guaranteed anonymity and therefore I refer to government (G and number), corporate (C and number) and civil society respondents (S and number) for quotations. There is one list of respondents for both cases and respondents were numbered consecutively.

<sup>45</sup> The exact number of interviews used for each of the cases can be found in the respective articles.

participate.<sup>46</sup> Representatives of the sector organisation were willing to talk and also got me in contact with two tropical timber importers who were willing to participate. For field visits to people and/or firms that informally make a living of WEEE/UEEE, I approached this topic mostly as a matter of used goods and avoided referring to their business being involved in waste. To a certain extent, this was necessary to avoid them being offended or thinking I work for law enforcement.

I experienced it was very important to build trust with my respondents. I found different key informants to be willing to open doors to other respondents once I had gained their trust. Building up this trust required me to contact them several times. The introductory e-mail about the set-up of my PhD proved useful. Contacting them over the phone to allow them to ask further questions was also necessary. Once those conditions were there, the respondents were usually very willing to talk. Some respondents did not want to meet at their job sites because of the sensitivity of the information. At these occasions, I met them on neutral grounds such as a coffee house or the university college. Some respondents were located in other parts of the world. These were interviewed over the phone or through video conferencing (*Skype*). At the outset of each interview, I again explained the aims of my research. I repeated that the information would be reported anonymously. At this point I asked whether there were objections against the digital recording of the interview. Two respondents preferred the interview would not be recorded because of bad experiences with this in the past (with journalists). In one interview, the respondent was rather hesitant and even defensive. I, therefore, chose not to ask whether the interview could be recorded since it proved already very difficult to build trust. Four Ghanaian respondents also preferred not to have their voice recorded for cultural and religious reasons. For these seven interviews, I made notes and recorded my own impressions right after the interview. The analysis was based on these notes and recordings. The interviewees could also ask to turn the recording device off temporarily in case a topic was particularly sensitive. This happened twice, once when an ongoing case was discussed and once when the respondent provided critique about his own organisation. A few times respondents added information once the recording was stopped and the interview ended (off-tape phenomenon - Beyens & Tournel, 2009, p. 224). They might have felt more liberated to talk, even though anonymity was guaranteed. I avoided turning the recorder back on to avoid scaring them off. Instead I recorded my own impressions and recollection of this information when I had left them. I also recorded my own general impressions at the end of the recording. This helped me in 'reliving' the interview while analysing. The analysis of the taped interviews was based on both the transcription of the interview and the notes.<sup>47</sup> On different occasions I went back to my respondents and presented them my analysis of the cases. Sometimes they suggested a minor factual correction. The main goal, however, was to have them check the quotations I used for anonymity. Almost all respondents asked me whether they would be informed about the further developments and findings of this study. I guaranteed them I would send them publications once they were accepted. Some respondents were also interested to hear about the opinions or

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<sup>46</sup> It is difficult to know to what extent these corporations that were willing to participate in this research represent the 'best kids in the class'.

<sup>47</sup> Throughout this document, I tried to select quotations of my respondents, whenever this did not jeopardize their anonymity and provided for an interesting read. The interviews were mostly in Dutch and English, and two were in French. I translated the Dutch and French quotes to English.

revelations of other stakeholders. I explained I could only report about this anonymously because I guaranteed this to all respondents. They understood this and showed appreciation for the provisional results and questions I was willing to share.

As mentioned earlier, I used a check list for the interviews (see annex I). I, however, left ample room for flexibility. I did not have a particular order in which the questions were asked. Usually the respondent would start explaining their interest in the topic of this research or the activities of their organisation after I provided them with the introductory information about my study. This flexibility allowed me to follow the reasoning of the interviewee (Beyens & Tournel, 2009). In case the topic deviated too much, I used the topic list to bring the interviewee back on topic. I also intervened in case I wanted more clarifications about something. In case the respondent did not feel comfortable answering a question, I repeated that the interview was anonymous, but I did not further persist after that.

At a certain point during the interviews and their analysis, I started to run into similar comments and new elements started to get less frequent. For research question 1 this occurred during the months when I was writing up the findings. I added a few more interviews, but did not gain much new knowledge. It is at this point of theoretical saturation (Bloor & Wood, 2006) that I decided to stop focusing on the first research question and focused exclusively on the second. For the second research question, I found consistent findings during the writing up of the interviews. Where elements were left unclear, the respective respondents were contacted for further clarification.

#### **4.5.3. Field visits**

Besides the document analysis and the interviews, the fourth research phase included field visits. These were necessary to gain contextualised real-time information about the governance of the environmental flows of e-waste and tropical timber. These field visits did not involve extensive participatory observation, but were merely meant to observe the study object in its natural setting. Downsides of this method are of course the time- and labour-intensiveness, but these observations undoubtedly allowed to gather interesting data (Yin, 2003). The field visits were limited to a number of crucial sites in the governance of environmental flows. This refers to observations at so-called governance 'nodes' (e.g. ports) and at organisations responsible for the control on e-waste and timber. I joined the customs in the port of Antwerp. This provided insights into their systems of risk analysis and scanners.<sup>48</sup> Besides joining customs, I accompanied the federal environmental inspectorate in their controls of second hand vehicles which were suspected to contain e-waste. These controls happened in close cooperation with customs, harbourmaster's office and maritime police. Together, these field visits gave insights into the daily reality of the governance of illegal transports in the port of Antwerp. Besides field visits in the port of Antwerp, I visited one country of destination, Ghana, which is often frequented by illegal transports of e-waste that export from or

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<sup>48</sup> Their risk analysis system determines which containers require further checks by customs officers. When particular criteria are met, containers can be selected for scanning. The container scans provide horizontal and vertical cross-sectional views of the loaded goods, similar to an MRI-scanner. Further information about the risk analysis and the container scanning can be found in article 3. *Go with the e-waste flow. The governance reality of illegal transports of e-waste* p. 83.

transit in Belgium. In Ghana, I visited the port of Tema and the city of Accra. More in particular, the port, the informal recycling and refurbishing firms, the e-goods markets and the Agbogbloshie dumpsite were observed. I made notes during and/or after these field visits which were integrated with the interviews and document analysis in the data analysis (Mortelmans, Decorte, & Zaitch, 2009).

These field visits allowed gaining realistic insights about the everyday reality of governing e-waste flows. It was my intention to also visit a source country of tropical timber in Africa. The first option was Cameroon. It turned out to be rather difficult to visit this country in view of gaining qualitative insights on illegal timber trade. The concessions are very much spread out across the country and it would have taken up too much time. The second option was the Democratic Republic of Congo. For similar reasons as for Cameroon, as well as due to instabilities in the region as a consequence of the elections, I decided not to go there. In both countries, the method was changed to contacting different actors and interviewing them over the phone or over Skype. The field visit to Ghana, however, proved to be interesting as well. Ghana used to be an important exporter of timber, but less than 10% of its tropical forest remains. It was also the first West African country to sign the Voluntary Partnership Agreement (VPA)<sup>49</sup> and several of its forests are in the process of Forest Stewardship Council (FSC)<sup>50</sup> certification. It was, therefore, relevant to interview people in Ghana about tropical timber and not merely e-waste. Although the methodology for the two cases is not completely equal, the case studies were made as comparable as possible.

#### **4.5.2. Checklist**

This research used a topic list. This list was drafted based on the literature review in different disciplines (see 4.4.1) and was further refined in the exploratory research phase (see 4.4.2). This checklist was used for data gathering in both document analysis and semi-structured interviews. It allowed for the necessary flexibility to approach respondents with different backgrounds. It also served as the backbone for the data analysis.

#### **4.5.4. Data analysis**

There are no fixed formulas to guide case study data analysis. Data gathered in this PhD study was coded and analysed by means of qualitative data analysis software.<sup>51</sup> The software allowed to triangulate findings from different types of sources (Leys, 2009, pp. 56-65; Loosveldt, et al., 2007; Yin, 2009). It helped manage the massive amount of data gathered in the different research phases. I had separate files for each of my cases which formed the case study database. The files contained the interview transcripts, the case study notes from interviews and field visits, and the case study documents, which included articles, reports, media files, statistics, etc. Publications that were

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<sup>49</sup> The EU has tried to impose stricter controls on countries of origin of tropical timber through a licensing system based on the Voluntary Partnership Agreements (VPAs), negotiated with exporter countries under the Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan (UNEP, 2011a).

<sup>50</sup> Forest Stewardship Council (FSC) is a multi-stakeholder certification initiative, which integrates social, economic and environmental criteria in the certification of forests and actors in the timber chain of custody.

<sup>51</sup> NVivo qualitative data analysis software; QSR International Pty Ltd. Version 8, 2008.

digitally available were analysed with the qualitative data-analysis software. When digital files were not available, my notes about the documents were digitally stored and coded in the database. The interviews were transcribed and these transcriptions as well as the notes were coded with the software. I originally had the intention to code the audio files of the research instead of the transcription. I tested this for the exploratory interviews. This proved to be very time-consuming in coding and did not seem practical in data analysis and writing-up. The program could neither import large audio files nor the documentaries about e-waste and tropical timber and hence failed in executing the queries. Despite these hiccups, the software undoubtedly proved useful in selecting the information and keeping it controllable. During coding of documents and interviews, it allowed making notes on what could be useful for later analysis and reporting. These notes helped to remember which elements needed further clarification by the respondents.

I analysed each case individually and did a comparative analysis of the two cases. In order to guide the data gathering and analysis, I used the checklist based on the research question and sub-questions (see annex). It soon became clear what categories were useful and which codes had to be adapted or omitted. I inevitably looked at the broader social, economic, political and legal context (*macro*). In the study of the different (governance) actors involved in illegal transport of e-waste and tropical timber, I studied the *meso* level of analysis. The micro level of analysis is also an objective for my analysis. In studying the flows, I came across particular individual motivations or characteristics which influenced the participation in the illegal transports or influenced particular actions taken in the governance of them. Both research questions take into account elements of macro, meso as well as micro level of analysis.

### **3.6. Research scope and limitations**

This PhD research does not claim to deliver representative hypothesis testing. This qualitative study cannot answer to the same criteria as quantitative studies report about. There are however other testimonies to its quality (Maesschalck, 2009): I tried to be observant about the strengths as well as weaknesses of my research and the chosen methods. Case studies have the limitation of not being representative and not being able to perfectly control cases. I therefore chose to document the methodological choices and the research strategy (Maesschalck, 2009; Seale, 1999). By means of this transparency about the research process, I aimed to avoid random mistakes or subjectivities. By communicating transparently about the data-gathering and analysis and key premises of the study, I intended to increase the transferability and dependability<sup>52</sup>. I hope this introductory chapter together with the articles testifies to that.

Furthermore, this PhD study adhered to the suggestions made by King, Keohane and Verba (1994) to improve the quality of the data. This study collected data on as many observable implications of the studied phenomenon as possible. By making sure the gathered data corresponds to the goal of the research, I tried to strengthen the credibility<sup>53</sup> of this PhD study (Maesschalck, 2009). By corroborating different perspectives and opinions about the cases I made sure the arguments were exposed to validation or falsification at different times. This refers to the different segments of

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<sup>52</sup> In quantitative research this would be referred to as external validity and reliability.

<sup>53</sup> This would be referred to as internal validity in quantitative studies.

society the respondents represent (government, corporate, civil society) and the triangulation of different methods, data and theories also contributes to this (Yin, 2003). A mix of sources and methods was used. Considering the practical and methodological restrictions in studying transnational environmental crime, the most promising and available sources were used. Official data are likely to be a reflection of the priorities and means of the official agencies rather than a reflection of the real extent of the problem. These methodological limitations of official data (e.g. underreporting) definitely made it necessary to look for alternative sources and strike a balance between government, corporate and civil society sources. I triangulated official data with other sources (investigative journalism reports, NGO reports, etc.). In this way, I paid attention to a diversity of explanations and answers to this question (Leys, 2009). Although the document analysis is a stable data source which allowed gaining insights in a broader timeframe and offers detailed contents on the topic, the documents were not composed in view of this research. This required me to put them in proper perspective while interpreting them. As explained above, access to ongoing cases of prosecutors and inspectorates was often restricted proving it is not always likely to gain access to restricted information that might be useful for the study.

Not only access to documents was sometimes difficult, but access to particular groups of respondents was challenging as well. The experience in this PhD research with contacting private sector actors is mixed. For the case of e-waste, many corporations were willing to talk about the issue of illegal transports. To a certain extent this might be explained by the fact that many of these corporations see illegal transports as competitors for their own business. However, also corporations that were involved in illegal transports or at least facilitated them were willing to talk. Gaining access to informal business working in e-waste collection and recycling was most difficult, but the Ghanaian field visit made this possible. Informal collectors in Belgium were less keen to participate. I searched for contact information (e.g. through websites) and contacted 5 'firms'. None of them responded. For tropical timber, the picture is a little different as well. There I did experience a reluctance to talk. I found only 2 out of the 6 contacted importers of tropical timber willing to be interviewed. The sector organisation representative was willing to talk as well. The possibility exists that the corporate actors who were willing to talk, represent the 'best kids in class'. This might have influenced the findings, but by triangulating methods and respondents I tried to counter that as good as possible.

This PhD research focuses on two particular flows of transnational environmental crime, illegal transports of e-waste and timber. The topic under study is in constant evolution. During the course of the research legislation and policies for both e-waste and timber changed. These recent dynamics were taken into account as good as possible. Unavoidably there might have occurred changes over the course of this study which I could not account for. This research is also based in a local research setting: the port of Antwerp and the flows that pass there. My analysis is thus tailored to that specific empirical reality. By putting the cases within their broader context – looking at the global trade flows – dimensions that reach beyond the local research setting of Antwerp were accounted for. The flows between Belgium and Africa were the particular focus. This case study is necessarily connected to its research setting and does not have the intention to provide generalisable results. This study, however, provides insights that help understand the social organisation, emergence and

governance of illegal transports of e-waste in other locations as well (T. R. Miller, Gregory, Duan, Kirchain, & Linnel, 2012).

As a researcher, I am inevitably influenced by the place where I live and work. Unavoidably this determined the starting perspective for my PhD study. I have tried to be open to influences from other places and cultures and attempted to balance those in my research by actively listening to their stories and witnessing the effect of illegal transports first hand.

#### 4. Publications and structure of the PhD thesis

The core of this PhD thesis consists of five articles, which were integrated into the six chapters of this PhD thesis. A first article (Chapter II) is a theoretical exploration of transnational environmental crime and its governance. The next two chapters focus on the cases. Chapter III discusses illegal transports of e-waste and chapter IV elaborates on illegal transports of tropical timber. The structure of these chapters is similar. These chapters each contain two articles. A first article discusses the social organisation of the cases and a second discusses its governance. Chapter V of this PhD thesis contains the comparative analysis of the cases and serves as a concluding chapter. The conclusion, policy recommendations and avenues for future research bring this PhD thesis to a close. After that, the references and annexes follow.

The articles of this PhD thesis have similar theoretical backgrounds and methodologies. There is therefore avoidably some overlap between this introductory chapter, the theoretical framework in chapter 2/article 1 and the four other articles. The publications and structure of this PhD thesis is visualized in the below figure.

Figure 4: Publications and structure of PhD thesis

		Social organization	Governance		
Chapter I: Introduction & methodology	Chapter II/Article 1: Theoretical framework Transnational environmental crime: exploring (un)charted territory Published (Gofs -2011)	Chapter III: Illegal transport of e-waste	Article 2: <u>Is it all going to waste? Illegal transports of e-waste in a European trade hub</u>  Published (31/7/12) Crime, Law and Social Change	Article 4: <u>Go with the e-waste flow. The governance reality of illegal transports of e-waste in a European trade hub</u>  In review (May 1 <sup>st</sup> 2012)	Chapter V: Comparative case analysis Conclusion Policy recommendations Avenues for future research
		Chapter IV: Illegal transport of tropical timber	Article 3: <u>Out of the woods: the illegal trade in tropical timber and a European trade hub</u>  Published (12/7/12) Global Crime	Article 5: <u>Governance throughout the flows. Case study research on the illegal tropical timber trade.</u>  Accepted (August 5th)	

## CHAPTER II: THEORETICAL FRAMEWORK. TRANSNATIONAL ENVIRONMENTAL CRIME: EXPLORING (UN)CHARTED TERRITORY

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**PUBLISHED:** Bisschop, L. (2011). "Transnational environmental crime: exploring (un)charted territory" In: Cools, M., De Ruyver, B., Easton, M., Pauwels, L., Ponsaers, P., Vander Beken, T., Vander Laenen, F., Vande Walle, G., Verhage, A., Vermeulen, G., Vynckier, G. (Eds.), *EU Criminal Justice, Financial & Economic Crime: New Perspectives, Governance of Security Research Papers, Volume 5*, Antwerpen: Maklu, 155-183 (ISBN:978-90-466-0438-0).

**KEY WORDS:** *transnational crime, environmental crime, green criminology, governance*

**ABSTRACT:** *This article focuses on transnational environmental crime. We illustrate that both an environmental and a transnational perspective are still for the most part uncharted territory in criminological theory and research, but also acknowledge that scholars have started filling the green criminological chart in recent years. Environmental crime has in fact been studied, but often in a less theoretically and methodologically profound way compared to for example street crimes. This risks painting a limited picture of contemporary crime and we therefore argue that there is a need to develop better and broader understandings of the topic. This requires research that grasps the complexity and transnational nature inherent to the phenomenon by focusing on multiple contexts, levels of analysis and actors. In this article, we try to partly fill this gap by contextualizing transnational environmental crime along three dimensions, that is to say its conceptualisation, etiology and governance. We clarify what lines of thought are present for each of those dimensions and outline the (un)charted theoretical and empirical field. We illustrate this by means of two cases: waste and natural resources.*

### Introduction

*Tidal wave of e-waste to developing countries*<sup>54</sup>; *Not a single fish left alive in Zenne*<sup>55</sup>; *Gulf of Mexico oil leak worst US eco-disaster*<sup>56</sup>; *European Parliament bans illegal timber*<sup>57</sup>. These are just a few of the headlines that illustrate the global significance of the environment in contemporary society. The imperilled state of the environment is repeatedly stressed in the United Nations Environment Programme, Global Environmental Outlook, International Panel on Climate Change and other reports, which point to biodiversity loss and air, water and soil pollution. The actual harm as well as the potential endangerment of environmental crime and negligence is hard to grasp, but the current ecological circumstances present immediate and future threats to both humans' and the natural world's health. The total value of major forms of transnational environmental crime, which refers to illegal logging and fishing, illegal trade in wildlife and ozone-depleting substances and illegal dumping of hazardous waste is estimated to be in the order of 20 to 40 billion US dollar a year

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<sup>54</sup> "Vloedgolf E-waste naar ontwikkelingslanden" De Standaard 23 February 2010.

<sup>55</sup> "Alle vis uit Zenne verdwenen." De Standaard 16 December 2009.

<sup>56</sup> BBC News 20 May 2010 <http://www.bbc.co.uk/news/10194335>.

<sup>57</sup> Richard Black - BBC News 8 July 2010 <http://www.bbc.co.uk/news/10557228>.



(Beirne & South, 2007, p. xxi). Compared to other international crimes (e.g. drugs), the invested law enforcement resources are limited, but the environment is nevertheless increasingly a topic of concern on the agenda of international organisations, national governments, (multinational) corporations and non-governmental organisations alike, although their interpretations of and responses to the state of the ecology might differ.

Contextualised within this environmental state of affairs, this article focuses on transnational environmental crime and argues that it is still for the most part 'uncharted territory' in criminological theory and research. Scholars have recognized the need to fill the green criminological chart (Edwards, et al., 1996; Gunningham, et al., 1995), but a need remains to develop better and broader understandings of transnational environmental crime in order for criminology to paint a more complete picture of contemporary crime (Gibbs, Gore, et al., 2010; Halsey, 2004; South, 1998; White, 2003). This requires theoretical and empirical research that grasps the complexity and transnational nature inherent to the phenomenon (Aas, 2007; Sheptycki & Wardak, 2005). We hope to contribute to this in this article by contextualizing transnational environmental crime. We review the lines of thought reflected in the (un)charted theoretical and empirical domain.

This article consists of a literature review within green/environmental criminology, corporate/organisational criminology, conflict criminology and transnational criminology. This was supplemented by insights from public administration, environmental sociology, environmental politics, environmental law and organisational studies. By shedding light on three dimensions of transnational environmental crime, more in particular its conceptualisation, aetiology and governance, we make suggestions about how the remaining gaps could be remedied and point toward implications for future research. A first part of this article conceptualizes transnational environmental crime and green/environmental criminology and clarifies the sensitizing – and sometimes rather heavily debated – concepts inherent to this research field. A second part gives an overview of the aetiology of transnational environmental crime, in which the 'classical' elements of motivation, opportunity and neutralization serve as a guideline. In a third part, we focus on the characteristics of the governance of transnational environmental crime. We illustrate each of these dimensions by means of two cases: waste and natural resources. These case outlines are not exhaustive but serve as an illustration<sup>58</sup>. A final part of this article provides a concluding analysis on the uncharted territory of transnational environmental crime and points towards avenues for further research.

## **1. Conceptualizing environmental criminology and transnational environmental crime**

Criminology has documented environmental crimes and negligence, but this green perspective still lacks theoretical and methodological depth and breadth compared to other fields of criminology and the environment is also too often left for other disciplines to study (Gibbs, Gore, et al., 2010;

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<sup>58</sup> Both phenomena will be studied in detail in the author's PhD-research.

Halsey, 2004). Since the emergence of environmental or green criminology in the last decade, there is a shift in this trend. Unfortunately, this development seems characterised by unclear conceptualisations, resulting in others questioning whether criminology is adequately equipped to deal with the topic. Both green or environmental criminology as a field of study and green or environmental crime as a phenomenon have in fact been subject to conceptual debate. We think that a focus on (transnational) environmental crime is very relevant for criminology, but confusion about the sensitizing concepts should be avoided. We therefore conceptualize both concepts with reference to insightful authors in the field and hope to overcome some of the confusion arising from the lack of common understanding of concepts.

### **1.1. Green/Environmental criminology**

Environmental or green criminology as a field of study raises conceptual and definitional discussions. On the one hand, 'environmental' criminology is used in the context of 'place-based' criminology in the Chicago School tradition, referring to a focus on the spatial dimensions of crime. 'Green', on the other hand, is linked to partisan politics, but although green/environmental criminology as a field of study might have political preferences, it is independent of green parties and social movements (White, 2008, p. 7). Neither of those interpretations of 'green' or 'environmental' is therefore our focus of attention. This article is embedded in a *green* (Lynch, 1990, p. 3) or *environmental criminological* perspective which refers to the study of how, why, when and by whom environmental harm is inflicted upon humans, ecosystems and animals and to the study of issues that can be of both local and global ecological significance (Carrabine, Cox, Lee, Plummer, & South, 2009, chapter 19). It documents environmental crime in all forms (e.g. illegal logging, transportation of toxic waste, illegal dumping, poaching, etc.), looks at how environmental law is developed or enforced and also focuses on topics that are more conceptual in nature. Green or environmental criminology does not equal one particular theory, but is a perspective that harbors different ones and aims to sensitize the criminological field for environmental harm against ourselves and future generations (Halsey, 2004).

Sometimes also 'conservation criminology' and 'ecoglobal criminology' are used in order to avoid the above-mentioned conceptual confusion. Gibbs et al. (2010) argue that the conceptual framework of the former - conservation criminology - can advance current discussions about green crimes by incorporating insights from both natural resource disciplines and risk and decision sciences. White (2010c) uses the latter concept - ecoglobal criminology - to refer to the critical and multidisciplinary analysis of ecological considerations on a global scale.

These 'green criminologies' are all concerned about actions that harm or endanger the state of the ecology. Their detailed focus however differs, which contributes to the first conceptual debate. The second conceptual debate is about the definition of green/environmental crime, which is explained in the following paragraphs.

### **1.2. (Transnational) environmental crime**

Although most 'green' scholars agree that it is necessary and legitimate for criminology to study environmental matters, a conceptual debate about what (transnational) environmental crime

entails, seems intrinsic to the green criminological perspective (Halsey, 2004; F. Herbig & Joubert, 2006). Simply put, *green*<sup>59</sup> or *environmental crimes* are crimes against the environment (Carrabine, Iganski, Lee, Plummer, & South, 2004; McLaughlin & Muncie, 2006, pp. 146-147), but what those crimes against the environment entail and what they do not, constitutes the second conceptual debate inherent to our transnational environmental crime focus.

In order to cover the entire definition of transnational environmental crime, we first mention that 'transnational' refers to transgressions of regional and national boundaries. These transferences involve processes and trends that constitute a movement of perpetrators, victims or the crime itself between levels or geographies, and are therefore inherently linked to globalization, making it difficult to track the movement of crime and to understand its occurrence, causes, let alone responses to it (Aas, 2007).

It is difficult to determine whether behaviour gets a criminal label and defining 'crime' is therefore a process of constant debate. Moreover, 'environment' is not easily defined either, because it involves an inherent value judgement. In the following, we review the definitions of environmental crime found in literature, illustrating the slippery slope the environmental crime concept is on.

Similar to broader discussions about crime definitions, the conceptual debate inherent to environmental crime is about whether the gaze should move beyond mere criminal notions of crime (White, 2009). When the gaze is broadened beyond criminal notions of crimes, it thus accounts for environmentally harmful actions that might not be subject to criminal law and might thus not be seen as a burden like conventional crimes (Sutherland, 1961; Tombs, 2008). There are actual criminal law references for environmental issues, but mostly it involves administrative or civil law. This refers to offences such as licensing breaches that are not subject to criminal law, but are subject to administrative or civil proceedings. According to many green criminologists, these regulatory offences should be called crimes even when they are not criminal in conventional terms. Moreover, these scholars use the concept of harm for a wider variety of injuries and degradations with regard to the misuse, use and poor management of the environment and natural resources (Heckenberg, 2008, p. 12). According to them, a distinction between criminal and illegal is not a useful indicator of harmfulness, but a mere social construction (Lynch & Stretesky, 2003). Some ecologically detrimental acts may in fact be endemic to our 21<sup>st</sup> century society and therefore not perceived as such (White, 2003). Trade laws sometimes allow the exploitation of nature for consumption and production purposes. Forest industry, agro-industry and bio-technology in fact provide examples of how industrial processes (unintendedly) contribute to the depletion of natural resources. Within a green criminological perspective, it is therefore argued that it is important to make transparent that major harms are not always incorporated in criminal law - or even in administrative or civil law - especially when these would go against interests of capital (White, 2008). These crimes often stay off the political agenda, rendering them neither criminal nor illegal - so called *crimes-without-law-breaking* (Passas & Goodwin, 2004, p. 16) - seemingly regardless of the related costs. A culture of impunity might even arise, because these powerful actors are often very capable of influencing the criminalisation (White, 2008) through lobbying in favour of lenient or

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<sup>59</sup> To avoid confusion, we mention that 'green crimes' are at times referred to as the crimes committed by environmental activists. This is not our focus of attention.

against stringent environmental regulations or through campaigns advertising the green strengths of the corporation while keeping silent about the harmfulness of other corporate activities (cf. green washing). Even when environmental regulations do exist, corporations or controllers might argue that the economy will suffer if the regulations are applied too stringently<sup>60</sup>. Criminal law alone is therefore not enough of a basis to define what constitutes environmental crime, which means a more inclusive definition is required (Vande Walle & Van Calster, 2009; White, 2010a).

Rather than to limit ourselves to a strict legal definition, it might then be more useful to define the focus in view of actions which threaten the right to 'freedom from fear and suffering' – a so-called human rights definition of crime (Box, 1983; Hillyard, Pantazis, Tombs, & Gordon, 2004; Schwendinger & Schwendinger, 1975, 2001; Westra, 2004). A comprehensive definition of environmental crime could then be: "any intentional or negligent activity or manipulation [by an individual or a corporation] that impacts negatively on the earth's biotic [faunal/floral] or a-biotic [natural resource contamination] natural resources, resulting in immediately noticeable or indiscernible (only noticeable over time) natural resource trauma of any magnitude." (Adopted from: F. Herbig & Joubert, 2006, p. 96).

Environmental crimes are then acts that "may or may not violate existing rules and environmental regulations, have identifiable environmental damage outcomes and originate in human action" (Lynch & Stretesky, 2003, p. 227). These include abuse, exploitation or monopolization of ecosystems and natural resources (water, air, animal life, etc.), industrial pollution of soil, water and air, illegal transports of (hazardous) waste, but also more recent developments such as bio-piracy<sup>61</sup>. Actual environmental harm could be inflicted, other times it might be more a matter of endangering the environment in which the actual harm is hard to define in the short term. At the least, these are hard to trace back directly to individual causes and are then more about a wider range of potential endangerments. By choosing a broad focus in terms of conceptualisation and keeping an open mind for other – more indirect or less visible – damages associated with environmental crimes, it is then possible to pay attention to less evident consequences, such as the disproportionate effects for the poor and most vulnerable (Croall, 2005; Lynch & Stretesky, 2003; Mohai & Saha, 2007; White, 2007). A more indirect effect of these actions is their unequal impacts on the poor and the rich – or the global North and South – and they might also foster other conflicts (Bannon & Collier, 2003). Different scholars (Beirne & South, 2007; Lynch & Stretesky, 2003; Walters, 2007) therefore argue that environmental crime relates as much to environment as to race, class, poverty, trade and economics. It is for that reason important to take into account the social and cultural consequences beyond the mere environmental damage. This also allows us to consider the structural effects of transnational environmental crimes that transfer regions, ecosystems and even generations (Halsey, 2004). Examples are the pollution of a river by a factory located upstream across national borders hampering the growing of crops downstream (cf. the 2010 toxic spill in Hungary after an aluminium plant burst its reservoirs); the pollution of oceans and the related threats to those depending on fishing or tourism near the disaster (cf. the 2010 BP

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<sup>60</sup> Difficulties in governing transnational environmental crimes are discussed in *3. Governance of transnational environmental crime*.

<sup>61</sup> Bio-piracy is the appropriation – usually through of the application of international property rights – of traditional knowledge, technologies and genetic resources of indigenous people. (Heckenberg, 2008, p. 11).

oil spill in the Gulf of Mexico); the damage inflicted upon livelihoods of indigenous people in search of oil (cf. tar sands in Canada); or effects that are the result of long term accumulation of smaller harms of which the future impact is hard to assess (cf. the green house effect, climate change).

This broad conceptualisation however brings along with it a discussion about which rights - human, biosphere or animal - precede others, which often changes along with the scale (local vs. global) or the perspective taken (political, economic, social, environmental). A value judgement is inherent to conceptualizing environmental crime and depending on the philosophical perspective on humanity and nature one adheres to, the focus changes, rendering criminology of the environment difficult to operationalize (Halsey & White, 1998; White, 2003).<sup>62</sup> The concept of environmental crime is therefore inherently fluid and has a value-laden nature. In order to avoid this inherent subjectivity, Halsey (2004, pp. 848-849) suggests using a constitutive definition of crime, which refers to “the power to deny others to make difference”. We think that this indeed avoids the problems associated with theorizing environmental harm (see Halsey 2004), but meanwhile risks resulting in too relativistic and incomprehensive definitions, which hampers the operationalisation for empirical research. Moreover, in view of legal proceedings, these phrasings – power, harm, trauma, etc. - are often also difficult to reconcile with the legality principle.

In order to study environmental crime empirically, we therefore need a working definition. We built upon the definition provided by Passas (1999, p. 17) which states that “crime is misconduct that entails avoidable and unnecessary harm to society, is serious enough to warrant state intervention, and resembles other kinds of acts criminalized in the countries concerned or international law.” Applying this to the environment, such a definition would account for the abuse of environmental law asymmetries by multinational corporations (e.g. when waste recycling facilities are moved to countries with lower environmental legal standards). Following the above line of reasoning, transnational environmental crime is then: *any intentional or negligent activity or manipulation [by an individual or a corporation] that entails avoidable and unnecessary, immediately noticeable or indiscernible (only noticeable over time) environmental harm to biotic [faunal/floral] or a-biotic [natural resource contamination] natural resources, which transfers regional and national boundaries and is serious enough to warrant state intervention and resembles other kinds of acts criminalized in the countries concerned or international law* (Adopted from: F. Herbig & Joubert, 2006; Lynch & Stretesky, 2003; Passas, 1999). This definition takes into account the actual and potential endangerments of natural resources and also allows us to consider the social and cultural consequences beyond this mere environmental damage. We think that legal definitions serve as a good and necessary starting point for research and therefore propose to use a legal point of reference (see discussion of cases below). We use crime as a concept (rather than harm), but define this beyond a focus on criminal law or nation states alone and adhere to the standards offered within international environmental law. The basis of this was laid out in the *Rio Declaration on Environment and Development* of 1992, which principles were meant as a guideline for the further development of international environmental law. The leading principles that address

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<sup>62</sup> See (Bisschop, 2010) for further elaboration on these philosophical perspectives (anthropocentric, biocentric, ecocentric) and their relation to criminological lines of thought.

environmental crimes are the precautionary principle<sup>63</sup>, the principle of environmental impact assessment<sup>64</sup>, the polluter pays principle<sup>65</sup>, the no harm principle<sup>66</sup>, the principle of sustainable development<sup>67</sup> and the principle of common but differentiated responsibilities<sup>68</sup>. These principles have to a varying degree been incorporated into the legal frameworks of the United Nations and European Union and are part of various international conventions. There are also indications within this international environmental framework for the use of corporate liability, although the implementation – criminal, civil or administrative liability for legal persons - is left to the discretion of the signatory states<sup>69</sup>. Therefore, it is difficult to make this work without more extensive standardization. Choices of which areas or natural resources should be protected are however likely to always remain politically charged decisions where differences of political, social, cultural, ecological and economic opinion clash. Without fundamental economic, social, political and cultural changes - without true sustainable development - transnational environmental crime is therefore likely to stick around and its governance is likely to meet considerable challenges (see further) (Alvazzi del Frate, Benjamin, Heine, Norberry, & Prabhu, 1999; South, 2007). However, the above mentioned principles could help frame this criminalisation.

Within the common denominator of transnational green or environmental crime different subcategories of crimes can reside, such as illegal logging, deforestation, illegal transport or dumping of waste, illegal poaching and trade in endangered species of fauna and flora, but also the theft of indigenous genetic resources and pollution crimes (contamination of water, air or soil). Concepts such as *natural resource crime* or *ecological crime*<sup>70</sup> are closely related, but are to our opinion less generic terms (Boekhout van Solinge, 2008). *Ecocide* is another specification, referring to harming the natural environment on a massive scale (Gray, 1996; South, 2010).<sup>71</sup>

In trying to make a typology of environmental crimes, we can talk about primary and secondary crimes. Primary are those damages that are directly inflicted such as resource depletion, water and air pollution, deforestation, species decline. Secondary or symbiotic green crimes are those that result from negligent or illegal government or corporate activity such as hazardous waste crimes

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<sup>63</sup> Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. (Rio Declaration, principle 15).

<sup>64</sup> Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority. (Rio Declaration, principle 17).

<sup>65</sup> National authorities should endeavor to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment. (Rio Declaration, principle 16)

<sup>66</sup> States have [...] the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction (Rio Declaration, principle 2). States should effectively cooperate to discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health (Rio Declaration, principle 14).

<sup>67</sup> The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations. (Rio Declaration, principle 3).

<sup>68</sup> In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities (Rio Declaration, principle 4).

<sup>69</sup> For example in the United Nations Convention against Transnational Organized Crime.

<sup>70</sup> These are illegal activities concerning elements (fauna and flora) of ecosystems.

<sup>71</sup> An example of this is the toxic destruction of entire agriculture lands to avoid the plantations of drugs.

and that indirectly impact the natural resources. We might even say there are tertiary green crimes since various other crimes are also closely related to the occurrence of transnational environmental crime such as fraud, corruption and embezzlement (e.g. forging licenses or transport documents) or exploitation by states and corporations in abuse of legislation (Carrabine, et al., 2009, chapter 19).

### **1.3. Conceptualizing waste and natural resources as transnational environmental crimes**

As announced in the introduction, we try to make the conceptualisation of transnational environmental crime more tangible by exploring two cases: waste and natural resources.

The legal basis for both phenomena resides in international conventions which allows empirical studies to use comprehensive definitions while staying in the near of the law (Passas, 1999). For waste this refers to the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal* and the European Union *Waste Shipment Regulation (1013/2006)*, *Restriction of Hazardous Substances Directive (RoHS 2002/95/E)* and *Directive on waste electrical and electronic equipment (WEEE 2002/96/EC)*. For natural resources the strongest legal basis is in the *Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES – Convention of Washington 1975)* and in the more stringent legal framework of the European Union the *Wildlife Trade Regulations (338/97/EC & 865/2006/EC)*, the *Forest Law Enforcement, Governance and Trade Action Plan (FLEGT)* and other initiatives. Besides these instruments there are not that many international agreements on natural resources. For forestry for example it is rather easy to disregard national laws, once illegally clear-felled timber left the country of origin (Crossin, Hayman, & Taylor, 2003). Depending on the particular focus, for example electronic waste or timber, other legal instruments are relevant starting points for research.

The potential environmental impact of both cases should not be underestimated. All of the ecological costs are externalized, meaning they are not accounted for in production processes (Lynch & Stretesky, 2007), on the contrary even, these practices usually take economic advantage over less environmentally harmful ones, having consequences reaching far beyond the initial act. For waste, inadequate recycling or dumping of waste can be a threat for both human health and the natural environment. Waste containing heavy metals<sup>72</sup> or radioactive material is known to be related to organ damage and cancer. This also pollutes water, soil and air quality, irrespective of national borders, contributing to the depletion of natural resources and global climate change. Natural resource crimes are first of all a clear biodiversity threat. Illegal clear-felling of timber reduces the habitat of local species, depletes the water, air and soil quality and causes erosion. This also hastens climate change and global warming and can lead to resource wars over food and water as well as to environmental refugees, ethnic conflict and violent protests as more indirect effects (Carrabine, et al., 2004). Natural resources crimes are also a revenue loss for developing countries and when the revenue goes to rebellious groups it causes the destabilization of the state. Natural

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<sup>72</sup> Cadmium, beryllium, mercury, lead, brominated flame retardants (BFRs), chlorofluorocarbon (CFCs), etc.

resources are in fact often a source of conflict. For a low-income country the richness of natural resources in many cases makes poor people poorer (Bannon & Collier, 2003; Ross, 2003).

While studying these cases, it is interesting to look at the actual environmental damage as well as the potential endangerments of natural resources and the social and cultural consequences that are not necessarily accounted for in legislation. Waste and natural resources are commodities and markets on the thin line between legal and illegal. Traded goods are often legal if they are labelled correctly, but this does not mean they are environmentally harmless. An example on waste is the transport of 'recyclable' electronics to countries without adequate resources to process them (Gibbs, McGarrell, et al., 2010; Sander & Schilling, 2010). Regarding timber, the logging might have been licensed, but permits are often abused or licenses are given out by bribed enforcement officers. Wood from old growth forests might also have a legal label upon arrival in the EU or US, but could very well have been clear-felled unsustainably in Congo, Burma, Cambodia, etc.

## **2. The aetiology of transnational environmental crime**

Theoretical and empirical underpinnings of mainstream criminological thought can be incorporated in thinking about transnational environmental issues (White, 2008) but the etiological picture of transnational environmental crime is complex: a complete account of the causes requires an examination of opportunities to commit the crime, of motives to take advantage of these opportunities and of control options and weaknesses (Passas, 1999). This requires looking beyond the micro-level of individual perpetrators and focusing on organisational (meso) and societal (macro) levels as well (Clinard & Yeager, 1980; Huisman, 2001; Punch, 1996; Slapper & Tombs, 1999).

Causes for transnational environmental crime could refer to different elements in the corporate or organisational structure, culture and strategy and the international and external organisational context. Based in opportunity theory, one could scan for characteristics of sectors (e.g. waste management or transport sector) in view of irregularities and opportunities for informal economies to flourish (Vander Beken, 2007; Vander Beken & Van Daele, 2008). Characteristics of the market system or society are also grounds for opportunities, motivations and rationalizations for committing environmental crime. Croall (2005, p. 241) states that "[m]any economically and socially harmful activities find space to flourish in the climate of deregulation and are morally justifiable in the context of neo-liberalism." This implies that the global political economy with its focus on production, consumption and profit-making needs to be taken into account as a possible contributing factor. Modern society in fact creates many environmental risks (Carrabine, et al., 2004). Studying transnational environmental crime thus requires scholars to question the endemic and systemic functioning of different dimensions of society and their possible impact on the exploitation of humans and the environment.

Today's globalized world provides us with an unlevel playing field which is contributing to the occurrence of harms and crimes. Passas (Passas, 1999, p. 402) refers to 'criminogenic asymmetries' as a cause of corporate offences: "structural discrepancies, mismatches and inequalities in the realms of economy, law, politics and culture [...] fuelling the demand for illegal goods and services;



generating incentives for people and organisations to engage in illegal practices; and reducing the ability of authorities to control crime". These asymmetries are criminogenic because they foster the demand for illegal goods or services, are an incentive to participate in illegal markets and hamper the ability of authorities to control. Applying this to environmental matters, asymmetries in environmental regulation or ambiguities in enforcement can contribute to jurisdiction (s)hopping, in which one goes in search of the most favourable (illegal) agreement for the trade of hazardous waste or for the space between laws. Heightened environmental awareness in industrialized countries (cultural asymmetry) led to the strengthening of environmental legislation (legal asymmetry) causing prices to go up (economic asymmetry) and giving extra incentives for illegal trading of waste to countries with lower environmental awareness, lower environmental regulatory standards and lower prices (Passas, 2000). Countries in the global South allow waste imports into their countries out of fear for the 'Northern' investors to move out (trade/economic asymmetry). 'Southern' communities affected by the environmental crimes of pollution or deforestation might be unaware of their harmfulness (knowledge asymmetry) or do not have the economic means or political rights to oppose to the polluter (economic/political asymmetry). We might assume social, political and economic power asymmetries between and within nations affect the occurrence of environmental crime and therefore need to place transnational environmental crime within the broader context of the sectors and of today's globalized society.

In this respect, it is vital to discuss the legal-illegal interface and its contributions to the aetiology of transnational environmental crime. This interface can be of both an antithetical and symbiotic nature (Passas, 2002). Antithetical when there is competition or even rivalry between legal and illegal actors. Symbiotic when the relationship between legal and illegal actors is one of outsourcing, collaborating, funding, cooptation, reciprocity, or other (mutually) beneficial relationships. It is unclear to what extent the relationship between illegal markets and legitimate corporations or governmental agencies plays a role in the aetiology of transnational environmental crime, but it is plausible that networks of crime exist. Transnational environmental crime involves small as well as large actors; it concerns individual smugglers as well as container-loads of goods. Nowadays some claim transnational environmental crimes happen through the same actors and within the same structures of the legitimate business, helped by complicit politicians and corrupt functionaries (Naylor, 2004). Others think organized crime syndicates are involved in the illegal trade in ozone-depleting substances, illegal hazardous waste treatment (cf. the Italian eco-mafia) and the illicit trade in natural resources such as endangered species, but information is scarce and often unreliable (Albrecht, 2004; UNODC, 2009). Reducing motives and opportunities for illicit as well as licit - risky - transactions is therefore a clear challenge for regulation and enforcement (Gibbs, McGarrell, et al., 2010). Either way, the line between legal, illegal and criminal is narrow and there are many instances where legal and illegal practices as well as businesses collude (Nelken, 2002). We think further research should allow painting a lucid picture of the aetiology of the phenomenon of transnational environmental crime in order to deal with this challenge.

To understand the nature of transnational environmental crime it is therefore significant to not only focus on the supply side but also look at the demand side of our global economy (van Erp & Huisman, 2010). This interplay of demand and supply not only occurs on an organisational level as illustrated above, but also individual consumers neutralize purchases of environmentally harmful

goods or services (e.g. teak furniture, jewellery made from corals or ivory, etc.). Halsey (2004, p. 844) hits the nail on the head in saying: “Not only is it profitable to be environmentally destructive (in the sense of mining, manufacturing cars, clear felling forests), it feels good too (in the sense of purchasing a gold necklace, driving on the open road, looking at a table, chair or house constructed from redwood, mahogany, mountain ash or the like)”. The low societal concern for the environment thus also contributes to occurrence of transnational environmental crime (Brack, 2002) and in a global market this is reinforced by the fact that consumers are provided with goods of which the environmental impact of their production are far removed, allowing for the easy externalization of risks. A theoretical basis for the study of transnational environmental crime resides in opportunity theory; not the strict application in view of safety of products or homes, but the use in view of characteristics of the broader context that contribute to its occurrence. In this respect, we take into account the multi-dimensional nature of the relationship between crime and economy when looking for causes of transnational environmental crime. However, without neglecting the significance of this rational choice or opportunity theory perspective on transnational environmental crime, it is also important to gain insights on the causes that go beyond this. For example insufficient knowledge of legally binding frameworks (Bhrem & Hamilton, 1996) or the criminal or regulatory interventions being perceived as unfair (Hatcher, Jaffry, & Bennett, 2000). Business ethics literature also points toward the importance of the internalization of norms for effectiveness of self-regulation (Campbell, 2007). We should therefore consider multiple victims and offenders – individuals as well as businesses small and large, legal and illegal - and acknowledge that power in politics or economy may control framing or defining transnational environmental crime (cf. criminalisation processes). It is therefore important to analyse how, when and why certain actions become perceived as illegal (Snider, 2008) and what actors as well as systemic features play a role in the aetiology of transnational environmental crime.

## **2.1. Aetiology of waste and natural resources as transnational environmental crimes**

Similar to the illustration on the criminalisation and definition, we want to make the aetiology of transnational environmental crime more tangible by referring to the two case studies. This serves as an illustration and does not intend to be an exhaustive overview of etiological factors. While discussing these etiological characteristics of both cases, it is important to be aware of their different transnational orientation. For the case of waste, the developed countries are mainly an export country of origin or a transit country for waste originating in other industrialized states and this export mostly goes to West-Africa or South-East Asia. For the case of natural resources the transnational dimension is differently oriented, given that developed countries are mostly import countries or transit countries towards other developed countries.

In order to account for the transnational nature, we suggest perceiving both phenomena as *flows*<sup>73</sup> and studying them in this nature. This means paying attention to departure locations, followed routes and final destinations of the goods (i.e. waste and natural resources). For each of these steps one could then look at what characteristics and actors play a role. We are aware that perceiving

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<sup>73</sup> See further: 3. The governance of transnational environmental crime.

them as a transnational environmental flow risks resulting in too relativistic approaches and therefore adhere to the suggestion made by Gille (2006) and think these case studies could be based in a local context, but with attention for the different transferences influencing this locality. We suggest situating the transnational environmental crime flows within national localities (e.g. sea- or airports) but placing them within the broader dispositive of its end-users and other involved actors. This will allow to de-anonymise trajectories of illegal commodities. By identifying the involved actors and factors, it should be possible to gain more complete insights on what motivations, neutralizations and opportunities play a role in the emergence of transnational environmental crime.

### **2.1.1. Waste as a transnational environmental crime commodity**

The waste sector is on the interface between legal and illegal: it is part of the legal economy, but meanwhile prompts different kinds of illegalities due to extant criminogenic asymmetries (Passas, 1999, 2000; Vander Beken, 2007). The proportions of the waste problem are significant and have increased due to a number of developments in the post World War II society. As a consequence of increased regulations on releasing waste in water, air or land, waste management prices have gone up in the industrialized countries. The public in the industrialized world became warier of waste landfills and industrialized countries therefore avoid keeping the waste 'in their own backyard'<sup>74</sup>. This caused waste to become a true article of trade that is sold and bought on the market. Due to changed production processes, our society also relies more on synthetic and chemical products, which results in considerable amounts of toxic waste. Waste management has in fact become a big and lucrative business. Moreover, there are a number of tensions inherent to waste as a commodity. Waste has an inverse incentive structure due to its negative value. It is also a product of low integrity since it can be easily mixed up or sold under-cover on the second hand market (Gibbs, McGarrell, et al., 2010; Vander Beken, 2007). An example are major chemical industries who contract out the toxic operations to small firms who are less able to handle the chemicals safely (e.g. in someone's garage). Waste management corporations can also shop around for the lowest costs for waste disposal and offer officials in poor countries attractive prices or bribes for accepting the (toxic) waste into their lands (White, 2008). Societal and environmental interests are likely to clash with the economic benefits of illegal waste treatment, since illegal profits are estimated to be 3 to 4 times higher than legal waste treatment (G. Bruinsma, 1996; Sanax, 1996). IMPEL<sup>75</sup> also reported that illegal trade in waste is on the rise. The UNODC<sup>76</sup> (2009, p. 55) estimated that the value of toxic waste transported in one year from industrialized countries to West-Africa alone has an estimated value of 95 million US dollar.

Waste as a transnational environmental crime commodity is also closely intertwined with social and ecological inequalities. Vulnerable groups are those most likely to suffer, because they have a bigger chance of working or living near the polluting factories or landfills (White, 2008). The global South is especially vulnerable due to their weak regulatory system and government but also their

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<sup>74</sup> This is often referred to as NIMBY: *not in my backyard*.

<sup>75</sup> European Union Network for the Implementation and Enforcement of Environmental Law.

