Conclusions of the EFFACE Case studies

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ABSTRACT

This report provides a summary of the conclusions of twelve case studies undertaken within the EFFACE project. The conclusions are structured around major themes of the analytical framework of the project.

The definition and understanding of what is "environmental crime": many of the case studies do not seek to provide or analyse the definitions of environmental crime, often implicitly define it only as breach of law. Two case studies have discussions with clear policy implications in regards to a broadening of the concept – that on Environmental Crime in Armenia case study and that on Illegal Wildlife Trade in the United Kingdom, Norway, Colombia and Brazil. Indirect policy implications to be read from the other case studies concern stricter criminalization and enforcement of environmental crime.

The motivation and drivers to commit environmental crime: there are several motivations and drivers of environmental crime illustrated by the case studies. Economic drivers are the most common – whether these are the core business of organised crime or the driving force behind major governmental corruption, through to the decisions of individuals seeking to avoid paying a charge at a disposal site when dumping waste on the street. In some cases those with economic interests as a driver are in poverty and the illegal activity may represent one of the few available sources of income. Not all drivers are economic. Culture may be important. The lack of any alternative is a driver (e.g. for waste in Kosovo) and ignorance is also a cause of illegal activity (even if it cannot be termed a 'driver').

Organised environmental crime (understanding it and tackling it): Several of the case studies addressed organised crime. For some, such as the Land of Fires case study or that on cocaine production in Colombia, organised crime was central to the case study. For some others it is a contributing factor. The case studies explore the conditions that allow organised crime to flourish, such as in Armenia where politicians, officials and business collude to avoid the rule of law. The cases make conclusions on the effectiveness of enforcement systems and how these can be used to address organised crime.

The effectiveness of enforcement procedures to combat environmental crime: many of the cases report on problems in the enforcement of environmental laws and, therefore, problems leading to environmental crime. Problems identified include: poor framing of legislation leading to problems for enforcement authorities; under-resourcing of enforcement authorities; lack of sufficient powers for enforcement authorities; and lack of sufficient sanctions.

Information and data on environmental crime and its use: many of the cases show the importance of good information and data in understanding the extent of environmental crime, its impacts and where action to tackle that crime may be most effective. The cases show that good reporting systems (e.g. for an EU directive), tracking systems (e.g. for waste shipment) or systems for data sharing (e.g. CITES) provide the foundation for information provision. Current data management systems also allow the potential for rapid data sharing (e.g. between third countries and EU). Overall the case studies also illustrate the wide range of different types of information that are needed to understand environmental crime.

The coherence of the EU level framework for tackling environmental crime: several issues of potential coherence problems at EU level (e.g. harmonisation of sanctions, inspection regimes, etc.) were not analysed in the case studies. These issues are not ignored, but no case, for example, analyses whether harmonisation of existing diversity of sanctions for a particular regime would deliver benefits.

The report concludes with a summary of recommendations to the EU level, Member States authorities and others.

ABBREVIATIONS

CITES	Convention on International Trade in Endangered Species
EA	Environment Agency
EFFACE	European Union Action to Fight Environmental Crime
EU	European Union
EUTR	European Union Timber Regulation
IUU	Illegal, unreported and unregulated (fishing)
IWT	Illegal wildlife trade
MS	Member State
RA	Republic of Armenia
UNECE	United Nations Economic Commission for Europe
UNODC	United Nations Office on Drugs and Crime
WEEE	Waste Electrical and Electronic Equipment (Directive)

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1 Introduction

The present report summarises conclusions from case studies conducted in the EU-funded interdisciplinary research project "European Union Action to Fight Environmental Crime" (EFFACE). EFFACE assesses the impacts of environmental crime as well as effective and feasible policy options for combating it, with a focus on the EU. EFFACE is guided by an analytical framework which sets out the research questions that the project seeks to answer.[1] The case studies focus on specific types of environmental crime and locations, in order to better understand the causes of environmental crime as well as the measures needed to combat it. The case studies are[2]:

- Victims in the "Land of Fires": A case study on the consequences of burnt and buried waste in Campania, Italy
- Illegal shipment of e-waste from the EU: A case study on the illegal export of e-waste from the EU to China
- EUTR CITES and money laundering: A case study on the challenges to coordinated enforcement in tackling illegal logging
- A Case Study on the EU's promotion of environmental protection through criminal law in Kosovo
- The Aznalcollar and Kolontar mining accidents: A case study on the criminal responsibility of operators and administrators
- Environmental crime in Armenia: A case study on mining
- Illegal wildlife trade: A case study report on illegal wildlife trade in the United Kingdom, Norway, Colombia and Brazil
- Environmental crime through corporate mis-compliance. The case of the ILVA steel plant in Italy
- Environmental crime on the sea. Illegal fishing in the North East Atlantic, and the role of rights-based fisheries management in improving compliance.
- A case study on illegal localised pollution incidents within the EU
- Mining gold and mercury pollution in the Guiana Shield: A case study on the role of the EU in fighting environmental crime

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[1] The analytical framework is not public.

[2] All case studies are available from www.efface.eu. Summaries, in the form of policy briefs, are also available for all of the case studies on the EFFACE website at: http://efface.eu/efface-case-study-policy-briefs

- Can Cocaine Production in Colombia be linked to Environmental Crime?: A case study on the effect of EU legislation on the trade

This short report provides a summary of the conclusions of these case studies with respect to the key research questions and themes of EFFACE:

- The definition and understanding of what is "environmental crime"
- The motivation and drivers to commit environmental crime.
- Organised environmental crime (understanding it and tackling it)
- The effectiveness of enforcement procedures to combat environmental crime
- Information and data on environmental crime and its use
- The coherence of the EU level framework for tackling environmental crime

This report concludes by summarising the recommendations made by the case studies.

2 Case study conclusions concerning the core research questions

2.1 The definition and understanding of what is "environmental crime"

The definition of "environmental crime" is a fundamental part of the EFFACE project and forms a foundation upon which other analyses are based. The case studies contribute to the understanding of this issue as set out below.

The **Cocaine production in Colombia case study** states that: "*As the EU is the second largest market for cocaine from Colombia, it was decided that this situation merits separate attention within the [EFFACE] project*." Further: "*This case study highlights the interrelationship between cocaine production, a drug-related criminal activity and environmental pollution and degradation, activities that are considered to be environmental crimes in many parts of the world today*." This statement does not itself advance the discussion of how environmental crime should be conceptualized except for indirectly confirming that traditional (organized) crimes such as cocaine production, a crime not generally associated with environmental crime, can be the cause of environmental pollution and degradation.

The **case study on EU promotion of environmental protection in Kosovo** states that*; "This report explores the possibility of the EU to export the EU environmental crime concept (...) In the process (...) new elements will be added to the concept of environmental crime, in order to consider the different results and*

problems arising when applied in a different legal, economic, social and environmental scenario other than those of the Member States." However, the concept is not defined. Later it is stated: *"[Until then], it is not possible to determine whether an action is above or below the accepted level or if it is just an administrative infringement or an environmental crime according to the different environmental laws and the Criminal Code."* The concept of environmental crime is, therefore, defined as being an infringement of law. This is supported by another statement: *"Polluting mining and industrial activities cannot be considered environmental crimes if they do not breach a permit, license or threshold establishing the characteristics of environmental damage that can be criminally prosecuted. Without the basic administrative and criminal enforceable laws, no environmental crimes can be prosecuted in Kosovo related to mining and industrial activities."* This is a quite specific understanding of the concept; as it states that polluting activities are not environmental crimes unless there is a breach of permit, law etc. The concept remains undefined. The authors state: *"At the present moment, there is no available information about the attitude of the judiciary regarding this concept and the way it is applied, for example, whether organised environmental crime is considered as an aggravating circumstance or a related crime in conjunction with environmental crime."* Therefore, whether an act is an environmental crime would depend on whether there exists a precise definition of an act which would be an infringement of law or regulation.