<sup>76</sup> United Nations Office on Drugs and Crime.

precarious socio-economic situation. Waste often ends up in impoverished villages where people are willing to work for low wages and in which credible oversight is far-gone. This causes them to accept illegal but financially interesting hazardous waste shipments (Carrabine, et al., 2004). An example is the trade in e-waste: Electronics are an increasingly large industry with numerous toxic substances (e.g. lead, mercury, hexavalent chromium). These often end up in incinerators or landfills or are gathered for 'recycling' to developing countries (Nigeria, Pakistan, India, China, etc.). These countries are however not always equipped for its recycling, leading to inappropriate recycling practices or dumping of the materials, causing threats for human health (organ damage, cancer) and the natural environment (groundwater contamination, ozone depletion). This phenomenon is export driven, due to the high demand for recyclables in developing countries (i.e. raw materials) and the high profits that can be made when transporting the waste instead of treating it properly (Gibbs, McGarrell, et al., 2010). A particular example of the dumping of toxic waste is a 2006 case in Abidjan (Ivory Coast) where 600 tons of toxic material was dumped on waste sites near the city. They were transported from Amsterdam with the *Probo Koala* tanker, chartered by a Dutch company. According to the UN Special Rapporteur on Toxic Waste 15 people died, 69 people were hospitalized and over 100,000 needed medical attention.

### **2.1.2. Natural resources as a transnational environmental crime commodity**

Natural resources are equally on a thin line between legal and illegal (e.g. timber industry, zoos) and also cause tensions between corporate and environmental interests as was explained regarding waste. There are similar economic, social and political drivers and asymmetries underlying the illegal activities. Both legitimate and illegal corporations and individuals are involved in the commoditization of natural resources. On the supply side, various actors can be responsible for the clear-felling of a tropical forest, the extraction of raw materials (coltan, diamonds, gold, gemstones) or the poaching of elephants: farmers, professional loggers, armies in search of income sources, etc. After the trees are logged, the precious metals or hard rock minerals extracted or the ivory and bush meat of the elephants is harvested, the product follows a marketing chain via dealers and smugglers, who could very well be respectable businessmen. On the demand side, the product can arrive at the doorsteps of importers, manufacturers (e.g. furniture, paper, electronics), retailers, wholesalers and legitimate businesses (i.e. pet, jewellery or furniture stores). The demand for the products by consumers in developed countries (EU, US) is also a major driver of these natural resources crimes (Brack, 2004). Friends of the Earth estimates that up to 70% of timber imports into EU are illegal (Crossin, et al., 2003).

Case studies by NGO's<sup>77</sup>, researchers<sup>78</sup>, journalists and the UN expert panels have also shown this natural resource extraction and trade to be quite often related to armed conflicts and exploitation of the poor rendering it not necessarily illegal, but quite certainly 'dirty' (Bannon & Collier, 2003). Reference is made to the notion 'blood timber', similar to the 'blood diamonds'. We refer to the analysis by Tim Boekhout van Solinge (2008) about the Liberian hardwood and the armed conflict under dictator Taylor's regime. This provides a clear example of how political, economic and social

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<sup>77</sup> E.g. Greenpeace, Global Witness, Corpwatch, Friends of the Earth.

<sup>78</sup> (Boekhout van Solinge, 2008; Naylor, 2004).

elements coincide in the aetiology of transnational environmental crime. A similar analysis about the 'underworld of ivory' is made by Thomas Naylor (2004) and Lemieux and Clarke (2009). Ross (2003) illustrates how natural resource extraction affects the natural resource-rich and conflict-prone countries in Africa. For victimized communities it is often difficult to address their concerns, as they are dealing with commercially and politically powerful individuals or corporations. This is very visible in cases of *bio-piracy*, which is the commercial exploitation of 3<sup>rd</sup> world resources, peoples and knowledge. This often happens through licit mechanisms such as patents or other judicial and institutional construction.

This topic of natural resources however seems to be less of a political and law enforcement priority compared to waste, although different international initiatives have been set up to counteract the trade in natural resources in general and endangered species or timber more in particular (Wijnstekers, 2004).<sup>79</sup> Assessing the scale of the problem is difficult since information is patchy. Global illegal trade in wildlife estimates range from 10 to 20 billion Euro annually and the World Bank estimates that illegal logging alone costs developing countries \$15 billion in revenues and taxes<sup>80</sup> (C. Schmidt, 2004; Wijnstekers, 2004).

### **3. The governance of transnational environmental crime**

Reducing the above-mentioned motives and opportunities for illicit as well as licit - risky - transactions is a challenge for regulation and enforcement (Gibbs, McGarrell, et al., 2010). We draw upon theory and research into different dimensions of transnational environmental crime to make clear that its governance is necessarily multi-stakeholder, multi-sector and multilevel and that it is often far from clear how different actors and approaches interact. We make a number of suggestions to study the governance of transnational environmental crime and gain insights into its characteristics. In the following paragraphs, we consecutively look at what lines of thought are present in the governance of corporate, environmental and transnational crime. We once again illustrate this by means of the two cases waste and natural resources.

On the one hand, there are a number of difficulties in dealing with environmental issues by means of the criminal justice system (Alvazzi del Frate, et al., 1999; White, 2008, 2010b). Firstly, there is the problem of liability. It is hard to hold one person let alone a company that has seen frequent management changes responsible. Some countries also do not have a criminal liability for corporations (Heine, 2006). In absence of strict liability, it is also difficult to assess the individual harmfulness of actions by different actors, let alone proof the chain of evidence for prosecution. The constant overlap between licit and illicit actors and circumstances makes it hard to trace the chain of evidence and obscures the connection of legal and illegal for regulators. Secondly, the investigation of environmental crime is rather demanding for the criminal justice system. It requires expertise as well as adequate amounts of resources for infrastructure and staff because cases often cross jurisdictions, involve many actors and are technically complex. It also requires the

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<sup>79</sup> E.g. Convention on Biological Diversity, Convention on International Trade in Endangered Species, Interpol Wildlife crime working group, International Plant Protection Convention, World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures, EU FLEGT, etc.

<sup>80</sup> [http://www.unodc.org/documents/NGO/EIA\\_Ecocrime\\_report\\_0908\\_final\\_draft\\_low.pdf](http://www.unodc.org/documents/NGO/EIA_Ecocrime_report_0908_final_draft_low.pdf).

different competent authorities to overcome their possible conflicting finalities and agree on the approaching strategy: trade liberalism and border control do not always go hand in hand (Brack, 2002). We also need to take into account the potential of regulatory capture that causes enforcement to fail. Moreover, the complexity of transnational environmental crime also requires sensitivity to different types of and motivations for offending. Thirdly, even if a case leads to prosecution, it is often difficult to prove culpability or negligence. When sentenced, the imposed fines are often minimal compared to the profit the convicted companies make each year, rendering it easy for the companies to absorb the fines or pass them to consumers (Carrabine, et al., 2004). Crawford (2005) even wonders whether the police or prosecutor chooses a case based on its environmentally harmful nature or on the better chance of winning a case, since the onus of proof in criminal cases is quite high. Civil cases or administrative approaches might in fact allow more timely and more flexible responses and have a lesser burden of proof. All of this however assumes the behaviour was criminalized in the first place and this is not always likely as we have illustrated earlier in this article. Private property rights often frame the possibilities of environmental protection (White, 2008) and even when the behaviour is part of international treaties, the value of protecting the environment is often still balanced with issues of trade protection. Different cultural traditions can also have opposing views on what is criminal or illegal. Moreover, signing an international convention or treaty does not equal its actual implementation or enforcement by the signatory states (Alvazzi del Frate, et al., 1999). Especially developing countries might lack the resources for adequate enforcement, which is why capacity building is so important. Besides that, there is always a chance country shopping will arise when certain conduct becomes part of criminal or administrative law in one country or region and not in another, and the danger could thus simply move. Given the global effect of environmental damages, there is little use in dealing with transnational environmental crime nationally when initiatives are not harmonized on an international level (Carrabine, et al., 2004). An attempt to harmonize environmental legislation and law enforcement has occurred since the seventies (e.g. United Nations initiatives) but there is still ample room for improvement. Sustained socio-legal research about actual practices and outcomes of environmental prosecution could shed more light on this and could study the possibilities of a 'world environmental court' (White, 2010b).

On the other hand, also voluntary approaches to transnational environmental crime have their weaknesses. Examples of these are allowing the industry to regulate itself (Braithwaite & Fisse, 1987) or co-operating with various stakeholders when establishing control institutions. Possible strategies are information, self-regulation, incentives, environmental management systems and environmental reporting<sup>81</sup> (Grabosky & Gant, 2000; Haines, 1997). We can categorize this as 'responsibilisation' strategies (Garland, 2001, p. 126), which relate to a "basic sociological truth that the most important processes producing order and conformity are mainstream social processes, located within the institutions of civil society and not the uncertain threat of legal sanctions". This however assumes a basic degree of trust in organisations and their functioning (Van de Bunt & Huisman, 1999), which is an idea that is countered by many critics of the capitalist system (Tombs, 2008). In the absence of a credible threat of regulation or taxation, some companies might still be

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<sup>81</sup> E.g. European Pollutant Emission Register; European Eco-label; Eco-Management and Audit Scheme.

tempted to inflict harm upon the environment (Van de Bunt & Huisman, 1999). These compliance strategies also tend to depict corporations as clients rather than possible perpetrators and thus holds the risk of regulatory capture (Alvazzi del Frate, et al., 1999). There are a number of economic conditions that influence whether corporations are likely to behave socially responsible, but these are mediated by a variety of institutional conditions, such as the strength of state regulation or (collective) industrial self-regulation, monitoring of corporations by NGOs or other independent organisations, the presence of institutionalized norms regarding appropriate corporate behaviour, associative behaviour between corporations and organized dialogue amid corporations and their stakeholders (Campbell, 2007).

The approaches to corporate and environmental misconduct range from criminal law, over administrative law to self-regulation, varying from controlling strategies (e.g. whistle-blowing, sanctioning) to stimulating strategies (e.g. training, ethical codes). Some aim at convincing or advising, others are forms of social control, warnings or shaming and there are also fines, ransoms or incapacitating reactions (closure of company, withdrawal of license). The ones aim at punishing bad behaviour, the other at the prevention of harm or the stimulation of good behaviour (Grabosky & Gant, 2000; Ponsaers & Hoogenboom, 2004; Van de Bunt & Huisman, 2004). As mentioned above, each of these approaches has its strengths and weaknesses. Neither mere business' self-regulation nor mere reliance on the criminal justice system is sufficient to deal with corporate environmental crime. A mixed framework is therefore assumed to be the most appropriate approach to regulate corporations (Gunningham, et al., 1998). For this assumption, we rely on research and theory conducted on the responsive regulatory pyramid and smart regulation. The *responsive regulatory pyramid* assumes that voluntary and regulatory approaches are not mutually exclusive. It pays attention to the breach of the rules as well as to compliance, and to the integration of both formal and informal reactions (Ayres & Braithwaite, 1992; Van den Heuvel, 1998). The ground assumption of this model is that the choice of regulatory strategy is responsive to what is more appropriate for a given situation, taking into account the strengths and weaknesses of both self-regulatory and state government reactions (Braithwaite, 2002, p. 29). Within this model, ample room is on hand for the corporations to act responsible (at the base of this pyramid) and for the responsive interaction between different approaches for crime. The social context of the corporation (environmental organisations, suppliers, customers, neighbours, media) also has an important role to play in this regulatory scheme (White, 2008), but we should be realistic about how much effort corporations will put in proving their right, how much they actually care about their image<sup>82</sup> and how much the public actually cares especially when the environmental damage is distant from their own 'backyard' (Carrabine, et al., 2004).

The scholarly focus has in general mainly been on the evaluation of the formal approaches and more in particular on those administrative or criminal reactions of police, prosecutors or special investigative services (C. Billiet, 2009; Ponsaers & De Keulenaer, 2003; Struiksma, de Ridder, & Winter, 2007). In a society where government makes way for governance, it is however crucial to study the informal reactions and to evaluate the functioning of the entire regulatory spectrum. It

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<sup>82</sup> Small companies, who could very well be heavy polluters, for example are very flexible in changing their name and location and might thus be less afraid of prosecution.

would also be interesting to gain insights on how the different layers of the pyramid affect each other. When a corporation commits a crime, a spectrum of reactions arises: governmental reactions (e.g. redrawing licenses, criminal prosecution), public reactions (e.g. shaming in the media, NGO initiatives, different consumption or investments), but also private reactions (e.g. changes in their structure, the introduction of management systems in corporate policy). These reactions might also interact: when NGOs are aware of a problem, they might inform the media, which might lead the criminal justice system to respond or the corporation to take actions which result in the drop of charges. This interaction of actors and levels is not easy to grasp and it has been a topic of debate amongst scholars. White (2003) is of the opinion that the regulatory pyramid only works when deterrence at the top is a reality. This indicates a value of criminal reactions which tends to be ignored in a climate of great trust in self-regulation: criminal law might be the 'stick behind the door' for the compliance model (Ayres & Braithwaite, 1992; Huisman, et al., 2009). Baldwin and Black (2008, p. 63) on the contrary state "[t]he constant threat of more punitive sanctions at the top can stand in the way of voluntary compliance at the bottom of the pyramid". Crawford (2005) wonders whether the pyramid reflects empirical reality and sees a number of vulnerabilities: the risk of clouding accountability, regulatory capture, net-widening and regulatory overload. He thinks the state is not smarter or weaker per se and has not reduced its ambitions, but rather "more diverse forms of a more frenetic, volatile, contradictory and politicized social regulation is the result". In his publication *Regulatory Capitalism*, Braithwaite (2008) acknowledges the shortcomings of the pyramidal model and goes in search for a new metaphor which better envisages the governance aspect of reactions to corporate harm. The focus is then less on the vertical dimension of supervision and more on networks of organisations (van Erp, 2008). In these networks various actors are involved, who could well be driven by different objectives, interpret behavior differently and might respond in various ways. An important role in policing the environment might for example be played by environmental agencies, but they need to balance different interests (economic and environmental considerations) and act as advisories to help companies abide the law and are at the same time responsible for their prosecution (South, 1998, 2007). It is therefore important for future studies to assess the range of interventions and actors in the governance of transnational environmental crime.

In the governance of transnational environmental crime, it is also important to look beyond the safety and security context and pay attention to other dimensions at play, such as the social problems or political and economic elements that contribute to the phenomenon. We think that a nodal governance perspective offers interesting insights for this. Nodal governance theory looks at new developments in contemporary society, such as interdependence, globalization and transformation and presumes these developments cause new policy arrangements to arise with new roles for different policy actors (industry, government, scientists, NGOs, etc.). Particular attention is paid to the global elements at play and the focus is on networks, nodes, hybrids, spaces of flows and spaces of places (Castells, 2000; Spaargaren, Mol, & Buttel, 2006; Urry, 2003). This refers to the new institutional make-up of society, with other representations of space and place. The networked governance is then a complex web of international, multinational, national, regional, local, political and non-governmental institutions and private actors (Castells, 2000; Oosterveer, 2006, p. 268). Examples are transnational arrangements that crosscut formerly distinct divisions of



tasks among state, market and civil society actors. Central to this nodal governance is the role of other than state actors, which also implies a role that goes beyond a simple partnership with the state, but encompasses the true taking up of responsibilities. Shearing and Wood (2003, p. 411) say that “in order to gain adequate understanding of new developments in governance, and the new features of the world that these developments reflect, we must shift our focus away from state-centered lines of inquiry”. Spaargaren, Mol en Buttel (2006) further exemplified this by applying global governance theory to environmental flows. They provide the example of international shipments of waste, which cross boundaries of sovereignty, regulation and governance and propose to take environmental flows as a starting point for research. Researching the governance of environmental flows requires looking at various actors in the playing field across different geographical borders. Due to changes in society, economic actors, NGOs, scientists, international organisations and others are increasingly constitutive partners of governance arrangements at multiple policy levels. Nowadays, markets sometimes behave like nation states (e.g. transnational corporations who set high environmental standards for production) and non-state actors sometimes fill gaps left open by civil institutions (Vande Walle & Ponsaers, 2006). This does not mean the state became unimportant. The responsibility for the implementation of global environmental standards and the role of monitoring is still primarily the role of the state. Nevertheless, the (changing) role of the different actors in implementation and compliance and the (new) networks and governance processes in the illegal flows of environmental goods (waste and natural resources) are interesting to study (Jänicke, 2006; Spaargaren, Mol, & Bruyninckx, 2006). Studying the governance of environmental flows should thus not be limited to national policies, given the inherently transnational nature of environmental issues. Neither does this focus on flows mean that the local level can be neglected.<sup>83</sup> We therefore deem it important to ‘de-anonymize’ these flows and to make the interconnections and processes within them transparent. Future studies should wonder how the governance of environmental flows takes place in practice (Shearing & Wood, 2003), who takes up the responsibility and what the function of the state is. Is the state’s role a matter of setting the course, monitoring the direction and correcting deviations from the course and thus a movement away from hierarchy, command, interventionism, a rolling back of the state (Crawford, 2006)? It is crucial to document and contextualize these evolutions rather than simply assuming they exist (Crawford, 2003; Franko Aas, 2007). By looking at the characteristics and interactions of the actors and processes in the flows, it should be possible to identify their strengths and weaknesses in governing the environmental flow. This will help to understand the limitations and possibilities of different sites of governance. We are aware this is an empirical challenge due to the inherent complexity and the changes across time and space.

### **3.1. The governance of waste and natural resources as transnational environmental crime commodities**

We assume that on a supranational level, governance networks, nodes and smart regulation are increasingly salient ways of thinking about, promoting and doing regulation (Crawford, 2006). It is however important for this governance to be embedded in empirical findings which are attentive to

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<sup>83</sup> The intertwining of these global and local elements is sometimes referred to as ‘glocal’.

the cultural, political and institutional contexts that shape control and regulation. A look into the regulatory practice of waste and natural resources could contribute to building transnational environmental governance theory. This will need to take both the vertical and the networking aspects into account and should try to gather more information on the nature of the interactions of actors and levels in the governance of transnational environmental crime. The following illustrates some of the elements that could be taken into account when researching the governance of transnational environmental crime (i.e. illegal transport of waste and natural resources).

The international political response to the risks and threats which accompany the waste problem was the adoption of preventive instruments such as the Basel Convention (1989). Basel specifies that information on the contents and destination of waste and prior permission from the importing country is needed before transport. It even foresees the ban of toxic waste shipments to industrialized nations. Many countries (United States, Canada, Australia, Ivory Coast, etc.) have however failed to ratify this amendment, which hampers the good functioning of the convention. Moreover, the Basel convention did not define the basic concepts which led to the situation in which one company's waste is another's recyclable material. The Basel secretariat collects data of national authorities with disparate types of waste, collected over different periods of time and using different nomenclature (Crossin, et al., 2003). The European Union has drafted different more stringent regulations regarding waste. As a consequence of this, EU governments inspect ships and open containers in their territory to check the contents. The European Waste Shipment Regulation (EWSR) for example aims to prevent illegal export of e-waste by requesting a test report and proof that the products have a market. Only a small percentage of freight is checked, but data shows about 15% of all waste transports is in violation (van Erp & Huisman, 2010). Looking at the complete legislative picture, there is a lot of regulation on waste (possession) with limited blind spots (e.g. brokers (G. Bruinsma, 1996)), but this legislative maze also causes a lot of confusion and is characterised by eminent liability problems (see above). It is important in this respect to standardize definitions (e.g. of what is waste and what is recyclable) and increase the strength of governmental action through better intelligence based enforcement and agency cooperation. Even within the EU some member states fail to regularly inspect waste shipments, which increases the likelihood of 'port hopping'. A solution could be to look at the broader supply chain of e-waste (producers, recycling businesses) to prevent the externalization of risk which is the approach taken by the Dutch Inspectorate of the Environment. Eliminating or minimizing the use of harmful substances in the production of electronics is likely to be a more effective solution to environmental problems (Lazarus, 1995; van Erp & Huisman, 2010).

For natural resources and endangered species more in particular, the CITES convention tried to harmonize definitions and objectives. It has longtime been the only international framework for licensing imports and exports of natural resources, focused on endangered species more in particular. Some flaws of the CITES system have been identified, such as the exemption for modified ivory and the inefficient structure for appendix II, but it remains an initiative that is very comprehensive. CITES has been implemented more stringently in the EU legislative framework. The interpretations of this legislation between different countries (even within the EU) and also between authorities however still vary as does their level of commitment to tackle the problem.

Once again monitoring and control are hampered due to issues of liability, as well as the difficulty of determining whether the transported goods are illegal. Transports of natural resources often have false labels to disguise their true content, such as labelling illegally caught endangered species as bred in captivity or labelling CITES-wood as legally harvested. This causes considerable challenges for customs officials or other inspecting agencies. Without efficient reporting structures with a clear division of labour and effective information exchange through harmonized databases and intelligence sharing, many of these systems risk staying a mere paper tiger (Crossin, et al., 2003). Also other commodity tracking systems for natural resources exist, but CITES is the most comprehensive one. For timber for example there are only voluntary initiatives such as the Forest Stewardship Council (FSC) but there is no global tracking system for monitoring flows of timber, nor is there an international agreement or treaty on illegal logging.

Another difficulty is that environmental harm is extremely mobile. Due to repeated outsourcing, unscrupulous operators, circuitous routes and free-trade zones the transference of harm is facilitated (Heckenberg, 2010). Polluting a river or deforestation can have consequences across the border and also air pollution transgresses easily towards other countries. It is easy to imagine how this can cause tension between the transnational nature of the crimes and the national nature of jurisdictions.

Despite additional legislation and innovative enforcement, the illegal shipments of e-waste and endangered will remain difficult to detect. The scope of the problem together with the number of actors and transferences is too challenging to rely on enforcement alone. Therefore, the combination of crime prevention, third-party and self-regulation and state-intervention is advisable (Gibbs, McGarrell, et al., 2010). Preventative initiatives could involve end-of-life or product design strategies or internalizing the costs of environmental harm. Similarly self-regulation, certification programs, public awards or shaming and consumer sensibilisation could prevent additional environmental damage. A difficult factor there is the victims' unawareness that their immediate environment was harmed as a consequence of illegal dumping of waste or deforestation: harm is done to ecosystems, plant and animals as well as to future generations, who are unlikely to complain. For waste in particular, overcoming the inversed incentive structure connected to the negative value of waste is required. For natural resource crimes such as for example illegal timber, this requires overcoming the economic des-incentives of sustainable production. For both waste and natural resources it is a challenge to design incentive mechanisms with a minimum of criminogenic and counterproductive effects. Controlling and monitoring waste and natural resources as transnational environmental crime commodities is at the nexus of law enforcement, administrative control (licensing), industrial self regulation and surveillance by NGOs, possibly causing the boundaries between the responsibilities of these organisations to become blurred. This thus requires the cooperation of governments with other governance nodes irrespective of national borders. When looking at the entire spectrum of approaches to transnational environmental crime, there is definitely room for improvement on the preventive side. Many initiatives are oriented towards the supply side, but it is equally important to look at the consumer side. Raising awareness through education and commercial campaigns could be an important asset. Given the illegal and

destructive nature of much of the natural resource and waste trade, it is interesting for criminologists to take a closer look at the governance of this.

### **Conclusion: the uncharted territory of transnational environmental crime**

Across the three dimensions of criminalisation, aetiology and governance, we discussed how the greening and globalizing of criminology has contributed to the filling of the chart on transnational environmental crime and its governance. There is however still room for improvement on both the transnational and the environmental dimension as was illustrated above by means of the waste and natural resources cases.

In first instance there is a need for theoretical and empirical criminological research which accounts for the global or *transnational nature* of (environmental) crimes (Aas, 2007; Sheptycki & Wardak, 2005). Given that our world became transnational (e.g. transnational corporations, NGOs, intergovernmental/supranational organisations) crime did as well: victims, offenders as well as the criminal behaviour can be transnational. In view of this development, criminology needs to look at crime which is global in character and does not stop at borders. Criminological research that is solely oriented towards the nation state apparatus is therefore “somewhat badly equipped for understanding the relevance of global transformations and the emerging ‘space of flows’” (Franko Aas, 2007, p. 177). We could wonder “[w]hat happens to the conceptual apparatus of criminological inquiry and how salient its taken for granted terms – crime, law, justice, state, sovereignty – [are] at a time when global change and conflict may be eroding some elements at least of the international framework of states it has taken for granted.” (Hogg, 2002, p. 195). We agree with these scholars that studying the transnational dimension is definitely relevant for criminology, but that this will require criminological imagination in its setup. The interconnectedness of the local and the global should thus be incorporated in analytical frameworks. A global perspective and analysis can then complement the local level analysis. Katja Franko Aas (2007) referred to the need to avoid methodological nationalism in criminology and the necessity to be sensitive to the complexities of the global. This requires criminologists to be sensitive to transnational as well as local elements influencing the criminalisation, aetiology and governance of crimes. This is of particular importance since the transnational character also has the potential to impact differently in different places (Gilbert & Russel, 2002). Research on transnational environmental crime should thus embrace the complexity and transnational nature inherent to the phenomenon. This implies the need for a broad research scope, focusing on multiple environments, disciplines, levels of analysis and actors (Sheptycki, 2005). This requires the comparative study of networks and of the interface between legal and illegal.

A second gap refers to the *environmental dimension*. Despite its significance and harmfulness, environmental crime has for a long time not been a field of study in criminology. Environmental crime and negligence in corporate and international contexts have been documented, but these analyses seemed to lack theoretical and methodological strength (Gibbs, Gore, et al., 2010). This in fact caused some scholars (Halsey, 2004; South, 1998; White, 2003) to say criminology risks painting a limited picture of contemporary crimes. It is therefore important to orient the criminological focus on blind spots of nation states and green crimes are a striking example of those

(Edwards, et al., 1996; Gunningham, et al., 1995; Halsey, 2004; South, 1998; White, 2003). Green criminology “demands not only the broadening of the concept of crime, but also a simultaneous view of global and local levels in the production of environmental damage” (Franko Aas, 2007, p. 185). Despite inherent difficulties with the definition of transnational environmental crime, comparative approaches should be stimulated. We should also pay attention to the potential criminogenic influences of the political, economic, social and ecological (asymmetrical) surroundings. This means a focus on the actual and potential endangerments of natural resources and also allows us to consider the social and cultural consequences beyond this mere environmental damage. It allows the further re-examination of traditional roles of governments, corporations and civil society in environmental degradation.

A first focus of future research could be on specific types of environmental crime, such as disposal of hazardous waste (illegal transport to the developing countries, sinking of waste-laden ships) or biodiversity breaches (e.g. timber). This should allow getting a grip on the characteristics of the transnational environmental crime flows. This means looking at what actors are involved, what the nature of the flows is and what the impact, harm and vulnerabilities are. This requires looking beyond the classical – and inherently limited - data of the enforcement agencies and reaching out for alternative perspectives on the characteristics of transnational environmental crime. Secondly, the further analysis of the involvement of different actors and their inter-agency collaboration in environmental governance is due, because current policy is often built on beliefs rather than proof (Huisman, 2009; White, 2009). Research should look at strengthening and weakening elements in the governance of transnational environmental crime and pay attention to the different actors, organisations and countries involved and to their interactions and different finalities. This assessment of transnational environmental crime will require ample criminological imagination.

Both the transnational and environmental dimension undoubtedly present challenges for future studies, but it is our firm belief that by taking into account the above mentioned considerations regarding its conceptualisation, aetiology and governance, we can further the ‘greening’ and ‘globalizing’ of criminology and continue to chart the territory of transnational environmental crime.

## CHAPTER III: ILLEGAL TRANSPORTS OF E-WASTE

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This chapter (III) discusses the empirical results of the case study into the illegal transport of e-waste. A first article discusses the social organisation and emergence and a second article discusses the governance.

### 4. Is it all going to waste? Illegal transports of e-waste in a European trade hub.

**PUBLISHED:** Bisschop, L. (2012). Is it all going to waste? Illegal transports of e-waste in a European trade hub. *Crime, Law and Social Change*, Online First: 30 July 2012 (DOI 10.1007/s10611-012-9383-0), 1-29.

**KEY WORDS:** transnational environmental crime; social organisation of crime; push, pull and facilitating factors; illegal transports; e-waste; case study

**ABSTRACT:** *This article responds to the call for more empirical knowledge about transnational environmental crime. It does so by analysing the case of illegal transports of electronic waste (e-waste) in a European trade hub. Given the complexity and global nature of transnational environmental crime, it is difficult to determine which actors are involved. In this regard, a local research setting allows the actors involved in illegal transports of e-waste to be identified. This research tries to determine whether these actors and their roles can be considered legal or illegal and illustrates the legal-illegal interfaces in e-waste flows. Moreover, this case study analyses the push, pull and facilitating factors and therefore looks at what motivations and opportunities shape the flows of e-waste in locations of origin, transit and destination. The results show that the social organisation and emergence of transnational environmental crime is on a thin line between legal and illegal which needs to be contextualised within the global reality of the locations of origin, transit and destination.*

### Introduction

In response to a higher awareness about hazardous waste and more stringent regulations in the industrialised countries (Pellow, 2007), waste is transported to less affluent regions of the world (Gibbs, McGarrell, et al., 2010; Interpol, 2009). One of those waste flows<sup>84</sup> is e-waste<sup>85</sup>, often transported with the label of 'second hand goods'. Much of the electronic and electric equipment (EEE) that is transported to developing countries never makes it to the second hand market and is dismantled to extract the raw materials. All too often this 'recycling' happens in precarious circumstances, where the remains are illegally dumped or burned, releasing their toxic components<sup>86</sup> into the atmosphere and into the lungs of those nearby (EMPA, 2009). The hazardous components such as heavy metals, oil, cooling liquids and gasses disseminate into soil, air and water, harm eco-systems and indirectly affect the quality of crops and drinking water (Baker,

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<sup>84</sup> Flows refer to departure locations, followed routes and final destinations of goods.

<sup>85</sup> E-waste is waste from electronic and electric equipment, such as television sets, refrigerators, computers, mp3 players, etc.

<sup>86</sup> Many electronic and electrical devices contain lead, cadmium, brominated flame retardants, beryllium and mercury.

Bournay, Harayama, & Rekacewics, 2004; BAN & SVTC, 2002; EEA, 2009; Greenpeace, 2008a; LNE, 2010a). The harm lies in the environmental degradation and damage to health as well as the precarious working circumstances in recycling facilities in Africa and Asia (BAN, 2005; Greenpeace, 2008b; Sepúlveda et al., 2010). In addition, these illegal transports of e-waste can be harmful economically and politically through unfair price settings and lower material recovery rates<sup>87</sup>, and undermine (inter)national environmental policy making and law enforcement (Quadri, 2010). This illustrates that the inadequate treatment of e-waste is an immediate and future threat for human health and ecology, for economy and politics. This is why illegal transports of (e-)waste have been identified as a major form of environmental crime by the international community. The discovery of and media attention for dump sites of toxic waste in developing countries during the 1980s and 1990s led to the adoption of international and European legislative frameworks that regulate (e-)waste transports<sup>88</sup>.

Criminology has however been rather silent about environmental crime (e.g. illegal transports of e-waste) for many years (Halsey, 2004; South, 1998; White, 2003). Eco-global, green and environmental issues are increasingly part of the criminological agenda (Bisschop, 2011; Gibbs, Gore, et al., 2010; Gibbs, McGarrell, et al., 2010; Stretesky & Lynch, 2009; van Erp & Huisman, 2010; White, 2011), but despite this increased interest in transnational environmental crime, analyses often lack methodological strength. Because empirical studies provide input for theoretical progress, this article responds to the call for more empirical knowledge about transnational environmental crime (Aas, 2007; Bisschop, 2011; Sheptycki & Wardak, 2005) by focusing on the characteristics of one particular phenomenon: the illegal transports of electronic waste (e-waste). First, this study identifies the legal and illegal actors involved in this case and thus provides insights into the social organisation of it. Second, the emergence of illegal transports of e-waste is studied by analysing the push, pull and facilitating factors within this European research setting. This article builds upon earlier publications about this topic that addressed issues of white-collar crime associated with global e-waste trade (Gibbs, McGarrell, et al., 2010). This analysis focuses in particular on the European context, because this is a region that is considered a forerunner in environmental policy and legislation (Vig & Faure, 2004).

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<sup>87</sup> “Environmentally sound and efficient facilities recycle 17 to 18 metals in a mobile phone, extracting about 95% of the gold, whereas in developing countries about 3 or 4 metals are extracted, with a recovery rate of 25% for gold.” (author’s interview with corporate sector respondent C15).

<sup>88</sup> Basel Convention on the control of transboundary movements of hazardous wastes and their disposal (adopted on 22 March 1989, entered into force on 5 May 1992); Basel Convention Ban Amendment, 22 September 1995; Montreal Protocol on ozone-depleting substances Montreal, 16 September 1987 (entered into force 1 January 1989); and OECD Decision on control of cross-border movements of waste destined for recovery operations (Decision of the Council C(2001)107/Final (as Amended By C(2004)20)). European Waste Shipment Regulation (Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste (OJ L 190, 12.7.2007, 1-98); Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE) (OJ L 37, 13.02.2003, pp.24-38); Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on waste; Directive 2005/32/EC of the European Parliament and of the Council of 6 July 2005 establishing a framework for the setting of eco-design requirements for energy-using products and amending Council Directive 92/42/EEC and Directives 96/57/EC and 2000/55/EC of the European Parliament and of the Council. Bamako Convention on the ban of the import into Africa and the control of transboundary movement and management of hazardous wastes within Africa (Signed 30 January 1991, entered into force on 22 April 1998).

The structure of this article is as follows. First, the theoretical background about legal-illegal interfaces (social organisation) and push, pull and facilitating factors (emergence) is discussed. Second, the method and research setting of this case study research is explained. A third section discusses the scope of illegal transports of e-waste in Europe and the Belgian research setting (the port of Antwerp) together with an overview of the challenges this brings for data gathering. There follows an analysis of the social organisation and emergence of illegal transports of e-waste. Findings about the legal and illegal actors involved and their interfaces are integrated with findings on their motivations and opportunities, which equal the push, pull and facilitating factors in these flows. In the discussion, this article reconsiders the legal-illegal interface in the social organisation and emergence of e-waste flows and looks at implications for policy and theory about transnational environmental crime. In the concluding section the article's main findings are summarized.

#### **4.1. Theoretical background**

This article examines both the social organisation and emergence of illegal transports of e-waste. Before discussing the results of this study, the theoretical background for both of these topics is discussed. Transnational environmental crime is complex and diversified. Given the complexity and global nature of these flows, it is in fact difficult to determine which actors are involved. This is not necessarily limited to corporate actors, neither does it mean that it necessarily involves organised crime (Passas, 2002; Szasz, 1986; van der Pijl, et al., 2011). A diversity of actors can play a role and therefore research should consider a wide range of possible actors, beyond white-collar crime, organised crime or state crime conceptualisations (Nelken, 2002; Passas, 2002; Tjihuis, 2006). Both small- and large-scale actors, both the powerful and the less affluent and both legal and illegal actors might play a role. It may prove difficult to draw a line between legal and illegal actors and their practices, but it is necessary to gain a more accurate view of the network of actors and their interrelations. This can further theoretical developments as well as provide input for policy making. This article therefore tries to determine whether the actors involved in transports of e-waste and the roles they play can be considered legal or illegal. This article analyses whether both legal and criminal actors are involved and whether there is an interface between the two (Huisman & Vande Walle, 2010; Nelken, 2002; Passas, 2002). The theoretical background for these legal-illegal interfaces in transnational crime relates back to the framework developed by Passas (Passas, 2002, 2003b) which was further refined by Tjihuis by applying it to the illicit antiquities and art trade (Tjihuis, 2006). The two broad categories are antithetical and symbiotic interfaces. In general, antithetical interfaces are those where legal and illegal actors oppose each other, whereas symbiotic interfaces are those where they cooperate. Four antithetical and six - or eight in Passas' typology<sup>89</sup> - symbiotic relations can be distinguished (Passas, 2002; Tjihuis, 2006). In what follows, each is explained briefly and the type is mentioned in brackets. The four antithetical interfaces are: illegal actors compete with legal actors on the same market (antagonistic); illegal actors harm legal actors (injurious); illegal actors extort legal actors while keeping them viable (parasitical); or illegal actors aim to destroy the legal business (predatory). There are six types of symbiotic interfaces: legal actors hire an illegal actor to do the dirty work for them (outsourcing); both do business independently in which they benefit from each other but one is unaware of the illegality (synergy);

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<sup>89</sup> Passas refers to eight symbiotic interfaces. Tjihuis omitted two of those from his typology.



legal and illegal actors have a long lasting strong link and are both aware of the illegality (collaboration); both experience benefits and are aware of the illegality (reciprocity); both experience benefits but within an uneven power relation (co-optation); and legal actors financially support illegal ones (funding). Passas (Passas, 2003b) also referred to legal actors who are committing organised crimes and legal actors who pursue legal activities, whereas Tjihuis (Tjihuis, 2006) believed those categories not to be referring to illegal-legal interfaces and therefore left those out of his typology. These interfaces have not been studied often and therefore this article analyses the legal-illegal interfaces for one particular type of transnational crime: illegal transports of e-waste. This will allow us to explore the fine line between legal and illegal. In this way, this study aims to gain insights into the social organisation of illegal transports of e-waste.

The social organisation of illegal transports of e-waste needs to be understood against a broader political, social, economic and cultural background. This can provide insights into the underlying causes of transnational environmental crime (Passas, 2002; van Duyne, 1993). Analysing factors that contribute to the emergence of illegal transports of e-waste is the second objective of this article. In essence, this aetiological question has occupied criminology since its emergence, but the aetiology of both transnational and environmental crimes was long disregarded (Nelken, 2002; Rock, 2002). Different theories in criminology<sup>90</sup> might help understand the emergence of illegal transports of e-waste, but the integration of these theories results in three core elements: criminalisation, motives and opportunities (Van Dijk, Sagel-Grande, & Toornvliet, 1996). This article does not focus on the criminalisation of illegal transports of e-waste, but does analyse the motives and opportunities. In doing this, it pays attention to individual, organisational and societal levels of analysis because each might contribute to the emergence of illegal e-waste flows (Clinard & Yeager, 1980; Coleman, 1987; Huisman, 2001; Slapper & Tombs, 1999). Characteristics of the sector or the product might be motives or opportunities for (organised) crime (Van Daele, Vander Beken, & Dorn, 2007; Vander Beken, 2007). The transport sector can for example be a victim of crime, but might well be a facilitator of crime (Klima, 2011; Vander Beken & Van Daele, 2008). Furthermore the unlevel playing field in today's globalised world can play a role, because these asymmetries foster the demand for illegal goods or services, are an incentive to participate in illegal markets and hamper the ability of authorities to control (Passas, 1999, p.402). Applying this to environmental matters, asymmetries in environmental regulation or ambiguities in enforcement can contribute to jurisdiction (s)hopping, in which one goes in search of the most favourable (illegal) agreement for the trade of hazardous waste or for the space between laws. Heightened environmental awareness in industrialised countries (cultural asymmetry) led to the strengthening of environmental legislation and to the criminalisation of certain behaviour (legal asymmetry), caused prices to rise (economic asymmetry) and gave extra incentives for illegal trading of waste to countries with lower environmental awareness, lower environmental regulatory standards and lower prices (Passas, 2000). For that reason, it is important to place transnational environmental crime within the broader context of today's globalised society which might facilitate crime (Ruggiero, 2009). Given the inherently transnational character of these flows, factors in countries of

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<sup>90</sup> Strain, social control, differential association, labelling, neutralisation and rational choice theory can each provide insights on the aetiology of crime.

origin, transit and destination should be considered (Antonopoulos & Winterdyk, 2006; van Erp & Huisman, 2010). The motivations and opportunities for illegal e-waste transports can in fact be located in exporting and importing countries, in supply and demand and are impossible to explain while disregarding the economic, political, cultural and social context (van Erp & Huisman, 2010). This study therefore identifies push, pull and facilitating factors that will help understand how and why illegal transports of e-waste occur<sup>91</sup>.

Push factors are those forces that drive illegal transports of e-waste away from their origin (supply). Pull factors are forces that draw illegal transports of e-waste to their destination (demand). Facilitating factors are contextual elements that make illegal transports of e-waste possible. Together, these factors provide the motives and opportunities for actors involved in illegal transports of e-waste. As evident from the different elements discussed above, the aetiology cannot be reduced to one explanatory factor, because *“each time we subscribe to one cause of crime, we may realize that the opposite cause also possesses reasonable validity”* (Ruggiero, 2000, p. 6, p.6)<sup>92</sup>. Earlier publications (Gibbs, McGarrell, et al., 2010) referred to profit or lure as the major aetiological factors, but this article illustrates how these are key elements, yet they require more contextualisation. Before discussing the social organisation and emergence of illegal transports of e-waste, the method of this study is discussed.

## 4.2. Method

Research on transnational environmental crime requires looking beyond the classical – and inherently limited – data of the enforcement agencies and thus requires a search for alternative perspectives. Data was collected on as many observable implications of the studied phenomenon as possible to improve the quality of the data (1994). By corroborating different perspectives and opinions about the cases the arguments were exposed to validation or falsification at different times. This refers to the different segments of society the respondents represent (government, corporate, civil society). The triangulation of different methods, data as well as theory, also contributes to this (Yin, 2003). This study is based on a document analysis of various primary and secondary sources, on interviews with key informants and on field visits. The document analysis is based on governmental sources (reports and statistics of inspectorates, police and customs, trade statistics), research reports (UNEP<sup>93</sup>, IMPEL(TFS)<sup>94</sup>, INECE<sup>95</sup>, Interpol, World Bank, independent consultants and academics), corporate documents (press releases, websites, year reports) and documents by civil society actors (environmental organisations, nongovernmental organisations (NGOs), the media). In addition to the document analysis, a total of 50 semi-structured interviews were conducted with 29 government, 19 private sector and 14 civil society actors.<sup>96</sup> The

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<sup>91</sup> Push, pull and facilitating factors refer back to economic dynamics of supply and demand. These have been applied to transnational crimes in previous articles (Antonopoulos & Winterdyk, 2006; Morselli, et al., 2011).

<sup>92</sup> Ruggiero (Ruggiero, 2000) refers to this as the ‘causality of contraries’ (p.6).

<sup>93</sup> United Nations Environment Programme.

<sup>94</sup> European Network for the Implementation and Enforcement of Environmental Law. TFS is a subgroup of IMPEL that focuses on the inspection and enforcement of Transfrontier Shipments of Waste.

<sup>95</sup> International Network for Environmental Compliance and Enforcement.

<sup>96</sup> Interviews ranged from 45 minutes to 2 hours in length. The number of interviews and number of respondents differs because some actors chose to address the researcher in pairs and four individuals were interviewed twice. In addition, there was one group interview with thirteen government respondents, four of whom were also interviewed separately.

governmental actors in this research are national and international government agencies, such as customs, environmental inspectorates, police organisations, prosecution service and administrations. The corporate representatives who were interviewed are producers of computer hardware, e-waste collectors, refurbishers and recyclers, and transport corporations.<sup>97</sup> The civil society respondents in this research are environmental NGOs, union representatives and investigative journalists. These respondents were located within the Belgian research setting as well as in other EU countries, as locations of origin, and in Ghana as one of the countries of destination. All but one respondent agreed for the interview to be digitally recorded. A checklist was used to guide both the document analysis and the interviews. The analysis was based on both the researcher's notes and transcriptions of the recordings. Besides the document analysis and the interviews, this research included field visits, which were necessary to gain contextualised information about the flows (Yin, 2003). These field visits did not involve extensive participatory observation, but were limited to crucial sites and actors in the illegal e-waste flows. I joined customs and the federal environmental inspectorate in the port of Antwerp. This focused on the export and transit of e-waste, because these transport modalities of e-waste are relevant to the research setting of the port of Antwerp.<sup>98</sup> Besides field visits in the port of Antwerp, I visited one country of destination (Ghana) that is often frequented by illegal transports of e-waste that export from or transit in Belgium. I also visited the port of Tema, the informal recycling and refurbishing firms and e-goods markets in Tema and Accra, and the Agbogbloshie dumpsite. I made notes during and/or after these field visits which were integrated in the data analysis with the interviews and document analysis (Mortelmans, et al., 2009). Data gathered in both desk research and interviews was coded and analysed by means of qualitative data analysis software<sup>99</sup>, which made it possible to triangulate findings from different types of sources (Leys, 2009, pp. 56-65; Loosveldt, et al., 2007; Yin, 2009).

This case study focuses on a European research setting, because Europe can be considered a forerunner in environmental policy making (Vig & Faure, 2004). Specifically, the research setting is the port of Antwerp in Belgium. This setting was chosen because Antwerp is an economically important port and has been referred to in the past as a waste hub<sup>100</sup>. Antwerp handles about 8.5 million TEU<sup>101</sup> annually and is amongst the top three ports in Europe, with Rotterdam and Hamburg<sup>102</sup>. For the transit and export of second-hand vehicles, which play an important role in e-waste transports, Antwerp is the most important port in Europe. Given its inland location, the port

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<sup>97</sup> These respondents were guaranteed anonymity and therefore I refer to government (G and number), corporate (C and number) and civil society respondents (S and number) for quotations. This case study is part of a broader PhD research study on transnational environmental crime, which also included another case study (tropical timber (Bisschop, 2012b)). There is one list of respondents for both cases and respondents were numbered consecutively.

<sup>98</sup> Import flows are predominantly destined for the major recycling facilities in the EU and therefore not relevant to the transnational environmental crime flows subject of this research.

<sup>99</sup> NVivo qualitative data analysis software; QSR International Pty Ltd. Version 8, 2008.

<sup>100</sup> See, for example, Belgian news reports (Blokland, 2008; Coosemans, 2009; Holderbeke, 2010; VlaamsParlement, 6 februari 2009).

<sup>101</sup> TEU refers to "twenty-foot equivalent unit", a container of 20 feet long, 8 feet high and 8 feet wide. This is used as a standard measuring reference for container traffic.

<sup>102</sup> Antwerp was the second largest European port after Rotterdam until February 2012, when it was overtaken in terms of container volume by Hamburg. It remains the first for second-hand vehicles.

has multiple connections to Europe's hinterland and it is therefore a typical transit hub<sup>103</sup>. By basing this research within this local setting, I aimed to avoid too relativistic findings about transnational environmental flows (Gille, 2006). At the same time, the different transferences influencing this locality were examined by placing e-waste within the broader frame of departure locations, routes followed and final destinations - the flows of e-waste (Spaargaren, Mol, & Buttel, 2006).

### **4.3. The scale of illegal transports of e-waste: best guesstimates for Europe and Belgium**

Measuring environmental crime is complex (Gibbs & Simpson, 2009) and it is difficult to assess (Croall, 2001). Illegal transports of e-waste are no exception. This is a phenomenon about which there is little official data, despite the waste issue being on the international<sup>104</sup> as well as national policy agenda<sup>105</sup>. Illegal transports of e-waste in fact present multiple challenges for data gathering and analysis. The Basel Secretariat keeps track of the hazardous waste transports of their parties. This information is however not always readily available: not all parties to the convention report meticulously and some do not report at all<sup>106</sup>. The European Union has a yearly reporting system for shipments of hazardous and problematic waste, but does not have a common database for waste transports in breach of regulation.

The reported data on e-waste of both the Basel Secretariat and the EU is generally of poor quality (Fischer et al., 2008). Possible reasons for this are: (1) the waste codes are not harmonized and e-waste can be covered by different codes of the system; (2) the codes are interpreted differently across the reporting parties, making country comparisons impossible<sup>107</sup>; (3) e-waste transports are often transported under the heading of "recyclable electronics" and not reflected in WEEE statistics<sup>108</sup>; (4) within one country different organisations (inspectorates, customs, administration, police) report to the European Commission leading to possible double reporting<sup>109</sup>; (5) European targets are based on kilograms of waste controlled, which distorts the figures and the effectiveness of the controls in avoiding environmental harm<sup>110</sup>; (6) EU member states' official take-back systems

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<sup>103</sup> Of all the freight, 37% is loaded back onto sea-going vessels and 35% goes to neighbouring countries by inland shipping and rail. Only 12% is destined for companies located in the port and 16% is for Belgian distribution.

<sup>104</sup> E.g. Basel Convention, Interpol, IMPEL, EU.

<sup>105</sup> E.g. Belgian National Security Plan 2008-2011 (p.7) and 2012-2015 (p.15).

<sup>106</sup> It is sometimes possible however to estimate the hazardous waste transports of non-reporting countries based on import and export data of others (Sander & Schilling, 2010; Wielenga, 2010).

<sup>107</sup> The reporting requirement in WEEE regulation will be more detailed in the future.

<sup>108</sup> As an example, only 20,000 tonnes of WEEE is mentioned in the EU 2001-2003 statistics. Given that the estimated generation in the EU is 7 million tonnes this seems a rather small figure.

<sup>109</sup> This is likely to apply to Belgium, since different federal and regional authorities have their own responsibilities in waste transport matters. Waste transit is a federal responsibility; waste export and import is a regional responsibility; notifications data is collected by the Flemish public waste authority (*Openbare Vlaamse Afvalstoffenmaatschappij - (OVAM)*).