The **Illegal shipment of E-waste from the EU case study** discusses the concept of environmental crime and has clear policy implications in that regard: *"Environmental harm rather than environmental crime should be taken as a frame of reference when trying to address the negative effects of e-waste shipments in developing countries."* This is much in line with the analytical framework. The policy implication is based on the fact that there are grey zones in between legal and illegal activities in relation to e-waste. As is stated: *"The focus of policy makers in Europe (and China) should not only be on strict crimes but also on activities that are on a thin line between legal and illegal. As the definition of what shapes illegality varies over time and place, policy makers might have difficulties in embodying this dynamism."* This is a policy implication based on a finding which implies that to define environmental crime only according to what is currently defined as criminal is inadequate: This is also the way environmental crime is understood in much of the green criminology literature.

The **Aznacollar and the Kolontar Mining accidents case study** does not offer a precise definition of the concept of environmental crime, yet approaches the reason why a definition of environmental crime limited to the breach of law is insufficient. When discussing motivations for committing crimes in the mining sector; it thus distinguishes between: "*The motivation of operators adopting illegal behaviours that can lead to environmental damage and crime. The motivation of administrations and civil servants not updating the environmental values and standards of bylaws and tolerating and permitting activities that can produce environmental damage and be classified as environmental crimes."* However, the case defines environmental crime only as infringement of law. Under the policy implications it is further stated that: *"Environmental crime depends not just in the causation of damage; it also requires the infringement of an administrative rule. There is no infringement when the activity producing an ecologic disaster or an accident has been authorised by the legislator or/and the administration."* Consequently there is the assumption that if there is no law or regulation there is no environmental crime.

The **Case Study on Mercury Pollution by Gold Mining in the Guiana Shield** states, with reference to the Minamata Convention that there is not at present criminal sanctions applied for mercury pollution and therefore that, thus far, the release of mercury in contravention of the requirements of the Convention and EU Regulation (EC) No 1102/2008 may therefore in a formal sense not be termed an 'environmental crime', but with growing insights in the toxic effects on health and the environment and the continuation of the additions to the 'global pool' of mercury it will only be a matter of time for this to happen. It appears thus like it is the criminalization which defines an act as environmental crime; the concept is not applied here in a broader sense. It is suggested in the policy applications: "*In ratifying the Minamata Convention and by, in conjunction, reviewing its Regulation 1102/2008 to ban all exports of mercury, the EU will have strong legal tools at its disposition to play its role to combat what in some Member States is already considered a criminal offence, namely the serious environmental harm caused by mercury pollution*." There

seems thus to be expectations that by criminalising the export of mercury from the EU, there will be an instrumental effect in preventing the harms entailed by mercury pollution.

The **Environmental Crime in Armenia case study** discusses the concept of environmental crime pointing at why the application of the concept which only acknowledges environmental harms to be environmental crime if actors are breach with regulations, is inadequate. It, therefore, defines environmental crime as: "*any intentional act or omission that violates the law and thereby prevents the passing of more stringent environmental legislation (e.g., due to corruption), hinders the adequate allocation of resources to public or private agencies charged with protecting the environment, and/or harms the environment*." This definition is further justified by the following: "[We therefore assume a legal approach, but our point of departure starts before existing laws. Instead,] *we also look back at the law-making process and emphasize that illegal acts committed at this stage should also be considered environmental crime insofar as they fail to criminalize behaviour that poses a severe threat to the environment*." This definition and conceptual understanding of environmental crimes is specifically tailored to the location of the case study in question: "*This approach appears to be particularly apt for political systems in which the law-making process is literally corrupted due to the collusion between public and private interests*."