<sup>110</sup> "A fridge weighs a lot more than an iPod, but the latter are the most interesting because they contain the precious metals" (S14).

only account for a portion of the discarded EEE<sup>111</sup>. The amount of UEEE/WEEE from corporate consumers is unknown as is the size of the second-hand market (VROM-inspectie, 2011). Moreover, the data gathered by the EU and the Basel Secretariat can tell us about reported movements of hazardous waste and not necessarily about illegal transports. Existing reports of illegal transports are a result of the controls rather than a reflection of the actual illegal transports occurring. As an example, controls by all Belgian inspectorates are at a maximum since 2007-2008 and therefore the reports might be more a reflection of the limited personnel resources than of the actual flows.

With the above challenges to the data in mind, it should be understandable that the scope of the illegal transports of e-waste globally, on a European level or within the research setting of the port of Antwerp, can only be represented by “best guesstimates”. The data on illegal transports of e-waste provided in this article are therefore given for illustration purposes and should not be regarded as incontestable figures. Many of these statistics are intangible, because there is no frame of reference. Gathering global data about e-waste transports is therefore necessarily a matter of patchwork. It does however provide a general idea about the scope and the directions of the transports. In what follows, a picture is painted of the scope of the illegal flows of e-waste within the EU. This is contextualised with global information about (legal) flows and generation of e-waste. Next, this article discusses import, export and transit in the Belgian e-waste market.

#### **4.3.1. The EU and e-waste**

Shipments of waste within and out of the EU-15 increased from 2.7 million tonnes in 1997 to 8.3 million tonnes in 2003 (Fischer, et al., 2008, p.39). These transports equal a 15% share of all EU transports (IMPEL-TFS, 2006). Most waste transports stay within the EU or take place between OECD countries. Of total waste transports 83% is meant for recovery and 17% for disposal. However, countries provide very limited information about the amounts or the final destination of goods, making it difficult to assess trends. Based on the Basel data, Wielenga (Wielenga, 2010, p. 4) concludes that “[t]here is no evidence that significant amounts of hazardous wastes are being transferred from richer countries to poorer countries”. IMPEL-TFS projects (2006) however found 51% of shipments to non-OECD countries to be illegal.<sup>112,113</sup> The illegal transports of waste reported to the EC increased from 2001 to 2005: between 6,000 and 47,000 tonnes of illegal shipments are reported yearly. This equals just 0.2% of the notified waste and therefore likely represents only a fraction of the actual transports (EEA, 2009, p. 11). As mentioned earlier, this could well be due to more enforcement efforts or more meticulous reporting by particular Member States and does not necessarily imply an increase in shipments.

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<sup>111</sup> “The collection target of 4 kg per person per year does not properly reflect the amount of WEEE arising in individual Member States” (European Commission, 2011a). With a 45% share of the e-waste for Flanders, the official take-back system Recupel is amongst the best of the EU class, according to a Belgian government respondent.

<sup>112</sup> This percentage is based on limited action periods by IMPEL-TFS partners across Europe. Belgium, with the ports of Antwerp, Zeebrugge, Ostend and Ghent, was one of the participating member states.

<sup>113</sup> Between March and May 2009, 64 countries in Europe, Asia/Pacific and Africa participated in the World Customs Organisation initiative ‘Demeter’. This targeted illegal transboundary movements of hazardous waste from Europe to Asia-Pacific and Africa. It resulted in 57 seizures (totally 30,000 tonnes and 1,500 pieces of illegal hazardous waste) of which the majority occurred in Belgium, the Netherlands and Italy (WCO, 2009).

The most important member states for shipments of e-waste – import, export and transit - are Germany, the Netherlands, Belgium and the United Kingdom and these countries also register most illegal transports. A part of these flows might however simply be a result of economic and geographic realities, because these countries have economically significant ports and function as a transit for inland Europe.<sup>114</sup> Rotterdam and Antwerp have been labelled as hubs for (illegal) waste shipments (de Rijck, 2011; IMPEL-TFS, 2005), but given that these ports serve shipping routes to Africa and China, the high number of waste transports to non-OECD countries could partially be a mere economic given. According to both corporate and governmental respondents, these ports are victim to their own law enforcement success: ports in Spain, Italy and France hardly ever exercise any control over illegal e-waste transports thereby reducing their likelihood of having high statistics (van Erp & Huisman, 2010).

Note that there is flexibility in the routes the illegal transports follow. As soon as more stringent controls are in place in one European port, the transports move to another port. The major shipping lines have storage facilities in different ports to allow these deviations. According to the respondents this happens between the ports of Rotterdam, Antwerp, Hamburg, Felixstowe, Le Havre and Bilbao.

Besides these trade and trade control data, figures about WEEE generation provide information on e-waste for the EU. This is estimated to grow 3 to 5% because of increased use of electrical and electronic equipment<sup>115</sup>, adding up to 10.5 million tonnes, or 15 to 20 kg of electronic and electric equipment brought onto the market per capita per annum (CREM, 2008). About 7% of this is registered as WEEE exports and up to 33% is separately collected for environmentally sound treatment (Environmental Investigation Agency, 2011). “A part of the other two thirds is potentially still going to landfills and to sub-standard treatment sites in or outside the European Union. Illegal trade of electrical and electronic waste to non-EU countries continues to be identified at EU borders” (European Commission, 2011a)<sup>116</sup>. Reports indicate that the flows of WEEE/UEEE go from Western Europe and the USA to West Africa and South East Asia (CREM, 2008; Fischer, et al., 2008).<sup>117</sup> Transports towards Africa are most likely to be e-waste or low quality second-hand products (EEA, 2009)<sup>118</sup>. There are no details available about the final destination of the components or metal scrap, but in Ghana the motherboards of the dismantled computers were found to be sold as a whole for export to Nigeria or China, whereas other recovered metals are used in local industries or sold for export (Prakash & Manhart, 2010). Data on e-waste transports are

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<sup>114</sup> Geographically, Switzerland, a land without seaports, relies on exports to neighbouring EU countries. It is known to ship waste directly to Belgium, Bulgaria, France, Germany, Poland, Italy, Romania, Serbia, Spain and the Netherlands, but indirectly transports to Africa, Gabon, Nigeria, Brazil and Togo. Germany has an own seaport (Hamburg), but given the size of the country and the distance to Hamburg it is often economically more feasible to ship goods through the ports of Rotterdam and Antwerp from the nearby *Länder* (e.g. Northrein-Westfalen). These shipments are not necessarily problematic or illegal, but have proven to be worrisome in the past (Espejo, 2010).

<sup>115</sup> Studies are trying to forecast future global generation of e-waste (Williams, Yu, Yu, & Yang, 2010).

<sup>116</sup> Similar figures are found in the US, where 25 to 35% of e-waste is recycled (EPA, 2011; Gibbs, McGarrell, et al., 2010). The EC has now set a 65% target for 2012-2013 (European Commission, 2011a).

<sup>117</sup> Lagos in Nigeria is estimated to receive about 500 containers per month (BAN & SVTC, 2002), of which 45% originates in Europe (CREM, 2008), 45% the United States and 10% Japan, Israel and others (BAN, 2005). These estimates are based on asset tags on the equipment and on other identifiers.

<sup>118</sup> They did so by analysing the amount of television sets exported from the EU and checking the value of the shipments.

inevitably guesstimates, but provide the necessary contextualisation for discussing the Belgian research setting. This article now shifts its focus to flows of e-waste in Belgium and the port of Antwerp.

#### **4.3.2. Import, export and transit on the Belgian e-waste market**

First, a brief introduction about the role of the port of Antwerp in (e-)waste transports is provided. Thereafter, the import, export and transit of e-waste in Belgium are discussed in terms of both scope and geographical orientation. Antwerp is an economically significant trade and waste hub (Baker, et al., 2004), but mainly as a port of transit: 80% of all waste is in transit, whereas only 20% of waste is imported into or exported out of Belgium. A lot of the waste in Antwerp is in transit from Germany, Austria, Switzerland, France and to a lesser extent the Netherlands. The most frequent countries of destination in West Africa are Nigeria, Ghana, Cameroon, Togo and Senegal, partially due to Antwerp's trade connections with this region. As an illustration, Ghana, Benin, Ivory Coast, Liberia and Nigeria import about 250,000 tonnes per annum illegally (Schluep et al., 2011). Besides the West African countries, South East Asia is another destination for e-waste. The transports of e-waste are partially a result of existing shipping routes, in which Antwerp functions as a port of transit for other (EU) countries, rather than Belgium being the sole source of e-waste. A civil society respondent (S10) was of the opinion that Antwerp functions as "the rubbish tip"<sup>119</sup> for e-waste and end-of-life vehicles destined for Africa.

The documentary analysis provided a number of facts about e-waste transports with a connection to Antwerp. Data from the Flemish environmental inspectorate (LNE, 2010b) revealed that the controlled e-waste exports towards Asia had 13% of infractions in 2009 compared with 23% in 2008. According to the inspectorate, this decrease is mainly a result of the decrease in transports from particular expeditors. They were targeted in 2008 for their illegal transports of e-waste and tar containing cable waste. There were increased controls after the media attention<sup>120</sup> for e-waste transports to West Africa. 21 shipments with destinations in Ghana, Cameroon and DR Congo were controlled in 2009 and 12 of those contained hazardous waste such as monitors and CFC<sup>121</sup> containing fridges. In 2010, the federal environmental inspectorate found 35% of inspected transit units, containers and vehicles, to be in breach of legislation (Pensaert, 2011). A study of hazardous waste seizures in Hong Kong (RILO, 2007) mentioned three Belgian shipments of 170 tonnes of used computer monitors, two of which were actually meant for Vietnam. "The seizure of the transit consignment made in June involved nine 40-foot containers of 125,020 kg of used computer monitors. It was the largest seizure of used computer monitors in one single consignment, amounting to nearly 49% of the total quantity of seizures of waste consignments exported from the EU." (RILO, 2007, p. 20). This study found Hong Kong to be a transit port, similar to what can be observed about Antwerp. A hazardous waste inspection project in June and July 2010 (Heiss, Ruessink, Isarin, Koparova, & Grabieli, 2011; INECE, 2010) found e-waste to be the illegal waste type

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<sup>119</sup> Communal waste collection and recycling centre.

<sup>120</sup> These media reports exposed the dumping or inhumane 'recycling' of exported 'second hand' fridges, TVs, laptops, PCs, etc. and labelled the port of Antwerp as a true waste hub (Ghijs, 2011; Holderbeke, 2010).

<sup>121</sup> CFC stands for chlorofluorocarbon which was used as a refrigerant. The manufacturing has been phased out by the Montreal Protocol because it contributes to the depletion of the ozone layer and is very hazardous.

most frequently encountered. These were wrongly declared as second hand goods and contained CFCs or CRT<sup>122</sup> television sets or monitors while being described as metal scrap. The routes followed were generally from North America to Asia and from Europe to West Africa and Asia. In the annex of this report, INECE lists the shipping routes encountered during the inspections. Belgium is listed there once as a state of export and multiple times as a state of transit<sup>123</sup>.

The amount of (EEE) that was introduced in the Belgian market is another indicator of the scale of e-waste transports. In 2008, a total of 141,194 tonnes of household EEE and 26,686 tonnes of commercial EEE was introduced into the market of Flanders and about 58,638 tonnes<sup>124</sup> were collected (M. Schmidt, 2009). A share of the WEEE is first collected in the legitimate recycling systems (e.g. *Recupel*<sup>125</sup>) and then properly recycled. This accounts for about 40% (M. Schmidt, 2009) and is increasing. “The Belgian take-back system is regarded as one of the most effective because the centralized system does away with the risk of a race to the bottom in the separate systems, which are more likely to feed into illegal flows of e-waste” (C18). Although this does not represent the total amount of products introduced into the market, this should not necessarily be regarded as problematic, since the disposal of products does not happen at the same rate. “An estimated 10% of Belgium e-waste is unaccounted for, either through the official take back system or in other flows. For other European countries, 10% or more is however known to flow into illegal transports of e-waste” (G14). Now that the scale of e-waste transports has been assessed for both the EU and the Belgian setting, this article continues with an analysis of the emergence and social organisation of illegal e-waste flows.

#### **4.4. Emergence and social organisation of illegal transports of e-waste.**

Factors on different levels and segments of the trade flow have the potential to shape illegal transports of e-waste. Earlier publications (Gibbs, McGarrell, et al., 2010) referred to profit or lure as the major aetiological factors, but this article illustrates how these are key elements yet require further contextualisation. Explanations reside at individual, organisational and societal levels of analysis (Clinard & Yeager, 1980; Huisman, 2001; Slapper & Tombs, 1999). Both in exporting and importing countries and in supply and demand there are motivations and opportunities for illegal e-waste transports. Their nature and scope is impossible to grasp unless the economic, political, cultural and social context are taken into account (van Erp & Huisman, 2010). In this article, these are referred to as push, pull and facilitating factors, which together provide the motives and opportunities for actors involved in illegal transports of e-waste. In the analysis of the actors involved, this article follows the flow of the supply chain from producers and consumers through collection and transport to destination, as portrayed in Figure 1. The analysis of the emergence and

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<sup>122</sup> CRT stands for cathode ray tube and these television sets contain a lot of lead (up to 2.5 kg), mercury and cadmium and are thus hazardous.

<sup>123</sup> These transit flows originated in France, Germany, the Netherlands, Spain, the United Kingdom and Switzerland and went to Nigeria, Tanzania, Ghana, Mali, Ivory Coast, Senegal and Burkina Faso (INECE, 2010, p. 24).

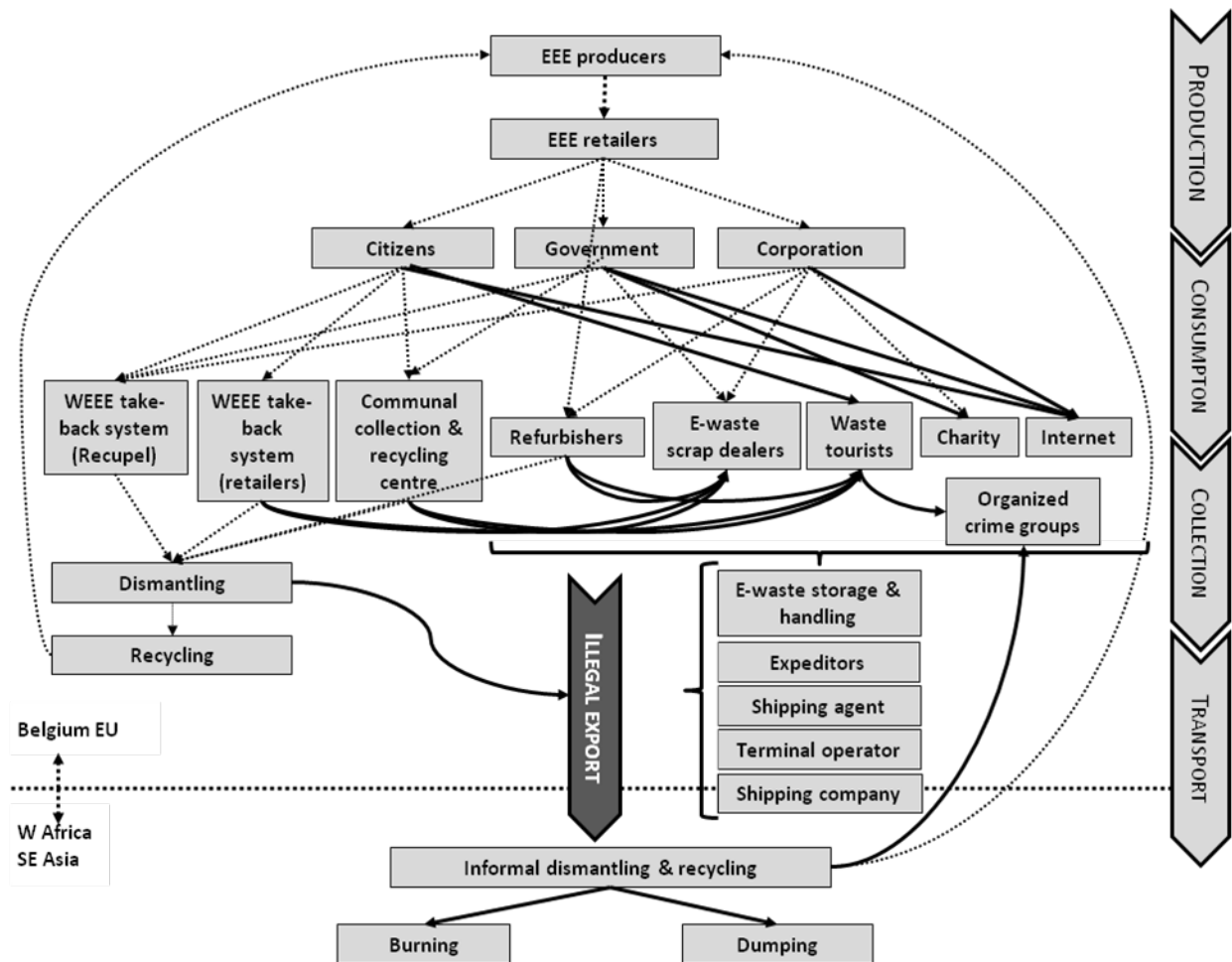
<sup>124</sup> This corresponds to about 9.52 kg per inhabitant. The WEEE-directive asks for a minimum of 4 kg per inhabitant so this is largely met in Flanders.

<sup>125</sup> The WEEE Directive provides a minimum harmonization for producers to take care of the collection and ecologically-sound treatment of their products, which is implemented differently throughout the EU member states (WEEE-forum, 2008). *Recupel* is the official take-back system for e-waste in Belgium. Consumers pay a fee for environmentally sound disposal when they buy appliances. *Recupel* uses these funds to collect the e-waste free of charge.



social organisation of illegal transports of e-waste is thus integrated, because they are inherently intertwined. The actors involved can be producers, distributors, consumers, collectors, refurbishers, waste brokers, shipping companies, recyclers, downstream vendors and actors responsible for final disposal (Schluep et al., 2008). Figure 1 illustrates the actors that were identified in this case study of e-waste transports in Belgium. In what follows, I will explain which of these actors can be a source of leakage into illegal transports of e-waste. This illustrates how illegal e-waste flows start with the consumers who seek a way to get rid of their no longer functioning television sets, computers, etc., but extends to e-waste collectors, recyclers and refurbishers in developed as well as developing countries. First, the push factors in production and consumption and in e-waste collection are discussed. Next, the facilitating factors in transports are up for discussion. The analysis then moves across international boundaries and discusses pull factors in countries of destination. For each of these dimensions, this article analyses whether the legal-illegal interface is antithetical or symbiotic (Passas, 2002). This will illustrate how the actors and their motivations shape the flows of e-waste on a thin line between legal and illegal.

**Figure 5: Actors involved in e-waste transports**



#### 4.4.1. Production and consumption

The historical development of the (e-)waste problem is the first push factor. The volume of waste has grown due to increased production processes and increased consumption of synthetic products. The digital (r)evolution has resulted in a significant increase in the quantity of e-waste, but also the quality has changed given that hazardous substances are used in EEE (Pellow, 2007). E-waste is one of the fastest growing waste markets (Environmental Investigation Agency, 2011) and is likely to increase in the coming years given the exponential consumption of EEE (UNEP, 2005). As a consequence of more stringent waste regulations, waste management prices have risen in the industrialised countries, which caused waste to become a global market commodity (G. Bruinsma, 1996; Sanax, 1996). Exporting the waste is a way to externalize the harm and create a distance between producers and consumers, on the one hand, and those affected by the dumping or recycling of the products on the other hand (White, 2011).

Rapid high-tech developments lead to regular replacements of EEE. Many people already have a laptop, personal computer and tablet computer, and might still feel the need to buy the newest edition upon release. Consumption patterns are thus contributing to the e-waste problem. Both producers and consumers have a responsibility in this. Producers can first of all ensure the recycling of e-waste is less harmful by phasing out hazardous components<sup>126</sup> and through eco-design they allow for updates instead of discarding of EEE. Consumers have a responsibility in the economic and ecological consumption of their EEE. Once discarded by consumers, e-waste follows different routes down the flow. The motivations and opportunities to feed into illegal transports of e-waste differ for each group of consumers (citizens, corporations, governments). A major part of e-waste from citizens follows the official take-back system (*Recupel*) or goes to the communal waste collection and recycling centres. Besides that, a lot of electronics are collected through retailers who are obliged to take in old products when selling new ones. This is at no cost to the retailer, since the take-back system (*Recupel*) picks up the discarded EEE for free. The costs are integrated into the retail price of the goods and thus paid by the consumer. Citizens may also give e-waste to 'charities' or have it picked up by small-scale informal collectors. Moreover, they throw small electronic appliances into the household waste instead of disposing of them separately<sup>127</sup>. This study did not interview citizen consumers about their involvement in e-waste flows. For insights into their motivations and opportunities, I therefore rely on findings of other studies (Espejo, 2010, p. 26, p.26). Citizen consumers are found to be mainly influenced by a lack of awareness about both the harmfulness of e-waste and the existence of environmentally sound recycling systems. Moreover, they might not know about their legal rights and responsibilities. In giving the UEEE to charity, or to someone who offers to pick it up, they most likely choose the solutions that seem most comfortable, helpful or profitable for them.

Besides individual consumers, governments and corporations are important consumers of EEE. This commercial WEEE/UEEE is hardly ever collected by *Recupel*, since the owners can make

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<sup>126</sup> This is the subject of the EU's Restriction of Hazardous Substances (RoHS) Directive (2002/95/EC).

<sup>127</sup> According to a government respondent, the amount of that is difficult to assess, but analysis of household waste has shown to contain small electric and electronic devices (such as computer mouse, earphones, iPods, mp3 players, etc). The report of this analysis is not public yet.

money out of it or sell it through other channels which guarantee data wipe. Moreover, these actors have a financial incentive to regularly renew their equipment. Both governments and corporations who regularly update their equipment work with contractors who take care of the data wiping, refurbishing and replacement of their equipment (Babbitt, Williams, & Kahbat, 2011). Older equipment is discarded and disposed of using *Recupel* or waste collection and recycling centres. Sometimes, however, such contractors feed into illegal transports of e-waste. One of the corporate respondents (C20) explained how their awareness of sustainable WEEE solutions was raised as a result of the discovery of their equipment in illegal transports, exposing their corporation to bad publicity. Another corporate respondent (C22) explained how it is vital for them to “not only provide a box to collect e-waste, but make sure you know where the box goes to”. According to some corporate respondents the “major threat is with the business and government staff who might be tempted to feed into alternative flows of e-waste” (C18)<sup>128</sup>. The following testimony of a corporate respondent (C19) further illustrates how corporations and governments lack awareness or due diligence in matters of e-waste:

It has happened that I arrive somewhere to buy second hand computers a government or corporation wants to dispose of. I offer a certain price they have to pay for the refurbishment, with certified data wipe. Sometimes I can offer them money depending on the quality of the equipment. Many times however these computers or other e-goods are bought for high prices by competitors. I know it can never be profitable to treat or refurbish them in Belgium for these high prices, so it is likely they end up in illegal transports. Their prices are so high that they should ring alarm bells, but in the end it is the consumer who decides who to sell to.

A report by the Dutch inspectorate assumed mainly small and medium-sized enterprises to be involved in this because major corporations are afraid of the reputational damage (VROM-inspectie, 2011). The respondents interviewed in this study, however, referred to both small and large-scale corporations. If it does concern large corporations, the quantities are of course likely to be substantially larger. As is evident from the above quotations, the motivations for corporate and government users of EEE to feed into illegal transports of e-waste are profit and a lack of awareness about both the harmfulness of e-waste and the untrustworthiness of some e-waste collectors.

With reference to the legal-illegal interfaces in e-waste flows (Passas, 2002), legal consumers can feed into illegal transports of e-waste, since they interact with actors who offer to treat their e-waste for low prices. These actors can have legitimate business structures (refurbishers, brokers), but could well be “waste tourists” (see below). Consumers are clients of these illegal actors and therefore have a symbiotic relationship with them. It is unclear, however, to what extent this is motivated by a search for cheaper disposal and a lack of awareness about the harmfulness of e-waste and the untrustworthiness of particular e-waste collectors or, on the contrary, by an intentional choice for illegal disposal. When they are unaware about the illegality of it, this could then refer to the synergy interface. When it concerns an intentional choice, this equals the interface

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<sup>128</sup> Because these corporations allow this to occur, through a lack of security checks or due diligence, they are what Tjihuis (2006) would refer to as ‘facilitating interfaces’.

of outsourcing, because the dirty work of disposing of the e-waste is done by an illegal actor for a legal actor. Outsourcing is particularly relevant for waste, because it allows legal actors to externalize the harm (Tijhuis, 2006).

#### **4.4.2. Collection of e-waste**

The negative value of waste is deemed to be a key criminogenic characteristic of this economic sector (Van Daele, et al., 2007; van Erp & Huisman, 2010; Vander Beken, 2007). For a normal commodity, a producer provides the consumer with the product and in return gets the money. For waste, the waste producer gives the waste treatment facility the product as well as the money. This inverse incentive structure is therefore a push factor for illegal disposal (van Duyne, 1993). However, for e-waste, the picture is more complex and holds a double profit motivation. E-waste includes devices with treatment costs, but some products hold enough valuable components to make recycling or treatment profitable (LNE, 2010a). For the former, exporting them as second-hand products saves the costs of treatment. The latter is a motivation for having the goods dismantled as cheaply as possible to sell the raw materials (Sander & Schilling, 2010). Corporations that treat the e-waste legally and have environmentally sound management systems are few and their prices can be high. This makes it attractive to look for cheaper – less environmentally sound – alternatives. The corporate respondents of this study, however, claim it is difficult to make profits when dismantling activities happen in Belgium, given the high labour costs. Therefore, they said, it was unlikely for actors to make a profit from e-waste recycling even when the e-waste is accepted for free. When money is offered for e-waste, they believed this to be suspicious and likely to be leading to illegal exports. “You can make money by ‘recycling’ e-waste in poorer environmental and social conditions, since this provides you the precious metals with lower labour costs.” (C13). Similar results were found in previous research (Interpol, 2009).

Another push factor for illegal transports is the complexity of the e-waste flows and the competitiveness of the market. Many sub-streams of waste arise from the dismantling of these products and there are multiple actors involved in e-waste collection. It involves metal scrap dealers, urban recycling centres, official take-back systems (e.g. *Recupel*), registered metal collectors (e.g. picking up disposal skips from electronic hardware stores) and informal actors (e.g. waste tourists, internet or charities (see Figure 1). Many of these e-waste collectors and recyclers live up to their espoused environmental and ethical standards and regard illegal transporters of e-waste as their biggest competitors. Other organisations that claim to recycle EEE are less honourable and engage in direct or indirect export – often through brokers - to developing countries. “E-waste is prone to fraud, because many actors can buy and sell, often as their sole means of income.” (C11). The potential leakages in e-waste collection identified in this case study are now discussed in turn.

In communal waste collection and recycling centres some might be tempted to sell an e-waste load outside the official system. Similarly, retailers could be tempted to sell a container instead of having it picked up for free by *Recupel*. These retailer collection points do not keep accurate waste registers, which makes it difficult to determine the exact amount of e-waste collected. Whether these buyers of e-waste follow the efficient and registered recycling flows is unclear. Both retailers

and communal waste collection and recycling centres could also fall victim to e-waste theft.<sup>129</sup> These are grey areas which could result in illegal transports of e-waste towards developing countries.

The Belgian take-back system is perceived as an effective system that guarantees legal disposal and recycling. However, respondents have mentioned there is a parallel flow of particular products (e.g. mobile phones) that is completely out of sight of the official take-back system. Other European countries moreover have different take-back systems, which are not monopolies as is the case in Belgium. According to government and corporate respondents, these take-back systems are not as effective because they require producers and retailers to take care of the recycling, hence they are more likely to choose cheaper alternatives. This partially explains why 80% of the e-waste that passes through Antwerp originates outside Belgium.

Refurbishers are other actors that take care of e-waste collection. This sector buys electronic devices from firms or government agencies - or universities for that matter - that change their computers every three to five years. Retailers deliver damaged goods to them directly. These goods are repaired, refurbished and the remains are recycled. Refurbished goods are sold to schools or development projects in industrialised and developing countries or simply sold to individual consumers who do not need the latest technology. These goods are shipped legally to countries outside the EU, mostly in large mono- consignments. In this way, refurbishers try to make their business in a niche sector. "The business model of retailers is focused on selling, not on the reverse logic of take-back. This is where we try to make a difference." (C21). These professional refurbishers are keen to show they work legally and therefore have a policy of transparency. This allows responsible authorities to check them whenever necessary. Not all refurbishment companies choose these environmentally and socially just paths, however. A proportion of these refurbishment goods "disappear" through networks of scrap dealers, waste tourists and e-waste brokers. Even Belgian government computers are thought to have ended up in developing countries illegally<sup>130</sup>.

Some e-goods are donated to charity and sent to development projects abroad. Whether these computers arrive there or whether these transports answer to the quality requirements is unsure. Other initiatives collect mobile phones and donate, for instance, 1 euro per phone to charity, but once again it is not clear where the collected UEEE/WEEE goes to. Some websites also offer to buy UEEE (e.g. mobile phones) for a small price or offer to pick WEEE up for free. Sometimes these websites link back to known refurbishers or collectors, other times the organisations or individuals behind it are unknown.

During my field visits to Ghana, several importers and UEEE shop owners explained how they guarantee supplies. What happens is that "waste tourists" buy or collect the e-waste. These informal actors might be EU residents or have a tourist visa. They collect the "second-hand goods", load a container or a truck and travel back to the country of destination to wait for their

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<sup>129</sup> The corporate respondents have told me that containers are regularly emptied by thieves.

<sup>130</sup> A study by BAN (2005) mentions that Belgian computers have ended up in Ghana.

shipment<sup>131</sup>. Some of these waste tourists live in the countries of origin and cooperate with relatives in the countries of destination to pick up the transport. According to corporate, government and civil society respondents, these waste tourists can be more organised than they might seem: the same people re-emerge and are interconnected through business-like structures of collectors in European countries, transporters and recyclers or sellers of second-hand goods in West Africa. A Ghanaian terminal operator revealed he has several clients that ship approximately 20 containers of UEEE/WEEE per month. According to the Belgian government respondents, it is difficult to track them down because they usually have false passports under different names. Some of the government respondents expressed their concern that this might be linked to organised crime and Ghanaian civil society respondents mentioned Chinese, Nigerian and eastern European organised crime in particular. This is consistent with the findings of Europol's latest organised crime threat assessment (Europol, 2011) which explains how illicit waste trafficking is often facilitated through the cooperation of organised crime groups with legitimate businesses and how both northern and southern European ports act as hubs for illegal waste.

In the last couple of years, the respondents have witnessed the increasing importance of the internet for e-waste collection. The same goes for "new for old" swaps in stores. "E-goods collected over the internet and in stores may end up in good treatment or recycling facilities, but a share of it gets lost and transported to Africa. It is difficult to know whether the good quality or bad quality goods end up in Africa." (G15).

Metal scrap dealers play a role as intermediaries in the collection of e-waste. They buy discarded electronics and often already disassemble those to sell the metal content. These might then still end up with the same recyclers the official take-back system uses. However, because the threshold to collect WEEE within the official system is high (e.g. licenses, equipment), small-scale scrap dealers now risk flowing into illegal transports. "They aren't all criminals but they sure do facilitate a lot" (GE14). Sometimes the recycling facilities in Belgium are intermediaries when components require manual separation after passing through the smelter (Sander & Schilling, 2010). Both government and corporate respondents have confirmed that these are shipped to Asia for manual dismantling after the smelting process is complete. These transports are legal because this is a non-hazardous activity.

Other intermediaries are facilities for waste storages and handling. These storage facilities receive e-waste or used goods of different quality and mix those up in the overseas shipments. Once again it is important to stress that 80% of all e-waste that passes through the port of Antwerp originates in other countries other than Belgium. Located in the Brussels area and locations closer to the port of Antwerp, these brokers receive e-waste by rail or road transport from other countries (e.g. Germany, the Netherlands or France). According to a government respondent (G27), these businesses and their suppliers re-emerge: "The invoices that are meant to prove the origin of the goods are often identical and contain hardly any information, with the intent to hamper

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<sup>131</sup> See, for instance, the report by the Dutch Inspectorate VROM (VROM-inspectie, 2011)

controls.”<sup>132</sup> These waste storage and handling facilities buy and sell the waste and are actually already a transport actor, which is the topic of the next section.

E-waste collection by waste tourists, for charity and over the internet, could all be perceived as the activities of illegal actors who compete with the legal market, thus constituting an antagonistic interface. Similarly illegal e-waste brokers are competitors and they might even aim to put other collectors out of business (predatory). Some of the e-waste collectors are however intermediaries in legal transactions as well and therefore promote similar interests to the illegal collectors of e-waste. This fits a symbiotic nature of the legal-illegal interface. When there is an unconscious involvement in illegality, it is an interface of synergy. In case they do know about the illegality, this interface is either one of collaboration in the case of long term links or one of reciprocity for shorter term but still mutual benefits. One last leakage and illegal-legal interface occurs when retailers as well as communal waste collection and recycling centres are the victims of e-waste theft. This could be perceived as an injurious legal-illegal interface.

#### **4.4.3. Transport of e-waste**

Containerization saves cost and time and has facilitated the rapid growth of legitimate international trade in recent decades (Levinson, 2006), but the anonymity of containers offers particular advantages for organisations wishing to transport illicit commodities (Griffiths & Jenks, 2012; UNODC, 2011). Shipping a container to Africa or South-East Asia is cheap, making it a low threshold for illegal transports. “These ships are so to speak waiting in the port to be loaded again after unloading all the processed goods (e.g. clothes, electronics, cars, etc. from China) and raw materials (e.g. cocoa, fruit, metals, timber, etc. from Africa).” (C1). Different actors have a role to play in the transports and can thus be tempted by these facilitating factors (see Figure 1).

Port authorities play a role. On the one hand, they are mainly interested in filling the containers and sending them back to Africa and Asia. On the other hand, they are responsible for port safety and can in this way indirectly influence e-waste transports. As an example, the Antwerp port authority, harbourmaster’s office, the waterway police and inspectorates have drafted a regulation<sup>133</sup> for the transport of additional cargo in second hand vehicles and imposed stricter controls. One of the reasons for this was that e-waste smugglers had started using cars, vans and trucks to transport waste as a countermeasure to the increased controls on containers<sup>134</sup>. The new regulation requires a bill of lading for the extra load in vehicles and there are stricter loading instructions. This new regulation is however under pressure because the end-of-life vehicles are a major commodity for the port, which might see this economically significant activity relocated to other ports. The port authorities and state actors might simply be shaping the structural context for these flows, but could be interpreted as facilitating illegal activities (Kramer, Michalowski, & Kauzlarich, 2002).

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<sup>132</sup> van Duyne (1993) observed similar structures for invoicing and transportation in a Dutch-Belgian case of illegal waste transport and dumping.

<sup>133</sup> Regulation of 24 November 2011 for handling of second hand vehicles in the Port of Antwerp (*Reglement voor het behandelen van tweedehands voertuigen in de haven van Antwerpen*) – Entered into force 1 January 2012.

<sup>134</sup> A baseline assessment of the cars shipped from the port of Antwerp found out that 5-10% of vehicles contained e-waste. With about 400,000 vehicles shipped annually and 10% of those originating in Belgium, this means 4-8,000 vehicles are loaded with e-waste in Belgium each year.

Terminal operators load and unload the goods on the ships. They are generally not concerned with the legality of the goods, but merely with the safety of the operation. Shipping lines are in a similar position (Sander & Schilling, 2010). “The shipping lines will often go with ‘I don’t know, no idea what’s inside’, but they know many of their customers and could be more responsible about who they allow through a use of black lists” (G19). Some civil society respondents have revealed that the port of Antwerp logistics is thriving on mafia business, but it is hard to interpret these comments. Certain shipping lines are alleged connected to the Italian mob, but hard proof is lacking.

An important role is played by shipping agents. They arrange the transports over road or inland waterways to the nearest port and take care of the handling of the goods in the port. Those expeditors are not always brokers because they do not necessarily buy the waste, but might simply arrange the transports. Shipping agents usually do not engage themselves with the content of the transports and merely arrange the paperwork. Through this activity however, they facilitate illegal transports. “Despite the requirement in the WSR for expeditors to provide information about the destination of the goods, the expeditors hide behind commercial secrecy and are hesitant about giving away the information about the destination<sup>135</sup>. They only fill out [documentation with] the information they get, not all they know and in this way they keep the traffic in place. Their clients deliberately withhold information about the address of the disposer, but expeditors allow them to.” (G14)

Shipping lines and terminal operators have e-waste smugglers as clients, either in container or in vehicle transports. This fits a symbiotic nature of the legal-illegal interface (Passas, 2002) because legal actors work for illegal actors, but it is unclear to what extent the former knowingly collaborate. In case they do not know, this interface is one of synergy. In case they do know, this interface is either one of collaboration in case of long term links or one of reciprocity for shorter term but still mutual benefits. Similar to shipping lines and terminal operators, expeditors and shipping agents have smugglers as their clients, but their involvement is deemed to be more deliberate: “If the shipping agent fills out the waste goods codes correctly, it will never pass the customs system without a check.” (G22). They can at least be accused of a lack of due diligence or of culpable negligence because of withholding of information. Similarly the synergy, collaboration or reciprocity interfaces apply.

#### **4.4.4. Countries of destination**

A fourth segment in reference to the e-waste flows (see Figure 1) is of a different nature. Rather than factors that push or facilitate the flows of e-waste, factors that attract e-waste flows are analysed. Although this should not be overplayed, the institutional framework in countries of destination – or lack thereof – is a first pull factor (Schluep, et al., 2008). Although some studies (LNE, 2010b)<sup>136</sup> perceive this to be of low risk due to its clarity, consistency and good quality, others believe the massive amount of regulation on waste indeed leaves only limited blind spots,

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<sup>135</sup> Annex 7 to the WSR is problematic here, since this allows the original sender and receiver of the goods to be disguised.

<sup>136</sup> A 2010 study commissioned by the Flemish Inspectorate for the Environment analysed different waste streams and their risk profiles. To arrive at the risk profiles they weighted risk factors (legislation, market and context, technique, costs, criminogenic factors) on a scale from 1 to 5, 1 being the lowest risk, 5 the highest.



but does hold a risk of causing confusion and liability problems (G. Bruinsma, 1996). Moreover, “stringent regulation and control creates extra motivation for bypassing the law and often provides those crooks with bigger profits.” (C15). This refers not only to their weak regulatory system or government, often as a result of wars or conflicts, but also their precarious socio-economic situation. This causes them to allow e-waste shipments to be imported into their country, because of their financial attractiveness (BAN & SVTC, 2002). Imports of e-waste are a way to increase their revenue (through taxes), which is referred to as garbage imperialism (Pellow, 2007).

EEE discarded by industrialised countries may represent the sole secure source of livelihood for many people in developing countries, constituting a second pull factor. These economies-in-transition and developing countries have a massive formal as well as informal economy thriving on the repair, refurbishment, dismantling and recycling of second-hand EEE. These informal actors are wary of the term ‘e-waste’, because these ‘used goods’ are the only guarantee of livelihood for many (Amoyaw-Osei et al., 2011; Prakash & Manhart, 2010). As I witnessed in the field (Agbogbloshie dump, Accra) many devices or cables are simply burned to remove the plastic casing and collect the metals. Scrap collectors – known as scavengers – collect valuable waste on the streets and the well organised informal recycling sector dismantles the devices and sorts valuable and non valuable components (Odeyingbo, 2011). In Ghana, the informal sector is estimated to generate 100 to 250 million US dollars per annum and employs 22,000 people in Accra alone (Prakash & Manhart, 2010)<sup>137</sup>. An estimated 0.82% of the total Ghanaian population have informal WEEE repairs or refurbishing as their sole means of livelihood. Second-hand – but also non-working – television sets, computers, mobile phone (batteries), etc. are sold on many street corners. In China, the millions of jobs in the informal sector are a motivation for the government not to tackle the illegal shipments of e-waste too harshly, according to an NGO-respondent (S12). Stopping the flow of e-waste would take away the supply for these informal sectors and is likely to cause social unrest. One corporate respondent (C18) said: “The big recyclers in Europe are likely to disagree, but some recyclers abroad are equally well equipped and exports to these countries are more economical given the proximity of the production sites”.

Besides guaranteeing a livelihood for many people, the digital divide creates a hunger for technology in developing countries. This is a third pull factor. E-waste transports can help bridge this divide since computers, mobile phones and other electronic devices allow people to catch up with global developments in knowledge and communication. “Importers seem willing to bring in containers mostly filled with e-waste because the demand for electronics is so high that buyers are prepared to purchase untested items.”(Environmental Investigation Agency, 2011, p. 2, p.2). It is however important to be mindful about the consequences of bridging this digital divide. Inadequate treatment of e-waste flows can have detrimental effects for environmental and human health as

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<sup>137</sup> Formally registered businesses import EEE on a regular basis and mostly focus on one particular product (e.g. refrigerators, PCs, etc.). 70% of those imports work, 20% can be repaired (but often only functional for another 1 or 2 years) and 10% does not function. Informal importers are unregistered business owners, mostly residents of foreign countries who import one or two 2 containers per year. Some of this EEE is bought from refurbishment companies and therefore tested for functionality; other EEE imports are not tested however. Of these informal imports, 60% are functioning, 20% can be repaired (once again with a short lifespan remaining), and 20% is simply e-waste (Prakash & Manhart, 2010). Another way EEE enters the country is through private imports (in the luggage of individuals) or through donations (which are exempt from tax).

well as for the economy and politics. The developing countries end up with the old technology and with the waste. One of the Ghanaian civil society respondents (S16) referred to this as “bridging the digital divide by creating a digital dump”.

The informal e-waste collectors and “recyclers” feed into the legal e-waste industry through the increased demand for secondary raw materials, which is a fourth pull factor. The pressure on natural resources plays a role in market dynamics and is likely to become increasingly important in future geo-politics. One way of guaranteeing the inflow of (precious) metals into natural-resource poor Europe is by exploiting the resources of the urban mine<sup>138</sup> to their full potential. There is however a major pull for e-waste transports to Asia. The spotlights have been on China and India, and the situation in terms of illegal e-waste transports seems to have improved somewhat. China has stricter laws<sup>139</sup> on e-waste, which prohibit import unless it is useable as raw materials and unless the requirement of prior consent is met. In practice however these imports are still tolerated and sometimes documents refer to unknown or unlicensed treatment facilities. The extracted components or metals still end up with the same producers, mainly in India and China, after dismantling and ‘recycling’ in Africa, Vietnam, northern China and Cambodia. Repair, refurbishing, reselling, recycling and dismantling happens in small workshops which are supplied by informal collectors (hawkers, pedlars, individual vendors) (Veenstra, Wang, Fan, & Ru, 2010). Although these recycling facilities are increasingly well equipped (van Erp & Huisman, 2010), the limited number of official recycling facilities in China does not provide enough materials for their smelters. However, informal dismantlers in some regions (e.g. Accra) are said to be improving both environmental and labour standards and “moving away from the one-sided bad story, because a lot of progress has been made” (S21). Local NGOs in Ghana motivate dismantlers not to burn the e-waste by not buying the burnt copper. Other actors however, accept all metals, burnt or not, and this perpetuates the burning.

Similar to their involvement in countries of origin, organised crime groups were mentioned to be involved in the collection of metal scrap on waste dumps in West Africa. In particular, the respondents referred to organised crime groups of Nigerian, Italian, Eastern European and Chinese origin who collect the valuable materials from informal workers on the dump and sell them as secondary raw materials on the global metal market. This is consistent with findings by Gonzales, Schofield and Hagy (Gonzales, Schofield, & Hagy, 2007) which state that Asian organised crime groups are expanding their influence to legitimate business such as waste disposal. As an Agbogbloshie worker put it: “I sell copper to Chinese men and mother boards to a white man from Europe”.

The interface in countries of destination is both legal and illegal, formal and informal. Informal collectors and dismantlers compete on the same market as formal actors, and even organised crime. This implies an antagonistic interface and might even be aimed to extort (parasitical interface) or destroy (predatory interface) other actors. There is another legal-illegal interface that presents

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<sup>138</sup> The urban mine is a mine of (raw) materials from products, buildings and waste in a society. Urban mining is the idea of using those compounds and elements as resources for new production, thereby avoiding these materials from going to waste. E-waste exports can thus be seen as a loss in raw material.

<sup>139</sup> SEPA Document No. 19/2000 of January 24 2000 ‘Notification on import of the seventh category of wastes’.

itself. The raw materials that were extracted by informal actors feed into the legal production. Sometimes organised crime acts as a go between in this. This constitutes an interface of reciprocity or collaboration between legal, illegal and informal actors. On the supply side, these informal dismantlers as well as sellers of second hand e-goods cooperate with both illegal (e-waste) and legal (used goods) transporters. It is not easy to determine whether this last category of actors is legal or illegal. Legal recycling actors face competition (antagonistic interface) from governments that tolerate the imports of e-waste (against national or international regulation). These governments support informal or illegal dismantling or recycling actors, constituting a (non-financial) funding interface. Legal actors might thus be facilitating and even initiating crime (Kramer, et al., 2002), but the line is difficult to draw. The transports of e-waste are not allowed, but they do provide a stable (and sole) source of income for many. Throughout the flows, the status of e-waste can actually change between legal and illegal multiple times. Once EEE is dismantled, refined or comes out of a smelter, there is no way of tracing where it came from, which implies it may feed into the legal industry again.

## **Discussion**

Reference to illegal markets might immediately bring to mind pictures of organised crime syndicates on national or international levels. Illegal market activity does not necessarily refer to these mafia-like organisations, however, but to situations where business or government actions are on a thin line between legal and illegal (Passas, 2003a; Punch, 1996). This article aims to provide insights into the social organisation of illegal transports of e-waste to achieve a more complete view of the network of actors involved in them, which in turn can progress theory on transnational environmental crime (Huisman & Vande Walle, 2010; van Duyne, 1993). This study asked the question which legal and illegal actors are involved and whether their interaction is of a symbiotic or antithetical nature. The results presented different kinds of legal-illegal interfaces. At the start of the flow, consumers sometimes sell their e-waste to actors who offer to treat it for (too) low prices. Whether this is due to a lack of awareness and due diligence or a conscious choice for cheaper illegal disposal, both cases constitute a legal-illegal interaction in which government, as well as corporations and individual consumers can be involved. Depending on the legal actors' awareness of the illegality, this interface is either one of synergy or outsourcing. This outsourcing particularly applies to the case of e-waste, because this allows the legal actor to externalize the harm. Further down the flow, e-waste collection has various potential interfaces between legal and illegal. Waste tourists, and collection of waste for charity and via the internet, are illegal sources of e-waste that compete with the legal market (antagonistic interface). E-waste brokers are on an even more complex legal-illegal nexus. On the one hand, they have a role as legal intermediaries in transactions and therefore promote similar interests as the other actors in collection of e-waste. On the other hand, through waste storage and handling these brokers function as intermediaries for illegal transports. Depending on whether this is a knowing or a long-term involvement in illegality, this is an interface of synergy, collaboration or reciprocity. Other legal actors in e-waste collection are scrap metal dealers and refurbishers. Some of those are however known to (intentionally) feed into illegal transports. Besides these legal-illegal interfaces in e-waste collection, actors can be on a thin line between legal and illegal in transport of e-waste. Shipping lines, terminal operators, expeditors and shipping agents all have e-waste smugglers as their clients. The involvement of the

first two seems to be one where they can be accused of a lack of due diligence (synergy interface), whereas the last two sometimes play a more deliberate role in facilitating illegal transports of e-waste (collaboration or reciprocity interface). At the end of the e-waste flows - in countries of destination - the line between legal and illegal may be even more difficult to draw. Informal collectors and dismantlers compete on the same market as formal actors and organised crime, and cooperate with legal actors by selling them the extracted secondary raw materials. This implies an antagonistic interface and might even be aimed at extortion (parasitical interface) or destruction (predatory interface) of other actors. Moreover, informal dismantlers and sellers of second hand e-goods in countries like Ghana cooperate with both illegal (e-waste) and legal (used goods) transporters. Governments in countries of destination that tolerate the import of e-waste - against national or international regulation - are competing with the legal actors in countries of origin. These countries of destination thus witness interfaces of reciprocity or collaboration between legal, illegal and informal actors. These could be categorized as facilitating and maybe even initiating crime (Kramer, et al., 2002), but it is not all black and white: although the imports of e-waste are illegal, they provide many inhabitants with a stable source of income or access to the digital age. Moreover, informal dismantlers in some regions (e.g. Accra) are said to be improving both environmental and labour standards. In sum, legality and illegality is not clearly depicted when talking about these actors.

The analysis of the social organisation of illegal transports of e-waste makes clear that the powerful are not necessarily knowingly involved in transnational crime or deliberately crossing the line from legal to illegal. There is however at least a lack of due diligence on the part of some actors. Take the example of government agencies and corporations in countries of origin that sell e-waste for prices which should ring alarm bells. A major part of the trade is in legal hands, but this legal character is easily stretched or shed and constantly in evolution. It is therefore difficult to give these transports of e-waste an unambiguous legal or illegal label since they are a result of a multitude of legal-illegal interfaces. E-waste is part of the legal economy, but meanwhile prompts different kinds of illegalities (Van Daele & Vander Beken, 2009; Vander Beken, 2007). Recycling e-waste, especially in developing countries, can be on a thin line between environmental sustainability and disregard of environmental and labour standards. A shipment of good quality second-hand EEE to most non-OECD countries is legal<sup>140</sup> and a shipment of damaged or non-functioning goods is illegal. In the eyes of the beholder this illegal e-waste shipment might still be worth more than Northern actors would imagine. In addition, the thin line between legal and illegal is apparent in the definition of what e-waste is and what constitute used goods or recyclables. One respondent (C13) illustrated that by remarking: "What is listed as waste is often the cleanest thing that's shipped." E-waste is a massive industry, with recycling, second-hand EEE, parts, fixing, refurbishing, etc.; only a part of it is truly going to waste. The bottom line, however, is that these practices - regardless of whether the transports are legal or illegal - cause harm to humans and the environment, because there are no adequate e-waste recycling facilities in Ghana (or in West Africa). Legal transports of second hand goods might have equally detrimental effects. Trade laws sometimes allow the exploitation of nature for consumption and production processes and continue the externalization of harm and

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<sup>140</sup> A number of Asian countries (e.g. Vietnam) refuse the import of second hand monitors and computers.

risk (Lynch & Stretesky, 2003; White, 2008). These actions mostly remain off the political agenda, rendering them neither illegal nor criminal (Passas & Goodwin, 2004). Taking environmental harm as a frame of reference for the legal and illegal flows of e-waste – and by extension other transnational environmental crimes - could overcome the challenge of the thin line. Therefore, it is crucial to focus not only on the strict crimes of illegal waste transports - the breaches of international and national legislation - but also on those activities that are on a thin line between legal and illegal.

The causes of transnational crimes are often neglected or reduced to a mere focus on the profits or greed of a few bad apples instead of looking at potential systemic causes (Passas, 2003a). Although profit or lure are major aetiological factors, this article illustrates how other push, pull and facilitating factors provide the necessary contextualisation for these arguments. It does so by paying attention to individual, organisational and societal levels of analysis and motivations and opportunities of actors in locations of origin, transit and destination. This article illustrates that e-waste is not only about the “big fish”, globalization and the corporate dimension, although the corporate and economic rationale remains crucial in understanding the illegal flows of e-waste. It is essential to analyse the economic dimension of the phenomenon on a global scale, since waste is not contained in one country or continent. The importance of transit for e-waste flows in Antwerp is a clear illustration of this, with just 20% Belgian e-waste and the remaining 80% inflows from abroad. This illustrates how the open and global market results in illegal cross-border mobility. However, push, pull and facilitating factors on other levels than economy also need to be taken into account. Producers, consumers, waste collectors, transporters and (informal) recyclers - actors big and small, legal and illegal, powerful and powerless all have motives and opportunities that jointly influence (illegal) transports of e-waste. This article illustrates how a criminological analysis of illegal transports of e-waste inevitably encounters economic, cultural, political and social motives and opportunities that together determine the flows (Heiss, et al., 2011; Michalowski, 2009). This entanglement makes it difficult to draw a line between what is or should be illegal. The challenge lies in “protecting vulnerable countries from unwanted hazardous waste imports, while not precluding the import of wastes considered valuable secondary raw materials to countries in a position to manage them in an environmentally sound manner” (Kummer Peiry, 2010, p. 5).

The various actors involved in e-waste flows and their diverging motivations and opportunities require a governance framework that is equally diverse and flexible. Initiatives to heighten awareness about e-waste throughout the flows – from production and over consumption to collection, transport and recycling – combined with national and international governmental control and self-regulation are necessary ingredients of this governance mix (Gibbs, McGarrell, et al., 2010; Stretesky & Lynch, 2009; van Erp & Huisman, 2010). Given the global dimensions of transnational environmental crime, limiting this to national policy is to no avail (Aas, 2007). However, the local impact should not be neglected either because illegal transports of e-waste may result in harm to environmental and human health, but they might also have positive effects locally (secure livelihood, bridge digital divide). This implies that policy needs to take both the global and the local into account. Future studies should look at the exact implications of these characteristics for the governance framework of transnational environmental crime.

## **Limitations**

What this article attempted is to make the phenomenon of illegal transports of e-waste more visible, to get a more complete view of the network of actors, their interactions and their motivations and opportunities, grounded in empirical data. This case study is necessarily connected to its research setting and does not have the intention to provide generalizable results. This method however provides insights that help understand the social organisation and emergence of illegal transports of e-waste in other locations as well (T. R. Miller, et al., 2012). These empirical findings provide the necessary input for theoretical developments. This case illustrates how the nature of the goods can be on a very thin line between legal and illegal and therefore complicates the legal-illegal interfaces in transnational environmental crime. Future research should focus on other transnational environmental crime phenomena and see whether similar observations apply.

## **Conclusion**

By analysing the case of illegal transports of e-waste in a European trade hub, this article responds to the call for more empirical knowledge about transnational environmental crime. The data analysis revealed different legal-illegal interfaces throughout the e-waste flows. Governments and corporations as well as individual consumers can contribute to illegal transports of e-waste. Actors in e-waste collection were shown to be on a legal-illegal interface. Transport actors can equally walk on a thin line between legal and illegal by facilitating illegal transports of e-waste. Legal and illegal transports were even more difficult to distinguish in countries of destination. Although profit or lure play a very important role, this article shows how push, pull and facilitating factors on individual, organisational and societal levels together provide the motivations and opportunities for illegal transports of e-waste. This demonstrates how the social organisation and emergence of transnational environmental crime is on a thin line between legal and illegal that needs to be contextualised within the global reality of origin, transit and destination locations.

## 5. Go with the e-waste flow. The governance reality of illegal transports of e-waste in a European trade hub

**IN REVIEW:** (May 1<sup>st</sup> 2012) *A Quarter Century of Organising Crime. Past threats and policies & New horizons in law enforcement*, Petrus Van Duyne & Jon Spencer (Eds.) (The below version was revised based on the comments of my PhD guidance committee)

**ABSTRACT:** *This article examines the governance reality of illegal transports of e-waste. It analyses which actors are involved in this governance framework and provides insights into the facilitating and hindering factors for governance throughout the e-waste flows. Besides analysing the governance actors individually, particular attention is given to their interaction. The frame of analysis used for this is a nodal-networked analysis (Shearing & Johnston, 2010). This qualitative case study is based on a multi-method approach of document analysis, interviews and field visits. The research setting is a European trade hub (port of Antwerp) and the e-waste that flows through it. This analysis relates back to the models of the responsive regulatory pyramid and networked governance. The findings show how the governance reality of illegal transports of e-waste answers to several characteristics of these ideal-typical models, but is at the same time faced with the complexity inherent to governing the illegal trade in e-waste.*

### Introduction

A number of behaviours have been identified as major forms of transnational environmental crime (White, 2011).<sup>141</sup> Many of these environmental crimes are inherently transnational, linked to globalization and global trade (Beirne & South, 2007). Capital, goods, people and information swiftly flow and have potential – and often unpredictable – worldwide consequences (Keohane & Nye, 2000). These flows present opportunities for crime as well. Both consequences and causes of crime can be locally and globally influenced. Illegal transports of e-waste are therefore a good illustration of the motto that ‘everything is connected to everything else’.<sup>142</sup> The impact of illegal transports of e-waste resides on ecological, social as well as economic levels (Bisschop, 2012a). There is the involvement of a broad spectrum of actors throughout the flows<sup>143</sup> (Bisschop, 2012a; Szasz, 1986). The e-waste supply chain consists of producers, distributors, consumers, collectors, refurbishers, waste brokers, shipping companies, recyclers, downstream vendors and actors responsible for final disposal, that might well be located in different regions of the world (Schluep, et al., 2008). Different legal-illegal interfaces present themselves throughout the e-waste flows and many of these actors potentially feed into the illegal transports of e-waste. Governments, corporations and individual consumers as well as actors responsible for e-waste collection and dismantling can feed into illegal e-waste flows. Transport actors sometimes facilitate or even participate in illegal transports of e-waste. In countries of destination shop owners, refurbishers, dismantlers and consumers are involved.

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<sup>141</sup> Directive of the European Parliament and Council on the protection of the environment through criminal law (COM(2007) 51/Final).

<sup>142</sup> This is sometimes referred to as the ‘butterfly effect’: a butterfly can cause a hurricane on the other side of the globe (White, 2011).

<sup>143</sup> Flows refer to departure locations, followed routes and final destinations of goods.

The complexity of the issue is further made clear by trying to understand why these various actors become involved in illegal transports of e-waste. Although profit or lure play a very important role, push, pull and facilitating factors on individual, organisational and societal levels together shape the flows (Bisschop, 2012a; Gibbs, McGarrell, et al., 2010). Given these contextual complexities, this article sets out to analyse the social reaction to illegal transports of e-waste. Throughout the departure, transit and destination locations, different actors have a governance<sup>144</sup> responsibility. This article analyses this governance reality in face of the global and massive flows of goods. It enquires what actors are involved in the governance of e-waste flows and provides insights into the facilitating and hindering factors in these governance arrangements, for each actor on its own and in interaction.

The field of crime was long dominated by state institutions, but in face of the complex problems the world faces a shift was required moving beyond the nation state paradigm to the transnational level, away from a single government actor to governance arrangements in which different actors are involved (Loader & Sparks, 2002; Sheptycki, 2007). In response to the ecological challenges the world faces, many multilateral environmental agreements (MEAs) and national environmental regulations have been drafted. These attributed a focal role to the state and corresponded to the so-called command and control regulation (Holley, et al., 2012). Environmental issues are one global dynamic that involves new actors taking up responsibilities formerly reserved for the nation state. These new actors can be legal entities such as (multinational) corporations or non-governmental organisations. Over the years, corporate actors have developed environmental self-regulation, which sometimes goes beyond the requirements set in legislation (Bartley, 2007; Gunningham, et al., 2003). This resulted in various regulatory hybrids where responses to (transnational) environmental issues can be found within government institutions such as the criminal justice system, but also involves regulatory initiatives in interaction with corporate and civil society actors. Governments as well as business, civil society and international organisations shape governance and regulation, but it is not clear what governance frameworks this led to in practice (Braithwaite, 2008).

This article continues by presenting the theoretical framework at the basis of this study. This relates back to the two ideal-typical models of the responsive regulatory pyramid and networked governance. This section also explains the frame of analysis for this study, which is a nodal-networked governance analysis (Shearing & Johnston, 2010). Next, the methodology of this study is explained. Then the results of the analysis follow, providing insights into the governance reality of illegal transports of e-waste in a European trade hub. Thereafter, the discussion relates these findings back to the theoretical framework.

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<sup>144</sup> Keohane and Nye (2000, p. 10) wrote: "Governance refers to the emergence and recognition of principles, norms, rules, and procedures that both provide standards of acceptable public behavior, and that are followed sufficiently to produce behavioral regularities." Governance differs from government, because it is not limited to the engagement of governmental actors (Holley, et al., 2012; Parker & Braithwaite, 2003). It includes different social and political units (corporations, international organizations, NGOs, etc.) as governing social interactions. Governance equals the intentional activities that are designed to shape the flow of events (Wood & Shearing, 2007, p. 6) In this article, the term governance is used to refer to governance of security in the sense of aiming to prevent the illegal transports from occurring. It is not a reference to the general governance of economic flows or trade.



## 5.1. Theoretical framework for regulation and governance

The governance of e-waste flows is on a crossroad between the management of trade flows and the prevention and control of illegal flows of goods. As a consequence, a diversity of actors can play a role within this governance framework. Because illegal transports of e-waste have been subject to international conventions<sup>145</sup>, an important governance responsibility is with government actors. Traditionally, these government institutions have the central responsibility for crime and security (Shearing & Johnston, 2010). In fact, a lot of the environmental issues have been dealt with through command and control regulation, assuming uniform compliance backed up by punishment (Grabosky & Gant, 2000). This, however, provides only part of the solution to the complexity of environmental problems (Gunningham, 2004). Faced with the globalized supply chain and transnational environmental problems, governments are challenged in drafting appropriate governance frameworks to regulate these global dimensions (Sassen, 1996). Other actors can then play a role.

Through self-regulation corporate actors involved in the e-waste supply chain can for instance contribute to the prevention and control of illegal transports. Corporations often prefer clarity in regulating their activities out of a concern for a level playing field (Delmas & Young, 2009). Some are concerned with their reputation and see self-regulation as a way to distinguish themselves from the bad apples in their sector and a way to avoid these bad apples from free-riding on the image of the sector. In these cases, they sometimes choose to pre-empt state initiative for regulation (Gunningham, et al., 2003). Moreover, self-regulation is a way for corporations to inform consumers about their responsible business which in addition can provide them competitive advantage over firms that do not uphold these high standards. In lack of government initiative, non-state actors have sought alternative solutions to deal with environmental issues (e.g. multi-stakeholder initiatives) (Bernstein & Cashore, 2007). Third actors like consumers and non-governmental organisations (NGOs) play a role in governance through labelling and certification initiatives, awareness raising and consumer boycotts. The social reactions to transnational or corporate activities environmental crime might be a mix of criminal law, civil law, administrative law and self-regulation, varying from controlling strategies (e.g. whistle-blowing, sanctioning) to stimulating strategies (e.g. training, ethical codes)<sup>146</sup> (Grabosky & Gant, 2000; Ponsaers & Hoogenboom, 2004; Van de Bunt & Huisman, 2004). The governance reality might equally have developed into a regulatory hybrid where private actors play a role. The following briefly discusses two theoretical models about governance hybrids: responsive regulation and networked governance. These models provided inspiration for the governance analysis of this case study about e-waste.

A very influential theoretical model for dealing with corporate crime, and by extension with environmental crime by corporate actors, is the responsive regulatory pyramid. In responsive regulation, the approach is attuned to the motivations and characteristics of particular sectors and/or situations (Ayres & Braithwaite, 1992) avoiding the inflexibility and inefficiency of

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<sup>145</sup> See for instance the Basel Convention, Montreal Convention and the European Waste Shipment Regulation (WSR) and Waste Electric and Electronic Equipment (WEEE) Directive.

<sup>146</sup> This taps into the discussion on approaches to corporate crime which is one of the dimensions of transnational environmental crime, as was illustrated earlier.

command and control (Wright & Head, 2009). The ground assumption of this model is that the choice of regulatory strategy should be responsive to what is more appropriate for a given situation, taking into account the strengths and weaknesses of each approach (Braithwaite, 2002). There is therefore no standard regulatory reaction. At the basis of the pyramid, there is ample room to act responsibly and for restorative justice. By allowing corporate actors to self-regulate and having other actors meta-regulate<sup>147</sup>, regulatory burdens are intended to be avoided. This requires the corporate actor to own up to responsibilities and is assumed to be the most successful in going beyond compliance (Gunningham, et al., 1998). In order to grasp the new reality of contemporary governance, Braithwaite (2008) suggested using a network rather than a pyramid metaphor, where the focus is less on the vertical dimension and more on the horizontal (van Erp, 2008). The state is then just one actor within this hybrid governance arrangement, since corporate and civil society actors also play a role. A prerequisite remains the possibility of escalation to punitive reactions when actors fail to regulate themselves and/or do not owe up to their responsibility (Braithwaite, 2008).

Networked governance<sup>148</sup> is the second model that embraces the idea of governance arrangements that go beyond the nation state paradigm and looks at the role played by non-state actors such as corporations and NGOs (Mazerolle & Ransley, 2006; Wood, 2006; Wood & Shearing, 2007). The basic assumption in networked governance is that different stakeholders act together towards commonly defined goals. There could also be coalitions of non-state actors, which set regulatory standards and enforcement, independent of governments but not limited to self-regulation (Bartley, 2007). Others have referred to this as plural and fragmented policing (Loader, 2002), nodal and networked governance (Shearing & Johnston, 2010) or polycentric or de-centred governance referring to the multiple sites of regulation (Black, 2008). This networked governance model uses the concept of governance nodes in reference to nongovernmental organisations, corporations, government agencies and citizen associations. The core focus is with the capacity of these governance actors within the regulatory networks. This framework pays attention to interactions within networks and is particularly interesting to study transnational environmental crime and the illegal trade in tropical timber because complexity and (global) interdependency are core themes of the model. Holley et al. (2012) applied this to environmental issues, referring to new environmental governance.<sup>149</sup>

In many security matters, states are no longer the single governing actors but a diversity of actors in different interactions is involved (Wood & Dupont, 2006). Third parties and governance networks can have effective ways of dealing with transnational and environmental issues (Crawford, 2006). Although hybrid arrangements seem the logic of today and tomorrow, many authors still attribute a central role to state actors (Braithwaite, 2008; Gille, 2006; Jänicke, 2006). It

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<sup>147</sup> Meta-regulation is regulated self-regulation which means that controls happen on a higher level either by 3<sup>rd</sup> actors, by government or through public scrutiny, and are based on the own management system of the corporation (Gunningham, et al., 2003).

<sup>148</sup> Networked governance owes many of its basic assumptions to the theory about the network society developed by Castells (2000).

<sup>149</sup> They detected five basic characteristics: collaboration of different stakeholders; participation of different groups on different levels of governance; deliberation about the goals and practice of governance; learning from practice; and accountability.

is of course important to verify this empirically. This article therefore examines how this governance of security framework – in the sense of preventing illegal transports of tropical timber from occurring – is organised. Which government, corporate and third party actors take up governance responsibilities in the governance reality of illegal transports of e-waste and how do these approaches interact (Braithwaite, 2008; Mazerolle & Ransley, 2006)? Do different forms of governance co-exist or does a government or a private actor take up a leading role (Braithwaite, 2002; Gunningham, et al., 1998; Wright & Head, 2009)? Are there individuals or groups who are currently not mobilized in these governance processes in spite of their relevant knowledge, capacities and resources (missing nodes)? Governance actors involved in transnational environmental crime could well be driven by different objectives, interpreting behaviour differently and responding in various ways. This article therefore examines the interaction between these governance actors to assess whether they indeed work within a governance network and/or pyramid, and whether their interaction is cooperative, competitive or non-existent (Crawford, 2006; Shearing & Johnston, 2010). This analysis also pays attention to the local and global context that shapes the governance arrangements throughout the environmental flows (Aas, 2007; Spaargaren, Mol, & Bruyninckx, 2006; White, 2011).

Following Shearing and Johnston (2010), this study will carry out a nodal analysis before a networked governance analysis. This implies an analysis of the separate nodes<sup>150</sup> (nodal governance analysis) and their governance characteristics before moving to an analysis of their interactions (networked governance analysis). The nodal governance analysis refers to how the nodes problematise the topic (mentalities), what they set as objectives (finalities) and what strategies they use to reach that goal (Johnston & Shearing, 2003). Second, the networked governance analyses the interaction between the governance actors. Following this empirical advice should avoid the ‘nodal-network equivalence fallacy’, which is the failure to take into account the underlying assumptions of individual nodes in a governance analysis. Before providing the results of the governance analysis, the methods of this research are explained.

## **5.2. Methodology**

The research is based on a multi-method approach combining document analysis, with interviews and field visits. The qualitative data has allowed gaining rich and contextual insights into the functioning of the nodes and their interaction. This study collected data on as many observable implications of the studied phenomenon as possible (King, et al., 1994). By corroborating different perspectives and opinions about the cases, the arguments were exposed to validation or falsification at different times. This refers to the different segments of society – government, corporations and civil society – the respondents represent. The triangulation of methods, data and theories contributes to this as well (Yin, 2003, 2009).

The document-analysis gathers in-depth knowledge about the governance of the cases and is based on governmental sources (reports of inspectorates, police and customs, data-bases of waste crimes, policy plans), research reports (World Customs Organisation (WCO), Secretariat of the Basel

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<sup>150</sup> Instead of mentioning the term actor, the concept ‘node’ will be used as well. Nodes are actors involved in governance.

Convention (SBC), United Nations Environmental Programme (UNEP), INECE<sup>151</sup>, IMPEL(-TFS)<sup>152</sup>, Interpol, World Bank, independent consultants and academics), corporate documents (press releases, websites, annual reports, policy plans, ethical codes) and documents by civil society actors (environmental organisations, nongovernmental organisations (NGO), media).

A total of 56 semi-structured interviews<sup>153</sup> was conducted: 27 interviews with 34 government actors, 16 interviews with 23 corporate actors, 13 interviews with and 14 civil society actors.<sup>154</sup> The government actors worked for national and international government agencies such as customs, environmental inspectorates, police organisations, prosecutor service and environmental administrations. The civil society respondents were scientists, representatives of national and international environmental NGOs, labour unions and investigative journalists. The corporate representatives were producers of (inter)national computer hardware, e-waste collectors, refurbishers and recyclers, and transport corporations.<sup>155</sup> These respondents were located within the Belgian research setting as well as in other EU countries, as locations of origin, and in Ghana as one of the countries of destination. All but three respondents agreed for the interview to be digitally recorded.

Besides the document analysis and the interviews, this research included field visits, which were necessary to gain contextualised information about the governance framework. These field visits were limited to crucial sites and actors throughout the transnational e-waste flows. The researcher joined customs and the federal environmental inspectorate in the port of Antwerp. This focused on the export and transit of e-waste, because these transport modalities of e-waste are relevant to the research setting of the port of Antwerp.<sup>156</sup> Besides field visits in the port of Antwerp, one country of destination (Ghana) was visited that is often frequented by illegal transports of e-waste that export from or transit in Belgium.<sup>157</sup> The port of Tema, the informal recycling and refurbishing firms and e-goods markets in Tema and Accra and the Agbogbloshie dumpsite were observed. The researcher made notes during and/or after these field visits which were integrated in the data analysis with the interviews and document analysis (Mortelmans, et al., 2009).

### **5.3. Nodal governance analysis of the e-waste flows**

A range of authorities govern illegal transports of e-waste from countries of export and transit - in this case Belgium - to countries of import - in this case Ghana. This section provides the results of the nodal governance analysis, the examination of the governance reality of the separate

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<sup>151</sup> International Network for Environmental Compliance and Enforcement.

<sup>152</sup> IMPEL is the European Network for the Implementation and Enforcement of Environmental Law; IMPEL-TFS is the subgroup of IMPEL that focuses on the inspection and enforcement of Transfrontier Shipments of Waste.

<sup>153</sup> Interviews ranged from 45 minutes to 2 hours in length.

<sup>154</sup> The number of interviews and number of respondents differ because some actors chose to address the researcher in pairs and 6 actors were interviewed twice. In addition, there was one group interview with 13 government respondents, 4 of which had already been interviewed separately.

<sup>155</sup> At the outset of this study, the respondents were guaranteed anonymity. For quotations they are referred to by the general stakeholder category (government (G), corporate (C) or civil society respondents (S)) and a number. This case study is part of a broader PhD research on transnational environmental crime, which also included another case study (tropical timber). There is one list of respondents for both cases and respondents were numbered consecutively.

<sup>156</sup> Import flows are predominantly destined for the major recycling facilities in the EU and therefore do not refer to the transnational environmental crime flows subject of this research.

<sup>157</sup> See for example Bisschop (2012a) and Gibbs et al. (2010).

governance nodes. First, the role of governmental actors is analysed. Thereafter, the role of corporate and civil society actors is examined. Attention is paid to their roles and responsibilities, strengths and weaknesses in dealing with e-waste.<sup>158</sup>

### **5.3.1. Government actors (together) in the director's chair**

The control and prevention of illegal e-waste transports involves a diversity of government actors. Environmental administrations and inspectorates, customs, harbourmaster's office, police and judiciary each play a role in Antwerp and Belgium. The following discusses the governance reality of these government actors. The role of the Ghanaian government actors is discussed separately.

#### **5.3.1.1. Environmental administrations**

The Flemish public waste authority (*Openbare Vlaamse Afvalstoffenmaatschappij - OVAM*) is responsible for Flanders' waste policy and coordinates all Belgian statistics (e.g. for European Commission). OVAM is responsible for notification procedures of Flemish waste exports and imports. The notifications for transit are with the administration of the federal environmental inspection. Licenses are also a responsibility of OVAM, which is executed in close cooperation with the regional inspectorates. The most important function of OVAM for e-waste is in policy preparation, implementation and advice. They have an advisory function for authorities across Flanders. OVAM's policy preparation has influence across the regional borders. This coordinated policy is deemed an advantage compared to "other countries (such as the Netherlands) where these responsibilities are fragmented (e.g. city, province and inspection)" (G25).

#### **5.3.1.2. Environmental inspectorates**

The Belgian responsibility for environmental inspection of waste transports is divided between the federal and the regional level.<sup>159</sup> The control for transit is with the Federal Environmental Inspectorate (FEI/FLI/IFE) and the control for import and export is with the Flemish Environmental Inspectorate (EID/MI), Brussels Environmental Inspectorate (IBGE/BIM) and Walloon Environmental Inspectorate (DPE/URP).<sup>160</sup> For e-waste transports, 20% of containers and 10% second hand vehicles originate in Belgium, the rest is in transit. The responsibilities of these

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<sup>158</sup> In the scope of this article, it is impossible to discuss all governance characteristics of these actors. Therefore, this is focused on those elements relevant to the e-waste case.

<sup>159</sup> Special Law for the Institutional reform of 8 August 1980 (Bijzonder wet van 8 Augustus 1980 (Consolidated version of 22 December 2010); Law of 12 May 2011 amending the law of 9 July 1984 on the import, export and transit of waste. (*Wet van 12 mei 2011 tot wijziging van de wet van 9 juli 1984 betreffende de invoer, de uitvoer en de doorvoer van afvalstoffen*). Explanatory Memorandum for the draft law amending the law of 9 July 1984 on the import, export and transit of waste (*Toelichting bij het Wetsontwerp tot wijziging van de wet van 9 juli 1984 betreffende de invoer, de uitvoer en de doorvoer van afvalstoffen*).

<sup>160</sup> In view of the research setting of the port of Antwerp, the Flemish (FLI) and Federal inspectorate (MI) are most relevant. The other inspectorates are not discussed separately, but were contacted for interviews. FLI and MI, the Dutch abbreviations, are used.

inspectorates were recently updated in order to stimulate a coherent policy and determine effective, proportionate and deterrent sanctions for breaches of the EU waste legislation.<sup>161</sup>

The Federal Environmental Inspection (FLI) is responsible for transit of waste. Four FLI inspectors focus on the Belgian harbours, two of which work in the harbour of Antwerp and focus on all waste issues, e-waste being one of the waste types they focus on. Their powers include stopping transport vehicles in view of controls of loading, requesting to see books and transport documents, entering premises where waste in transit is temporarily stocked and interrogating persons about facts they deem necessary for their controls. With the new law on the transit of waste<sup>162</sup>, they became officers of judicial police, which allows them to give warnings, administrative fines, determine a deadline for compliance with the law, and block, secure, send back, take into custody or destroy goods and transport vehicles of goods without cost.<sup>163</sup> For vehicles, a selection is made by walking the quays and selecting vehicles based on origin, destination and shippers<sup>164</sup>. They look inside the vehicles to see whether there is something suspicious such as CFC containing refrigerators or poorly stacked and packed UEEE. For containers, the selection is based on the transport documents, where similar criteria apply.<sup>165</sup> Selected containers and vehicles are scanned by customs in the fixed or mobile scanners.<sup>166</sup> The inspectorate interprets the images and unblocks the unit when the equipment is legal. In case of further suspicions, the units are physically inspected.<sup>167</sup> When unloading these units, there is close contact with the terminal operator as well as with the shipping agent, but the shippers will not be involved in order to avoid them from negotiating or hampering the controls. When controlled transit shipments turn out to be illegal, states of origin are required to take this back and decide whether to prosecute. This is however often to no avail. Therefore, if it is environmentally irresponsible to send the shipment back or if no responsible owner is found within reasonable time, the FLI makes sure the waste is treated in nearby licensed facilities. Since recently, FLI can also impose fines on shippers.<sup>168</sup> Given the limited staff available, the inspectors to a certain extent control in view of what they have capacity to follow up on. For instance, a maximum of approximately 10 units<sup>169</sup> will be selected for scanning and inspectors might not unload scanned

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<sup>161</sup> This refers to: (1) Regulation (EC) No 1013/2006 of the European Parliament and the Council of 14 June 2006 on shipments of waste, (2) Regulation (EC) No 1774/2002 of the European Parliament and the Council of 3 October 2002 laying down health rules concerning animal by-products not intended for human consumption, (3) Regulation (EC) No 2037/2000 of the European Parliament and the Council of 29 June 2000 on substances that deplete the ozone layer, (4) Directive 2008/99/EC of the European Parliament and the Council of 19 November 2008 on the protection of the environment through criminal law, and (5) Directive 2008/98/EC of the European Parliament and the Council of 19 November 2008 on waste and repealing certain Directives.

<sup>162</sup> Law of 9 July 1984 on the transit of waste (*Wet van 9 juli 1984 betreffende de doorvoer van afvalstoffen*), changed by amendment of 12 May 2011, that entered into force June 2nd 2011.

<sup>163</sup> Article 15 and 16 of the Law of 9 July 1984 on the transit of waste.

<sup>164</sup> For sake of clarity, the shipper is the owner of the goods who pays shipping agents and shipping lines to ship the goods to their destination.

<sup>165</sup> Selections based only on the goods classification of waste are ineffective, because only a limited number of shipments are actually notified as waste shipments.

<sup>166</sup> The fixed scanners provide both horizontal and vertical scan images, whereas the mobile one only scans vertically. Nevertheless, both provide quite good images of what the units contain.

<sup>167</sup> The costs can be as high as 3.000 euro in case a container needs to be unloaded and forbidden equipment needs to be treated (at appropriate recycling facilities). This needs to be paid by the shipping agent who recovers this from the shipper.

<sup>168</sup> This measure was new at the time of the field visits and interviews and their impact could thus not (yet) be assessed.

<sup>169</sup> Units can either be containers or vehicles.

units that contain only few electronic devices.<sup>170</sup> The administrative follow-up of the units is done by the same inspectors. This can be very time-consuming and shippers are often hard to trace.<sup>171</sup> FLI cannot fine or send back every unit that is in breach of legislation and inspectorates choose the units which they deem to have the biggest chance of becoming successfully fined or prosecuted.<sup>172</sup>

The Flemish environmental inspectorate (MI) is crucial to address governance earlier in the supply chain, because they deal with (import and) export of e-waste. They have the same powers as the federal inspectorate and in addition give advice about the sanitation of the premises. MI mainly focuses on checks early in the chain through certification, licensing and compliance of companies. They do checks of vehicles and containers in the port as well, but mainly upon the request of other actors such as customs, maritime police or FLI or during joint action days.<sup>173</sup> In case other actors come across illegal imports or exports of waste the administrative follow-up is for MI (LNE, 2010b). Based on the discovered illegal transports, the MI will follow up with inspections further down the chain, going back to the source. They check whether the scrap dealers and refurbishers have a license and waste registry. When the facility is outside the Flemish territory, other Belgian or European authorities need to follow up. Road controls, controls in the harbour and site inspections of waste facilities is the job of two full time inspectors (LNE, 2011).<sup>174</sup> Approximately 5 to 6% of MI inspections results in police reports, but the core of their activities is in the administrative legal procedures. Prosecution of waste cases is very difficult (see below) and therefore MI often chooses to address the license.

As illustrated above, the limited amount of staff requires inspectorates to be selective about which cases they follow-up. As will be explained in the following sections, they are also the go-to agency for advice, expertise and administrative follow-up up if other government actors detect suspicious units. Several respondents deemed this to be the most important bottleneck in the control of illegal transports of e-waste. Some of the corporate actors I interviewed added the following critique on the inspectorates.

Inspectorate controls target the corporations that come into the media, whereas others might try to copy our business, but disregard the management and compliance system behind it. If I can 'google' them, they should be able to as well. I don't mind being checked, but they need to check competitors as well, also those they can't find that easily. (C21).

### **5.3.1.3. Customs**

Customs authorities, whether in the country of export or import, are responsible for the clearance of the goods. Their core function is the taxation and they therefore need to check whether the goods

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<sup>170</sup> Another factor they consider for physical checks is whether the suspicious unit was notified to them by other authorities (within Belgium or in countries of export).

<sup>171</sup> They might well have left for Africa already or operated under false passports.

<sup>172</sup> When a unit is clearly problematic the choice will be made to act upon it. As an example a truck was sent back in which 10 out of 16 refrigerators contained CFCs and 8 out of 12 CRT TVs were not functional or had no electric cable. Moreover, the truck itself proved to be a refrigerated truck which was not degassed. Another truck contained only 2 CFC fridges and the choice was made to oblige the shipping agent to recycle those and allowed the rest of the truck to be shipped.

<sup>173</sup> Several times a year there are 'action days' in the ports. FLI, MI, customs, HMO and police then particularly focus on illegal waste shipments.

<sup>174</sup> In comparison, the Dutch inspectorate has 23 FTE responsible for waste matters.

correspond with the declaration. Though fiscally oriented, they also have other tasks such as the protection of society's health, environment and safety.<sup>175</sup> The respondents explained how "the pressure to focus on taxes is decreasing. [...] This leaves room for customs to focus on tasks that were long-time not regarded a customs' priority, although in se it was always part of the mission." (G18). The renewed focus seems to have repositioned customs within the security framework, which also has implications for their role in the governance of illegal e-waste transports.

Faced with an enormous trade volume and a limited number of customs officers, most customs controls are paper controls and are informed by a risk analysis system. Currently between 0 and 1% of shipments are controlled and even a marginal increase would require a significant increase in staff. Automation and informatisation recently reoriented the customs' system from a transaction based to a system based control, which was meant to address both the growing flow of goods and the need to safeguard security. The system based control uses the management system of the corporation to determine the frequency of controls of the shipped units. The new system is meant to avoid hindering the international logistics chain.<sup>176</sup> This changed focus on the quantity of controls had implications for the quality as well (Sluis, Marks, Gilleir, & Easton, 2012). The former system of transaction based control distrusted and stopped all goods to check for irregularities. The new system based control deems the large majority of transactions as trustworthy and uses 'green lanes' with limited checks. Automatic Economic Operators (AEO) are the core of the system based control. Producers, exporters, shipping agents, storage facilities, transporters and importers can all be granted the AEO certificate.<sup>177</sup> It aims to stimulate self-regulation by rewarding integer behaviour with quicker processing.<sup>178</sup> In practice a large amount of traffic falls under AEO and goes through the green lanes, although there can still be random checks. Government respondents told me this AEO certification is not a waterproof system because waste handlers who were fined in Belgium received an AEO certificate in other EU countries, which grants them trade priorities across the EU.

In this system, customs use a risk analysis on the customs declarations, which contain information about the origin and destination of goods, goods codes, value, etc.<sup>179</sup> For (e-)waste, the system checks for particular countries of destination, descriptions of the goods, VAT-numbers, text selection (e.g. suspicious streets) and the value<sup>180</sup> of the goods. These criteria are informed by the legislation, by Risk Information Forms (RIF)<sup>181</sup> and further refined based on the past experience of

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<sup>175</sup> Missie, <http://fiscus.fgov.be/interfdanl/nl/publications/missie.htm> (last consulted on December 29th 2011) and European Customs Information Portal <http://ec.europa.eu/ecip/> (last consulted on January 21st 2012).

<sup>176</sup> The goals were set out in the 2000-2001 Belgian government reforms, but only became fully operational in 2008.

<sup>177</sup> These conditions are a good customs track record, trade and transport administration that allows for sound customs controls, financial solvency and sound safety provisions. A system audit is required (by means of a self assessment) before AEO is granted. There is regular follow-up through self-assessments and there are limited random controls.

<sup>178</sup> Holders of the AEO certificates get certain advantages such as quicker customs simplified procedures, less physical verification and other controls. In case of controls, AEO certified companies get priority and can ask for a physical check of the goods at a particular location. AEO – Wat. Douane & Accijnzen. <http://fiscus.fgov.be/interfdanl/nl/aeo/wat.htm> (last consulted on 8 February 2012).

<sup>179</sup> For waste transports, the necessary documentation (attachment 7 and notification documents) is required.

<sup>180</sup> In case a container of electronic equipment is reported with a value of 500 euro this will give a warning, because it is likely to be of low quality.

<sup>181</sup> The European communications system for customs uses Risk Information Forms (RIF) as a source to exchange risk information dealing with routine customs controls. This system gives warnings about suspicious transports to other



customs in negotiation with environmental inspectorates and administrations. Selected units are subjected to further document control, scanning or physical verification of the goods. Note that this system applies only to import and export and not to transit data because the documents do not provide enough information for an effective risk analysis. Particularly for e-waste this is problematic because 80% of e-waste shipments are in transit in Antwerp. For goods in transit, customs (need to) trust the export checks of other EU states, as foreseen in the European waste legislation.

Another critique on the system is that the customs' scanners are not used to their full potential. It may be surprising, but this was mentioned by both government and corporate respondents. As an illustration, in 2010 30,529 containers were scanned whereas the total capacity is 70,000 containers per annum.

If you ask me, it's merely a matter of good logistic planning to use this tool to its full potential. The only costs you have are the customs' staff and that's where the shoe pinches. As long as this does not cause delays in shipment, we applaud the use of scanners. (C4)

Some respondents called these mere teething problems and found other critiques more fundamental. For instance, they said the system does not allow enough discretion to determine the checks bottom up. "Personnel on the ground know the flows very well and are able to assess whether or not to expect trouble. Practical knowledge and experience seems to be referred to playing the second fiddle." (G17). The risk analysis system, however, still allows input based on practical experience and leaves room for individual choices. Officers on the quays can often still decide whether a transport requires document, scan or physical control. In essence, this system tries to strike a balance between allowing enough discretion and avoiding the controls from being (perceived as) too subjective. Related to that, there is a lack of customs' expertise and training as well as autonomy on waste issues. Customs have a stop-function for illegal waste transports, but are not a first line service that acts autonomously for environmental issues. The administrative follow-up is for the inspectorates. The reality is of course that customs are with many actors, many more eyes and ears than inspectorates, police, judiciary and environmental administration will ever be. Rule slow down by customs have already illustrated that a lot more waste transports can be intercepted when customs focuses on this more intensely.

In practice, the controls fall back on people who are interested in and passionate about the topic. However, they are not applauded for doing this, because customs is primarily a financially oriented institution. Hierarchical leaders will often tell them not to focus on non-fiscal matters too much, because it is not their core priority. Too many seizures by customs give a country a bad name. (S10).

A final but fundamental critique of the customs system in Antwerp is the possibility of having a late bill of loading – which in practice means you can deliver the goods in the port and provide the necessary documentation afterwards. Although the respondents gave mixed messages about this –

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customs organizations in order to allow for focused controls. A RIF can be issued following an irregularity in customs declarations or might contain the results of the customs control. The RIF aims to support simple and effective targeting and risk analysis at the external frontier (European Commission - Taxation and Customs Union, 2012).

some said it was everyday practice while others said it was not possible – it did seem part of Antwerp’s charm and harm.<sup>182</sup>

#### 5.3.1.4. Harbourmaster’s Office

The Harbourmaster’s Office (HMO), part of the Antwerp Port Authority (APA)<sup>183</sup>, has the responsibility to safeguard the safety, peace, public order, integrity and environment of the port area. The Harbourmaster and his deputies are officers of judicial police and have the authority to investigate criminal offences and submit police reports (Verstraeten, 2007). The policing authority of HMO is limited to the nautical context and to the territory of the harbour.<sup>184</sup> HMO handles about 550 offences each year and 75% of those result in police reports. Most of these offences are breaches of environmental legislation, the vessel traffic system or the dangerous goods regulation. As part of the APA<sup>185</sup>, HMO has the difficult task of uniting both economic and safety rationalities. Economically they advertise the flexibility of the port in Antwerp which does not always coincide with the governance reality of preventing and controlling illegal e-waste transports. Other respondents feared the fragmented policy at the terminals <sup>186</sup> in Antwerp stimulated criminal activity. “There are currently vehicles that are driven from Greece or Italy to be shipped in Antwerp, so there has to be a reason for making this trip worthwhile.” (G15). Of particular importance for the case of e-waste, is the new police regulation<sup>187</sup> that was issued by HMO to address worries about the port of Antwerp’s reputation as a waste hub in second hand vehicles and their cargo. The extra cargo in the vehicles now requires a bill of lading and needs to be accessible and controllable. It stipulates that CFC-holding equipment is not allowed and all used electric and electronic equipment (UEEE) has to be functional. Eight extra employees of HMO will be responsible for the enforcement and will be allowed to block vehicles until the responsible authority unblock them. Inspectorates - particularly the FLI given the 80 to 90% of transit - worry this will result in an overload of requests for checks of docked vehicles. The coordination of the different authorities involved is thus crucial. A particular advantage of this new regulation is that it allows for immediate fines in case of breaches. These fines can be as high as 1,500 euro per unit. It remains to be seen how the new regulation will work in practice, since the newly hired staff members were not in function at the time of the empirical research. Transport corporations (C4) fear the effect of increased controls on trade:

We have enough traffic now, but it would be bad to see that disappear. Illegal and legal traffic tends to go down and shifts to ports where one feels less targeted. It is better to increase controls in the EU hinterland by means of harmonized legislation and enforcement.

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<sup>182</sup> Antwerp is known as a flexible port where “you can put a container on the ship of yesterday” (S10). Particularly, units that arrive on Friday afternoon have a high chance of being on the ship without checks.

<sup>183</sup> The Antwerp Port Authority is discussed later, as one of the private actors.

<sup>184</sup> Article 7 of the Law of 5 May 1936 establishing the statute of the harbourmaster (*Wet van 5 Mei 1936 tot vaststelling van het statuut der havenkapiteins*). (Consolidated version of 15 June 2011).

<sup>185</sup> Port Glossary [http://www.portofantwerp.com/portal/page/portal/POA\\_EN/Havenhandboek/Havenlexicon](http://www.portofantwerp.com/portal/page/portal/POA_EN/Havenhandboek/Havenlexicon) (last consulted on December 28<sup>th</sup> 2011).

<sup>186</sup> The terminals have different policies, whereas other European ports (e.g. Rotterdam) have an integrated policy for the entire port area.

<sup>187</sup> Regulation of 24 November 2011 for handling of second hand vehicles in the Port of Antwerp (*Reglement voor het behandelen van tweedehands voertuigen in de haven van Antwerpen*) – Entered into force 1 January 2012.

### 5.3.1.5. Federal environmental and maritime police

Waste fraud has been listed as a police priority in the national security plan.<sup>188</sup> The police focus on this topic proactively and reactively. In practice, the police focus is on serious environmental crimes, which means they are organized, linked to a corporate environment, involve high profits, are international, repetitive, related to other criminal behaviour and have an impact on the environment as well as citizens' health. Of particular importance to the case of Antwerp, is the role played by the maritime police (*Scheepvaartpolitie Antwerpen – SPNA*).<sup>189</sup> They are responsible for protecting goods and persons in the harbour, for public order and security<sup>190</sup> as well as for environmental issues.<sup>191</sup> The environmental team consists of one full time and one part time officer and (e-)waste is one amongst many other environmental issues they focus on.

The governance reality holds different challenges for the police in preventing and controlling e-waste transports. First of all, there is the limited staff and resources available, especially in the districts responsible for the port of Antwerp. Many of the respondents, also in other government agencies, were worried about the potential implications of future priority changes. "It would be a pity for all the efforts of an already resource-wise challenged network of authorities to go waste. Many of us work in difficult circumstances, often without hierarchical support within our own organisation." (G18). Given the limited resources, it should come as no surprise that proactive controls are limited.<sup>192</sup> The police mainly focus on major criminal cases in which the federal judicial police are responsible for gathering information. In these investigations the police try to target the offender and attempt to calculate the profit made with the illegal transports. It is often very difficult to retrospectively prove that earlier waste transports were illegal as well. "For minor cases, the police have limited possibilities. It is important to trace those back to the source in order to inform and sensitise, but that is outside the police scope of action." (G23). A third challenge is that the environmental police officers are experts on police investigations, but not on environmental issues. Similar to customs and HMO, they need expert knowledge of environmental administrators and inspectors, whose reports are added to the police files. When checks by SPNA point towards illegal shipments the container can be blocked. The follow-up is for the responsible authorities.

### 5.3.1.6. Judicial authorities

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<sup>188</sup> National Security Plan 2008-2011 & 2012-2015. Other environmental crimes, such as smuggling in endangered species are not listed as a priority and therefore only focused on reactively.

<sup>189</sup> The local police of Antwerp, Beveren and Zwijndrecht is not authorized for environmental law implementation in the harbor, but they can work on road transports of waste and check for illegal transports. The local police can also support the federal police in case of controls and inspections of shipments towards non-OECD countries that require extra capacity.

<sup>190</sup> This responsibility is with SPNA since the police reform of 2001. Because port areas were a federal priority in the past this was continued after the police reform (Ponsaers, Easton, Cools, & Gilleir, 2008).

<sup>191</sup> De Scheepvaartpolitie [http://www.polfed-fedpol.be/org/org\\_dga\\_spn\\_nl.php](http://www.polfed-fedpol.be/org/org_dga_spn_nl.php) (last consulted January 21st 2012)

<sup>192</sup> In road transport controls, police officers check for waste. Information about these is gathered in the 'ecoforms'. These contain information about weight, date, origin and destination of waste. "It is important to then check whether the followed route is logical or whether it is suspicious. Transports in weekend or overnight and those with rental trucks are generally deemed suspicious." (G1).

The port of Antwerp is located on the left and right banks of the Scheldt estuary, which translates into separate judicial and municipal districts with own law enforcement priorities.<sup>193</sup> Depending on the locus operandi, the judicial authority is with prosecutors in either the districts of Antwerp or Dendermonde. The judicial authorities of Antwerp took the initiative to set up a project approach for waste fraud in the port of Antwerp.<sup>194</sup> This plan<sup>195</sup> stipulates that not all environmental offenses should be subject to criminal prosecution. The priorities are with those offenses that are so serious that available administrative sanctions or procedures to regulate the issue are insufficient. Moreover, these need to involve either criminal intent by the perpetrator, hold a real risk for the environment, be a danger for public health, cause abnormal hindrance for the surrounding area or result in significant financial benefits. This plan stresses the importance of partnerships and follow-up of cases through the (criminal) justice chain. It lists both quantitative and qualitative micro-indicators to follow up the actions taken by the different partners, although they cannot hold each other to account. Follow-up is the responsibility of the working group on waste fraud. Preventive aspects are not part of this plan. Despite the good intentions of the project, each actor in the network needs to be conscious about the added value of the information other actors in the governance network can provide. The success of the judicial approach, therefore, to a certain extent depends on the information provided by other actors, gathered with other intentions in mind.<sup>196</sup> “They undoubtedly have the technical expertise and knowhow, but the information they gather is not necessarily useful in criminal cases.”(G19). Information from different relevant sources such as maritime police, inspectorates, etc. is gathered by the prosecutor. “So in fact it is at prosecutor’s level that someone needs to have the insight that similar names recur.” (G23). In principle, all possible means will be used to prosecute import and export cases and also transit issues will be met with sanctions. In practice however, prosecution of transit cases is problematic and the focus is mainly on export. Out-of-court settlements are given whenever possible.

The objective is to investigate the potential criminal networks involved in it and find those ‘big fish’, but there are many intermediaries in different (international) locations. There is cooperation needed with different actors and it is a very media sensitive topic. Moreover, in everything we do, we feel the threat of the economic lobby. An enforcement actor who wants a new regulation to be imposed in the harbour gets a lot of critique. Economic actors are often protected by powerful people up in the government hierarchy. (G19)

In practice the cases thus hardly ever result in successful court cases, while fines<sup>197</sup> are too low and prosecution is too slow to be effective, similar to other environmental cases (Faure, 2012). This is a problem not only for Belgium, but applies throughout Europe.

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<sup>193</sup> This includes the city of Antwerp and the municipalities of Beveren and Zwijndrecht. This means that the port is not only a territory of the province and judicial district of Antwerp, but also of the judicial district of Dendermonde and the province of East-Flanders.

<sup>194</sup> In the port of Zeebrugge, a similar network was set-up, inspired by the Antwerp example.

<sup>195</sup> District Action Plan of 19 January 2012 ‘Approach to severe environmental crime with a focus on organized waste fraud’ – Integrated plan of objectives 2012 (*Arrondissementaal Actieplan Aanpak zware milieucriminaliteit met focus op georganiseerde afvalzwendel, Geïntegreerd Doelstellingenschema 2012*).

<sup>196</sup> This relates to the ‘administrative dependence of the environmental criminal law’ (Faure, 1991).

<sup>197</sup> Sanctions can be as high as 8 days to 3 years imprisonment and/or a fine of 52 to 4.000.000 euro for breaches of article 7 and 9 of the Belgian law on transit of waste and breaches of WSR articles and other EU regulations. Breaches of articles

Recycling 1 ton of e-waste in the EU costs about 1,000 euro. If you can illegally transport that to a West-African country, all you pay for is the very low transport costs. If you get fined for a WSR-breach, a fine of 1,000 euro is very unlikely and hardly ever imposed. If you are in the illegal waste business, you can make that part of your business plan. (S20).

A corporate respondent mentioned that a client who has units inspected in the harbor, will generally not ship waste again, because that costs them about 3,000 euro. Government actors doubted that and illustrated how they see the same people and the same names reoccurring: “We might come across 20 of their shipments yearly, whereas 200 might have gone through without trouble.” (G14). Those WSR cases that do get to trial hardly ever result in convictions, often because it is too technical to prove criminal intent. In fact, no major cases have made it to trial successfully in Belgium, making it “much more lucrative to ship waste illegally than ship drugs, because the sanctions for drugs are both more severe and more likely.” (G23).

### **5.3.1.7. Government actors in Ghana as a country of destination**

Despite signing the international conventions, there is currently no Ghanaian legislation that regulates e-waste or second hand transports. As long as that is not in place, checking transports is to no avail since no fines can be imposed. “Many politicians fear they will lose voters’ support. The importers and UEEE shop owners are more important to them than the Agboglobloshie workers from the North. We might even call it environmental racism.” (S22).

The Ghanaian Environmental Protection Agency (EPA) aims to play a similar role as the inspectorates in countries of origin or transit, but is very limited in staff. Two full time employees work on waste issues. In lack of a legal basis to act, their main concern is with raising awareness of government actors about the dangers of e-waste since many consider them as profitable second hand products. “The e-waste situation was alerted by a Belgian inspector who said there was a problem. It was difficult to understand what the problem was. Since then, e-waste has been a real nightmare. It comes in on a daily basis.”(G29). The EPA’s current enforcement focus is on licensing recycling facilities and analysing where WEEE/UEEE is sold and refurbished. However, these actors are numerous, very flexible and spread out across Ghana. Other actors think this licensing by means of environmental impact assessments is too high a barrier for many recycling facilities pushing them into informality. This was observed in Belgium as well, where small scale collectors could not answer to the high standards imposed. The EPA therefore reaches out to these informal actors and shows them how to improve the working conditions with simple tools similar to what local NGOs do. “The core idea is to support them instead of criminalize them.” (G29).

Ghanaian customs are less concerned with e-waste. Local NGOs think customs as well as port authorities have real governance potential in tackling the illegal e-waste transports. I observed how containers of WEEE/UEEE are inspected and unloaded by customs. E-waste is not their first concern, especially because they can impose high taxes on imports of electronics and also given the low level of training. The scanning facilities are present, but only homogenous shipments are

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10, 16, 17 and 18 of the WSR and other EU laws are met with imprisonment of 8 days to 1 year and a fine of 40 to 120.000 euro.

inspected. In face of this governance reality, customs will need more incentives to control for illegal e-waste shipments (e.g. rewards for seizing low quality goods). “Customs are paid very low wages so they want a piece of the cake for themselves. And how can you blame them?”(G28). In case a law is passed, awareness raising and training of these enforcers will be crucial. Even then, the problem remains that seized goods will have to be recycled locally, often ending up in the same system. The Ghana Ports and Harbours Authority (GPHA) focuses on environmental safety in the port. Mainly the dumping of waste and release of waste water is their concern. A few of their employees are concerned about e-waste, but this depends on their own interest in the topic. Ghanaian police do not work on environmental issues. “They have other things to worry about.” (G28). Based on the above, it should come as no surprise that – in absence of national legislation– cases do not go to court.

### **5.3.2. Corporations as (passive) governance actors**

This section examines the governance reality of corporate actors in e-waste flows. The roles of shipping agents, shipping lines and e-goods producers and recyclers are analysed. This will make clear that the governance of the flows is not really a priority for these actors, since their role is often limited to responding to requests of government actors. Others take more initiative, mostly when it coincides with their core business (Gunningham, et al., 2003).

#### **5.3.2.1. Shipping agents**

A shipping agent is paid by the buyer or seller to organize the transport. Their tasks can involve drafting the bill of lading, taking care of the transport documentation and arranging the payments and deposits. When looking at the governance reality for shipping agents a number of observations can be made. Goods handlers in Antwerp recognize they have a responsibility in transports of second hand vehicles containing e-waste. “In the past, some of these vehicles were definitely filled with goods, amongst others e-waste. But meanwhile, a code of conduct was drafted which was later used as a basis for the new regulation.” (C2). As witnessed in the field visits, not all shipping agents however agreed the shipments were a bad thing: “Inspectors themselves should go to Africa to see how difficult life is.” (C23). The fact that many shipping agents are unaware of the issue or even facilitate regular illegal transports was made obvious by a terminal operator in Ghana as well: “One of our clients ships 15 containers of e-waste every 2 months. We have about 20 similar clients.” (C19).

The shipping agents’ business is based on trusting the shippers. “The papers are faxed and I don’t know what’s truly inside the containers or vehicles. I’m not there when they are loaded.” (C23). The responsibility is shifted to actors earlier in the chain: the shipper. Shipping agents, and especially those that do the handling and storage as well have a possibility to know the content. “Many of them take care of the documents and book the container and therefore know their customers.” (S11). Some shipping agents take initiative to inform their clients about what is allowed and warn

them about possible fines.<sup>198</sup> Some even anticipate potential trouble and ask their customers for a warranty (e.g. 3,000 euro), because the terminal will charge the shipping agent for the costs of unloading.<sup>199</sup> Some shipping agents take measures to know their clients, refusing to work with them when a problem has already occurred. Others however work with whatever clients they can get, even when “I have no guarantee that I will ever see the money I owe the terminal.” (C23). Both government and corporate respondents therefore suggested installing a system of “minimum prerequisites for shipping agents. You would quickly see who is willing to go the extra mile, and then you know enough to target controls. This would have to be EU-wide to avoid economic consequences of stricter controls in Antwerp.” (C2).

### 5.3.2.2. Shipping lines

The sector of international maritime transports and trade through ports is known for its somewhat non-transparent way of communication (Denoiseux, 2010). “Although environmental issues could be part of this broader denominator of security, it is still not a major concern.” (C5). It is indeed true that contacting shipping lines for this research was challenging. One major shipping line was however willing to talk. Together with the interviews of other governance actors, this allowed to analyse their role with the governance reality of illegal e-waste flows.

Some shipping lines take initiative to self-regulate and several incentives stimulate this. This however does not necessarily mean the entire shipping industry is influenced by these incentives. Economic, ethical and political considerations guide them to refuse certain shipments (See also: Bartley, 2007). A first motivation is their concern to be a sustainable and responsible actor. The reputational risk plays an important role. Shipping lines do not strictly have a legal responsibility in illegal e-waste flows, but they feel subject to criticism from their stakeholders. Being recognized as a responsible actor is seen as economically beneficial. They also face the financial risk of fines and of costs of transports not being refunded. For a shipping line, the container itself (not the content) is its asset and it is important to get this back. Moreover, shipping lines are sometimes targeted in countries of destination because judges chose to target them for a case of illegal waste transport, as the closest actor in proximity, chaining their vessels until the costs are paid for. The shipping lines’ involvement (or rather some shipping lines’ involvement) is also guided by both the society’s tendency to increasingly challenge shipping lines on legal and ethical issues and the fact that the 21<sup>st</sup> century is a hyper-transparent community. Shipping lines however worry how much they can engage without taking up a responsibility that is not theirs. To a certain extent, they choose their battles based on practical considerations. Therefore, “recently the choice was made to focus on suspicious trades of big volumes and look at potential hotspots and partnerships to deal with this. Waste is a big concern, but the battle is not solely ours.” (C5). Similar to the shipping agents, shipping lines do not have the authority to open containers and they are even at a greater distance from the initial shipper. They rely on the trustworthiness of shippers and shipping agents. “Many

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<sup>198</sup> They do this by providing the port regulations of Antwerp to their clients (translated in English, French or German) and by distributing ads and warning notices in their office and on their website which explain what is allowed and what is not (e.g. CFC, missing cables).

<sup>199</sup> In addition, port authorities can block their financial warranty and revoke their license. The Belgian judicial system also tries to deal with them as accomplices.

shipping lines are not intrinsically motivated to know what is inside containers” (S20). Other respondents however believed the shipping lines know all the tricks to hide behind their commercial practicalities and know they transport illegal waste, but until recently were not challenged by their stakeholders on these issues.

### **5.3.2.3. European producers and recyclers**

Not only transport corporations can be involved in the governance framework for e-waste. European recyclers’ corporations are increasingly involved in the e-waste discussion although their motivations are linked to the raw materials discussion rather than the mere environmental issue. Their core incentive is guaranteeing the inflow of metal scrap for the European recycling facilities. Therefore they try to influence EU policy and aim for the continued criminalisation of transports of e-waste in protection of the ‘urban mine’.<sup>200</sup> This economic factor is a major part of the current policy discussion and is critical for success, together with addressing corporations on their reputation, “because that is where they have a lot to lose.” (G25). Many corporations will do everything to work within the contours of the law. Some might even set standards that surpass legal requirements, especially because customers increasingly ask for follow-up about where their equipment ends up. Corporations seem to be particularly willing to go the extra mile if this fits their core business. Some choose environmental friendly initiatives that enhance the corporate image and might not be profitable for years to come. Recyclers are setting up take-back initiatives in (West-)Africa. This is partially out of concern for the environment, but there is a clear business incentive given the low labour costs for dismantling the equipment. Monitoring is therefore important. This could be connected to formal collection and dismantling initiative that have emerged in Ghana. It is also useful to connect these initiatives to the informal sector, because they collect 90% of e-waste. “The fact, that there is an efficient and effective collection system in place in Ghana has to be strongly considered, when starting new initiatives and for avoiding, that e-waste is still being sent to Agbogbloshie.” (Rufener, 2012, p. 9)

A central concern for recyclers is with the establishment of a level playing field. “Harmonized legislation and enforcement practices within the EU should be increased together with raising public awareness, but not at the cost of increasing administrative burdens for corporations and decreasing the competitiveness.”(C12). Currently, EU countries are perceived to protect their own market and hamper the enforcement of the EU waste legislation. Similarly, recycling corporations across the EU have difficulty to focalise efforts because they suspect competitors of feeding into illegal transports. Others believe self-regulatory initiatives to be promising. The European recycling industry therefore proposed a scheme for controls on e-waste transports, in which the percentage of controls is tailored to both the destination (low-medium-high risk) and the exporter (low-medium-high risk) (Euromettaux, 2012).<sup>201</sup> It proposes that controls should take place at the EU

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<sup>200</sup> The urban mine is a mine of (raw) materials from products, buildings and waste in a society. Urban mining is the idea of using those compounds and elements as resources for new production, thereby avoiding these materials from going to waste. E-waste exports can thus be seen as a loss in raw material.

<sup>201</sup> Low risk exporters, which are those with AEO certificates, should have 0.0001% chance of control when they ship to low risk countries (OECD), 0.001% chance when they ship to medium risk (other non-OECD) countries and 0.01% when shipping to high risk (West-African countries). Medium risk exporters are manufacturers, producers and important



port of departure at the exporter's costs and that second hand equipment should be identifiable in the customs documents, which would give specific reasons to customs to check those transports more thoroughly.

Producers of EEE could also choose to self-regulate. They are required to take steps because of their extended producer responsibility as determined by the Waste Electronic and Electric Equipment Directive, which makes producers responsible for take-back and recycling of their products, and the Regulation on Hazardous Substances (RoHS) that requires manufacturers to phase out the use of the most hazardous components. However, "[t]he traceability of products remains an issue for everyone involved."(G20). Several respondents would prefer producers to set-up a take back system for their products which would make all other take back uninteresting. Some producers are currently tying into that niche, similar to refurbishers on the other end of the supply chain. In countries of destination, some producers take their extended producer responsibility seriously. Other producers however claim they are not responsible and blame the shippers. A Ghanaian waste collector (C25) puts it as follows: "currently producers are cherry picking what they will and won't take back. They should not be allowed to get away with that. Producers should be encouraged to take back their equipment, to take the metal, circuit boards and plastic casings. The main problem is that they don't care about their image on these issues."(C25).

### **5.3.3. Civil society actors as crucial (but waning) support**

Besides the role for government and corporate actors in the governance reality of illegal transports of e-waste, the question remains what role is played by civil society actors. It seems rather clear to most of the respondents that NGOs continue to have a crucial role to play in distributing information and continuing to raise awareness. In the 1970s and 1980s, NGOs scandalised illegal waste shipments and played an essential role in negotiations for the Basel Convention. Their contemporary importance is in continuing to report about current evolutions, by which they keep up pressure. NGOs like Greenpeace have already used GPS trackers to follow e-waste around the world and to bring the topic to the public attention.<sup>202</sup> Similarly, they publish the tags that were found on dumped e-waste or confront previous owners with their old data. This technique could be used to track containers as well (Auld, Cashore, Balboa, Bozzi, & Renckens, 2010). The focus on (e-)waste however sometimes seems to be limited as opposed to concerns for animals. One of the Ghanaian respondents (G28) explained that they saw fluctuations in transports depending on the amount of attention for e-waste in countries of origin.

Consumers, especially corporations and governments, get more aware of their 'e-waste flows' once their equipment has been discovered in a waste dump and that's why NGOs should continue to look for tags and check the hard drives for data. They should keep this up and also follow-up on earlier cases to see whether the situation has improved. (S16).

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traders and they should respectively have a 0.01%, 0.1% and 1% chance of control when shipping to low, medium and high risk countries. High risk exporters (all other) should respectively have a 1%, 10% and 100% chance of control.

<sup>202</sup> A labeling initiative also emerged for e-waste: 'e-stewards'. This aims at the recycling and refurbishment of electronics. This was created by the Basel Action Network (BAN), a USA based NGO, supported by several recyclers. Besides the safe handling of e-waste, it aims to prevent illegal transports and aims for adherence to Basel standards. This is not very prominent in the EU, maybe because the legal framework is more stringent than in the USA.

For NGOs based in Western countries, their role seems to be one of contributing to the achievements of other governance actors (See also: Young, 2009) and struggle to combine collaborating with industry and meanwhile continuing their environmental advocacy (See also: Holley, et al., 2012). These NGOs however do continue to be involved as stakeholders in policymaking on both EU and UN level. By their presence on these levels, they can help to broaden the criminality scope of trade to include more than narcotics or terrorism. Similarly, they could play a role in transposing the international legislation to national laws in countries of destination, while furthering the often neglected implementation.

Several of the respondents raised concern that NGO portrayals are a way of marketing to a certain extent and portray their (Western) views on reality, disregarding the local context. "Involving the informal collection and dismantling sector can help towards lowering the environmental harm. Stopping the inflow of e-waste is then only secondary to teaching them how to recycling more environmentally and health friendly." (S21) NGOs based in the local settings have a good chance of involving those communities affected by illegal e-waste flows – but not recognized as such - and getting them involved in the governance process as a complement to the conventional strategies (Braithwaite, 2000; Holley, et al., 2012). This is true for the local Ghanaian NGOs working on e-waste. They try to involve informal actors as well as reach out to recyclers for support. The intention of these NGOs is to reduce the illegal imports, but even then the problem of recycling the domestic consumption of new products will remain a problem.

It is important not to criminalize them but to advise them in order to improve recycling rates and techniques and in the long run the impact on human health as well as environment. They don't know the danger today, don't realize it, but also don't have the luxury to worry about the long term effects. There are no recycling facilities in Ghana, but wages are low and people can dismantle equipment very meticulously which you simply cannot afford in the EU. (C25).

NGOs should however be self critical as well. Several NGOs or smaller scale charity projects have been associated with illegal transports of e-waste.

There are so many do-good initiatives in Europe that are actually doing wrong. Out-of-use and all those so-called charities that ask you to send your phone, it is for a so called good cause but so much disappears into the pockets of those that organize it. The question is why people, and mind you, major corporations and NGOs continue to be fooled by this. Even investment funds finance recyclers who don't necessarily practice what they preach. (G22)

The role of civil society actors thus seems to be in shaming illegal e-waste transports as well as in attempting to find the best governance approach attuned to the local context (cf. capacity building). Braithwaite (2008) referred to this as balancing the responsive regulatory pyramid with a strength-based pyramid.

#### **5.4. Networked governance analysis of the e-waste flows**

In departure, transit and destination locations of e-waste, different actors have a governance responsibility. The roles governments, corporations and civil society actors play were discussed

above. The following networked governance analysis examines the interactions within the governance reality of illegal e-waste flows.

#### **5.4.1. Same intentions and different realities in inter-agency cooperation**

The analysis of the governance reality shows cooperation between actors. Each of the government actors that were analysed in this study made clear that their work on illegal transports of e-waste is only one part of the entire control mechanism. The first step of the governance reality is in the work of the environmental inspectorates and administration. Flemish inspectorates (export) will usually address corporations on their license by following the e-waste flow back to its source. The inspectorates negotiate about licenses of facilities. Of course, this inevitably relates back to the management systems – and self-regulation - of corporations. Similarly, the AEO system of customs gives corporations the opportunity to make sure a management system is in place which influences the degree of control. Neither of these however apply easily to the multitude of small scale (often individual) shippers of UEEE/WEEE because they are difficult to trace. The federal inspectorate (transit) – which deals with 80% of the e-waste shipments in Antwerp – moreover relies on other EU states to trace the transports back to the origin.

Depending on the features of the case one or another actor takes up a leading role. This can merely be a result of a practical reality, of the available expertise or can truly be out of concern for an integrated approach. The judiciary clearly takes a leading role in the approach to waste fraud in the port of Antwerp. Customs takes a leading role in the risk analysis system. Inspectorates and administrations have the expertise on environmental issues. The primary role in the governance of illegal e-waste flows seems to be that of law enforcement rather than of the administrative level. Belgium has the advantage of having an environmental administration (OVAM) that takes up a role that other countries reserve for local administrations. The administrative/preventative aspects are developed into policy by the Flemish and Federal Administrations and are of course highly influenced by the European framework. The risk is that local authorities in Belgium are not fully engaged in the process (Braithwaite, 2008).

Transparency and clear delineation of tasks and objectives is crucial to avoid government actors from fighting each other instead of crime (Sluis, et al., 2012). The question is then whether these actors work with the same intentions in mind and the same realities at hand. Environmental inspectorates both clearly focus on illegal transports of e-waste for environmental reasons, but work within different realities. Whereas the regional inspectorates are in the position to address the topic earlier in the chain, the federal inspectorate only has the location of the port to work at. OVAM is similarly oriented to environmental issues but focuses on initiatives earlier in the chain (licenses) as well as on policy. The customs' focus on illegal transports of e-waste is rather recent and struggles with balancing concerns for security and economy. Customs specialises in customs-related responsibilities, is at the front line in import and export of waste, has the technical means to control (scanning of containers and risk analysis) and has many 'eyes and ears'. Note however, that a system based on trust (potentially) does not match the approaches of other government actors. Question remains whether this system of trust in economic operators by customs and even the

system of trust in compliance by the environmental administrations can be united with the strategies of judicial actors that work based on distrust.

The HMO's priority is with safety and compliance. E-waste is a rather recent concern and they have to maintain a balance with economic interests. HMO can now control for e-waste in second hand vehicles and their increased resources are important. Customs as well as HMO relies, however, on the environmental inspectorates for the follow up of the cases they find suspicious. Unless these agencies equally receive additional resources, the extra focus of customs and HMO risks becoming futile. Finally, the police and the judiciary are both clearly concerned with illegal transports of e-waste because they are environmental crimes and have a potential or alleged link to 'organised crime'. This only concerns the serious and extensive cases. The police expertise on strategic analysis could prove useful for all data on illegal e-waste trade.

Although these actors are all part of the network or the chain that responds to these issues, their methods and everyday work floor reality are different. One of the criticisms of corporations is that the implementation of the law seems to be valued higher than the environmental importance. Corporations experience an extra burden in terms of administration because of the fragmentation of agencies and perceive the staff resources invested in controls as inefficient. This efficiency of the network will get increasingly important, given the planned expansion of the Antwerp harbour and its goods flow.<sup>203</sup>

The governance reality flows through different layers of authority and faces different objectives and means. Their cooperation could help in seeing the bigger picture of the governance reality and help overcome existing practical difficulties.

#### **5.4.2. Starting cooperation between shipping lines and governments**

Given the scale of e-waste transports and their illegal share, the transport sector can play an important role in governance. A first important step is raising awareness about illegal e-waste flows. Many company brochures and websites are already mentioning sustainability and the like, but it requires further translation into practice in both Belgium and Ghana. As witnessed during the field visits and interviews, many port actors do not know what e-waste is and are very unaware of the potential harms. "This information campaign should contain practical advice directed not only at the managers of these companies but also at the actual goods handlers. This might not stop crafty criminals from shipping e-waste illegally, but might address 'low hanging fruit'." (S20). This will likely require a few major shipping lines to take the lead as is happening today, but it might be more difficult to involve smaller actors, like shipping agents, "because these often haven't neither the resources nor the management structure to seriously deal with this." (C5). Corporations could become engaged based on economic as well as ethical motivations. As a testimony to the governance potential of shipping lines, the UK shipping lines are partners of the waste enforcement agencies. They provide them with information about their clients and in this way help to keep their

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<sup>203</sup> This expansion is part of the judicial district of Dendermonde (as opposed to the Antwerp district) and therefore a different department of the federal judicial police, which means police investigators and magistrates might be located in Ghent, the judicial district that since recently houses the functional magistrate.

business clean and help to trace waste back to its origin. It is however not possible to copy-paste this in Antwerp, because “90% of their shipments originate in the UK” (G25). Stimulated by Dutch inspectorates a seminar was organized (IMPEL-TFS) to look at options for future cooperation with shipping lines. A similar thing is happening in countries of destination where shipping lines are increasingly providing the authorities with information to facilitate controls or even warn their clients in case of suspicions.

### 5.4.3. The challenge of (better) information exchange

Information exchange between actors is crucial for successful cooperation in governance (Holley, et al., 2012). Government agencies are faced with the challenge of better exchange, because the agencies gather information from different perspectives and on the basis of different objectives. Information exchange between private actors and government agencies is even more complex. Information led investigations are a core issue for policing illegal transports of e-waste. Strategic analysis might allow bringing together data that is currently not always connected. The current systems are capable of detecting and sanctioning individual perpetrators of waste legislation though insufficient to tackle the repeat offenders. The information led policing strategy is also applied by environmental inspectorates, particularly the regional ones, because they follow the goods in the supply chain and go in search of the source.<sup>204</sup> Currently, different databases and systems for information exchange are in use, but the respondents complained that these systems do not always work both ways. Administrative information does flow towards police or judicial actors, but the former do not always get feedback. Different agencies currently gather data, often with limited resources, but databases are not always interconnected. The coordination and communication platform in the port of Antwerp is an important trigger for this, but by extension this requires the analysis of data across national borders. “Cooperation between countries is essential to detect the scale of the networks. Often the same people are involved in UK, Belgium, Germany as well as Ghana.” (G29). Not all EU countries however allow for the exchange of administrative information. Each authority has to go through the respective national channels to get access to police files, customs files, etc. (Ponsaers, et al., 2008). Recently, Belgium, Netherlands and Hungary took the initiative to set-up a network about environmental crime that can use the facilities of Europol (*Envicrimenet*)<sup>205</sup>. Both soft and hard information will be gathered with the intention to coordinate actions and strategies based on the analysis. The major issue is using this intelligence, because it has been gathered for different objectives. Gathering all this information could take the governance system to a nodal level, covering different authority grounds (multi-disciplinary) and taking responsibility for the meta-perspective.

Similarly, an increase in information exchange could be useful for corporate actors. Privacy issues might pose a problem<sup>206</sup> and transport actors often do not know more than what is mentioned on the documents. Information exchange can make it more tangible what criteria should raise

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<sup>204</sup> Similar approaches are used by the Netherlands ILENT (former VROM-inspectorate) ‘Back to the source’ (*‘Terug naar de bron’*) investigations.

<sup>205</sup> This network is a follow-up of the Augias network, which focused on waste crimes and was established during the Belgian presidency of the EU.

<sup>206</sup> Discussing the judicial possibilities of and limits to information exchange was not the intent of this study.

suspicion with shipping lines and agents. Examples of suspicious cargos that should ring a bell abound: clients offer to pay cash for 10 containers or provide a hotmail-address as contact details; the destination of the recycling is the 9<sup>th</sup> floor of an office building or a house in the city centre; shippers refuse to provide information on the destination. “Companies can either consider this as business where you don’t ask questions or they could be suspicious.” (G15). Respondents mentioned that some shipping lines already have informal ‘black lists’ that are fed with generic information from both corporate and government contacts such as descriptions of cargo and destinations. They make sure not to share personal information. “Although corporations and governments might be walking a thin privacy line in this matter, the risk of negative publicity gives them enough incentive. This information is however not shared lightly.” (S20). Once again concerns were raised about the one-sidedness of the communication. A concern for shipping lines was that despite the increasing information exchange, they did not get the impression a lot was done with it. A concern for recyclers and waste traders is the protection of data against competitors.<sup>207</sup>

#### **5.4.4. The exceptions to the rule**

Despite e-waste fraud being an issue of national and international importance, resources are limited as is political will (Griffiths & Jenks, 2012). Compared to other international crimes such as drugs, the law enforcement resources invested in environmental crime are limited (Faure, 2012; White, 2011). Both in countries of origin and destination, there are a limited number of people involved. Despite their terrain knowledge and experience being crucial for the governance framework, they are bound by their limited resources. “The problem is not that we don’t know where the illicit traffic is, know where to find it or know how to check it. The problem is that we don’t have the means to guarantee the follow-up, that’s the bottleneck.”(G14). This refers to those environmental inspectors and police officers that are governing e-waste transports on a daily basis. It also refers to local police and inspectorates across the EU who might know where (informal) storage and handling facilities and practices occur and in this way can tackle the problem by starting at the root. Similarly, the shipping agents and lines that take initiatives on the issue of illegal transports of e-waste are valuable in the governance network. These exceptions to the rule are passionate about their job, but frustration looms. Taken to the extreme, this implies that the success of this entire networked governance depends on these ‘exceptions’ (sources of information). This goes against the requirements of effective environmental governance as identified by Holley, Gunningham and Shearing (2012).

#### **5.4.5. Harmonisation of policy rather than implementation**

The flows of goods – e-waste amongst them – are difficult to govern by national authorities (Brown, 2010). Implementation is often problematic in governance, particularly in more complex arrangements (Holley, et al., 2012). Katja Franko Aas (2011, p. 333) moreover warned that supranational governance systems should not be met with limitless optimism, because they are

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<sup>207</sup> Business to business information exchange exists also, but only applies to a limited number of metals. “Certain compositions are as accurate as a fingerprint. For other e-waste flows however, the situation is totally different because many actors are involved and in mixing waste, relabeling it, etc. modus operandi are multiple.” (C16).

often “negotiated, rendered less efficient and even sabotaged by sovereignty games played by individual nation states”. The e-waste case illustrates that the translation from paper to practice entails many challenges. Electronics are a very dynamic topic, where new inventions become e-waste a few years later. The policy that defines what type of equipment is e-waste therefore needs to be fit to this dynamic governance reality. Currently, that is not the case given that “by the time CRTs will be considered e-waste by European law, the major share of CRTs – and thus the lead it contains - will already have been exported as second hand goods and dismantled in unacceptable circumstances”(G24). Every European country is supposed to do thorough checks of exports of e-waste, which would imply transit countries can trust their judgement. Government, corporate and civil society respondents however notice a North-South and West-East schism in Europe on how seriously inspections and transport controls are taken and the existing problems with e-waste transit in Antwerp testify to this. Both environmental inspectors and shipping agents responsible for sending back the units even come across authorities that doubt that the shipment originated in their country. This led different respondents to refer to the need for further harmonization of EU policy implementation to avoid displacements.

The continued harmonization on the level of implementation is politically very sensitive. Even if definitions and interpretations would be equal, Europe – let alone the global policy – is a long way from harmonization of implementation. Not all member states use complementary interventions besides the traditional environmental inspection and when controls become more severe in one country, illegal flows shift to another.

If Europe would impose minimum requirements for inspections and controls, many countries would interpret that as a too much interference of Europe, especially if that would imply countries can call each other to order. As long as this remains as it is, informal networks of information and expertise exchange are the only means to narrow the implementation gap. (G24)

Another field with lacking EU harmonization is sanctioning. Although the European waste legislation requires sanctions to be set, there are major differences. Fines differ with a factor 100 across the EU. Even within countries there are considerable differences in decision-making (Sander & Schilling, 2010). It would be beneficial to organise the controls on EU level for more unity, but this is a politically very sensitive topic. As a consequence, “[t]hey risk becoming a mere paper tiger, a mere increase of administration that makes unpractical suggestions.”(S20). Besides the various initiatives for international networking, the responsible authorities cooperate bilaterally with their neighbouring countries as well as with countries of destination such as Ghana, but given the limited staff and resources this can prove difficult. Different international guidelines and soft measures exist and are stimulated by networks such as INECE<sup>208</sup>, IMPEL-TFS<sup>209</sup>, Secretariat of the Basel Convention<sup>210</sup>, the WCO<sup>211</sup> and the StEP-initiative<sup>212</sup>. These initiatives organise training sessions in

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<sup>208</sup> INECE stimulates trainings and exchange of expertise to increase the interception of vessels carrying e-waste.

<sup>209</sup> IMPEL originated in administrations (inspectorates) and later involved police and judiciary. IMPEL-TFS plays an active role in trying to standardize control practices in ports concerning the export of UEEE/WEEE to non-EU countries and is involved in trainings and workshops in countries of destination.

<sup>210</sup> The Basel Convention has a multistakeholder working group Partnership for Action on Computing Equipment (PACE) that focuses on criteria for reuse of personal computers and aims to draft further regulation of export and to “tackle the

countries of destination and fund capacity-building projects. Despite their realisations, a challenge to these international networking initiatives is their voluntary character. Unambiguous measures (e.g. inspections and controls) are more difficult to agree on.

## Discussion

This article examined the governance reality of the illegal trade in e-waste in a European trade hub. Throughout the flows different actors have a governance responsibility. The analysis of the governance reality illustrated how the control and prevention of illegal e-waste flows is primarily taken up by government actors, which is not surprising given the criminalisation of it. Similar to what Holley et al. (2012) found, the state is crucial for definitional guidance, for inducing corporate actors to participate through both positive and negative incentives and for using their enforcement capacity. An important challenge, however, is the underfunding of these government actors, with consequences for training, resources and effective follow-up throughout the flows (See also: Brack & Hayman, 2002). Despite the good intentions of many, the actual governance of illegal transports of e-waste remains limited. Governments are perceived to be too slow to respond. An important characteristic of responsive regulation is the escalation towards more punitive measures in case of (continued) non-compliance (Braithwaite, 2008; Nielsen & Parker, 2009). As it has been illustrated here, that is not at all certain for illegal trade in e-waste, not in countries of origin and even less likely in countries of destination.

This analysis of the governance reality in the port of Antwerp inevitably opened up the scope to a larger scale approach, because it cannot be analysed without relating it to the global trade flows and to the dynamics of export, transit and import. The sheer scale of global trade makes it very challenging to base the governance framework only on a governmental basis, let alone narrow it down to a penal law perspective (Sassen, 1996). Governance actions by one country are necessarily limited in their effectiveness. Due to the global interdependencies of the flows, governance activities on one end are vulnerable to governance activities on the other end (Urry, 2003; Yar, 2011). Illegal e-waste flows and their governance are inherently transnational, but much of the implementation remains local and fragmented. As a consequence, corporate actors perceive the level playing field to be absent.

To engage corporate actors in the governance of these flows, carefully designed incentives - both positive and negative - are needed, because economic and environmental interests do not necessarily coincide (Gunningham, et al., 1998; Holley, et al., 2012). A part of the governance reality is the supply chain of electronics where producers, recyclers and consumers play a role (van Erp & Huisman, 2010). Corporate actors already contribute to the governance of illegal e-waste flows,

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environmentally sound management, refurbishment, recycling and disposal of used and end-of-life computing equipment.”(Basel Convention Secretariat, 2011). The Basel Secretariat invests in capacity building and coordinating projects in countries of destination (e.g. e-waste for Africa).

<sup>211</sup> The World Customs Organization’s network supports and enhances the fights against transnational organized crime, amongst which hazardous waste and ozone-depleting substances (Otterson & Meiser, 2009). WCO’s operation Demeter focused on illegal hazardous waste to increase information exchange between customs administrations (WCO, 2009).

<sup>212</sup> Governments, corporations, NGOs and researchers jointly operate in the STEP initiative of the United Nations University. This is a platform for discussions which provides advice for policy making. The sector itself has a major role to play in continuing to facilitate this network.



although not all producers, recyclers as well as transport actors play an equally proactive role. For producers and recyclers, the governance involvement largely depends on the profitability they see in it, but they are equally concerned with their corporate image. The economic importance of the subject for these corporate actors, however, can be used to the benefit of the environment. The raw material discussion is a good way to make facilities for recycling more efficient and encourage the eco-design of products. Transport actors could also be encouraged to be more diligent and transparent.

Reducing demand is very complicated because e-waste and second hand electronics provide a bridge for the digital divide. Moreover, dismantling the goods in search of precious metals is a sole source of secure livelihood for many. In face of this complex governance reality, it is useful to consider governance actors that are not primary stakeholders (cf. so-called missing nodes, Wood, 2006). Capacity building in developing countries – addressing the structural causes – is already partially part of the current governance reality, but a lot of these initiatives are still small scale and ad hoc. The strength of these capacity building projects is their potential to engage local actors, for instance the informal workers in countries of destination, who are currently not always involved in the governance framework. NGOs seem to be the most suitable actors to engage them in this process. NGOs already play a role in raising consumer awareness and in keeping both corporations and governments attentive. Corporations are increasingly involving informal actors as well, since they see the economic advantages. This risks becoming unbalanced and requires installing monitoring initiatives (Holley, et al., 2012; Wood & Shearing, 2007).

Given the enormous amount of goods and the complexity of this transnational crime flow, a mere re-active approach will always be lagging behind, one step short of the newest route or technique used by the transporters of e-waste. This is evident from this case study of the port of Antwerp and its illegal e-waste flows towards Ghana. The governance reality of illegal transports of e-waste is about much more than this reactive approach. The analysis showed how actors earlier in the flow and throughout the supply chain – producers, consumers, collectors, informal dismantlers – can be involved. The leading role is taken up by government actors – and law enforcement more in particular – but in looking to address the contextual characteristics that shape this environmental flow, a broader diversity of actors becomes relevant.

## CHAPTER IV: ILLEGAL TRADE IN TROPICAL TIMBER

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This chapter IV discusses the empirical results of the case study into illegal transports of tropical timber. A first article discusses the social organisation and a second article discusses the governance.

### 6. Out of the woods. The illegal trade in tropical timber and a European trade hub

**PUBLISHED:** Bisschop, L. (2012) "Out of the woods. The illegal trade in tropical timber and a European trade hub", *Global Crime*, 13 (3), 191-212 (ISSN 1744-0572).

**KEY WORDS:** illegal timber; transnational environmental crime; case study; legal-illegal interfaces

**ABSTRACT:** *This article responds to the call for more empirical knowledge about transnational environmental crime by analysing the illegal trade in tropical timber. It aims to provide insights into the social organisation of the illegal transports of tropical timber within the local research setting of the port of Antwerp (Belgium) but meanwhile pays attention to elements throughout the flows from locations of origin over transit to destination. It is often difficult to determine which legal and illegal actors are involved in transnational environmental crime. This research sheds light on the legal-illegal interfaces in tropical timber flows connected to this European setting. The results show that the social organisation of transnational environmental crime is shaped by the global context of the places of origin, transit and destination, where it is continuously on a thin line between legal and illegal.*

### Introduction

Illegal logging has been acknowledged as a serious issue since the 1992 Rio Earth Summit<sup>213</sup> and concerns raised by nongovernmental organisations (NGOs) have contributed to its rise as a policy issue (Tacconi, 2007). However, there is no international environmental regulation that focuses on timber in particular.<sup>214</sup> Despite this lack of international legislation, arguments for the criminalisation of illegal logging can be made on ecological, economic and social grounds. Ecologically, the trade in illegal timber contributes to deforestation (FAO, 2010), 4 which in its turn has an impact on the regions' ecosystems and their fauna and flora biodiversity (Braat & ten Brinks, 2008; CIE, 2010). Forests, moreover, influence the Earth's climate regulation (Houghton, 2003; Peskett, Brown, & Luttrell, 2006) and illegal timber extraction has an impact on climate change, although the carbon remains in the logs when processed (UNEP, 2011b). Where illegal logging activities allow trees to regenerate in logged areas, these ecological arguments do not apply in a

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<sup>213</sup> Rio Declaration on Environment and Development, adopted at the UNCED in Rio de Janeiro, Brazil, June 3–14, 1992.

<sup>214</sup> The United States has the Lacey Act which prohibits imports of illegal timber. The EU has the European Timber Regulation (entry into force in 2013) which holds importers accountable to prove the legality of the timber they import (due diligence). This is a successor to the Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan of the EU with the Voluntary Partnership Agreements (VPAs). The CITES is the only international legal basis for the trade in some timber species, regulating import, export and reexport of species with permits to avoid endangering the species' survival.

straightforward way (Tacconi, 2007). This was illustrated as follows by a corporate respondent (C9):

Selective cutting is not a problem in Africa because the heterogeneous forest takes care of the production on its own. But if you cut it blank, then the area is likely to be used for farming and by exploiting this barren soil it will be a desert for 400 years and might never re-grow.

This immediately brings us to the social impact, which occurs on different fronts.<sup>215</sup> Illegal logging is linked to armed conflicts and exploitation and can indirectly contribute to the occurrence of other crimes such as trade in endangered species, corruption, money laundering and organised crime (Boekhout van Solinge, 2008; TRACER, 2011; WWF, 2008). Illegal logging activities contribute to the occurrence of erosion, forest fires, flooding and landslides. Deforestation impacts the quality of soil and water. This indirectly affects the livelihood and culture of forest-dependent communities (Celik, 2008; F. Miller, Taylor, & White, 2006). Illegal logging challenges law and order because of its link to corruption (CIE, 2010). Despite the negative social consequences of illegal logging and trade, alternative land use can have a positive impact and it can increase community cohesion (Tacconi, 2007).

On an economic level, governments lose revenue through the non-payment of taxes, in amounts estimated cumulatively to run into billions of US dollars yearly<sup>216</sup>, potentially hindering economic prosperity since the lost revenue is not spent on poverty reduction, health care or education (Haken, 2011; Interpol & The World Bank, 2009; Seneca Creek, 2004; WWF, Greenpeace, & Friends of the Earth, 2009). Timber prices on the global market are depressed by 7–16% on average due to the influence of illegal timber, which increases the competitiveness of the timber industry and allows consumers to benefit from lower prices. However, legal<sup>217</sup> forestry has difficulty competing with the unfair pricing of illegal sources.<sup>218</sup>

As illustrated above, sometimes the negative impact is challenged by positive consequences of the illegal logging and timber trade. This is likely to be part of the reason why illegal logging persists despite the declared commitment of many governments and international organisations to combat it. Illegal trade in fauna and flora, which includes illegal timber, is however recognised as a major transnational environmental crime (White, 2011). These discussions on transnational environmental crime involve a multitude of issues of different scale and complexity reflecting the various environmental challenges the world faces today. Criminology has, however, for a long time been silent about transnational environmental crime, despite the recent increase in eco- global,

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<sup>215</sup> Regulation of the European Parliament and of the Council laying down the obligations of operators who place timber and timber products on the market adopted on October 20, 2010 and published in the Official Journal on November 12, 2010 (entry into force on March 3, 2013).

<sup>216</sup> UNEP (2011b) believes the international trade in illegal timber products was worth US\$8.5 billion in 2008.

<sup>217</sup> Legal and sustainable forestry are not synonymous. Sustainable timber takes into account the ecological, economic and social development in the long turn, whereas legal merely means the timber comes from legal sources.

<sup>218</sup> The distorted global pricing of timber due to illegal logging causes an estimated loss of about US\$15 billion yearly for the legal timber industry in Canada, the United States, EU and New Zealand, whereas legal producers of timber products in high-risk countries are US\$31 billion worse off. High-risk countries are those where wood products have a high probability of coming from illegal sources (between 20% and 90% of timber in these countries comes from illegal sources) (e.g. China, Russia, Indonesia and Malaysia).

green and environmental criminological research (Halsey, 2004; South, 1998; White, 2003). This article responds to the call for more empirical knowledge about transnational environmental crime (Aas, 2007; Bisschop, 2011; Gibbs, Gore, et al., 2010; Sheptycki & Wardak, 2005) by focusing on the characteristics of one particular phenomenon: illegal transports of tropical timber. More precisely, this article provides insights into the social organisation of this phenomenon (Babbie, 2007).

The structure of this article is as follows. First, the concepts of illegal logging and illegal timber trade are clarified. Second, the theoretical background about legal–illegal interfaces (social organisation) is discussed. Third, the method and research setting of this case study research is explained. Fourth, the scope of illegal transports of tropical timber in Europe and the Belgian research setting is assessed, together with the inherent challenges in data collection. Then follows an analysis of the social organisation of illegal transports of tropical timber, discussing the actors involved and their modus operandi. The final section discusses the thin line between legal and illegal in the tropical timber trade and relates this back to the importance of studying this topic through an eco-global or green criminological lens.

### **6.1 Illegal logging and illegal timber**

Illegal logging and illegal timber are terms often used in policymaking to refer to the broad problem of the existence of illegal forest activities, which go beyond the mere illegality of logging. Illegal activities can occur at all phases of forest management and the forest goods production chain, from planning over harvesting and transport of raw material and finished products to financial management. Harvesting can be illegal when it happens in excess of concessions, outside concession boundaries or inside nature reserves, but also when unlawful harvesting techniques are used or when protected species are logged (REM, 2009). Harvesting is said to be related to corrupt or fraudulent activities to acquire forest concessions or establish rights to land (Tacconi, 2007). Transport is illegal when excise duties are not paid, when there is no authorisation for the transport due to reasons of quota, bio-safety, tariffs or trade bans, but transport is equally illegal when forged certificates are used, species are misclassified or deliberately undervalued or when border authorities are corrupted.<sup>219</sup> Even apparently legal forest products, in fact, may have been fraudulently ‘legalised’ at some point along the production chain: either ‘at the stump’, in transport by using the same permit multiple times, by re-importing the timber<sup>220</sup> or in processing. There is thus a difference between illegal logging and illegal trade. Illegal trade refers to the commercial activity, but a major share of the illegally logged wood never enters the international market and is used for domestic energy supplies, although this is generally not part of the international discourse on illegal logging and trade. For the sake of clarity, this article refers to illegal transports of timber and illegal timber as forestry products which were extracted from forests (or plantations) and subsequently processed and traded in breach of the letter or the intent of national law where a clear commercial interest is at stake.<sup>221</sup> This article focuses on tropical timber and focuses on the

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<sup>219</sup> For the EU, imports can breach CITES, EU VPA or Forest Law Enforcement Governance and Trade (FLEGT), UN Convention against Corruption, on organised crime, on organised transnational crime and so on.

<sup>220</sup> For example, timber that is illegally logged in Honduras is then illegally exported to Nicaragua and later on legally imported as ‘Nicaraguan’ timber into Honduras (Wells, Filippo, Richards, Pommier, & Contreras-Hermosilla, 2007).

<sup>221</sup> Adopted from the definition provided in <http://www.globaltimber.org.uk> (accessed June 10, 2011).

trade between Europe and Africa in particular.<sup>222</sup> Belgium is an important destination for many countries in West Africa and the Congo Basin and these countries of origin have the biggest trade share in the port of Antwerp (see below). Several corporate respondents, as well as those from civil society and government, moreover mentioned the particular connection of Belgium with this region and the suspected importance of illegal trade.

## 6.2 Theoretical framework

Transnational environmental crime involves a diversity of actors from (transnational) corporations over corrupt governments to deprived individuals. As a consequence, transnational environmental crime is not easily categorised as an organisational, state, transnational, environmental or organised crime, although some types of it fit these labels (Passas, 2002; Szasz, 1986; van der Pijl, et al., 2011). Research should therefore consider a wide range of possible actors, beyond white-collar crime, organised crime or state crime conceptualisations and it might in fact be difficult to draw a line between legal and illegal actors and their activities (Nelken, 2002; Passas, 2002; Tjihuis, 2006). Theoretical developments as well as policy on this issue can, however, be advanced by an accurate view of the actors involved and their interfaces. This article therefore tries to determine whether the actors involved in transports of tropical timber and their roles can be considered legal or illegal and whether there is an interface between them (Huisman & Vande Walle, 2010; Nelken, 2002).

The theoretical background for these legal–illegal interfaces in transnational crime is the framework developed by Passas (2002, 2003b) and further refined by Tjihuis (2006). The two broad categories are symbiotic and antithetical interfaces. Generally speaking, symbiotic interfaces are those where legal and illegal actors cooperate, whereas antithetical interfaces are those where they oppose each other. Six – or eight in Passas’ typology<sup>223</sup>– symbiotic interfaces and four antithetical interfaces can be distinguished. In what follows, each is explained briefly and the type is mentioned between brackets. The six types of symbiotic interfaces are: legal actors hire an illegal actor to do the dirty work for them (outsourcing); both do business independently in which they benefit from each other but one is unaware of the illegality (synergy); legal and illegal actors have a strong and enduring link and are both aware of the illegality (collaboration); both experience benefits and are aware of the illegality (reciprocity); both experience benefits but within an uneven power relation (co-optation); and legal actors financially support illegal ones (funding). In addition to these six types, Passas (2002) referred to legal actors who are committing organised crimes and legal actors who pursue legal activities. Tjihuis (2006) believed those categories did not refer to legal–illegal interfaces and therefore left those out of his typology. The four antithetical interfaces are: illegal actors compete with legal actors on the same market (antagonistic); illegal actors harm legal actors (injurious); illegal actors extort legal actors while keeping them viable (parasitical); and illegal actors aim to destroy the legal business (predatory). These interfaces have not been studied often and therefore this article analyses the legal– illegal interfaces for one particular type of

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<sup>222</sup> The tropical forest regions of the world – South America, South East Asia and Africa – each have their particular social organisation and way of working. This research studied the illegal tropical timber trade between Africa and Europe, and Belgium in particular. This article makes no claims for generalisation of the findings towards the other regions and timber flows.

<sup>223</sup> Passas refers to eight symbiotic interfaces, and Tjihuis omits two of those from his typology.

transnational crime: illegal transports of tropical timber. This will make it possible to examine the thin border between legal and illegal. In this way, this study aims to gain insights into the social organisation – the actors and their modus operandi – of illegal transports of tropical timber.

### 6.3 Method

The data of enforcement agencies are inherently limited on the topic of transnational environmental crime, which requires researchers to seek out alternative perspectives. This study therefore collected data on as many observable implications of the studied phenomenon as possible (King, et al., 1994). By corroborating different perspectives and opinions about the cases, the arguments were exposed to validation or falsification at different times. This refers to the different segments of society – government, corporations and civil society – the respondents represent. The triangulation of methods, data as well as theories, contributes to this as well (Yin, 2003, 2009).

This case study is based on a document analysis of various primary and secondary sources as well as on interviews with key informants. The document analysis is based on governmental sources (reports and statistics of inspectorates, police and customs and trade statistics), research reports [United Nations Environment Programme (UNEP), Convention on the International Trade in Endangered Species of Fauna and Flora (CITES), Interpol, independent consultants and academics], corporate documents (press releases, websites and year reports) and documents by civil society actors (environmental organisations, NGOs and media). In addition to the document analysis, a total of 35 semi-structured interviews<sup>224</sup> were conducted with 15 government, 10 private sector and 10 civil society actors.<sup>225</sup> The governmental respondents work for national and international government agencies, such as customs, police, prosecution service, port authority and environmental administrations. The corporate representatives who were interviewed are from timber importers<sup>226</sup> and transport corporations. The civil society respondents are staff of environmental NGOs, union representatives and investigative journalists. These respondents were located within the Belgian and European research setting as well as in Ghana and Cameroon as two of the countries of origin of the timber. All but four respondents agreed to the interview being digitally recorded. A checklist was used to guide both the document analysis and the interviews. The analysis was based on the researcher's notes and transcriptions of the recordings. Data gathered in both desk research and interviews were coded and analysed by means of qualitative data analysis software<sup>227</sup>, which made it possible to triangulate findings from different types of sources (Decorte & Zaitch, 2009; Leys, 2009; Loosveldt, et al., 2007).

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<sup>224</sup> Interviews ranged from 45 minutes to 2 hours in length. The respondents were interviewed face to face, through a Skype video interview or over the phone, because the diverse locations of the respondents did not allow the interviewer to meet each of them in person.

<sup>225</sup> These respondents were guaranteed anonymity and therefore I refer to government (G and number), corporate (C and number) and civil society respondents (S and number) for quotations. This case study is part of a broader PhD research on transnational environmental crime, which also included another case (e-waste). There is one list of respondents for both cases and respondents were numbered consecutively.

<sup>226</sup> It was difficult to get timber importers to participate in the research. Three refused and mentioned they only work legally and therefore see no use in participating in research on illegal timber. Two other timber importers and the sector organisation were willing to participate. It is difficult to know, however, to what extent these corporations represent the 'best kids in the class'.

<sup>227</sup> *Nvivo 8*; QSR International, Doncaster, Australia.

This case study focuses on a European research setting, because this can be considered a pacesetter in environmental policymaking (Vig & Faure, 2004). More precisely, the research setting is the port of Antwerp in Belgium. This setting was chosen because Antwerp is an economically important port, including for timber imports. Antwerp handles about 8.5 million TEU<sup>228</sup> annually and is one of the top three ports in Europe, after Rotterdam and Hamburg.<sup>229</sup> Given its inland location, the port has multiple connections to Europe's hinterland and it is therefore a typical transit hub.<sup>230</sup> Basing this research within this local setting avoided excessively relativistic findings about transnational environmental flows (Gille, 2006). At the same time, attention is paid to the different transferences influencing this locality by placing transports of timber within the broader frame of departure locations, routes followed and final destinations – the flows of timber (Spaargaren, Mol, & Buttel, 2006).

## **6.4 Assessing illegal timber transports: Global, European and Belgian best guesstimates**

### **6.4.1 Data challenges**

Similar to other types of environmental crime (Croall, 2001; Gibbs & Simpson, 2009), illegal transports of tropical timber present challenges for data gathering and analysis. There are considerable differences in estimates of (il)legal logging and trade. National customs organisations have their own data on legally imported or exported goods. Suppliers, transporters and government administrations in countries of origin and destination work in separate systems, often identifying and reporting the transported forest products differently. Each of those actors claim they report the true export volumes, resulting in discrepancies and facilitation of smuggling.<sup>231</sup>

“Many countries do not have a reporting system so you end up with very nation-specific data which is hard to extrapolate or compare” (S3). The trade classification allows differentiation between logs, sawn wood, plywood, mouldings, joinery and ornaments<sup>232</sup>, but does not specify which kind of timber it concerns, nor whether it is a CITES species. Moreover, port statistics often report the country of loading as the country of origin of the timber (cf. Antwerp statistics). Data about the available forest resources could serve as a baseline measurement for timber trade, but “[a]lthough initiatives have been set up to map the forest areas with satellite images, other data is guesswork” (G26). Only limited information is provided about goods in transit, which is particularly relevant for Antwerp as a transit hub. There are also discrepancies in import and export statistics of logs. These can partially be explained by illegal forest production, which is declared incorrectly or not at all, but

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<sup>228</sup> TEU refers to ‘twenty-foot equivalent unit’, a container 20 feet long, 8 feet high and 8 feet wide. This is the standard unit of measurement to count container traffic.

<sup>229</sup> Antwerp was the second European port after Rotterdam until February 2012, when it was overtaken in terms of container volume by Hamburg.

<sup>230</sup> Of all freight landed at Antwerp, 37% is loaded back onto sea vessels and 35% goes to neighbouring countries by inland shipping and rail, 12% is destined for companies located in the port and 16% is for distribution within Belgium.

<sup>231</sup> There are, for instance, major differences between the timber trade data published by Eurostat and the timber trade statistics of a number of the EU's major trading partners (European Forest Institute).

<sup>232</sup> Given the different measuring units, RWE is often used as a standard unit to compare the timber trade of different countries.

also by the commercial reduction of volume.<sup>233</sup> In addition, data on illegal trade in timber are usually collected for breaches of CITES<sup>234</sup>, but data on other illegal timber rely on estimates. According to Interpol (2009), the timber species most often illegally logged and traded are ramin, mahogany, African teak and Brazilian rosewood. These are, however, all subject to CITES restrictions, which might explain the law enforcement focus on them. Even the CITES data are “not complete because if you have 100 parties or members, you will be lucky if you have the reports of 50 or maybe 60. Even those countries who report their trade, do not report 100%”(G8). These statistics are therefore no reflection of the illegal trade but only of law enforcement efforts. Furthermore, data are often used to support the argument of a particular stakeholder and as such the data of one are likely to contradict another. Comparing statistics is moreover very difficult due to the different definitions of illegality and legality.

With the above data challenges in mind, it should be understandable that data on illegal transports of tropical timber globally, on a European level or within the research setting of this study equal best guesstimates (Chen, 2006; CIE, 2010; Lawson & MacFaul, 2010; Tacconi, 2007). The data provided in this article are therefore given for illustration purposes and should not be seen as incontestable figures. It does, however, provide a general idea about the scope and the directions of the transports. The current situation with data gathering and analysis thus has room for improvement. It would be especially interesting if relevant trade and licensing information were to be made public and transparent, but according to the respondents of this study transparency about timber is likely to meet the sensitive issue of national sovereignty.

#### **6.4.2 Global and European guesstimates**

The regions of origin for tropical timber are the Amazon and Congo basins and South East Asia. These are the regions where tropical trees flourish and where these natural resources are located. Despite some of the known problems in these regions (e.g. corruption), the extraction of the natural resources is inextricably linked to these countries. The locations of destination of global timber flows are the European Union (EU), the United States, Japan and China, which are also the biggest consumers of forest products. Different studies have tried to approximate the global scale of illegal timber, but assessments vary significantly. The Seneca Creek study of 2004, regarded as one of the most solid assessments of illegal timber logging and trade, concludes that 5–10% of global industrial wood production is illegal, with higher percentages for developing and lower for developed nations.<sup>235</sup> Interpol and the World Bank (2009) estimate the global share of illegal timber equals between 20% and 50% of all timber products. According to the Organisation for

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<sup>233</sup> Logs or other unfinished forest products will be reduced in volume once the production is finished and therefore the export of logs and finished products can differ in volume (Landro & Lo, 2007).

<sup>234</sup> The CITES seizures for the 27 EU member states and a few neighbouring countries are monitored with the EU TWIX (Trade in Wildlife Information eXchange) database which was developed and piloted in Belgium. This system is meant to foster cooperation through depersonalised information exchange. When police, customs, inspectorates or administrations come across illegal international trade, they will contact or warn each other about new means of forging documents, of concealing CITES loads and so on.

<sup>235</sup> Illegal logging estimates are very different depending on the regions under study: the scale of illegal logging is assessed to be 80% of total production for Brazil, 70–100% for Russia, 66% for Indonesia and many other high-risk countries are in the same range (Ottisch, Moiseyev, Burdin, & Kazusa, 2005; Toyne, O’Brien, & Nelson, 2002; WWF, 2008).



Economic Co-operation and Development (OECD) (Contreras-Hermosilla, Doornbosch, & Lodge, 2007), around 6% of the total trade in primary wood products is illegal, but this figure does not account for the products that are laundered.<sup>236</sup> According to the World Wildlife Fund (WWF, 2008), the illegal share of the global industrial wood sector is 20–40%, equalling a volume at least as big as the volume of certified forests. A 2010 study<sup>237</sup> finds illegal logging to have decreased by approximately 22% since 2002 as a consequence of the improved policies. Imports of illegal timber have decreased by 30% since their peak in 2004, and especially in the last 5 years, in seven consumer<sup>238</sup> and processing<sup>239</sup> countries under study. The NGO respondents in this study (S7, S8), however, warned that this seemingly decreasing trend in illegal logging was because many of the concessions have been granted despite existing moratoria and have a doubtful legal status (REM, 2009). Moreover, some trade might have shifted to less-sensitive markets where information about imports is lacking.

Estimates for the EU, a major worldwide importer and consumer of timber and wood products such as furniture or paper, seem to be more consistent. Together with China, the EU accounts for most of the wood-based products exported out of West Africa as well as the Congo Basin.<sup>240</sup> In 2006, approximately 428 million m<sup>3</sup> of timber were logged in the EU and 163 million m<sup>3</sup> of raw wood was imported into the EU (WWF, 2008). Many of these goods (451 million m<sup>3</sup> per annum) are internally traded making it very difficult to track the European wood flows (European Commission, 2008). A 2008 report commissioned by the European Commission estimates the 2005 EU imports of illegal products from countries with a high risk of illegal logging to be between 12 and 15 million m<sup>3</sup>. These figures as such are intangible, but compared with the total imports of wood-based products into the EU; this ranges between 16% and 19%, or between 22% and 28% for imports from high-risk countries. NGOs (WWF, et al., 2009) estimate 16–21% of the EU wood imports to be illegal.

### 6.4.3 (Illegal) timber on the Belgian market

Having provided a frame of reference with the global and European data, this article turns to the Belgian market. Belgium is the fourth<sup>241</sup> biggest importer of wood products in the EU and the sixth biggest exporter, with the port of Antwerp being responsible for the major share of this trade. The

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<sup>236</sup> The total trade in the forest industry equals about 1% of the world's gross domestic product (GDP) and the suspicious volume of round wood entering international trade is about 1% of global forestry, which would mean that the value of illegal wood on the global trade market for 2009 is approximately US\$7 billion (Contreras-Hermosilla, et al., 2007; Haken, 2011). Haken (2011) explains that the 2004 Seneca Creek report spoke of \$4.9 billion, but this is explained by the lower GDP at that date.

<sup>237</sup> The 12 countries studied represent 20% of illegal timber production and 50% of illegal wood trade. For Cameroon it has fallen 54%, for Indonesia 75% and for Brazilian Amazon between 50% and 75%. The illegal share in logging is still estimated to be 35–72% for Brazilian Amazon, 22–35% for Cameroon, 59–65% in Ghana and 14–25% in Malaysia (Lawson & MacFaul, 2010).

<sup>238</sup> The United Kingdom, the Netherlands, France, the United States, and Japan.

<sup>239</sup> China and Vietnam.

<sup>240</sup> Based on the European Forestry Institute Trade Statistics for EU 27: [http://www.efi.int/portal/policy\\_advice/flegt/trade\\_statistics](http://www.efi.int/portal/policy_advice/flegt/trade_statistics) (accessed April 3, 2012). This relates to analyses of Cameroon, Central African Republic, Republic of Congo (Brazzaville), Democratic Republic of the Congo, Equatorial Guinea and Gabon.

<sup>241</sup> This refers to commodity code 44. It is fourth after Germany, France and the Netherlands.

main regions of origin are the three tropical regions of the Congo and Amazon basins and South East Asia. An overview of Belgian timber trade statistics can be found in Table 1. This can further be illustrated based on the trade statistics the port itself publishes. According to the Port of Antwerp authority, 182,325 tonnes of wood was unloaded in 2010 and 478,080 tonnes was loaded (see Table 2). The main countries of origin are Cameroon<sup>242</sup>, Ivory Coast, Indonesia, Brazil, Finland and DR Congo. These data refer to non-containerised cargo.

**Table 1. Timber imports into Belgium (commodity code 44) (2000–2009)<sup>243</sup>**

	Estimated round wood equivalent volume (in million cubic metres)									
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>Brazil</b>	1.8	1.7	2.0	2.0	2.3	2.4	3.2	4.0	2.8	3.2
<b>Canada</b>	1.3	1.2	0.8	0.6	1.0	1.2	1.2	1.5	1.1	0.9
<b>USA</b>	0.8	0.9	0.7	0.7	0.9	0.9	1.0	0.9	1.0	1.2
<b>Russia</b>	1.0	0.9	1.0	1.0	0.9	0.9	0.8	0.7	0.6	0.6
<b>Indonesia</b>	1.0	1.0	1.0	1.0	0.8	0.7	0.6	0.4	0.4	0.4
<b>China/Hong Kong</b>	0.1	0.1	0.1	0.2	0.3	0.5	0.6	1.1	0.8	0.7
<b>South-Africa</b>	0.22	0.21	0.29	0.27	0.24	0.34	0.37	0.72	0.46	0.54
<b>Malaysia</b>	0.40	0.27	0.22	0.25	0.24	0.19	0.24	0.22	0.18	0.16
<b>Chile</b>	0.26	0.09	0.09	0.10	0.16	0.32	0.30	0.56	0.22	0.06
<b>Belarus</b>	0.08	0.08	0.11	0.13	0.15	0.16	0.14	0.17	0.16	0.18
<b>Cameroon</b>	0.09	0.09	0.10	0.09	0.10	0.13	0.11	0.13	0.12	0.09
<b>Croatia</b>	0.19	0.19	0.17	0.09	0.03	0.02	0.02	0.01	0.01	0.02
<b>Ukraine</b>	0.02	0.02	0.04	0.05	0.05	0.05	0.05	0.06	0.04	0.05
<b>Ghana</b>	0.05	0.06	0.07	0.06	0.05	0.04	0.04	0.03	0.03	0.01
<b>Thailand</b>	0.03	0.03	0.04	0.03	0.04	0.04	0.06	0.04	0.05	0.05
<b>Vietnam</b>	0.02	0.02	0.02	0.03	0.04	0.04	0.04	0.05	0.05	0.03
<b>Argentina</b>	0.03	0.06	0.06	0.06	0.04	0.01	0.02	0.04	0.01	0.00
<b>Ivory Coast</b>	0.04	0.04	0.02	0.02	0.03	0.03	0.04	0.04	0.03	0.03
<b>Israel</b>	0.00	0.01	0.00	0.04	0.09	0.03	0.04	0.02	0.02	0.02
<b>Dem. Rep. Congo</b>	0.00	0.01	0.02	0.01	0.02	0.03	0.04	0.05	0.05	0.02

<sup>242</sup> Note that timber declared in Belgium as from Cameroon might actually derive from the Central African Republic or the Republic of Congo.

<sup>243</sup> Based on: 'Bilateral Trade in Wood-Based Products 2000–2009: Charts, Related Comments and Summary Statistics – Belgium – Non EU', European Forest Institute (last consulted 3 April 2012), based on the trade statistics of Eurostat.

**Table 2. Timber imports into Port of Antwerp (2010)<sup>244</sup>**

Country of origin	tonnes
Cameroon	39,535
Ivory Coast	39,478
Indonesia	29,388
Brazil	16,858
Finland	15,240
DR Congo	9,148
Benin	6,376
Congo Brazzaville	6,285
China	6,190
Canada	2,858

There was disagreement between the respondents about the importance of the timber trade in Antwerp. The timber trade in the port of Antwerp is certainly less visible than it used to be. 'Between 1990 and 1995 about 1 million tonnes of timber was imported, mostly in logs, but those years are long gone' (C2). Especially in the older docks of the port, there used to be stacks of round wood, whereas now most of the wood is processed and containerised. This industry has changed because the timber is processed in the countries of origin or in processing countries like China (see further). Some of the corporate respondents said Antwerp and Rotterdam had seen the timber trade decrease in favour of Amsterdam and Flushing (Vlissingen). The timber importers who were interviewed, however, said Antwerp was their major port of import. Both the NGO and governmental respondents confirmed Vlissingen and Amsterdam are relatively large timber ports, but the absolute quantities of timber transports in Rotterdam or Antwerp are still larger.

The question remains of course what the scale of illegal or suspicious flows of timber in Antwerp is. Neither the corporate respondents nor the government officials could provide data on the balance of legal versus illegal timber in Antwerp:

We have no idea of the current major flows of timber and neither do we know where the problems are. Officially all wood that enters the port of Antwerp can only be legal. Illegal wood is supposed to be blocked by customs and import is prohibited. (C2)

All breaches of CITES are registered by customs, but no cases were reported in the last 5 years. Given the amount of timber that passes through the port of Antwerp, this is likely to be a reflection of a lack of law enforcement efforts, rather than a lack of illegality in the timber trade. In comparison, in Rotterdam, there have been several cases in the last few years where illegal timber (CITES species)<sup>245</sup> was confiscated by customs and are currently the subject of prosecutions.

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<sup>244</sup> These figures reflect the data collected by the Quay Inspection division of the Antwerp Port Authority, based on data received from terminal operators. This means that at the moment of declaration the exact origin/destination is not always known; origin/destination information may be restricted to one country per commodity per vessel. Origin/destination country is country of loading/unloading. The commodities are only identified for non-containerised cargo, all containerised cargo appears as 'Containers' (data received from Antwerp Port Authority, 25 August 2011).

<sup>245</sup> CITES notifications reveal the four species mostly traded in Belgium are Afrormosia (*Pericopsis elata*) from Central and West Africa; Ramin (*Gonystylus* spp.) from Asia; Mahogany (*Swietenia macrophylla*) from Central and South America; and African cherry (*Prunus africana*) from Africa and Madagascar. CITES MA België, 'Handel in CITES-hout', in *Vorming*

“[W]hen you talk about Afrormosia, you talk about Antwerp, but that can most likely be explained by the close connection of Belgium with the country of origin” (G8). There is no doubt about the existence of illegal timber shipments in Antwerp, given that other countries have reported seizures that had Antwerp as an earlier destination, but the amount and scale is unknown. It thus proved difficult to find conclusive data to assess the illegal share of timber trade. Therefore, guesstimates for the high-risk countries can serve as an indicator. Both the share of illegal trade and the origin vary depending on the kind of forest product, as illustrated by a forest researcher (S7):

Belgium imports sawn wood from high risk countries in the Congo Basin (primarily Cameroon) (100,000 m<sup>3</sup> /year) and Russia (200,000 m<sup>3</sup> /year). It imports substantial volumes of plywood from high risk countries Brazil (200,000 m<sup>3</sup> /year, China (150,000 m<sup>3</sup> /year) and Indonesia (50,000 m<sup>3</sup> /year). Belgium imports moulding and joinery<sup>246</sup> from high risk countries China (150,000 m<sup>3</sup> /year) and Brazil (50,000 m<sup>3</sup> /year), Indonesia (30,000 m<sup>3</sup> /year) and Malaysia (30,000 m<sup>3</sup> /year). Most of this will be derive from PEFC-certified forest but without chain of custody. China (70,000 tonnes/year) and, to a much lesser extent, Indonesia, Malaysia and Vietnam (10,000 tonnes/year each) supply most of the wooden (garden) furniture which Belgium imports from high risk countries.

## **6.5 Social organisation of the illegal timber trade**

As announced earlier, this article aims to gain insights into the social organisation of the illegal timber trade and more particularly on those flows that have a connection to this study’s research setting of the port of Antwerp. The following explains how actors in countries of origin, transit and destination play a role in illegal transports of tropical timber. For each of these, this article analyses whether the legal-illegal interface is antithetical or symbiotic. This analysis will make clear how a variety of actors and legal-illegal interfaces shape the illegal timber trade (J. Bruinsma, 2009; Casson & Obidzinski, 2007; FAO, 2010; Seneca Creek, 2004; Tacconi, 2007; Wells, et al., 2007).

### **6.5.1 Countries of origin**

In countries of origin, informal workers are a first type of actors who are involved in illegal logging and can feed into the illegal timber trade. Although limited logging for personal use is generally allowed, export of this timber is prohibited. This informal production, however, equals an important share of the volume of exports out of tropical countries. Forest communities often rely on the illegal timber trade as a sole and secure source of (short-term) income and “[o]ften perceive harvesting neither as a criminal nor a harmful activity” (S9).

The owners of timber concessions are a second type of actor who is involved. Many of them work within the legal requirements of their permits. However, some are known to cross the boundaries of their concessions and to disregard the requirements to allow the forest to regenerate. European timber importers indirectly play a role in this: “Whereas many European importers used to be owners of African concessions, many of those were sold (primarily to Asian corporations) and

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*Handel in CITES Hout* (Brussels: FOD Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu, 2010); and CITES Trade Database: <http://www.unep-wcmc-apps.org/citestrade/> (accessed April 3, 2012).

<sup>246</sup> The volume of these products is likely to be about half that of their RWE volume.

nobody knows what happens within these concessions anymore” (C10). One modus operandi of these large forestry companies is the use of small permits to launder timber from other sources and avoid the payment of taxes (REM, 2009).

These ‘tres petits titres’ represent a large part of the felling of timber, the second largest for Cameroon. These permits are meant for those people who do not have the financial means to manage large concessions. However, “[t]hose ‘tres petits titres’ have become a major backdoor since it represents at least 10,000 m<sup>3</sup> of export each year, since the timber is often sold to major concessionaries” (S6). Small-scale concessions are vulnerable to economic capture by powerful (illegal) timber traders because they have difficulties complying with regulations. “The inconsistent and overly complex regulatory framework of these natural resource rich regions renders legal forest production uneconomic for small scale producers” (S9). Different ways of working guarantee the success of the illegal supply chain. The transport of timber can be accompanied by false documents or fraudulent declarations. Both CITES permits and Forest Stewardship Council (FSC) labels and other transport documents can be forged or used to disguise the illegal trade in timber. This was confirmed by the government, corporate and civil society respondents who came across these in their work.

Timber is a high-value commodity that is rather easily mixed with legitimate distribution to avoid it from being detected. Timber processors in countries of origin are therefore another actor who can be involved in illegal timber. The illegal nature of the wood can more easily be concealed in processed goods, which constituted more than half of the illegal wood products traded in 2008, compared with just 15% in 2002 (Lawson & MacFaul, 2010). The limited bulk cargo shipments that do occur – used for log transports – cause suspicion:

The bulk transportation of logs is increasingly made by chartered ships registered in ports with flags of convenience and is difficult to control (change of name, owner, flag, crew, captain, etc.) making it difficult to have confidence in the product and fight smuggling (Landro & Lo, 2007).

The decrease in round wood transports can be explained not only by the processing being a concealing technique for illegal timber. There are other factors at play: wood is increasingly sawn in countries of origin, because many countries prohibit the export of logs. Countries in West Africa, for example, are increasingly stimulating their forest industry to deliver processed goods and this trend is therefore likely to continue:

Whereas before sawn wood was processed into windows and doors in the EU, this now happens before import, since it is a lot cheaper to process it there rather than here. Moreover, if the wood is sawn first, it fills a container more easily. (C9)

Illegal timber involves other corporate actors as well, and namely those who work in the extraction of other natural resources such as gold or other precious metals. One of the respondents illustrated this for the case of Ghana. He explained how, in the search for gold in many regions of Ghana, the entire surface layer of the ground is removed. Moreover, the gold is extracted using mercury, which degrades the quality of the soil even further. The trees that grew on the soil are sold, sometimes without permission, but the forest has no chance of growing back. “The majority of this gold mining

is known to lack the necessary permits and licenses, and has both a bad environmental and human rights reputation. The timber is logged and traded illegally” (G26).

Government authorities in countries of origin are another actor that contributes to illegal timber. The controls in regions of origin are often limited due to the unwillingness or inability of lower levels of government to enforce the law, particularly when there are conflicts with central governments. Central authorities are often perceived to be biased against rural communities, criminalising local forest users who are denied secure resource rights (Tacconi, 2007). These states often do not have accurate assessments about the available resources let alone about what has disappeared. Their regulatory framework is often weak, which decreases the likelihood of illegal logging being detected.<sup>247</sup> Moreover, governments in countries of origin have been found to be corruptly involved in granting permits, controlling transport of timber or inspecting forest enterprises (Haken, 2011). Once again, the case of Ghana (see above) illustrates this:

States act as accomplices because they would rather see revenue of the gold mining than act upon the environmental harm. This issue of preservation of the forest or even sustainable exploitation of the forest is balanced with the importance of mining the gold. (S26)

In a way, the government authorities thus contribute to the illegal timber trade. NGOs and independent illegal timber experts explained to us their concern that CEOs of (international) enterprises, politicians and government and law enforcement officials facilitate the illegal trade in these forest products. Similarly, the involvement of the military has been mentioned. It is estimated that about US\$7.3 billion is annually invested in corruption money for illegal logging (CIE, 2010; Duffy, 2007). “One hardly ever wonders how embedded corruption is in forest practices. There is corruption from the chief of a small village to the highest level of administration responsible for granting concession rights” (S6).

Finally, there is the potential involvement of organised crime (Interpol & The World Bank, 2009; WWF, 2008). This was confirmed by one of our government respondents who referred to the involvement of organised crime in Central and South America given the use of business structures, violence<sup>248</sup> and intimidation. None of the other respondents, however, mentioned the involvement of organised crime syndicates in illegal transports of African timber.

The interfaces in countries of origin connect legal, illegal and informal actors. Informal loggers compete in the same forests as legal and illegal actors. This implies an antagonistic interface and might even be aimed to extort (parasitical interface) or destroy (predatory interface) other actors. There is another legal–illegal interface that presents itself. The raw materials that were extracted by informal actors feed into the illegal production. This constitutes an interface of reciprocity or collaboration between illegal and informal actors (symbiotic interfaces). Some legal timber processors get their timber supplies from illegal actors. In this interface, legal actors might be facilitating and maybe even initiating crime, but the line is difficult to draw. The interface is then one of cooperation or reciprocity, but might well be one of co-optation if there is an uneven power

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<sup>247</sup> Note that the same can be said about many destination countries as well (see further).

<sup>248</sup> An example of this violence is the murder of Joao Claudio Ribeiro da Silva and his wife, Maria do Espirito Santo, who were found murdered on a nature reserve near Maraba in Para State, Brazil.

relation (symbiotic interface). These illegal timber actors, of course, compete with legal actors in countries of origin, constituting at least an antagonistic and most likely an injurious interface. Neither parasitical nor predatory interfaces were found in this research. Finally, governments that tolerate or facilitate the illegal timber trade are competing with the legal actors (antagonistic interface) and meanwhile support illegal actors or are financially supported by them through corruption (symbiotic interface).

### **6.5.2 Countries of transit**

The trade routes are multiple in the globalised world and shipping itineraries allow for flexible trade chains. A large amount of timber is exported to a third country before reaching its final destination. There are known trade routes and usual suspects in the illegal trade of tropical timber in terms of countries of origin, transit and destination, as explained earlier. Timber smugglers are, however, very inventive in the trade routes they use, as a government official (G12) explained:

If we think protected illegal Afrormosia comes straight from West Africa to the EU, we are naive. The seller and buyer also know that we know it comes from West Africa. Therefore it gets sent to Brazil, stays there for a few years, an edge is machined into it and then it is shipped to Europe. They know our alarms don't go off if this type of wood comes from Brazil.

The other way round, ships from Brazil might go to Africa first before travelling to the European ports. In this way, illegal timber traders aim to catch governments off guard. In the same way, in the Congo Basin many timber transports cross national borders: of the timber handled in Cameroon ports, 46% originates in the Republic of Congo-Brazzaville, the Central African Republic or Gabon (Ducenne, 2008). Similarly, Singapore is often used as a transit port for timber transports. In fact, one of the government respondents (G13) said Singapore has a reputation for illegal or at least suspicious timber:

[I]t is basically a free port ... they don't care so much about the origin of the wood. If the documentation shows that it's a legal export, although documents have been laundered, it's legal in Singapore and then it goes to any other third countries as a legal timber transport.

The use of transit countries is a modus operandi for illegal timber within the EU as well. Another government respondent (G12) talked about a case where illegal timber species were spread out over five different interconnected EU locations. As a government actor (G26) in a country of origin explained:

There are a lot of global dimensions at play in the timber industry. It is hard to know where the timber originated because it follows many trade flows in processing before it reaches the retailers and consumers. Major actors in the timber business in Asia – China and India – do not exercise the necessary due diligence for their supplies. Once processed, nobody is able to check the goods.

Containerisation has facilitated the rapid growth of legitimate international trade in recent decades, including in illegal timber, because the anonymity of containers offers particular advantages for

organisations wishing to transport illicit commodities (Griffiths & Jenks, 2012; Levinson, 2006; UNODC, 2011).

The respondents of this study noted a rather recent change in the orientation of the European timber flows. The EU imports less timber directly from the countries of origin than formerly because some now go to China for processing. China's internal market demands a lot of timber, and it has a large export of wood products to the EU, the United States and Japan.<sup>249</sup> Although imports of illegal wood into China seem to have decreased, probably due to the global economic slowdown, it is still in the range of 20 million m<sup>3</sup> and China is the most important market for East Asian and African tropical timber. Given that China exports a lot of processed timber goods, it is alleged to be a transit country for illegal timber. It is suspected that the majority of global trade in illegal timber is transported to China and often implicitly exported from China – implicitly because these exports usually have a legalised label. Comparisons of China's import and export statistics – allowing for domestic logging and consumption of wood – reveal mismatches<sup>250</sup>

The problem is with African timber that goes to China first and then reaches the EU as finished products (furniture, plywood, doors, floors). It is necessary to make that transparent, since the direct supply from Africa to EU is limited compared to those going over [to] China. (C6)

According to a Belgian timber importer, the European timber sector contributes to this because its quality standards are so high that the profit for timber concessions is lower: "It is often easier to sell to other actors (e.g. China) who are fine with somewhat lower timber quality" (C10).

There are other corporate actors that play a role. For example, the shipping companies, which might not check the legality of the timber because they do not perceive it as their responsibility (REM, 2009). The shipping line that was consulted for this study explained that this topic is of increasing concern to them, although there is not a strict liability because they do not know what is inside the containers. Similarly, the shipping agents and terminal operators have a role to play. Shipping agents usually do not engage themselves with the content of the transports and merely arrange the paperwork. Through this activity, however, they facilitate illegal transports. Shipping agents and lines are both engaged in the transport of illegal timber, whether knowingly or unknowingly. Likewise, banks can play a role in global trade and therefore in timber trade as well. Through the transfers of money and in providing financial credit, banks have access to all the relevant documents. Through money laundering laws, banks could theoretically be held accountable for the legitimacy of the transactions and in this way financing for illegal logging might be tackled. Insurance companies also theoretically have access to a lot of the same information, because owners who claim to be compensated for lost goods must provide a certificate of origin, product specification, nomenclature and commercial invoice. In practice, however, neither banks nor insurance companies are liable for the legality of the cargo and therefore do not need to check

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<sup>249</sup> Domestic consumption is thought to have been about 202 million m<sup>3</sup> in 2007 and is likely to increase to 460 million m<sup>3</sup> in 2020. In 2009, China exported US\$7.5 billion to the EU, US\$5.1 billion to the EU and US\$3 billion to Japan (Xiufang & Canby, 2011).

<sup>250</sup> Clarifying illustrations of this trade, with explanations, are available at <http://illegaltimber.uk.org> (accessed April 3, 2012).



the documentation (Landro & Lo, 2007). The financial proceeds of the illegal timber trade might also be widespread, illustrating the legal–illegal interfaces.

As for the legal–illegal interfaces in countries of transit, it is difficult to assess to what extent each of the actors knowingly participates in the illegal timber trade. The findings allow us to conclude that some actors do participate deliberately, given the trade route disguises and document fraud. Shipping lines, shipping agents and terminal operators – and by extension banks and insurance firms – have illegal timber traders as clients, whether the timber cargoes are in containers or as round wood. This fits a symbiotic type of legal–illegal interface because legal actors work for illegal actors, but it is unclear to what extent the former knowingly collaborate. In case they do not know, this interface is one of synergy. In case they do know, this interface is either one of collaboration, if there are long-term links, or one of reciprocity for shorter term but still mutual benefits. Many of transit actors can therefore at least be accused of a lack of due diligence, a denial of responsibility and even of culpable negligence. Those that facilitate the illegal timber trade are in an antithetical relationship with the legal market.

### **6.5.3 Countries of destination**

In countries of destination, the principle actors are timber importers and consumers. It is difficult to get an idea of who is involved in timber trade, since timber traders and intermediaries are instrumental in facilitating supply chains. The timber importers are a first actor in countries of destination who might be contributing to the illegal timber trade. According to several government respondents, timber companies used to deny the problem of illegal timber existed. This was exemplified in this research by tropical timber importers who informed us there is no illegal timber in their forest activities. Other timber importers, however, acknowledge the existence of illegal timber in their sector, as evident from the following quote:

We know which forest concessions are doubtful and will ask for certificates. Other importers are however less ‘due diligent’ and import the timber despite the doubts about the legality. These have been doing this for years and we as competitors know. (C9)

These importers explained illegal timber is destructive for the long-term survival of their business, but warned that not all importers are concerned with long-term outcomes.<sup>251</sup> This is supported by a government respondent (G13) who said that:

[B]asically for the large consignments ... it always involves big companies, big corporations, because if you take into consideration the complexity of arranging 20 or 40 containers in a single shipment, you have to have several persons working together, it is not the actions of single individuals. It must be corporate.

Government officials believe that the major timber importers pose little threat because they would not risk their reputation. They believe, however, that major timber importers might be more involved in trading in illegal timber than in illegal CITES trade. The traders, brokers and intermediaries are thought to be the ‘biggest crooks’. According to the corporate respondents,

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<sup>251</sup> For more information about these long-term outcomes, please see Miller et al. (2006).

timber importers used to have closer connections with the timber-producing countries. Many (international) corporations still have concessions in these tropical regions, but they increasingly go to existing concessions to buy the timber they need. Moreover, some of the European timber importers sold their African concessions, mainly to Asian corporations. By setting high quality standards for the products – consumers do not want timber with uneven timber grain – European timber importers drive the processing away:

I've witnessed a Belgian corporation in West Africa who wanted to buy timber. They required high quality wood, with certain diameters and length. There was an Asian competitor who would simply buy all of their wood, disregarding quality standards.<sup>252</sup> (C6)

Timber processors are other actors who are involved in countries of destination. The processing, however, differs greatly for each type of wood, as these CITES examples clarify (S4):

Afrormosia is mainly used for floors, ramin is used for many things, but traders of illegal ramin are allegedly selling it for paper production. Really special types of wood usually find a market with antique furniture restorers, ship builders and music instrument makers.

When a violin or a boat was originally timbered with mahogany, you do not restore it with sapelli. But in order to restore it with mahogany, you need to get mahogany first and what cases have shown is that they go in search of importers themselves. (G8)

Other processors use timber in construction and also there exists a market for illegal timber.

Besides the timber importers and processors, consumers also play a role. There is a high demand for timber, especially for cheap timber. Illegal timber trade exists due to markets that are not environmentally sensitive, that demand timber products without considering whether the timber was harvested illegally. Essentially, this is driven by the financial benefits it generates. Due to the increasing world population, the demand for industrial wood is likely to increase. Although many consumers still buy the cheapest timber, consumers in more affluent regions of the world are increasingly conscious about the sustainability of their timber purchases. This however has “created pressure on the timber market [ ... ] and as a consequence timber producers or brokers are tempted to commit FSC labelling fraud” (C6).

Of major influence is the regulatory framework in countries of destination to tackle illegal timber trade and its ineffectiveness. By not considering timber as a priority, governments in countries of destination are another actor that indirectly shapes the illegal timber trade. Certificate fraud does not only happen in developing countries but also happen in the EU. Trade prohibitions or documentation requirements are often not necessary for processed CITES goods (cf. the annotations). “Ramin and Rio pallisander still require permits for transports, but processed mahogany and afrormosia do not. How's that for a modus operandi?” (G7). Sometimes these transports are declared under higher import taxes which avoid them from being detected in standard risk assessments, which is unlikely to be detected by customs. A discussion of each of these governance weaknesses is, however, too far beyond the scope of this article.

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<sup>252</sup> In reference to the legal-illegal interfaces this indicates an antithetical relation, see below.

In reference to the legal–illegal interfaces in tropical timber flows, consumers contribute to the illegal trade in tropical timber, since they buy it for low prices. These consumers can be individuals as well as governmental or business organisations. Consumers therefore have a symbiotic relationship with illegal actors since they profit from them. It is unclear, however, to what extent this is motivated by a search for cheaper purchases and a lack of awareness about the harmfulness of illegal timber or, on the contrary, by an intentional choice for illegal timber. This corresponds to different kinds of legal–illegal interfaces. When consumers are unaware of the illegality of the timber, this could then refer to the synergy interface, since both operate independently and both benefit. When it concerns an intentional choice, this equals the interface of outsourcing, because the logging and transport of the timber are done by an illegal actor for a legal actor. If this is a long-established relationship, it is cooperation or reciprocity. As made clear in the above example about Asian and European importers, the illegal actors sometimes compete with legal actors in the same market, constituting an antagonistic interface. This is clearly present for the illegal timber trade, because they compete with the legal market. This might well be perceived as injurious, since illegal actors harm the legal market by offering prices the legal industry cannot compete with. This case study did not come across the other two antagonistic interfaces where illegal actors extort legal actors while keeping them viable (parasitical) or where illegal actors aim to destroy the legal business (predatory). Besides these antagonistic interfaces, in many cases, legal and illegal actors interface symbiotically in the illegal timber trade. This happens when legal actors hire an illegal actor to do the dirty work for them (outsourcing), which is present in cases where legal timber importers get their timber from illegal suppliers. Given that importers and forest concessions often have long-standing relationships, this might be an interface of collaboration and both might benefit from the conscious involvement in illegality (reciprocity). The power relation between these legal and illegal actors can be uneven, despite the benefits generated for both of them (co-optation interface). Sometimes the importers are unaware about the illegality (e.g. due to forged certificates), in which case a synergy interface is present.

## **Discussion**

Illegal markets might bring to mind pictures of organised crime syndicates on national or international levels, but it also refers to situations where business or government actions are on a thin line between legal and illegal (Kleemans & Van de Bunt, 2008; Passas, 2002; Punch, 1996). This article aimed to provide insights into the social organisation of illegal transports of tropical timber to achieve a more complete view of the network of actors involved, which in turn can further theory on transnational environmental crime and guide policymaking (Huisman & Vande Walle, 2010; van Duyn, 1993). This study also aimed to identify legal and illegal actors involved, as well as determine whether their interaction is of a symbiotic or antithetical nature. The legal–illegal interface in countries of origin, transit and destination were analysed. The findings revealed legal–illegal interfaces in each step of the tropical timber flow which were symbiotic or antithetical in nature. In countries of origin, informal loggers competed with legal and illegal actors in forest harvesting, constituting an antithetical interface. At the same time, their harvest feeds into the illegal production, which equals a symbiotic interface between illegal and informal actors. Legal concessionaries are known to work illegally, either by accepting timber from illegal loggers (symbiotic inter- face) or by harvesting illegally themselves. Illegal forestry in countries of origin is

then in an antithetical interface with legal actors. Governments can, moreover, be in an antithetical interface with legal actors in case they tolerate or facilitate the illegal timber trade and are in a symbiotic interface with them because they support them. In the transit phase of the timber flow, it is very difficult to know whether the legal actors, such as shipping lines and agents, terminal operators, banks and insurance firms, knowingly participate in the illegal timber trade. Some participate deliberately and actively and are therefore in a symbiotic relationship with illegal actors. This implies that activities facilitate the illegal timber trade and therefore constitutes an antithetical relationship with the legal market. Others can at least be perceived as lacking due diligence. At the end of the flows, consumers have a symbiotic relationship with illegal actors since they profit from the cheaper prices. Similarly, some timber importers have symbiotic interfaces with illegal timber traders. Consequently, they compete with the legal market (antithetical interface). The social organisation of illegal transports of tropical timber consists of different kinds of legal-illegal interfaces, both antithetical and symbiotic. This implies that legal actors are not necessarily knowingly involved in transnational environmental crime or deliberately acting illegally. There is, however, at least a lack of due diligence for some actors who deny the problem or deny responsibility for it. The social organisation of the flows of timber is therefore on a thin line between legality and illegality throughout the entire supply chain (Chen, 2006). Actors throughout the flows were found to have an ambiguous legal or illegal status since the flows are a result of a multitude of legal-illegal interfaces.

Trade laws sometimes allow the exploitation of nature for consumption and production processes. In the global supply chain, harm and risk are often far removed from the consumers of the product (Lynch & Stretesky, 2003; White, 2008). Many environmentally harmful activities stay off the political agenda, rendering them neither illegal nor criminal (Passas & Goodwin, 2004). Illegal logging and trade have been recognised as problems of significance, but despite their ecological, social and economic arguments, illegal logging and illegal transports of timber have generally not been criminalised and an institutionalised social reaction to it is lacking. For timber species protected under CITES, the line between legal and illegal is rather clear and this instrument allows for the prosecution of those who trade in these species. Most of the tropical species of timber are however not covered by this international convention nor is there adequate national legislation for the prosecution of wrongdoing involving the timber trade. For most timber, once the illegally harvested logs are in transit, there are only limited possibilities for importing countries to act, despite the important steps in tackling illegal timber trade taken by the US Lacey Act and the EU Timber Regulation. This might be because the threat to public safety is much lower than, for instance, for drugs or arms trafficking (Interpol & The World Bank, 2009). One of the government respondents (G13) put it as follows:

Timber is not truly criminal yet because forestry has a low priority in terms of national safety and because politicians themselves are very much involved in deforestation. More importantly, forestry is not about the crime concept as such, it is about both legal and illegal, with a long chain from harvest to consumer. It is difficult for the consumer to see the true impact.

Similarly, two corporate respondents stressed that illegal timber causes harm to humans and the environment, but that even legal trade in timber does not necessarily guarantee no harm was imposed in its extraction. Therefore, it is crucial to focus not only on the breaches of international and national legislation, but also on those activities that are on a thin line between legal and illegal and might be equally harmful. Taking environmental harm as a frame of reference for the legal and illegal flows of timber – and by extension other transnational environmental crimes – could overcome the challenge of the thin line. Especially for the topic of timber, this is important because legality and illegality does not necessarily coincide with the absence of harm (Roerhorst, 2006). “As long as this is not acknowledged, the long term survival of tropical forests is not ‘out of the woods’ yet” (G26).

This is where an eco-global or green criminology perspective is crucial. This looks beyond what is readily considered as criminal and pays attention to harmful activities on a thin line between legal and illegal. Criminology can contribute to the acknowledgement of this thin line throughout the flows of tropical timber and can help raise awareness in countries of origin, transit and destination. In this, it is crucial to critically assess both demand and supply, because there are in fact various moments along the supply chain when legal and illegal interfaces occur. Each of these interfaces is inextricably linked to a particular social, economic and political context, necessarily shaped by both local and global influences. This needs to be taken into account when drafting policies about how to govern forest activities and trade in timber. Future studies should therefore increasingly focus on the topic of natural resources such as timber, and gain insights into the governance of this phenomenon on a thin line between legitimate forest practices, informal forest activities and corporate or state crime.

## 7. Governance throughout the flows. Case study research on the illegal tropical timber trade

**ACCEPTED:** for peer-reviewed book: Ponsaers, P., Saitta, P. & Shapland, S. (Eds.). *Formal, informal and criminal economy: An outlook on Northern and Southern Europe*, The Hague: Eleven Publishing.

**ABSTRACT:** *This article analyses what the governance reality is of illegal transports of tropical timber in a European trade hub. The frame of analysis used is a nodal-networked governance analysis, which pays attention to the contextual surroundings that shape the governance framework. By means of document analysis and expert interviews, this article provides insights into the facilitating and hindering factors for governance arrangements throughout the tropical timber flows, for actors individually and in their interaction. These findings are related back to both the models of the responsive regulatory pyramid and networked governance. The findings reveal the complexity inherent to governing the illegal trade in tropical timber.*

### Introduction

Goods, capital, people and information swiftly flow in the globalized society, interconnected through different networks (Keohane & Nye, 2000). The global supply chain is the playing field that allows harm and risk to be far removed from the consumers of the products (Lynch & Stretesky, 2003; White, 2008). These flows<sup>253</sup> and networks connect the local and the global and meanwhile present particular governance challenges. An example of the global interconnections is the illegal trade in tropical timber. Illegal logging and illegal timber are used to refer to the broad problem of illegal forest activities. Illegal activities occur at all phases of the forest goods production chain, from planning through harvesting and transport to financial management.<sup>254</sup> Illegal trade refers to commercial activity, but a major share of the illegally logged wood is used for domestic energy supplies. This article uses the terms illegal trade in timber and illegal timber to mean forestry products extracted from forests (or plantations) and subsequently processed and traded in breach of the letter or intent of national laws where a clear commercial interest is at stake.<sup>255</sup> It focuses on tropical timber and on the trade between Europe and Africa in particular<sup>256</sup>, because Belgium is an important destination for many countries in West Africa and the Congo Basin and because these countries of origin have the biggest trade share in the port of Antwerp.<sup>257</sup> Several corporate, government and civil society respondents moreover mentioned the connection of Belgium with this region and the suspected importance of illegal trade.

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<sup>253</sup> Flows refer to departure locations, followed routes and final destinations of goods.

<sup>254</sup> Harvesting is illegal in excess of concessions, outside concession boundaries or inside nature reserves and when unlawful harvesting techniques are used or protected species are logged (REM, 2009). Transport is illegal when excise duties are not paid, when there is no transport authorisation due to quota, bio-safety, tariffs or trade bans, when forged certificates are used, species are misclassified or deliberately undervalued or when border authorities are corrupted (Wells, et al., 2007).

<sup>255</sup> Adopted from the definition provided in: <http://www.globaltimber.org.uk>

<sup>256</sup> This research studied the illegal tropical timber trade between Africa and Europe, and Belgium in particular. This article makes no claims for generalization of the findings to the other regions and timber flows.

<sup>257</sup> Based on the 2010 timber imports into Port of Antwerp, data received from Antwerp Port Authority, 25 August 2011 (See also: Bisschop, 2012b).

The illegal trade in tropical timber has been acknowledged as a problem of significance due to its environmental, social and economically harmful impact (Green, et al., 2007; Tacconi, 2007). It involves actors that are located along the supply chain from countries of origin through transit to destination (Chen, 2006). The social organisation of this phenomenon is therefore very complex, involving (transnational) corporations, corrupt governments, deprived individuals and even organized crime syndicates (Boekhout van Solinge, 2008). These flows are a result of a multitude of legal-illegal interfaces throughout the flows (Bisschop, 2012b). In countries of origin, informal loggers compete with legal and illegal actors in forest harvesting. Legal concessionaries are known to work illegally, either by accepting timber from illegal loggers or by harvesting illegally themselves. Governments can moreover tolerate or facilitate the illegal timber trade. In the transit phase of the timber flow, it is very difficult to know whether legal actors, such as shipping lines and agents, knowingly participate in the illegal timber trade. Some participate deliberately and actively which implies their activities facilitate the illegal timber trade. Others can at least be perceived as lacking due diligence. Similarly, some timber importers do business with illegal timber traders or lack due diligence in checking the legality of their supplies. At the end of the flows, consumers profit from the cheaper prices, far removed from the harm imposed. In sum, the illegal trade in tropical timber has a complex social organisation, which makes the drafting of a governance framework for it a challenge.

Governance frameworks have been subject to analysis in theory and research, but environmental crime flows, and the illegal tropical timber trade in particular, are at an interesting crossroad of influences (van Koppen, 2006). Throughout the departure, transit and destination locations, different actors potentially have a governance<sup>258</sup> responsibility. Governments have a role to play in drafting policy initiatives and legislation as well as in the implementation of it. These government institutions however face numerous challenges in dealing with this topic. Despite the harmful impact, the illegal logging and trade in tropical timber has not been subject to a global convention or universal social reaction to it (CIE, 2010; Tacconi, 2007).<sup>259</sup> Some timber species are protected under CITES<sup>260</sup>, which regulates the trade in endangered species and encompasses the prosecution of breaches of the trade bans. Most of the tropical timber species are however not covered by this international convention nor is there adequate national legislation for the prosecution of wrongdoing involving the timber trade (Boekhout van Solinge, 2011). For most timber, once the illegally harvested logs are in transit, there are only limited possibilities for importing countries to act. In the governance of the illegal timber trade, non-state actors are therefore taking up responsibilities traditionally reserved for the nation state (Loader & Sparks, 2002; Sheptycki, 2007). These actors can be legal entities such as (multinational) corporations or non-governmental organisations. Corporations in the timber industry may be concerned with the social implications of their operations. NGOs can play a role in policy making, awareness raising and maybe even in

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<sup>258</sup> Governance equals the intentional activities designed to shape the flow of events (Wood & Shearing, 2007, p. 6).

<sup>259</sup> The USA Lacey Act prohibits imports of illegal timber. The EU Timber Regulation (EUTR) (entry into force in 2013) holds importers accountable to prove the legality of the timber they import (through due diligence). The EUTR follows the FLEGT (Forest Law Enforcement, Governance and Trade) Action Plan with the Voluntary Partnership Agreements (VPA).

<sup>260</sup> The Convention on the International Trade in Endangered Species of Fauna and Flora (CITES) is the only international legal basis for the trade in some timber species, regulating import, export and re-export with permits to avoid endangering the survival of species.

monitoring logging and trade activities. Multi-stakeholder initiatives have even seen the light of day to tackle the problem of illegal logging and trade.<sup>261</sup> Governments, business, civil society and international organisations therefore together have the potential to shape the governance and regulation of the tropical timber trade. Some even consider a polycentric governance system or governance network would be the most effective arrangement for transnational issues (Crawford, 2006), but it is not always clear what governance would actually result from this (Braithwaite, 2008). This implies the need for research that examines the actual governance of transnational environmental crime and that looks at the involvement of government, business and civil society actors<sup>262</sup> in its regulation (Braithwaite, 2008; Huisman, et al., 2009; Shearing & Johnston, 2010). This article therefore examines the actual governance of illegal transports of tropical timber in a European trade hub. It analyses what actors are involved in these governance arrangements and provides insights into the facilitating and hindering factors for these actors individually and in interaction. These insights on the governance of tropical timber flows may be able to model for analysing flows in other environmental areas and for the further grounding of governance models in empirical data (Spaargaren, Mol, & Buttel, 2006).

The article first presents the theoretical framework which forms the basis of this study. The topic is interdisciplinary and therefore taps into different theoretical perspectives. The theoretical framework briefly discusses the two models this study relates to: the responsive regulatory pyramid and networked governance. This section also explains the frame of analysis for this study, which is a nodal-networked governance analysis (Shearing & Johnston, 2010). Next, the methodology of this study is set out. This brings us to the results of the analysis, providing insights into the actual governance of tropical timber flows. First, the governmental, corporate and civil society governance actors are analysed individually (nodal governance analysis). Secondly, the networked governance analysis discusses their interaction, which includes an examination of the multi-stakeholder initiative the Forest Stewardship Council (FSC)<sup>263</sup>. To conclude, the discussion relates these findings back to the theoretical framework.

### **7.1. The theoretical framework for regulation and governance**

The illegal trade in tropical timber is at the crossroads of different perspectives. Logging involves the management of natural resources, closely intertwined with the nation states in countries of origin. Because these goods are (illegally) traded, it crosses borders and becomes a topic of concern for countries of transit and destination and for supranational organisations. The illegal trade in tropical timber is also a phenomenon that involves various actors in its social organisation, making it difficult to label it as a mere corporate crime. The topic is therefore situated at a crossroad of local, national and global governance, natural resource management and transnational environmental crime, together with corporate self-regulation and government enforcement. This

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<sup>261</sup> Examples are certification mechanisms like the Forest Stewardship Council (FSC) or the Program for Endorsement of Forest Certification (PEFC) and policy programmes like the EU FLEGT.

<sup>262</sup> These actors are sometimes referred to as nodes. These nodes are actors and can refer to individuals, groups, organizations and even states. Such a framework has been used with regard to communication in society (Castells, 2000) and applied to governance and security issues (Shearing & Johnston, 2010).

<sup>263</sup> The Forest Stewardship Council (FSC) is a multi-stakeholder certification initiative, which integrates social, economic and environmental criteria in the certification of forests and actors in the timber sector.



theoretical framework taps into these different elements, integrating them in the governance analysis.

Traditionally, government institutions in the nation states have the central responsibility for crime and security (Shearing & Johnston, 2010). In fact, a lot of the environmental issues have been dealt with through command and control regulation, which implies non-compliance will be met with punishment and rules should be uniformly applied (Grabosky & Gant, 2000). This however provides only part of the solution to deal with the complexity of environmental problems (Gunningham, 2004). Faced with a globalized supply chain and transnational environmental problems, governments are challenged in drafting appropriate governance frameworks to regulate these global dimensions (Sassen, 1996). Compared to other international crimes such as illegal drugs smuggling, the law enforcement resources invested in environmental crime can be perceived as limited since criminal prosecution of environmental cases is unlikely or involves only low penalties (Faure, 2012; White, 2011).

In contemporary society, behaviour is not regulated by government actors or by command and control regulation alone. Various regulatory hybrids have emerged in response to transnational, environmental and corporate crime. In these hybrid arrangements non-state actors play a role, operating at different levels within the globalized context (van Koppen, 2006). Governments as well as business, civil society and international organisations play a role (Braithwaite, 2008; Gibbs, McGarrell, et al., 2010; Green, et al., 2007). Also in theory, there is an increased focus on governance frameworks that go beyond the nation state paradigm and look at the role played by non-state actors such as corporations and non-governmental organisations (NGOs) (Mazerolle & Ransley, 2006; Wood, 2006; Wood & Shearing, 2007). The following briefly discusses two theoretical models about governance hybrids: responsive regulation and networked governance. These models provided inspiration for the governance analysis of the illegal timber trade.

A very influential theoretical model for dealing with corporate crime, and by extension environmental crime by corporate actors, is the responsive regulatory pyramid. In this model, the approach is attuned – responsive - to the motivations and characteristics of particular sectors and/or situations (Ayres & Braithwaite, 1992) in an attempt to overcome the inflexibility and inefficiency of command and control (Wright & Head, 2009). The basic assumption of this model is that the choice of regulatory strategy should be responsive to what is more appropriate for a given situation, taking into account the strengths and weaknesses of each approach (Braithwaite, 2002). There is therefore no standard regulatory reaction. At the base of the pyramid, there is ample room to act responsibly and for restorative justice. By allowing corporate actors to self-regulate and having other actors meta-regulate<sup>264</sup>, regulatory burdens should be avoided. This requires the corporate actor to own up to responsibilities and is assumed to be the most successful in going beyond compliance (Gunningham, et al., 1998). In order to grasp the new reality of contemporary governance, Braithwaite (2008) suggests using a network rather than a pyramid metaphor, where the focus is less on the vertical dimension and more on the horizontal (van Erp, 2008). The state is

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<sup>264</sup> Meta-regulation is regulated self-regulation which means that controls happen at a higher level either by third party actors, by government or through public scrutiny, and are based on the management system of the corporation itself (Gunningham, et al., 2003).

then just one actor within this hybrid governance arrangement, since corporate and civil society actors also play a role. A prerequisite remains the possibility of escalation to punitive reactions when actors fail to regulate themselves and/or do not own up to their responsibility (Braithwaite, 2008).

Networked governance<sup>265</sup> is the second model that embraces the idea of governance arrangements that go beyond the nation state paradigm and looks at the role played by non-state actors such as corporations and NGOs (Mazerolle & Ransley, 2006; Wood, 2006; Wood & Shearing, 2007). The basic assumption in networked governance is that different stakeholders act together towards commonly defined goals. There could also be coalitions of non-state actors, which set regulatory standards and enforcement, independently of governments but not limited to self-regulation (Bartley, 2007). Others have referred to this as plural and fragmented policing (Loader, 2002), nodal and networked governance (Shearing & Johnston, 2010) or polycentric or de-centred governance (referring to the multiple sites of regulation) (Black, 2008). This networked governance model uses the concept of governance nodes in reference to non-governmental organisations, corporations, government agencies and citizen associations. The core focus is on the capacity of these governance actors within the regulatory networks. This framework pays attention to interactions within networks and is particularly interesting for the study of transnational environmental crime and the illegal trade in tropical timber because complexity and (global) interdependency are core themes of the model. Holley et al. (2012) have applied this to environmental issues, referring to new environmental governance.<sup>266</sup> Some claim that these broader governance arrangements are particularly relevant for environmental issues such as illegal timber trade because these natural resources go beyond the mere interest of the nation state (Matthew, et al., 2010).

There is currently no international convention that criminalizes the illegal timber trade and - as will be illustrated further on - regulation largely relies on the legislation of countries of origin. Non-state actors have therefore sought alternative solutions and multi-stakeholder initiatives have emerged (Bernstein & Cashore, 2007; Cashore, van Kooten, Vertinsky, Auld, & Affolderbach, 2005). Third parties and governance networks might then have more effective ways of dealing with transnational and environmental issues (Crawford, 2006). It is of course important to embed this in empirical findings. In many security matters, states are no longer the single governing actors but a diversity of actors in different interactions is involved (Wood & Dupont, 2006). Although hybrid arrangements seem to be the logic of today and tomorrow, many authors still attribute a central role to state actors (Braithwaite, 2008; Gille, 2006; Jänicke, 2006).

It is not clear, what governance frameworks this results in for transnational environmental crime. This article therefore examines how this governance of security framework – in the sense of preventing illegal transport of tropical timber from occurring – is organised. Do different forms of

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<sup>265</sup> Networked governance owes many of its basic assumptions to the theory about the network society developed by Castells (2000).

<sup>266</sup> They detected five basic characteristics: collaboration of different stakeholders; participation of different groups on different levels of governance; deliberation about the goals and practice of governance; learning from practice; and accountability.

governance co-exist or is this mainly a government or rather a private actor responsibility (Braithwaite, 2002; Gunningham, et al., 1998)? This analysis also pays attention to the context that shapes the governance arrangements throughout the environmental flows and thus to both the local and global characteristics (Aas, 2007; Spaargaren, Mol, & Bruyninckx, 2006; White, 2011). The transnational dimension might present particular challenges or opportunities to national and international governmental, civil society and corporate governance actors. Governance actors involved in transnational environmental crime could well be driven by different objectives, interpreting behaviour differently and responding in various ways. It is crucial to study the interactions between these governance actors to assess whether they indeed work within a governance network and/or pyramid, and whether their interaction is cooperative, competitive or non-existent (Crawford, 2006; Shearing & Johnston, 2010). This article enquires which actors take a leading role and whether the governance arrangements are balanced (Wright & Head, 2009). Moreover, it addresses the question whether anyone has taken up responsibility for the meta-perspective where different fields of authority merge (Wood, 2006). This article moreover pays attention to potential missing nodes, which are individuals or groups who are currently not mobilized in these governance processes in spite of their relevant knowledge, capacities and resources for desired governance outcomes.

This research has followed the empirical suggestion of Shearing and Johnston (2010) to do a nodal analysis before a networked governance analysis. This implies an analysis of the separate nodes<sup>267</sup> (nodal governance analysis) and their governance characteristics before moving to an analysis of their interactions (networked governance analysis). Following this empirical advice should avoid the 'nodal-network equivalence fallacy', which is the failure to take into account the underlying assumptions of individual nodes in a governance analysis. The nodal governance analysis refers to how the nodes problematise the topic (mentalities), what they set as objectives (finalities) and what strategies they use to reach that goal (Johnston & Shearing, 2003). This is where the qualitative orientation of this research is indispensable. Secondly, the networked governance analysis follows, which considers the interaction between the governance actors. Before providing the results of the governance analysis, the methods used in this research are explained.

## **7.2. Methodology**

The research has a qualitative research design that combines a document analysis and semi-structured interviews. This has allowed gaining rich and contextual insights into the functioning of the governance nodes and their interaction. The document analysis is based on governmental sources (reports and statistics of inspectorates, police and customs, trade statistics), research reports (UNEP<sup>268</sup>, CITES, Interpol, independent consultants and academics), corporate documents (press releases, websites, annual reports) and documents by civil society actors (environmental organisations, nongovernmental organisations (NGOs), media). In addition to the document

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<sup>267</sup> Instead of using the term 'actor', the concept of 'node' will be used. Nodes are actors involved in governance.

<sup>268</sup> United Nations Environment Program.

analysis, a total of 36 semi-structured interviews<sup>269</sup> was conducted with 15 government, 11 private sector and 10 civil society actors.<sup>270</sup> The government respondents worked for national and international government agencies, such as customs, police, prosecution service, port authority and environmental administrations. The corporate respondents worked for timber importers<sup>271</sup>, accredited certification organisations and transport corporations. The civil society respondents were staff of environmental NGOs, union representatives and investigative journalists. These respondents were located within the Belgian and European research setting as well as in Ghana, Cameroon, Democratic Republic of Congo (DRC) as countries of origin and in China as a country of transit. All but four respondents agreed to the interview being digitally recorded. A checklist was used to guide both the document analysis and the interviews. The analysis was based on the researcher's notes and transcriptions of the recordings. Data gathered in both desk research and interviews were coded and analysed by means of qualitative data analysis software<sup>272</sup> which made it possible to triangulate findings from different types of sources (Leys, 2009; Loosveldt, et al., 2007; Yin, 2009).

### **7.3. Nodal governance analysis of the tropical timber trade**

Different governance actors are involved throughout the flow of timber. The following analyses what was occurring for each of these governance actors in countries of origin, transit and destination.

#### **7.3.1. Government initiatives in countries of origin and processing**

Governments in countries of origin<sup>273</sup> need to grant certificates for forest exploitation, certificates of origin and certificates for trade in CITES species. These departments are often very limited in resources and staff, which is perceived by traders as having an adverse effect on trade. Some countries of origin have the necessary expertise and professionalism to deal with this: "Many countries of origin realize timber is big bucks and do not want their natural resources to be exploited by criminals."(G13). Others have invested significant staff and resources, but have not set the right priorities nor worked together to reach better results. Much of the legislation in countries of origin about property rights, licensing and logging terms is however difficult to enforce for reasons of lack of resources, contradictions between laws and challenges to their legitimacy by

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<sup>269</sup> Interviews ranged from 45 minutes to 2 hours. The respondents were interviewed face to face, using a Skype video interview or over the telephone, because the diverse locations of the respondents did not allow the interviewer to meet each of them in person.

<sup>270</sup> At the outset of this study, the respondents were guaranteed anonymity. For quotations they are referred to by the general stakeholder category (government (G), corporate (C) or civil society respondents (S)) and a number. This case study is part of broader PhD research on transnational environmental crime, which also included another case study (e-waste). There is one list of respondents for both cases and respondents were numbered consecutively.

<sup>271</sup> It was difficult to get timber importers to participate in the research. Three refused and mentioned they only work legally and therefore saw no use in participating in research on illegal timber. Two other timber importers and the sector organization were willing to participate. It is difficult to know however to what extent these corporations represent the 'best kids in the class'.

<sup>272</sup> NVivo qualitative data analysis software; QSR International Pty Ltd. Version 8, 2008.

<sup>273</sup> This article uses information and quotations regarding Ghana, Cameroon and the Democratic Republic of Congo. Whenever necessary, the text mentions to which country the quotations refers. This is important because each country has its own characteristics and findings cannot be generalized.

indigenous groups (Tacconi, 2007). A Ghanaian government respondent (G26) for example explained that they intend to eliminate illegal logging in their country and aim for sustainable forestry for this and future generations. They signed the Voluntary Partnership Agreement (VPA)<sup>274</sup> with the EU and although there is no VPA timber on the market as yet, they see this as a true market instrument, because it will allow access to the European market. Even Ghana, as a quite progressive country in the region, is therefore faced with challenges in implementation. The police for instance assist the forestry commission in prosecution, but this does not result in appropriate and deterrent fines: “The judiciary is often not able to assess the true value of the resources that were illegally obtained and traded.” (G26). Although each country has its particularities, the same is true for other countries, where “the likelihood of being both convicted and actually obliged to suffer a penalty is generally too low to serve as a disincentive - particularly when compared with the option of corrupting the legal process.”<sup>275</sup>

As a consequence, consumer countries often (rightfully) question the credibility of certificates of origin. It is a politically sensitive issue for government officials to question the legality of timber transports: “Once DRC authorizes the export, this supposes the wood is of legal origin, so you need hard evidence to prove you have the right to doubt that.”(G12). Governance initiatives therefore promote good governance and the rule of law to tackle the issue of corruption and because this is assumed to contribute to the sustainable management of natural resources (Ross, 2003). The relevance of this for DRC is illustrated in the below quotation (S6): “In a country where nothing works, where a forest inspector does not have a jeep or plane to control 100.000 hectares of forest, legality means they got the right papers, but how they got those, that’s a totally different thing.” Currently, in hardly any port or forest, is there a legality check for logging or trade. “Governments do not develop valid control systems and the controllers that do work there have no means or capabilities to do so.”(S5) Ports of exports often do not know whether the timber originated in their country, because they cannot check the sealed containers. These offer the advantage of better protection against damage and allow for more flexibility in transport, but are also a means to disguise illegal trade (Levinson, 2006). Cameroon for instance faces a real challenge because it transits a lot of dubious timber from neighbour countries, despite its commitment in the VPA.

In order to support processing in countries of origin and create added value, many African countries no longer allow logs to be exported. Despite these good intentions, the local processing infrastructure is not always sufficient, resulting in many ad hoc initiatives that have difficulty accessing the export market and let a lot of timber go to waste. Nevertheless, this ban on log exports is generally respected towards the EU. Towards China this is not the case, indicating the potential illegality of these flows. The EU indirectly imports timber from African countries through China without checking their legality: “Once goods are processed, nobody is able to check this.” (G26). By setting stricter standards for imports of processed timber from China, the EU could therefore influence forest governance in regions of origin. This might counter some of the (allegedly increasing) illegality of China’s timber industry. Transit and processing countries thus play an

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<sup>274</sup> The EU has tried to impose stricter controls on countries of origin of tropical timber through a licensing system based on the Voluntary Partnership Agreements (VPAs), negotiated with exporter countries under the Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan (UNEP, 2011b).

<sup>275</sup> <http://www.globaltimber.org.uk/illegalTimber.htm> [Last consulted May 16<sup>th</sup> 2012].

important role in countenancing the existence of illegality. Once again one is faced with the sensitive issue of sovereignty: “Who dares to challenge a legal label when it comes from China? Their role is so dominant that neglecting these supplies might jeopardize the reputation of timber in general.” (S7). Moreover, the EU also needs to address the governance system within some of its own member states in order to avoid it from “being the pot that calls the kettle black”. (G13). Several respondents stressed the need for the EU to focus on their own forest activities. “Some EU countries are chopping down everything.” (C29)

Countries of origin often cannot (yet) adequately assess the remaining forest resources. A Ghanaian government respondent explained they were in the process of mapping them. This need for improvement in information systems has already been stressed in previous research (Seneca Creek, 2004). Increasing enforcement capacity in forests, processing facilities and harbours will solve part of the problem. Both positive and negative incentives are however needed to address illegal logging and trade. A trade ban for instance is likely to take away all value from the forest and therefore might lead to its destruction to convert it to other uses (CIE, 2010). Countries with a high risk of producing illegal timber, therefore, need policy changes that go beyond the mere topic of forestry. The broader social, economic and political context needs to be taken into account. Policies should address basic development issues such as education, health care and investments in natural resources, so-called capacity building. This implies the need to differentiate the approach between regions and countries of origin because each has its own particularities.

### **7.3.2. Government initiatives in countries of destination**

It is unrealistic to think that countries of origin can detect all of the illegal timber trade, as illustrated above. By not considering timber as a priority, governments in countries of destination are another actor that indirectly shape the illegal timber trade. This section discusses what is happening in relation to governments in countries of destination, for example, by setting up border controls to prohibit illegal imports from entering. The following concentrates upon the research setting of this study: Belgium.

#### **7.3.2.1. A lot of policy, much less implementation**

Despite the manifold private and public initiatives governing the timber trade, there is no international convention to combat illegal logging effectively (Chen, 2006). There is no criminalisation of timber, or at least only limited such criminalization, which explains why it is not a priority for the criminal justice system. CITES is the one exception that does allow the regulation of trade, but it only applies to a limited number of timber species. Even within CITES, effectiveness cannot be guaranteed given weak permit monitoring, diverse interpretations of round wood vs. processed timber, and the lack of judicial follow-up. CITES only regulates the international trade in a limited number of species and has no impact on national consumption of timber. Combating the illegal timber trade through judicial means has had to fall back on the legal frameworks of individual nation states. Timber consuming countries, such as Belgium, often lack national legislation to criminalize transports of illegal timber (going beyond CITES-species). As an importing country, it can prosecute but needs to prove that the imported goods violated the laws of the

country of origin/export. To determine the legal status of the timber, law enforcement agencies thus rely on the numerous national and local laws in timber producing countries.

Intergovernmental initiatives on timber have been difficult to achieve because they would go against trade conventions<sup>276</sup>, despite successes on other environmental topics (e.g. Montreal Protocol) (Bartley, 2007). In the absence of a legal framework for timber, the EU has tried to impose stricter controls on countries of origin through a licensing system based on the Voluntary Partnership Agreements (VPAs), negotiated with exporter countries under the FLEGT Action Plan (UNEP, 2011b). The strength of these initiatives is that they involve all necessary stakeholders along the supply chain. They involve government actors on policy development as well as at the implementation level such as the judiciary, police and customs. The private sector is included as are NGOs and local communities. A major problem is however that there are currently hardly any results in the field. "There is not a single FLEGT log in our premises right now and it's been operational 3-5 years. They set the objective to have it available by the end of 2012, but the administrations know it is not doable."(C9). Additionally, corporate respondents warned that there seemed to be unfair processes: "It seems to be so much easier to tell a country like Gabon or Cameroon what it should do than telling this to China, Canada or even to EU countries."(C10).

In 2013, the EU Timber Regulation (EUTR) will enter into force, which imposes a ban on illegal timber imports into the EU. Several respondents expressed worries about the direction the EU chose with this. The EUTR seems to have been limited to a legality check and to traders doing everything they can to guarantee legality (due diligence) (European Commission, 2011b). This is to the disappointment of environmental NGOs, because, seen from a perspective of environmental harm, legal logging might be equally harmful (Green, et al., 2007). A few of the corporate respondents agreed that the focus on legality is to a certain extent a missed opportunity: "Because it became a mere legality check, the timber sector is unlikely to pay for monitoring and certification of the entire supply chain. Many corporations will simply wait for controls to occur, since that happens once every 10 years."(C10). A government respondent (G13) warned about the risk of this regulation becoming a mere paper tiger, since "[a] lot depends on the political willingness and commitment of enforcement agencies as well as the timber industry". Moreover, this maintains the reliance on national legislation and certification in countries of origin. "Many countries will make sure to provide the necessary documentation to prove the legality of the timber and that is all the EUTR will control for, regardless of the environmental value."(C7). The implementation of the EUTR and its effects on the tropical timber trade are therefore very unclear. A corporate respondent (C29) said it would be good for the EUTR to go beyond a mere paperwork check: "Not a single shipment today does not have paperwork that is or looks legal, but how that will be checked is the question." Currently, the EU leaves it to the individual member states to define the implementation. None of the respondents knew which institution would be responsible for its enforcement: "Consultants are waiting to get involved, to start earning money. They will be best off, certainly better than the forest owners and workers in the countries of origin."(C10). Importers are worried about the implications of the EUTR, because this provides judicial grounds to file complaints against imports of timber: "It makes seizures possible and while proof is gathered the shipment can be

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<sup>276</sup> i.e. non-tariff trade barriers (Meidinger, 2002).

blocked. Given the speed of our judicial system, importers are likely to see their shipments blocked for years.”(C10).

Despite the private initiatives to govern forest activities (see below), a part of the illegal timber governance hence falls back on government actors and on command and control. This system is however not fit to deal with legal, illegal and sustainable timber, as each of the respondents agreed. CITES is regarded as the best system, seen as a very successful convention. It however requires transposing into national policy, which does not seem to have occurred in many countries. It also results in a lot of administrative pressure for corporations and for governments. As was evident from the discussion of the Belgian case, controls on CITES are very limited due to lack of prioritization and resources for preventing and controlling the illegal timber trade. Even in the Netherlands, which has more means for CITES and timber control than many other countries, the results are limited. Government respondents explained that the governance system is too immature to deal with illegal timber trade:

Timber is often considered an environmental issue and of course it is. However, if you want to deal with illegal timber trade as an environmental crime, this requires the assistance of policing authorities in multidisciplinary teams. As long as the illegal timber trade is only a priority for environmental policy and not for policing, judicial follow up is inexistent. (G1)

It's not police or customs that are dealing with wildlife crime, nature or environmental crime, it's governmental agencies, such as wildlife inspectorates and for some countries even those agencies do not focus on it. That's the status quo.(G13).

Governmental as well as NGO respondents in both Ghana and Cameroon moreover mentioned that international policies often do not take the local situation into account and fail to consider the practicalities of local implementation. “By and large environmental treaties involve all essential aspects. The implementation is however a different issue than designing the law. Many things are very nicely written but there is hardly enough incentive to ensure it is happening in practice.”(G26)

### **7.3.2.2. “Nobody in Belgium seems to be concerned about timber”**

The above quotation was the first reaction of an international timber expert (S4) when asked about the reality of governance in Belgium. The following explains that this respondent might indeed have been right about the lack of attention to it, despite the good intentions of some. As a country of destination, Belgium is faced with a clear lack of resources for implementing timber policies. The administrative responsibility is with the Federal Public Service for Health, Food Chain Safety and Environment, where the CITES authority<sup>277</sup> is located, but this has primarily focused on CITES-issues, with lesser priority given to other legislation. Indirectly, this administration comes across information about illegal transports of CITES species, but this has limited relevance for processed timber or non-CITES timber. Moreover, many countries, even in the EU, were thought to be giving

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<sup>277</sup> The CITES authority consists of three institutions: the scientific committee provides advice about imports into the EU; the enforcement committee deals with everything related to control and implementation; and the CITES Management Authority chairs this meeting. The other members are the environmental police, the regional administrations that deal with fauna and flora protection (e.g. birds of prey are more highly protected in the EU than internationally), federal agency for food safety (responsible for sanitary controls) and customs.



CITES certificates without checking the credits of those that ask for them: “The system relies on trusting other parties, but can we? They grant the export permit so we grant the import permit without hesitation?”(S4).

In a similar way to the administration, the border agency (customs) primarily focused on CITES breaches. This enforcement was however very limited. There have not been any reported cases in the last five years. Given the amount of timber that passes through the port of Antwerp, this is likely to be a reflection of a lack of control rather than it being the result of a lack of illegality in the timber trade. In comparison, in Rotterdam suspicious CITES timber was confiscated by customs and was being prosecuted at the time of the interviews. Some of this timber had docked in the port of Antwerp before shipment to Rotterdam. Non-CITES illegal timber was not a focus for customs because of the lack of legislation for it. In practice, controls on illegal timber trade in Antwerp were virtually inexistent. The investigative service of customs was interested in the topic, but despite their good intentions, it was felt to be still in its infancy. They were faced with a lack of resources and lacked the necessary expertise about timber species for efficient follow-up. Some countries had specialized customs teams that solely deal with CITES issues and even with illegal timber in general, but that was the exception rather than the rule (e.g. the Netherlands). Moreover, the focus on environmental issues seemed very dependent on the individual commitment of those involved. When customs came across timber in the port of Antwerp, this usually happened as being related to drug searches or checks for tariffs and not out of concern for CITES or illegal timber as such.<sup>278</sup> In 2011, there was a timber enforcement action by customs – *Woodpecker* – but this did not result in seizures. According to a government respondent this is “too ad hoc to be effective. It seems to be a matter of ‘let’s go to the harbour, get some samples and analyse those’. That’s just a drop on a hot plate.” (G13). That particular action did manage to gather information about the timber trade in Antwerp and raise awareness about a new topic. Some participants (G8 and G11) were disappointed and remained sceptical about the results – no illegal timber was found - which they feared was partially a result of a lack of knowledge.

There is an enormous volume of trade and a limited number of customs officers needed to deal with all types of commodities. At the time of the research, between 0 and 1% of shipments were controlled and even a marginal increase would require a significant increase in staff. Most customs controls were therefore paper controls and happened by using a risk analysis system. The risk analysis was based on the transport documents, which should explain who is shipping the timber and where it originates, but often this information was incorrect. A lot of economic operators, including timber importers and shipping corporations, have been granted an Automatic Economic Operator (AEO) certificate<sup>279</sup> which means only random controls happen. This aims to stimulate

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<sup>278</sup> Most seizures of CITES species happen at Brussels airport, which does not concern timber.

<sup>279</sup> Holders of the AEO certificates obtain certain advantages such as quicker and simplified customs procedures, less physical verification and less other controls. In the case of controls, AEO certified companies had priority and could ask for a physical check of the goods at a particular location. In order to receive AEO certification, companies needed to have a good customs track record, trade and transport administration that allowed for sound customs controls, financial solvency and sound safety provisions. A system audit was required (by means of a self assessment) before AEO was granted. AEO certification can be granted by all EU member states and a granted AEO certification applies throughout the entire EU. There was follow-up through self-assessments and there were still limited random controls. AEO – Wat. Douane & Accijnzen. <http://fiscus.fgov.be/interfdanl/nl/aeo/wat.htm> (last consulted on 8 February 2012).

self-regulation by rewarding proper behaviour with quicker processing. In practice, a large amount of traffic was part of AEO and went through the green lanes, which had only random checks. NGO respondents mentioned that this system was used for timber fraud. Moreover, as a commodity, timber is subject to import duties, but on the other hand there is a risk of illegal timber. Combining both objectives was seen as difficult: "Every time, I control, I can find something, but governments do not like that happening. There is simply no follow-up on these cases. Entire projects, focusing on timber, risk becoming useless."(G12). Sometimes these transports are even declared under higher import taxes which avoid them from being detected in standard risk assessments.

Governments would be very happy to conclude there is no illegal trade because there are no seizures. However, that is a mere 'What the eye does not see, does not exist'-approach. The willingness to do something about it is often missing and that is obvious based on the resources invested. (S4)

A lack of awareness and knowledge about timber is a challenge for enforcement. Controllers need to be knowledgeable because fraud is hard to detect and prove. Initiatives had been taken to make customs officers more aware of the CITES issues and the timber trade. Their training happened through this same enforcement action: "25% of trainees are truly interested, but rely on their own motivation to further develop their skills. Without further support this easily takes three years before a customs officer might dare to seize a shipment."(S4). A lack of knowledge was a problem for environmental inspectors as well. It was difficult for them to know what type of timber was being presented and to check whether the documents were genuine. "People knowledgeable enough to do this are very few. This requires taking samples and doing microscopic research in a lab. That hardly ever happens and mostly only occurs when there is NGO pressure."(S5). When samples are analysed, the issue of the costs of these surfaces as well.<sup>280</sup>

Corporate actors explained that they only experienced CITES controls on documents. Other controls were by private organisations in view of the FSC chain of custody certification. They said they would not mind increased controls as long as they would not hinder trade and would be flexible. Both corporate and government actors warned that enforcers tended to target the usual suspects, leaving some importers entirely uncontrolled.

### **7.3.2.3. Not a police nor a judicial priority**

In theory, both the police and the judiciary have a role to play when illegal timber is discovered. Given the limited amount of controls, it should come as no surprise that the judicial follow-up in Belgium was found to be limited. For the police, timber was not a priority, except for CITES species. However, even then, the police acted only reactively.<sup>281</sup> Practically this implied an investigation could only be initiated when information was brought in and the police limited their activities to information gathering to better understand the phenomenon and the limitations of the legislation:

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<sup>280</sup> This system of sampling is costly, but once continued technological innovation results in worldwide databases to compare these samples, the costs should decrease.

<sup>281</sup> Their priorities are listed in the National Security Plan, which is drafted every four years. The current plan (2012-2015) lists waste fraud as a priority, which means proactive investigations happen. Waste fraud is the only environmental topic mentioned.

“The priorities of the Belgian police largely reflect the security issues that concern the EU, limiting itself to terrorism and drugs, but the environment is generally not part of this. Timber is even less of a priority than CITES animals.”(G1). Police officers were aware that there might be networks of organized crime behind the trade, but said they had insufficient means to follow up on this. A newly established network for information exchange *Envicrimenet* will however focus on severe environmental crimes<sup>282</sup> (with the support of Europol) and wildlife crime is one of the topics for this network. This should result in better assessments of the risks and a better focus for law enforcement efforts. Similar to customs officers, the police felt they needed a lot of expertise to control for this type of crime.

There are not many people that are able and willing to determine the species and the origin with legal certainty. That of course explains why the police reports are never filed. And even if a report was filed, who has the expertise to follow this up? (G8).

When a timber load does not have the necessary CITES certificates, the case is clear. When it concerns non-CITES timber, the case is less straightforward, because there is no legislation. Within the current legal framework, investigators needed to fall back on the local legislation of the countries of origin and needed their cooperation: “You can circumvent this by addressing the issues of document or labelling fraud (e.g. with FSC labels), but the success rate is low.” (G13). Moreover, police officers found that these cases were not a priority for prosecutors. Prosecutors hardly ever managed to put a case before the court, even in the Netherlands where a functional magistrate is responsible for it. It was very difficult to prove cases in court: “Judges are generally not very knowledgeable about this topic and thus hesitant to sanction.” (G19). This applied to environmental topics in general and not only the illegal timber trade (Faure, 2012; Heine, 2006). Both police and judicial authorities explained that they realised the importance of addressing illegal timber trade, given the huge profits made. They however drew the line on the effort to put in because of practical issues. The low priority and limited resources invested in e-waste and tropical timber go against one of the requirements of effective environmental governance (Holley, et al., 2012).

### **7.3.3. Corporate self regulation**

Corporate actors have also taken initiatives to govern the illegal timber trade. Corporations may be concerned with their reputation and see self-regulation, particularly certification, as a way to distinguish themselves from the bad apples in their sector and a way to avoid these bad apples from free-riding on the image of the sector. Moreover, self-regulation can be a way for corporations to inform consumers about their responsible business which in addition can provide them with a competitive advantage over firms that do not uphold these high standards. Firms can also anticipate rules being strengthened or try to ward off more intrusive government standards by means of self-regulation (Gunningham, et al., 2003). Besides these market-based incentives to become involved in self-regulation, this can be guided by broader political and social developments,

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<sup>282</sup> This means they are organized, linked to a corporate environment, involve high profits, are international, involve repeat offenders which engage in other criminal behaviour and have an impact on the environment as well as citizens' health.

as was the case for FSC (see below) (Bartley, 2007). The following discusses self-regulation in countries of origin, in processing, by importers and by the transport sector.

#### **7.3.3.1. Self-regulation in countries of origin**

Timber exporting countries are increasingly concerned with self-regulation in order to guarantee the legality of their timber and have continued access to the European market. The Ghanaian forestry sector aims for continued self-regulation of their industry, and they are supported in this by their government. It is however difficult to monitor this for the forests in West and Central Africa and certification is difficult to achieve (see below). Responsible forest management is in place for several concessions, but many others are not involved in self-regulation. Not all corporate actors are however concerned with long-term outcomes (F. Miller, et al., 2006). Several Ghanaian and Cameroonian respondents for instance warned about the Chinese timber exploitation in their countries, which was completely outside any of the governance systems. Note moreover, that deforestation is driven only partially by logging and timber exports, but also by mining, agriculture and energy needs (Marx & Cuypers, 2010). Illegal timber therefore involves other corporate actors than those in forestry and these are not always accounted for in multi-stakeholder or self-regulation initiatives.

#### **7.3.3.2. Self-regulation in processing**

There are many global dimensions at play in the timber industry. It is hard to know where the timber originated because it can move several times during processing before it reaches retailers and consumers. The timber industry often works with processors in third countries. This implies that the timber might have passed through many hands before arriving, for example at the port in Antwerp, making legality more difficult to verify. Processing countries have not always taken measures to address the illegal sources of this timber (Lawson & MacFaul, 2010). China is particularly considered to be a hub for the trade in illegal timber, challenging the due diligence requirements in countries of destination such as the EU (Hewitt, 2005).

Although Asian processors may care less about due diligence, they often provided better effectiveness in their production, because they developed techniques to use timber waste. By setting high quality standards for their products – consumers do not want timber with an uneven timber grain – European timber importers have driven the processing away: “I’ve witnessed a Belgian corporation in West Africa who wanted to buy timber. They required high quality wood, with certain diameters and length. There was an Asian competitor who would simply buy all of their wood, disregarding quality standards.”(C6). Structural changes to the industry could therefore indirectly influence these (illegal) timber flows, as a corporate actor explained (C10): “European timber corporations need to re-invent their industry and find new techniques to make it more effective”.

#### **7.3.3.3. Due diligence in countries of destination (Belgium)**

In search of better guarantees for imports of legal timber, many countries require traders to ensure that their imports comply with the legality verification criteria (CIE, 2010). The importers I

interviewed explained that illegal timber is destructive for the long-term survival of their business. The sustainability of their business was their core motivation to undertake due diligence in relation to their supplies. A clear economic incentive to promote self-regulation and timber tracking lies also in the deflation of global timber prices as a consequence of the illegal timber trade (Auld, et al., 2010). The timber business to a large extent relies on being able to trust overseas suppliers. This requires companies to have trustworthy contacts across the globe. “There are things happening in Africa that are dubious, but it is impossible to control everything. We know our suppliers very well, know which are suspicious and know when to ask for more proof.”(C9). This often requires importers to check the timber and the documents on site. This approach however differs for each region. The timber importers explained that the trade in round wood and processed timber with West-Africa is usually checked on location to keep in good contact and provide advice on processing. “In South-America, local agents are necessary intermediaries, because it is impossible and dangerous to do business with producers directly.”(C9).

As testimony to (some) corporations’ awareness, they were often involved in the labelling and certification initiatives and cooperated with forest owners in countries of origin to make them understand the importance of answering to the EU’s requirements (in order to have access to the market). The importers that were interviewed said they wanted a clean timber trade, but acknowledged the sector had a problem. “We know which forest concessions are doubtful and ask for certificates. Other importers are less ‘due diligent’ and import the timber despite the doubts about the legality. These have been doing this for years and we as competitors know.”(C9). Other importers declined the invitation to participate in this study because their business has nothing to do with illegality. Some importers are thus aware of the problems in their sector, whereas others do not have the necessary management system in place to check the legality of their supplies.

Self-regulation and monitoring are an investment to which it is mostly big players or corporations that focus on niche markets and which are generally good at anticipating trends which are able to commit (Gunningham, et al., 2003). Smaller actors can be connected to these multinationals through supply chain management and due diligence. This is happening with the timber trade by means of the FSC chain of custody certification and the (future) EUTR requirements. Importers then need to demonstrate the legal origin of the timber. The proof they have is a document from the country of origin’s government confirming the timber’s legal origin. The EUTR however hints that these documents cannot be trusted. Importers worry about the implementation of this due diligence: “The burden of proof is turned around. We need to prove there is no crime associated with it. But all we have to fall back on is the country of origin.”(C7). The newly drafted legislation wants to increase transparency about timber flow.

#### **7.3.3.4. Self-regulation in transport**

As well as the timber sector, there are other corporations that could play a role in the governance of these flows. The sector of international maritime transport and trade through ports is known for its somewhat non-transparent way of communication (Levinson, 2006). It is indeed true that contacting shipping lines for this research was challenging. One major shipping line was however willing to talk and explained that the shipping line’s involvement (or some shipping lines’

involvement) was guided by both society's tendency to increasingly challenge shipping lines on legal and ethical issues and the fact that the 21<sup>st</sup> century is a hyper-transparent community. Shipping lines have noticed that their responsibility is increasingly becoming part of the legislative framework. They are worried about taking up a responsibility that is not theirs. They prefer to follow the legislative framework in terms of what they are allowed to ship. This is however also guided by the criticism from their stakeholders and by the corporate responsibility standards they adhere to. Both commercial and ethical considerations guide them to refuse certain shipments that are not strictly part of the legal framework. This involvement is in practice limited because they do not know what is inside containers and have no authority to open them. They rely on the trustworthiness of shippers and shipping agents.

#### **7.3.4. NGO pressure and consumer awareness**

NGOs have an important role in raising awareness about the harmfulness of the illegal timber trade and in influencing governments, and corporations as well as consumers. Their position in raising awareness and advocacy was explained as followed by a Ghanaian government respondent (G26):

They are watch dogs of the sector, but they should try and find a balance because sustainability is important but also requires the continued guarantee of livelihoods and needs to avoid cutting down the entire forest for farming because the forest harvesting is no longer allowed.

They were supported in this by corporate actors who feared NGOs were not always correct in their assessments of what is ecologically best. They provided an example of NGOs advocating for tropical timber trade bans, "without realizing this would take away all remaining value of the forest, but meanwhile influencing policy makers and public opinion for years to come."(C9). According to both civil society and corporate actors, NGOs increasingly take the entire spectrum of arguments into account and realize that the economic value of the forests is a very important constituent of their sustainability and that one-sided communication needs to be avoided. A remaining challenge for NGOs is in their rivalry. "We are sometimes on opposite sides on certain topics, but fish in the same pond." (S4).

In Belgium, NGOs play a role in investigations, by pressuring governments to act: "When we see enforcement agencies do not respond, we indeed go sit on the timber, chain ourselves to it, hang a banner to make a statement."(S7). NGOs did add that their objective is the sustainable forest management, which is why their campaigns sometimes target legal logging as well. "A remote illegal logger in East-Cameroon has to cut selectively because he simply cannot get large transports to the port that is 1000km away. That's less destructive than a legal concession that is being clear cut."(S6).

Finally, consumers can influence the illegal trade in timber, by making conscious choices for sustainable or certified timber. These third parties have an important role in pressuring processors (e.g. in China) to use legal timber. Given that much of China's imports originate in developing countries with poor forest governance (medium to high risk) the risk of reputational damage in the eyes of consumers in the EU might cause a change in market dynamics (Cerutti, Assembe-Mvondo,

German, & Putzel, 2011). Currently, this is visible in public procurement policies, but individual consumers seem to have a lesser effect. "You cannot expect the individual consumer to take the responsibility because the price is what counts for Mr. Average. The biggest challenge is in providing information and thereby influencing the demand for timber."(C10). Several respondents explained that this is a task best suited for joint action between governments, corporations and NGOs.

#### **7.4. Networked governance analysis of tropical timber flows**

In the globalized timber trade, relying on command and control regulation or on self-regulation alone faces many challenges, as was discussed above. To overcome these challenges, multi-stakeholder certification initiatives have been set up. Environmental issues have in fact been at the forefront of these networked governance arrangements (Holley & Gunningham, 2011). A wider stakeholder participation is deemed to be able to achieve the necessary transformation of forest governance and the timber trade (UNEP, 2011a). The following first discusses these multi-stakeholder initiatives and the particularly relevant case of the Forest Stewardship Council (FSC). It then discussed other characteristics of the interaction between actors in the governance of (illegal) tropical timber flow, as shown by the research.

##### **7.4.1. Multi-stakeholder initiatives**

In non-state market driven (NSMD) governance systems rulemaking comes from corporate and third party actors (Marx & Cuypers, 2010). Standards are usually set by one actor (or by coordination between different actors), whilst another actor seeks to receive certification and a third party assesses whether they have complied with it. The most important example is the multi-stakeholder initiative the Forest Stewardship Council (FSC), to date the only genuine multi-stakeholder third party certification initiative. It has taken up the challenge of integrating social, economic and environmental concerns. It is considered effective because it is performance based (instead of system based) and operates on a global scale, while it still allows its criteria to be locally defined (Cashore, et al., 2005; Meidinger, 2002). Despite the absence of a legal basis for the FSC, many market actors see this as legitimate (Black, 2008). The FSC might not be reaching the initial ambitious goals, but it has nevertheless stimulated improvements in other systems and spurred governments to improve regulation on a long neglected topic (Meidinger, 2002). Labels such as that of the FSC engage both producers and consumers in the biodiversity debate and thus manage to bridge the distance between corporate, government and civil society actors in the global trade flow (van Koppen, 2006).

Inspired by the example of the FSC, several of the stakeholders interviewed believed the best solution to tackle the illegal trade in timber to be in legal timber monitoring and certification by third parties. Corporations preferred an independent referee to be appointed to monitor and control the timber trade. Their concern was with the protection of their commercial secrets which they deemed better protected with a private actor. Their preference was then regulated self-regulation by independent auditors.

We don't mind if those controls and that accreditation ask a lot of administrative information and do very thorough checks. That is our experience until now, that these checks prior to accreditation are very thorough and correct and therefore we have a better trust in their capacity to control. If that agency is accredited by all parties, no one will doubt the credibility of their decision.(C9).

An advantage of the FSC is thus its monitoring by independent organisations. This even allows suspicious concessions of the most powerful families and their associates (including law enforcement authorities) in the countries/regions of origin to be audited.<sup>283</sup> Because certifiers are paid by the corporations, considerable importance is placed on empowering third parties to monitor this system (Ayres & Braithwaite, 1992).

Similar to the certification that exists for sustainable timber, legal timber certification would then have to be located outside government institutions, but acknowledged by corporate, government and NGO actors alike. However, the FSC-system is faced with challenges within its actual governance, despite the good intentions. A first important challenge has been that the certification of forests is lagging behind, particularly in developing and tropical countries that are rich in natural resources. Most FSC forests are located in northern developed countries. The main reason is probably the high cost of certification and the limited incentive to invest in sustainable forest management due to the absence of good contacts with important export markets (Marx & Cuypers, 2010). As a result, certified sustainable timber quantities are so low that their unit cost is very high. This makes it very uncompetitive and unattractive to forest owners. The FSC-forests in Africa that do exist are mainly owned by European based international companies exporting to the EU or have long cooperated with international initiatives like the Tropical Timber Action Plan which stimulates the forest certification of concessions: "In my experience, certification mostly happens in forests that were already working OK before and therefore unlikely to be dealing in illegal timber." (C29). The FSC's usefulness as a general forest governance tool was therefore seen as limited, but it can have an impact on the illegal trade in timber. Even this FSC certification however falls back on national legislation, because conforming to national standards is one of the criteria. A third challenge is that the system can easily develop into a monopoly system and needs continued monitoring of its own functioning, which has been seen sometimes to lack (Meidinger, 2002).<sup>284</sup>

The ideas behind FSC are good. It however developed into a direction that is not always environmentally effective. 90% of the costs go into chain of custody certification. This risks the system becoming a means rather than a means to an end and might change the nature of the organisation. (C7)

Furthermore, corporate actors perceived some of the sustainability labelling to be skewed because directly imported timber can have the FSC label, but products from recycled materials cannot. "Is recycling not sustainable? FSC leads government consumers to buy FSC timber – within the public procurement policies - that might in fact not be the best choice for what they need it for." (C7). They

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<sup>283</sup> <http://www.globaltimber.org.uk/illegalTimber.htm> [Last consulted May 14<sup>th</sup> 2012].

<sup>284</sup> This is similar to developments in the Kimberley Process Certification Scheme (KPCS) which aims to prevent conflict diamonds entering the diamond market, but was criticized for failing to address problem cases (Grant & Taylor, 2004). This led one of the partner NGOs (Global Witness) to leave the tripartite structure that monitors KPCS.



therefore promoted a legal wood certificate, because that would be applicable on a bigger scale: “This could reach 60% of the market, whereas FSC reaches 20% and would allow for easier targeting of the illegal timber by law enforcement.”(C9).

Key to the success of any of these measures is the guarantee of a level playing field and thus of avoiding opportunities to circumvent the certification scheme. This is where the need for a punitive escalation - when necessary - is put back on the table: “All timber that is not certified should be considered illegal and sanctioned appropriately.”(C9).

#### **7.4.2. The interaction between NGOs, governments and corporations**

Cooperation between government actors is crucial because each has particular expertise. The police are for instance best equipped to investigate a case with a view towards prosecution. The environmental administrations have the technical expertise. In theory, the prosecutor is responsible for gathering all the judicial information together and leading the prosecution. In practice, they are all challenged by the lack of legislation and the difficulties of determining the type of wood and its legal or illegal nature. It might help to have closer cooperation between countries of origin and destination because the former could help determine the legal origin of the timber and the validity of the documentation presented.

There is not only interaction between government agencies, but also with various other stakeholders. The above already explained how NGOs influence Belgian enforcers’ investigations of CITES shipments and sometimes provide them with evidence. NGO respondents, however, said that in their experience government respondents in countries of origin were often bribed by importers to deliver the necessary documentation in order for the timber to be allowed to enter: “That puts us with our back against the wall. Corrupt activities simply run as a thread through the timber story, from the smallest village office to the granting of concessions.”(S7). In drawing attention to a shipment, NGOs and importers are of course often on opposing sides. NGOs might wish to deem the shipment illegal and ask the authorities for seizure of the timber. But in the opinion of corporate actors NGOs were just asking for attention. They also criticized the approach of NGOs who according to them tackle the usual suspects, the major actors in the business, whereas other importers, who are known to be suspicious, were not their target. Some corporate respondents suggested NGOs could cooperate with corporations in whistle blowing systems. In such an interaction, corporations are sensitive to economic concerns and could therefore be guided by NGO criticism or consumer behaviour (Seneca Creek, 2004). Several respondents however explained that consumers often do not care about more than the price. Therefore, they believed that NGOs have a bigger role to play in influencing consumer behaviour, such as by advocating that “the ecological footprint of timber joinery is lower than that of aluminium and PVC.” (C10).

Governments and corporations interact as well. Government actors in Ghana considered the timber industry as important partners to create structural change in the industry. Moreover, contacts with local forest communities and transparency about policies were deemed indispensable to the success of any forest governance framework. On the one hand, government actors in Belgium saw the timber sector as important partners to stimulate development towards legal and sustainable timber supplies. On the other hand, importers perceived government controls to be oriented

towards the usual suspects. Several would prefer more systematic inspection of all timber containers in the harbour rather than the targeting of particular importers. To this end, corporate respondents perceived that they were consulted by policy makers more often than in the past, which might result in more practical policies. Civil society respondents also supported them in this because corporations have a good view about the contextual challenges and could provide advice on how to work within those: "If advice can never be achieved, you know nothing can ever change."(S4). Importers expressed their concern about the need for other actors than corporations to be involved in the governance process: "Importers alone do not have enough influence on the governments of countries of origin. We should always be very cautious moreover, because producers will easily sell to someone else if you ask too many questions."(C9).

In interaction, actors can leverage each other into participation in governance. Weaker actors might even be able to enrol stronger ones when they have similar goals, even across transnational borders (Braithwaite, 2008). This however requires the nurturing of governance through sufficient funding and expertise. Most importantly, it requires transparency about and knowledge of the strengths and responsibilities of each stakeholder (Holley, et al., 2012). This interaction between different stakeholders can be difficult as is evident from the FLEGT initiative. NGOs explained they were disappointed with the FLEGT system, because it did not uphold environmental goals such as land use policies: "The result is legalization, better rules, transparency and monitoring, but fundamentally it is not changing the fact that too many concessions have been granted."(S6). In addition, they explained that the state revenue has not increased enough and too many conflicts remain. Corporate actors explained that it has not resulted in the hoped for economic benefits. Being a result of negotiations amongst different stakeholders, it would appear logical that some partners were disappointed (Marx & Cuypers, 2010): "Maybe I was unrealistic in expecting this from FLEGT, maybe most stakeholders were not interested in solving the fundamental questions."(S6). FSC seems to be better in coordinating the goals and practices of the various stakeholders, despite the remaining challenges.

#### **7.4.3. Lack of data gathering and harmonization of standards**

Communication and data exchange between different stakeholders in governance arrangements had already been found to result in more realistic assessments of what a governance framework could achieve, because it allows the different partners to gain better insights into each other's point of view (Holley, et al., 2012). By being transparent and exchanging information, peer-review within the governance framework is encouraged. What is happening in the governance of the illegal timber trade shows there is room for improvement on this issue. First of all, in order to assess the scale of illegal logging and trade, better data gathering and analysis are necessary. The existing data do not allow for accurate assessments about the (illegal) timber trade in Belgium, about the routes followed and about the actors involved (Bisschop, 2012b). This information can guide the governance approach and is a prerequisite for effective risk analysis. To this end, customs statistics might be a good start, but will require better standardization. The current import statistics only

mention the port of export, which does not necessarily equal the actual country of origin.<sup>285</sup> Suppliers, transporters and government administrations work in separate systems, often identifying and reporting the transported forest products differently. Each of those actors claim they report the true export volumes, resulting in discrepancies and facilitation of smuggling.<sup>286</sup> Installing a harmonised system of reporting on timber trade would be a major improvement. Transparent information about timber imports could be encouraged from both traders and retailers (UNEP, 2011b). This could then be used proactively to determine where the potentially illegal timber trade is happening:

We have no idea of the current major flows of timber and neither do we know where the problems are. Officially all wood that enters the port of Antwerp can only be legal. Illegal wood is supposed to be blocked by customs and import is prohibited. (C2)

Databases of timber species are crucial to determine the origin of timber samples. These can be traced back to their origin to an accuracy of 200-300 metres. Pilot projects run in Cameroon, Central-America and South-East Asia and have genetically mapped timber based on microsatellite markers. Samples of imported timber can then be compared to that. The first condition to improve governance is to have these databases available. This requires a lot of time and effort, implying that the technique is not (yet) suitable to be applied on a large scale. Moreover, this technique is best used for pure wood, not processed goods, whereas the latter forms the majority of the trade. Samples still require a couple of days for determination and require significant expertise that is not always at hand. What is positive about this system is that it can unite different stakeholders in one project, despite their different objectives (Reingoud, 2010). Several respondents thought that NGOs could play an important role in helping to map the forest resources. They could be joined by corporate efforts to map their timber supplies. As this technology improves and the database contains more samples, the usefulness of it will increase and this might diminish the costs. However, this will only allow tracking the origin of timber, not the way the timber was harvested. Nevertheless, this more modest goal “may help nurture and develop supply chain tracking systems, which would permit more stringent standards or more ambitious environmental or social objectives at a later time.” (Auld, et al., 2010, p. 24).

#### **7.4.4. The lack of value of forests**

In order for the governance of the timber trade to stand a chance, it is necessary to take into account the value of forests apart from their use for timber. The timber industry competes with other sectors working in forests – agriculture, mining and energy - that may not be equally interested in sustainability (UNEP, 2011b). This could be countered by initiatives that value other qualities of forests such as carbon capture and storage in timber and wood products (UNEP,

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<sup>285</sup> Similar observations were made by the European Forest Institute in the Forests Products Trade Database. [http://www.efi.int/portal/virtual\\_library/databases/forest\\_products\\_trade\\_flow\\_database/](http://www.efi.int/portal/virtual_library/databases/forest_products_trade_flow_database/) [Last consulted May 14<sup>th</sup> 2012].

<sup>286</sup> There are, for instance, major differences between the timber trade data published by Eurostat and the timber trade statistics of a number of the EU's major trading partners (European Forest Institute - [http://www.efi.int/portal/virtual\\_library/databases/forest\\_products\\_trade\\_flow\\_database/](http://www.efi.int/portal/virtual_library/databases/forest_products_trade_flow_database/) [Last consulted May 14<sup>th</sup> 2012].

2011a). Initiatives that value externalities stand a good chance of increasing the value of forests to the same level as sustainable forest use (Marx & Cuypers, 2010). Governance initiatives therefore need to be very balanced and need to take into account these different arguments. This means that less measurable advantages should be taken into account and reward forest managers for that. In order to be successful this must provide enough benefits compared to unsustainable and illegal forestry. This requires the involvement of sectors outside forestry that might compete for the land use. Local stakeholders therefore need to be involved because they are currently often losing out against powerful outsiders but have the potential to be capable guardians of their forests (UNEP, 2011b). In order to promote this, information is needed on what incentives – reputational, economic and regulatory - might influence markets towards environmentally sound and eventually competitive outcomes.

## **Discussion**

This article has analysed what is occurring in governance for the illegal trade in tropical timber in a European trade hub. While case studies cannot provide definitive answers, the analysis does allow the making of a number of observations. It has illustrated how the control and prevention of the illegal timber trade is primarily taken up by corporate and third party initiatives. Government initiatives to combat illegal timber trade are often perceived to be mere political rhetoric, are limited to endangered species and lack actual implementation. A core characteristic of the responsive regulatory pyramid is for the approach to escalate to more punitive sanctions when necessary (Braithwaite, 2008). Even when self-regulation or multi-stakeholder initiatives exist and governance is more networked or polycentric in nature, there is still a need for punitive interventions when standards are not adhered to (Jänicke, 2006). This escalation is hardly ever part of the governance for the illegal trade in tropical timber.

Achieving good governance means multiple challenges for government and corporate actors, as well as civil society actors. In general, the government approach to illegal timber trade in Belgium seems inadequate. There is insufficient legislation that addresses the issue of illegal timber. Moreover, awareness about the importance of the issue is limited. Controls in the ports, the main entry locations, are few. Law enforcement authorities referred to others as being primarily responsible and each stressed the difficulty of determining the type of wood and its legal or illegal nature. The police as well as the judiciary are not treating illegal timber as a priority and such instances have never resulted in convictions - unsurprising given the lack of controls and criminalization. Even environmentally aware administrations do not focus on illegal timber in particular and mainly have CITES as a priority. Internationally, there is also a clear lack of commitment to address the problems: “Many of the authorities are simply powerless, have no means to check the data NGOs provide them, have a limited budget and cannot follow-up on it because timber is not high on the priority list.” (G12). Insufficient funding has hampered the effectiveness of governance networks (Holley, et al., 2012).

The focus on the governance framework and especially on the illegal trade in tropical timber may have rendered this article rather state-centric. The multi-stakeholder initiative that exists for timber however illustrates how private actors – independent of state actors - can shape a governance framework (Bartley, 2007). The governance of the timber trade is not the single

prerogative of the nation state and state laws are only likely to be effective when linked to other (social) control processes (Scott, 2004). Governance is therefore not limited to government actors, to the contrary, the tropical timber trade has seen the emergence of multi-stakeholder initiatives to govern the sector. The strength of this polycentric governance is that it goes beyond command and control and mere market-based incentives. It involves a network of stakeholders as governance actors. Both corporate and civil society actors play a role. A lot currently depends on the self-regulation of the timber sector and the multi-stakeholder initiatives for sustainability certification, but that only accounts for a small share of the timber flows.

Moreover, the incentives for sustainable timber are less remunerative than those in the illegal timber trade. For tropical countries of origin, the costs are very high for legal and sustainable timber. In countries of processing and destination, the profits to be made from illegal timber are high and penalties practically non-existent. This will therefore require the careful drafting of positive and negative incentives tailored to the relevant contexts. Producing and consuming countries require a different approach. It is crucial to critically assess both demand and supply, because there are various moments along the supply chain when legal and illegal interfaces occur (Bisschop, 2012b). Each of these interfaces is inextricably linked to a particular social, economic and political context, inevitably shaped by both local and global influences. These need to be taken into account when drafting policies since they should be attuned to the motivations and characteristics of the sector (Ayres & Braithwaite, 1992). This is the intention of the VPA/FLEGT initiatives, but has not yet achieved the desired effect.

This analysis of the governance system in the port of Antwerp inevitably has opened up the scope for a larger scale approach, because it cannot be analysed without relating it to the global trade flows and to the dynamics of producers, processing and consumer countries. Governance actions by one country are necessarily limited in their effectiveness. Even if the EU for example closes its market to illegal timber, as the EUTR envisages, it can only have an effect if other major consuming regions do so as well (CIE, 2010). A level playing field needs to be guaranteed to do away with possibilities of circumventing the system. National and even bilateral initiatives are drops on a hot plate in reducing illegal – let alone unsustainable – forest practices (Seneca Creek, 2004). Governance structures to tackle environmental issues therefore need to look at multiple levels to understand governance mechanisms: firm-level, sector-level and macro-level as well as the local, national and global levels (Marx & Cuypers, 2010).

In face of this complexity, it might be useful to consider governance actors that might not be primary stakeholders (the so-called ‘missing nodes’, Wood, 2006). In countries of origin, there is for instance potential to encourage small scale timber producers to become engaged in forest governance. Next, corporate actors that work in sectors that impact forest management (e.g. mining) could be involved. Besides corporate actors in the timber industry, transport actors might be valuable partners to monitor timber trade flows. Although many NGOs are currently already on the cutting edge of the governance of the timber trade, they have difficulties being participants in the networks as well as continuing environmental advocacy (Holley, et al., 2012).

Finally, throughout the entire system, there is room for improvement in the involvement of government actors. Despite the (apparent) lack of interest, government actors seem to be best

equipped – at least in countries of destination – to undertake enforcement and thus to provide deterrent incentives: “Despite this multi-stakeholder governance policy, the government involvement stays crucial. A market initiative such as certification can only truly work when there is pressure by government.”(G6). Most importantly, the implementation of governance initiatives is crucial for its success and it is particularly on that issue that the governance of illegal tropical timber trade seems to be lagging. On the one hand, awareness about the environmental severity of the phenomenon is lacking, as is illustrated by the lack of an international convention. Maybe the (environmental) impact is too far removed from the consumers of the products to raise concern (Lynch & Stretesky, 2003; White, 2011). On the other hand, drafting a governance framework to address a topic involving (il)legality, (un)sustainability and (in)formality that reaches across the globe is necessarily complex. Such a framework does not necessarily need to be state dominated, especially in light of the inherent challenges to current government action (or lack of action). No matter which governance actor or network of actors is involved, the governance framework will need to bridge the inherent imbalance between producing and consuming countries, because it is exactly this global character that determines this environmental crime flow.

## CHAPTER V: COMPARATIVE CASE ANALYSIS

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### Introduction

This PhD study examines the governance consequences of preventing and controlling transnational environmental crime. The case studies discussed in the previous articles provided insights into the empirical reality of illegal transports of e-waste and tropical timber. This final chapter is a comparative analysis of the cases which will bring the results into perspective by relating it to previous findings and theories on environmental governance and transnational environmental crime. At the same time, this allows for a comparison between the two cases, pinpointing similarities and differences about their governance and aetiological characteristics.

### 1. Social organisation of transnational environmental crime

In order to examine the governance reality of the cases, in-depth understanding about the emergence and characteristics of the phenomena is needed. This chapter will, therefore, first examine the social organisation of the cases comparatively and relate those to previous findings, before moving on to the comparative analysis of the central research question about the governance of transnational environmental crime. This comparative analysis discusses the legal-illegal interfaces, the push, pull and facilitating factors and the criminalisation of the cases.

#### 1.1. Legal-illegal interfaces

The social organisation of illegal transports of e-waste and tropical timber involves legal, illegal and informal actors and for both cases it is difficult to distinguish which role they play. By looking at the supply chain from countries of origin over transit to destination, the multiple interconnections between the actors became evident. Despite the manifold interfaces - both competitive (antithetical) and cooperative (symbiotic) - that exist for both cases, similar actors and interfaces are present. There is a wide variety of actors involved, similar to other cases of transnational crime (Passas, 2002; Tjihuis, 2006). Croall (2009a) for instance wrote how a variety of offenders are involved in food crime when you follow the food chain: small businesses, multinational corporations, opportunistic entrepreneurs and organized criminals. Similarly, Setiono (2007) found a variety of actors involved in illegal logging. Although environmental crime has been labelled as a crime of the powerful (Lynch & Stretesky, 2003; Pearce & Tombs, 1998), the findings of this PhD study show that the social organisation is more diverse and more complex than the mere involvement of organized crime. It is a crime of the powerful in the sense that corporate actors from the timber and waste sector are involved in the illegal flows. There is, therefore, undoubtedly a link with white collar crime and corporate crime. For e-waste, the respondents in this study referred to organized crime involvement. For the studied timber flow (Africa), the respondents did not mention organized crime, contradictory to findings in South American studies (Boekhout van Solinge, 2008). Furthermore, the analysis showed the involvement of many informal actors in illegal logging or WEEE 'recycling', often as their sole source of secure livelihood. Because the trade

flow is approachable, individual shippers can get involved in collection and transport of UEEE/WEEE towards for instance Ghana. The trade flow for timber is less easy to organize and, as a consequence, the informal actors are mostly in the logging rather than in later stages of the supply chain. Therefore, the social organisation of these illegal flows is not only shaped by the involvement of corporate actors, but also by informal actors. Moreover, throughout the flows of these environmental goods, there are several actors that unknowingly feed into illegal transports or facilitate them, but are not easy to label as criminal actors. Through unaware disposal of e-waste consumers can for instance be a leakage into illegal transports. Much in the same way, unaware consumers of tropical timber can be part of the illegal trade. Particular for illegal timber is that there are also other sectors (e.g. gold mining) that play a more indirect role in illegal logging and trade. In both cases, the transports actors such as shipping lines and agents have an interesting role. In neither case, they have a strict legal responsibility for shipping the illegal goods. As a consequence, many shipping actors are not concerned about these issues, thereby facilitating the illegal trade. Few shipping actors feel they have a moral responsibility to take up, which is more prominent for e-waste (and waste in general) than it is for tropical timber. The analysis showed the social organisation of both cases to be complex, shaped by diverse legal-illegal interfaces. Despite differences in the involvement of informal actors and the role played by transport actors, many dynamics in these transnational environmental crime flows apply to both cases.

## **1.2. Push, pull and facilitating factors**

Characteristics of individuals as well as corporations shape the flows. This is partially motivated by profit seeking. In discussing the criminogenic characteristics of the waste sector, it is often said that the inverse incentive structure is an important factor (Huisman, 2001; Van Daele, et al., 2007). This applies to e-waste, but the empirical reality proved even more diverse, because it has components with treatments costs (e.g. CFC fridges or CRT television sets) and components with treatment profits (e.g. motherboards, copper wires). For the former, illegal exports save the costs of treatment. For the latter, illegal exports and dismantling save the high labour and recycling costs. For timber, profit seeking is more straightforward. Illegal logging and trade exempts it from the costs of concession purchase and management, fair wages, etc. This is particularly lucrative given that tropical timber is a high value product. Moreover, both e-waste and tropical timber have a low product integrity (Van Daele, et al., 2007). Illegal transports of e-waste can easily be labelled as second hand goods or mixed up with UEEE. The illegal nature of tropical timber is often concealed in processed goods or can be mixed with legitimate distribution to avoid it from being detected. Containerization facilitates this fraud (Griffiths & Jenks, 2012; Levinson, 2006; UNODC, 2011).

Examining transnational environmental crime is inevitably influenced by the global market (Croall, 2005). The transnational direction of illegal transports of e-waste and tropical timber is different, as intended with the choice of the cases, but the global characteristics of it are nevertheless quite similar. Countries of origin, transit and destination each shape the flows. Timber flows are characterised by an increasingly globalised supply chain with timber logged in Africa, processed in Asia and sold in the EU. Because more actors play a role in the flow from forest until consumer, the (il)legality of the timber becomes obscured. Some transit countries or harbours have a reputation for illegal timber transports and are known not to exercise the necessary due diligence of their raw



wood supply chain. Similarly, UEEE and WEEE are part of a global market with complex trade flows from producers, over consumers and collectors to dismantlers and recyclers, who then feed their secondary raw materials back to producers. These global trade flows create the opportunity of 'using the space between the laws', which Passas (1999) referred to as legal asymmetries. Asymmetries in environmental regulation contribute to both cases, but are more prominent for tropical timber than for e-waste. In addressing illegal timber trade everything falls back on the legislation of countries of origin, since the few existing international agreements depend on them. For e-waste, the international conventions and regulations are relatively solid, although shippers do go in search of the loopholes in the laws (e.g. shipping as second hand products). More importantly, transnational environmental crime is shaped by the asymmetries in knowledge and awareness about the harm inflicted by illegal trade. Individual push and pull factors to get involved in the illegal trade flows of e-waste and tropical timber also relate to the need for a secure source of livelihood, another asymmetry between countries of origin and destination. This is similar to findings of Andreas (2002) and Herbig (2010). These asymmetries apply to both cases, resulting in the dumping of WEEE and the plundering of timber resources. Examining the aetiology of transnational environmental crime thus requires looking at push, pull and facilitating factors in the broader socio-economic context of trade.

### **1.3. Criminalisation**

Illegal trade in endangered species and waste can be related to legality and illegality definitions in legislation. The harm of both the illegal trade in tropical timber and e-waste, however, transcends this legal-illegal divide (White, 2011). The difficulty of defining the cases as crimes runs as a thread through both the flows. Their criminalisation is contentious because definitions are inherently flexible. What is waste today can be a resource tomorrow and what is new EEE today can be WEEE tomorrow. Timber is a less dynamic product, but the degeneration of tropical forests in general or of protected species in particular, can require installing a trade ban or quota, thereby changing the (il)legality of the trade. The (il)legality of tropical timber trade seems more difficult to define than that of e-waste because it requires the tracking of the timber to its origin.

Both cases have harmful impacts beyond the mere environmental context and also cause social and economic harm. To complicate this even further, legal trade in both products can be equally harmful to the environment as the illegal trade. A look at the broader impact (harm) is then necessary to understand the complexity of its constituents and consequences. The awareness and willingness to recognize the cases as harmful plays a role as well. For both, the harm is not immediately visible within the research setting in Belgium. This might explain the lack of priority in policy making, but disregards the fact that the flows of water and air have global reach (cf. butterfly effect). What makes it additionally complex is that, by looking at the broader context of these illegal flows, these shipments also bring benefits to some, who rely on them as a sole secure source of livelihood. Both phenomena illustrate that transnational environmental crime is not easily determined by criminality in the narrow sense. This implies the need to continue thinking critically about the harms that occur and to be dynamic in the definitions of crime. Similarly, this requires criminologists to be critical about the boundaries of criminology (Loader & Sparks, 2002).

## **2. Governance of transnational environmental crime**

The above comparative analysis demonstrates that the social organisation of these transnational environmental crime phenomena is very complex. A diversity of actors and push, pull and facilitating factors shape these global flows. Within the flows, the line between legal, illegal and criminal is narrow (see also Croall, 2001) and the potential legal-illegal interfaces are multiple. The following examines the governance reality of these transnational environmental crime cases comparatively. Through its analysis of the governance reality of illegal transports of e-waste and tropical timber, this PhD study already made several observations. The following analyses these comparatively and relates them to the responsive regulatory pyramid and networked governance. The findings reveal that although the governance practice answers to some of the criteria of these two ideal-typical models<sup>287</sup>, the governance reality of illegal transports of e-waste and tropical timber lacks complying with essential prerequisites of them. The following is not an exhaustive list of the governance characteristics. The comparative analysis focuses on a number of core themes.

### **2.1. Legal definitions and technical competence**

The legal principles at the basis of the environmental governance framework need to be understandable for untrained people (Braithwaite, 2008). This PhD study made clear that the EU legislation for waste (e.g. WSR) is very complex. Even prosecutors explained how it is challenging for them to use. This is also illustrated by the fact that customs and HMO in Antwerp always depend on the environmental inspectorates to judge the suspicious shipments in lack of training on these topics. Unfortunately, this confirms the finding that waste is a topic with a lot of rules and regulations, which are not always practical (see for instance Huisman, 2001, p. 363). The legal framework for timber is much less extensive, since there is only limited criminalisation of tropical timber transports (e.g. CITES). In lack of an international convention, the existing legal and governance framework is difficult to use and falls back on the national legislation of the countries of origin. This does not fit the global characterises of the flows, which are determined by actors that are located in countries of origin, transit and destination.

Both topics also require governance actors to have technical expertise. In the studied cases, many actors that are on crossroads of these trade flows (in harbours) do not have enough time or expertise to deal with the issue. Furthermore, there is a lack of reliable statistics on these phenomena. Despite initiatives to track (illegal) waste flows, many data challenges exist. For timber, official data are even scarcer, a logic consequence of the lack of criminalisation, and, therefore, estimates rely on non-governmental sources (research reports, NGO estimates, etc.). The low priority and limited resources invested in preventing and controlling the illegal trade in e-waste and tropical timber go against one of the requirements of effective environmental governance as identified by Holley, Gunningham and Shearing (2012). On a global level, the

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<sup>287</sup> In view of examining the essential requirements of the responsive regulatory pyramid against the governance reality of the studied cases, this study draws on the explanation by Braithwaite (2008). Many of the chapters in this book also relate back to older publications of John Braithwaite and colleagues. The reference text that was used for the networked governance model is Holley, Gunningham and Shearing (2012).

(inter)governmental initiatives have not addressed the emerging transnational environmental problems or are at least characterised by doubtful enforceability (Meidinger, 2002).

## **2.2. Restorative justice or local governance at the basis**

The responsive regulatory pyramid requires an array of tools to be available to choose from instead of using a standard toolkit (Braithwaite, 2008). This allows regulators to experiment with restorative justice tools to responsabilise rather than punish. For e-waste, inspectorates have several ways to respond. Flemish inspectorates (export) will usually address corporations on their license by following the e-waste flow back to its source. The restorative element happens by the inspectorates in their negotiations about licenses of facilities. This, however, does not apply easily to the multitude of small scale (often individual) shippers of UEEE/WEEE because they are difficult to trace. The federal inspectorate (transit) – which deals with 80% of the e-waste shipments in Antwerp - is more limited in tools, since it relies on other EU states to trace the transports back to the origin. The restorative approach applies to them as well and even to the individual shippers. I witnessed how they allowed the WEEE to be taken out of the unit and have the remaining UEEE shipped.

Braithwaite (2008) writes that the local governance level has become weaker in the regulatory state. In examining the governance reality of e-waste, the primary actors to control and prevent illegal transports were the inspectorates. Also Recupel plays an important role. The primary role seems to be that of law enforcement rather than of the administrative level. Belgium has the advantage of having an environmental administration (OVAM) that takes up a role that other countries reserve for local administrations. The risk is that local authorities in Belgium are not fully engaged in the process. However, local government actors might be better aware of waste collection that is happening in their municipality. Small scale collectors are not always known to the environmental inspectorates. Of course, the important share of transit shipments has the consequence that the local authorities could be far removed from the location where the illegal transport is stopped. It is then very difficult to track and monitor the activities of the multitude of actors in the cases. This could result in governments focusing primarily on the recyclers rather than on actors earlier in the supply chain (Huisman, 2001). For the 20% that is exported, there is follow-up through the supply chain, but the 80% transit shipments are difficult to trace. As illustrated earlier, mainly the judicial authorities play a role, whereas the administrative matters tend to be less integrated. The judicial aspects seem to be better developed (cf. role of the prosecutor in Antwerp) although the implementation – especially the EU wide harmonization of it - definitely has room for improvement.

It is difficult to assess the restorative element or local government involvement in the governance of illegal timber transports. For the Belgian timber importers this primarily goes back to the monitoring by certification organisations (e.g. FSC supply chain). The administrative governance framework, outside the judicial arena, seems to be well developed but this is linked to corporations or NGOs taking initiative and not to government controls or prevention. This might be a consequence of the lack of prioritization of the topic and the lack of international policymaking and decision taking.

The local level governance is of high importance for the success of governing environmental flows initiatives despite the inherently transnational nature of them (Gille, 2006). In developing countries promising local initiatives are those of collecting and dismantling e-waste (in Ghana), but they are currently very few, often fuelled by NGOs and not by local administrations. Similarly, there are initiatives to foster sustainable and/or legal forest management, fuelled by NGOs as well as by governance initiatives such as FLEGT.

### **2.3. (Regulated) Self-regulation**

Several corporate actors shape the (il)legal transports of e-waste and tropical timber and can play a role in the control and prevention of these flows. Self-regulation is said to be carried out mainly by multinationals whereas the major threat is with smaller actors (Haines, 1997). In the cases of this PhD study, it is indeed so that major corporations such as EEE producers, WEEE recyclers, timber importers and processors and shipping lines take initiatives to self regulate. Gunningham, Kagan and Thornton (2003) list several reasons for firms to set standards that go beyond the legal requirements: to increase profit; to ward off more intrusive regulation; to anticipate future tightening of rules (and avoid costs of that); and to protect the company's reputation and social legitimacy (avoid adverse publicity). The motivation for self-regulation lies both in market-based dynamics and in the broader political and social context (Bartley, 2007).

The case study of e-waste showed the importance of keeping the secondary raw materials within the EU, with high standards of environmental effectiveness in recycling (Van Daele, et al., 2007). The raw materials issue is an economic incentive to develop self-regulation. Refurbishers and recyclers were also keen to adhere to high environmental standards because this was profitable for their business or because they hoped to influence legislation. Some firms even set more stringent standards for their WEEE exports than what the law requires. These are usually the firms that made this their niche market. As long as it is win-win, investments seem to be made, but beyond that, it reaches the practical limitations (Gunningham, et al., 2003). Producers were for instance found to be cherry picking in terms of their responsibility to take back WEEE. There is thus room to take this a step further and to truly integrate the environmental costs throughout the entire life cycle (van Erp & Huisman, 2010). To address this, extended producer responsibility policies have emerged such as the RoHS and WEEE directives (Pellow, 2007), but the implementation can be improved.

Also the timber sector has taken initiative to regulate its business. Their incentive is the long term sustainability of the sector. Timber importers also fear the shaming by NGOs or in the media. Not all timber loggers, processors or importers are however equally concerned with their reputation or with long term consequences. Transport firms are also sensitive to a bad reputation, which explain them getting concerned about illegal transports of e-waste and timber on their vessels. Once again, not all shipping lines or agents were concerned with this pressure by local governments, NGOs or the media. Regulatory elements also influenced the compliance of these corporate actors, because firms do not want to go lower than the regulatory standards and thereby avoid constant checks by distrusting regulators (Gunningham, et al., 2003). The case studies showed how the EUTR and WEEE seem to have this effect on firms. However, there is a big risk of regulation becoming a mere paper tiger, especially when standards and definitions are not always clear. The compliance with

regulation and the extent of self-regulation is thus influenced by a combination of economic, social and regulatory elements.

Self-regulation and monitoring is a big investment which mostly big players are able to commit to, similar to niche corporations in the market or those companies that are good at anticipating trends (Gunningham, et al., 2003). Although there are self-regulatory initiatives installed in the case studies – mainly by bigger actors - this does not address all actors. Smaller actors can be connected to these multinationals through supply chain management and due diligence. This is happening with the timber trade by means of the ‘due diligence’ in the FSC certification and the EUTR. Labels like FSC engage both producers and consumers in the biodiversity debate and thus manage to bridge the distance between corporate, government and civil society actors in the global trade flow. Criteria for these labels vary but they manage to merge social, economic and ecological concerns into regulation and global trade, allowing for new governance mechanisms to occur. These labels fit the hybrid governance logic of today and tomorrow (van Koppen, 2006). The certification they require, however, is very costly and risks staying a niche market, as was illustrated earlier for FSC. For e-waste, some big corporations in collection and recycling choose which influx of WEEE/UEEE to accept, depending on whether they deem the source trustworthy. Shipping agents address their shipper-clients through information campaigns. Self-regulation might be more flexible in addressing the dynamic reality of preventing illegal transports of e-waste (e.g. perceiving CRT television sets as WEEE), but self-regulation cannot address the entire market. The multitude of small scale actors makes it difficult to install self-regulation sector-wide for instance through certification schemes or extended responsibility, especially when private and public interest do not coincide (Gunningham, et al., 1998; Holley, et al., 2012). In comparing this governance reality with the ideal-typical models of the responsive regulatory pyramid and networked governance, the governance approach could look to better involve corporate actors. First, by raising awareness since many are unaware of what they are shipping and do not know what to look out for. Secondly, increased information exchange about the flows might provide better grounds to address illegal transports. Setting this up through (regulated) self-regulation of course implies that all parties need to agree on the purpose and benefits (White, 2011).

Given the enormous amount of actors and containers that need to be controlled, inspectors or customs cannot rely on command and control. Environmental inspectorates often simply cannot keep up with the increased environmental regulation (Gunningham, et al., 2003). A solution for this is found in regulated self-regulation (or meta-regulation). This means that controls happen on a higher level either by third actors, by government or through public scrutiny, and are based on the own management system of the corporation. System-based controls have the advantage of being able to impact the underlying processes of a corporation rather than the shallow effects when only the outcomes are controlled (de Bree, 2011). The governance of illegal transports of e-waste and tropical timber are both to a certain extent addressed through regulated self-governance. This for instance happens in the AEO-system of customs which bases its controls on the management systems of the corporations. Earlier on, the reasons why this system is not waterproof were addressed. Similarly, the inspectorates work through meta-regulation to control waste corporations. Meta-regulation exists for timber as well, but this relies on the controls by auditing or certifications companies rather than controls by government agencies. The conditions necessary for

meta-governance are not always practically possible. For instance, should the criteria meet those of big or small corporations in the sector? In both of the studied cases, corporate actors have an interest in the success of these governance frameworks: European e-waste recyclers want to guarantee the inflow of metals and European timber importers need the responsible management of forests to guarantee the sustainability of their business. However, some actors involved in the flows of WEEE/UEEE and tropical timber have to win and others to lose with more stringent laws or self-regulation. Another issue is the question who has the expertise to evaluate the criteria. Often only few people have the knowledge and expertise. Even when relying on this system-based control, this still requires a sanctioning system (a stick behind the door).

#### **2.4. Stick behind the door**

The high complexity and dynamism of the cases hold an intrinsic problem of compliance for environmental regulation (Huisman, 2001). A crucial characteristic of the responsive regulatory pyramid is for it to escalate to more punitive sanctions when necessary. The pyramid persuades to comply when the “slippery slope will inexorably lead to a sticky end” (Braithwaite, 2008, pp. 93-94). In the studied cases, the escalation is very uncertain.

Waste fraud is a priority in policy making and different actors focus on it. All of them however have very few staff and resources. There is prosecution of waste cases, but this is hardly ever successful in court because laws are very complex. Fines that are imposed for illegal e-waste transports are perceived as too low to be effective and become part of shippers’ business plans. To counter this, White (2011) proposed to guide judges about the seriousness of transnational environmental crime, similar to suggestions made by respondents in this study. Environmental inspectorates and HMO recently got more possibilities to fine shippers (also for transit), but it is too soon to tell what the result will be. A major flaw in enforcement is that the implementation of the EU conventions in view of determining sanctions is lacking which leaves member states a great margin of interpretation (Billiet, Deben & Van Aeken, 2010; Billiet & Meeus, 2010). There is for instance a risk analysis on the import and export of transports, but for transit shipments the customs in the port of Antwerp need to trust the risk analysis of the EU port of origin. As a consequence, there is no level playing field for controls in the EU, so there are definite weaknesses due to the EU wide system. One way to come across any of these actors transporting e-waste illegally is through the controls of shipments in harbours. The governance analysis illustrated why this is looking for a needle in a haystack and seldom results in judicial follow-up despite the good intentions.

Controls on tropical timber in countries of origin and transit are generally limited due to the unwillingness (cf. corruption) or the inability to act upon this. Countries of origin also have limited information about the natural resources they have available. Moreover, adequate national legislation and enforcement to address this is missing. Governments in countries of destination, such as Belgium, do not see illegal tropical timber transports as a priority. Although the EUTR regulates this, it is unclear how that will be implemented. Currently there is no ‘stick behind the door’ when the self-regulation and third party verification fails. There are no resources to deal with illegal timber trade and neither is there sufficient knowledge to check the transports on their legality. Despite the good intentions of several actors, the current governance framework for illegal trade in tropical timber does not address the complexity of its social organisation.

The criminal justice system has been labelled as light handed and inadequate in dealing with environmental crime (White, 2009). The governmental control is generally in the hands of passionate, but very few, individuals. This corresponds to the findings of Fyfe and Reeves (2010) about environmental law enforcement being under-resourced and marginalized. Although this applies to the studied cases, there are more actors than those of the criminal justice system that prevent and control illegal transports of e-waste and tropical timber. The governance framework seems to be government dominated for e-waste, whereas the corporate and civil society actors are more passive. For timber the active governance actors are the corporations and NGOs and the multi-stakeholder initiatives whereas the government actors seem to be most passive. Even when self-regulation or multi-stakeholder initiatives exist, there is still a need for more punitive intervention in case standards are not adhered to (Jänicke, 2006). Non-state actors can take these more punitive measures (e.g. consumer boycotts, naming and shaming, loss of certification). The cases illustrated that this does not encompass all actors with a motivation or opportunity to get involved in illegal transports of e-waste and tropical timber. Therefore, the local, national and international government agencies remain crucial, willing to invoke command and control, when the rest fails (Holley, et al., 2012, p. 182; Keohane & Nye, 2000; Oosterveer, 2006). Actual enforcement is the best stimulus for compliance (Huisman, 2001), but that cannot be guaranteed in the cases of this PhD study.

## **2.5. Pyramid becomes network**

Holley, Gunningham and Shearing (2012) prompt that complex problems such as environmental issues are not easily governed by a single actor and that a networked governance model might fare better. Haines (Haines, 1997) thinks the pyramid is incomplete and should become a pluralist pyramid, adding corporations and NGOs to the governance actors. Braithwaite (2008), inspired by networked governance, suggests combining the responsive regulatory pyramid with a network metaphor, where a broader range of stakeholders cooperate. There are, however, a number of prerequisites to fulfil. Networked governance for the environment requires the nurturing of governance capacities through sufficient funding, expertise, transparency and knowledge about the strengths and responsibilities of each stakeholder (Holley, et al., 2012). As mentioned earlier, both of the studied cases suffer from a lack of resources. Given the high priority for e-waste fraud, resources for controlling and preventing illegal transports are higher than those for timber or endangered species. As for expertise, the controls fall back on the knowledge and experience of few individuals. Training of other actors (e.g. customs) has been organised ad hoc. There is a start of cooperation between government, corporate and civil society actors to prevent illegal e-waste transports. For timber this cooperation is more established within the FSC system, but it has a limited market share. Transparency and information exchange - both horizontal and vertical - is needed between the nodes in the network to encourage peer-review (Holley, et al., 2012). This PhD study found a hindrance to this in the 'commercial secrets' about the timber and waste trade and in the lack of reliable statistics.

The diversity of actors and push, pull and facilitating factors in illegal e-waste and tropical timber transports inevitably means a networked governance approach would have to take many actors into account in countries of origin, transit and destination, on both local, national and international

level. This of course renders the networked governance set-up complex, going against Holley et al.'s (2012) idea that networked governance for the environment is easiest in a small scale setting with limited complexity. There is potential to work on a small scale on the governance of illegal trade in e-waste and tropical timber, but the transnational element is so inherent it inevitably needs to be addressed. In having actors be part of a governance network, the weaker actors can enrol stronger ones as a way of escalating up the pyramid, even across transnational borders (Braithwaite, 2008). In West Africa, states have for instance forced shipping lines to take up responsibility for the waste shipments by chaining their vessels. Local Ghanaian NGOs also combine forces with European governments to develop capacity building. Similarly, they cooperate with (European) corporations for the take back of equipment (motherboards). Although a lot of these initiatives in the prevention and control of illegal e-waste transports are still in their infancy, some evidence of this broader network thus exists for the e-waste case. As discussed earlier, the network of actors in governing timber transports has an ideal-typical example in the FSC system. In absence of governmental legislation, other actors stepped in. The control and prevention beyond this voluntary framework are however very few.

The governance reality of illegal transports of e-waste and tropical timber is shaped by the global trade flows and by the interconnections between different actors across borders. This does not imply that state actors are necessarily weaker, especially if they are able to govern through and with the global institutions (Braithwaite, 2008). Within this governance framework, the state needs to act strategically, because it is dependent on a broader network of actors (Holley, et al., 2012). To an extent, this corresponds to the empirical reality of the studied cases, because both the EU and international level set a lot of environmental standards and agreements. The many gaps and challenges remaining show that this is not yet used to its full potential and might even be an extra incentive for illegal transports. The EU's lacking harmonization of implementation of WEEE/WSR is an example of that. The uncertainty of the EUTR points to similar problems despite the strong moral message it sends. Perceiving governance as a network rather than a pyramid seems to make governance even more complex. It does provide the potential to deal with the complexity that is transnational environmental crime. Note however, that an inherent challenge for joined governance efforts – be it within a pyramid or a networked governance approach – is that some actors' start from initial trust and others from initial distrust of the actors' whose behaviour they try to prevent and control. The success of either of these hybrids arrangements than inevitably depends on trying to overcome these differences and working towards the same end, despite different objectives and means. Even when a more networked governance approach is applied, the requirement of the threat of escalation remains (see above).

## **2.6. Capacity building and strength-based governance**

The current governance system partially addresses the legal criminogenic asymmetries, but fails to sufficiently address other asymmetries (Passas, 1999). Getting the necessary legislation and enforcement in place remains a clear concern. However, this cannot be a solution unless underlying structural causes such as the need for a source of livelihood, the desire to bridge the digital divide, the demand for raw materials and the lack of recycling facilities are addressed. This closely relates to the cultural and knowledge asymmetry where countries of destination or origin are less aware of



the environmental harm of illegal timber or e-waste trade, or simply see more benefits in continuing the trade. Only small steps have been taken to address these asymmetries, mostly by (local) NGOs or (ad hoc) capacity building projects. These initiatives involve informal recyclers, refurbishers, shipping agents and UEEE shop owners, raise awareness about the issue and look for solutions to deal with the immediate harm (cf. avoid burning of waste). Similarly, awareness raising with local port authorities and terminal operators could be useful. These initiatives could be further inspired by the capacity building which timber governance initiatives such as FSC and FLEGT are setting up. Informal production is an important share of the illegal exports of tropical timber. These informal actors rely on this timber for income and therefore capacity building initiatives address structural causes. NGOs as well as corporate actors are for instance helping small size timber concessions to achieve certification and help them overcome the financial barriers for this. Inspired by the tropical timber case, multi-stakeholder initiatives could be a welcome addition to this governance framework. These initiatives provide resources for stakeholders to self-regulate. Braithwaite (2008) referred to this as the strength-building pyramid as a complement to the responsive regulatory pyramid. This will require the consultation of all stakeholders and the agreement of them about the monitoring. As this study showed, both the studied cases there is a difficulty of balancing economic and environmental concerns (South, 2007). Local governments in Belgium are afraid corporations will go bankrupt (loss of jobs) if controls on e-waste transports are too severe. The same applies in Ghana where the economic pressure of major corporations puts these countries in a weak negotiation position. These economic concerns also play in the port of Antwerp, known for its flexible policy.

When controlling and preventing illegal transports of e-waste and tropical timber through the collaboration between different actors, this requires the nodes in the network or the stakeholders in the pyramid to agree on the severity of the problem that is addressed (Holley, et al., 2012). In examining the governance reality of both e-waste and tropical timber this PhD study found a lack of agreement about the problem. This might explain why both the regulatory pyramid and the networked metaphor are theory rather than actual governance practice.

## CONCLUSION

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The goal of this PhD study was to provide insights into the empirical reality of governing transnational environmental crime flows. By analysing the case of illegal transports of e-waste and tropical timber in a European trade hub, this PhD thesis responded to the call for more empirical knowledge about transnational environmental crime. It addressed the question what the governance consequences of controlling and preventing transnational environmental crime flows are. This research was based on a qualitative multi-method research design combining a document analysis of various primary and secondary sources, 81 interviews with key informants, and field visits.

A first step in studying the governance of the transnational environmental crime flows was to understand the aetiology of the phenomenon. The social organisation of the two cases was examined. The data analysis revealed various legal-illegal interfaces throughout the flows. The analysis showed how push, pull and facilitating factors on individual, organisational and societal levels together shape the illegal transports of e-waste and tropical timber. It demonstrated how the transnational environmental crime cases are on a thin line between legal and illegal and need to be contextualised within the global reality of origin, transit and destination locations.

The core focus was the governance reality of dealing with these cases on a fine line between legal and illegal and more in particular the governance reality of illegal transports of e-waste and tropical timber. Relating back to the responsive regulatory pyramid and networked governance, this study made several observations about the cases. Some findings are in line with earlier publications, but this study further substantiated those claims with empirical data. The findings reveal that although the governance reality of illegal transports of e-waste and tropical timber answers to some of the criteria of these models, it lacks complying with essential prerequisites of them. These models might theoretically or normatively provide good foundations for addressing the cases, but the governance reality paints a different picture. This can of course be due to the fact that illegal transports of e-waste and tropical timber involve so many types of actors: corporate actors in the waste or timber sector, but equally in the transport sector, individual shippers, informal recyclers or loggers, fraudulent or unaware governments and consumers. The governance framework to control and prevent these transports then needs to take into account each of these actors and push, pull and facilitating factors across the global flows. The governance approach faces the complex reality of balancing environmental and economic concerns, policy dynamism and judicial clout, capacity building and crime fighting.

## POLICY RECOMMENDATIONS

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This PhD study shows the complexity inherent to the social organisation of transnational environmental crime, and illegal transports of e-waste and tropical timber in particular, and illustrates the diversity inherent to their governance reality. This requires the governance framework to be able to deal with the dynamic context. As illustrated in this PhD thesis, the existing framework of enforcement is not always adjusted to that. The research setting of the port of Antwerp adds an extra challenge to that because it is a typical transit port. This means that governance of the trade flows largely relies on the control and prevention in other ports. Within the EU, the lack of harmonized enforcement of environmental legislation is currently hampering the control and prevention of illegal e-waste transports. In face of the sheer quantity of goods that are transported each day, a risk analysis system is logical. It is, however, necessary to try and account for transit shipments as well. The risk analysis system should also pay attention to look for less obvious patterns of smuggling. Bottlenecks in the follow-up of environmental enforcement should also be reduced to a minimum.

By comparing the case of e-waste, which has an extensive legislative framework, with the case of tropical timber, which largely relies on non-governmental actors to govern the flows, this study illustrated that governance initiatives can also arise in the absence of a clear legislative framework. The e-waste case could learn from the timber case by involving a broader array of actors in the governance framework. Local communities or NGOs can for instance influence the informal actors in Ghana as a country of destination, but also in Belgium as a country of origin. This can happen through capacity building, thereby addressing the structural causes in the broader socio-economic context that shape illegal trade. Similarly, corporate actors could be more involved in controlling and preventing illegal transports of e-waste by establishing links between governments and shipping lines. An important step is raising awareness about the topic and interacting with these corporate actors about what their role could be. The supply chain management and certification of FSC could be an inspiration for this. It might also be good to nurture the connections between NGOs and government agencies. Controlling and preventing the illegal trade in timber can also be inspired by the e-waste case. Despite the remaining weaknesses, there is a much clearer legal framework for e-waste and there is a rather close-knit network of government actors that deal with this topic. Important is to have a 'stick behind the door' in both a government dominated and a broader governance framework. Unfortunately that stick is missing in the governance reality of both cases. Despite the importance of judicial coordination and follow-up, this should be balanced with initiatives on administrative level.

My PhD study did not intend nor succeeded providing an answer to all governance challenges of transnational environmental crime. I nevertheless hope the insights can be used for the further development, implementation and enforcement of governance initiatives on transnational environmental crime.

## AVENUES FOR FUTURE RESEARCH

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Future research could analyse other types of transnational environmental crime or apply them to other regions in the world. Particular characteristics could be found about their social organisation or governance that compare to the findings of this empirical analysis. The two cases that were studied in this PhD research had an opposite transnational dimension and are differently positioned on the line between legal and illegal. Nevertheless, the analysis found many similarities in the way these transnational environmental crime flows are organized. In their governance, they are essentially different, the one relying mostly on government actions and the other on governance initiatives by corporate and civil society actors. Even in face of those differences, several similar observations about their governance reality could be made. It would be interesting to see how these findings compare to other transnational environmental crime cases such as for instance (illegal) trade in traditional Chinese medicines, (il)legal fishing or the trade in other types of hazardous waste. Similarly, it would be interesting to see how the findings apply to other research settings. A comparative analysis could be made with other European ports (e.g. Rotterdam, Hamburg, Le Havre) or with other regions of the world (e.g. North America, South East Asia).

Besides these comparative designs it seems interesting to approach the topic from a different perspective, such as by looking at the victimology of transnational environmental crimes. The analysis of the cases revealed asymmetries between regions of the world and also inequalities in both harm and access to governance. Future research could focus on this more in detail and develop ideas about restorative regulatory solutions or ways to improve local governance of these transnational environmental crimes. Action research could be particularly relevant here.

Finally, it would be interesting to corroborate these findings by designing quantitative research. It might be interesting to test whether the assumption is correct that people in developed countries are less concerned about environmental crime and its impact because the most devastating harm is not happening in their backyard. Survey designs could be useful for this. Quantitative studies could also provide insights on the perceptions of corporate actors (shipping lines, timber importers, WEEE collectors) and government actors (customs) about their responsibilities in controlling and preventing illegal trade in e-waste and/or tropical timber.

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## ANNEX I: CHECKLIST

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### **What elements characterise the social organisation and emergence of illegal transports of e-waste and tropical timber?**

RQ 1.1: What elements of harmfulness or scope are taken into account in the criminalisation of illegal transports of e-waste and tropical timber?

- Harmfulness for humans, ecology, economy, etc.? (arguments behind the criminalisation)
- What is the estimated frequency/scope of the transports?

RQ 1.2: How are illegal transports of e-waste and tropical timber socially organized?

- What are the origin, intermediary and destination locations? *Orientation of the flows (South-North)*)
- What sorts of products (metals vs. timber) are transported?
- How are goods transported, distributed or made transportable? What is the method of exchange?
- Illegal/legal nature of the transport and the goods (e.g. false documents, black market, etc).
- Are the involved actors legal or illegal?
- Are the involved actors individuals or organisations (corporations/state actors)?

RQ 1.3: Which push and pull factors explain the emergence of illegal transports of e-waste and tropical timber?

- Push factors in countries of origin (supply)?
- Pull factors in countries of destination (demand)?
- What legal, economic and cultural asymmetries play a role?

## **What elements characterise the governance of illegal transports of e-waste and tropical timber?**

**RQ 2.1:** Who are the actors that participate in the governance of illegal transports of e-waste and tropical timber?

- Government actors? (police, inspectorate, customs, port authority, judiciary, etc.)
- Corporate actors? (producers, transporters, recyclers, etc.)
- Civil society actors? (NGOs, journalists, labour unions, consumers, etc.)

**RQ 2.2:** What knowledge, capabilities and resources do each of these actors make use of for the governance of illegal transports of e-waste and tropical timber?

- Knowledge
- Capabilities
- Resources
- Institutional structures

**RQ 2.3:** What is the mentality of these actors towards illegal transports of e-waste and tropical timber in particular?

- What do these actors see as the causes
- What does transnational environmental security mean to them
- What strategies to influence human/corporate behavior in transnational environmental matters do they adhere to?
- What are the finalities of these actors? (environmental, economic, judicial or administrative nature) What outcomes to they put forward and how do they measure success?

**RQ 2.4:** How do these different actors interact?

- Cooperative? Competitive? Non-existent?
- Government directs? Use other actor for own goals?

**RQ 2.5:** What are the strengths and weaknesses in the governance of illegal transports of e-waste and timber?

- What weaknesses in technologies, mentalities and resources of existing nodes exist (for each actor, local/national and global/transnational and for entire governance spectrum)
- What opportunities for change exist in the internal characteristics of nodes whose governance behaviors are important but are not currently addressing security issues?
- Are there nodal gaps or missing nodes? (individuals or groups who are currently not mobilized in these governance processes and this in despite of their relevant knowledge, capacities and resources in view of desired governance outcomes)
- Are there missing links in the governance network? (places in the network where new connections could be advantageous)

## ANNEX II: LIST OF ABBREVIATIONS

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AEO	Authorized Economic Operator
BFR	Brominated Flame Retardants
CFC	Chlorofluorocarbon (Used as refrigerants (e.g. R11, R12), propellants and solvents; but phased out by Montreal Convention because they contribute to ozone-depletion)
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CRT	Cathode Ray Tube
DRC	Democratic Republic of the Congo
EEE	Electrical and Electronic Equipments
EPR	Extended Producer Responsibility
EC	European Commission
EU	European Union
EUTR	European Union Timber Regulation
FLEGT	Forest Law Enforcement, Governance and Trade
FLI	Federal Environmental Inspection (Belgium – Federale Leefmilieu Inspectie)
FSC	Forest Stewardship Council
FTE	Full Time Equivalent
GDP	Gross Domestic Product
HCFC	Hydrochlorofluorocarbon (used as refrigerants, replaced ozone depleting CFC)
IMO	International Maritime Organisation
IMPEL	European Network for the Implementation and Enforcement of Environmental Law
IMPEL-TFS	subgroup of IMPEL that focuses on the inspection and enforcement of Transfrontier Shipments of Waste
INECE	International Network for Environmental Compliance and Enforcement
ISO	International Organisation for Standardization
MEA	Multilateral Environmental Agreement (e.g. Basel Convention)
MSC	Marine Stewardship Council
NCTS	New Computerized Transit System
NGO	Non-Governmental Organisation

ODS	Ozone Depleting Substances
OECD	Organisation for Economic Cooperation and Development
OVAM	Public Waste Agency of Flanders (Openbare Vlaamse Afvalstoffenmaatschappij)
PLDA	Paperless Douane & Accijnzen (Paperless Customs and Excise)
RoHS	Restriction of Hazardous Substances Directive
SBC	Secretariat of the Basel Convention
StEP	Solving the E-waste Problem Initiative
TEU	Twenty Foot Equivalent Unit (standardized container measure)
UEEE	Used Electric and Electronic Equipment
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNODC	United Nations Office on Drugs and Crime
USD	US Dollar
VAT	Value Added Tax
VPA	Voluntary Partnership Agreement
VRM	Ministry of Housing, Spatial Planning and the Environment (Netherlands)
WEEE	Waste Electric and Electronic Equipment
WSR	Waste Shipment Regulation