In the **EUTR, CITES and Money Laundering case study** the concept of environmental crime is not defined. Environmental crimes are mentioned throughout the report, used to describe (supposedly) those environmental harms which are criminalized. In considering "*Which parameters guide criminalization of certain types of environmentally harmful behaviour?***",** the primary conclusion drawn in relation to the definition of environmental crime is that it is the severity of the sanction associated with the legislation that determines whether or not non-compliance is criminalized, not an abstract notion about whether or not certain types of environmentally damaging activities should be criminalized.

In "**Victims in the 'Land of Fires': a case study on the consequences of buried and burnt waste in Campania, Italy",** the authors stress the lack of juridical definition of environmental crime in the Italian legal system. Thus, in order to conduct their study, they prefer to refer to a descriptive definition of environmental crime as an action that the victims of the illegal disposal of waste, in the Land of Fires, disapprove and condemn morally.

The case study on the **Illegal Wildlife Trade in the United Kingdom, Norway, Colombia and Brazil** provides the following definition of environmental crime: *"This case study takes a criminological approach to researching the IWT, in that it focuses specifically on the types of harms, motivations for these harms, and the strengths and weaknesses of the regulation and enforcement of the trade. Harm is a central concept in the case study, both harm to humans and animals. The underlying values are thus consistent with those prevalent in green criminology, such as ecological justice, species justice and environmental justice [..] The concept of harm used in the report is understood conceptually as it is described in the EFFACE analytical framework, as an act that harms the environment, but is not illegal, and as harm which is also illegal, endangers the environment and is punishable. By environment we include the animals' interests in continuing their lives undisturbed and acknowledge ecological and species interests"*. It is stated that in terms of definitions applied and data collected according to that definition: *"The data collected thus contribute to the Analytical Framework in terms of defining environmental crime (inc. victims/harms), identifing the actors (victims, offenders, key stakeholders) and identifing the motivations for IWT and the effectiveness of the response to IWT."* The concept of environmental crime is not mentioned under policy implications; but of relevance for policy implications is that animals rather than being incorporated into the envionmental crime of IWT shall be regarded as beings with intrinsic value and thus attributed victim status.

The case study on illegal localized pollution incidents in the EU states that: *"The case study has a somewhat limited role in contributing to understanding the concept of environmental crime, except in so far as smaller 'incidents' address the boundaries between civil and criminal activity as well as the public perception of environmental crime."* This is elaborated upon: *"Localised pollution incidents can have an important role to play with regards to the public perception of environmental crime. Such crimes are committed on a local scale and therefore have a direct, visible impact on local populations, and can affect public attitudes towards environmental pollution and crimes. Localised illegal dumping takes place in both*

urban and rural locations. The cost of cleaning up fly-tipping incidents falls on both taxpayers and private landowners." The quotation seems to imply that as illegal dumping costs both taxpayers and private landowners, thus victimizing them economically, but perhaps mostly because these crimes are visible and harm people directly, they will regard these incidents as criminal offences, whether or not they are defined as such in the law. This hints to a popular interpetation of the concept of environmental crime which corresponds to the way it is employed e.g. normatively in green criminology.

The case study into **illegal fishing and the role of rights-based fisheries management in improving compliance** does not define the concept of environmental crime. It is however emphasized that the three types of fishing involved in the study – illegal, unreported and unregulated fishing – are often referred to as an environmental crime, yet technically are not necessarily so, meaning that the definition of environmental crime in this case must involve fishing done as breach of law or regulation. It is stated that the three types of fishing activity are often discussed together and it is not always easy to distinguish between them in the literature. Throughout the case study the aim is to make this distinction clear and specify which types of fishing activity is being referred to, such as listing the several omissions which define the fishing activity as illegal.

The environmental crime and corporate miscompliance case study on the ILVA steel plant in Italy does not define the concept of environmental crime. Environmental crimes are mentioned throughout the report, used to describe those environmental harms which are criminalized. Offences that are mentioned include misdemeanors against the environment (concerning waste and landfills, air, water and the provisions on the prevention of major accidents) as well as "damaging" and "dangerous throwing of things"; murder and injury by negligence through violation of safety regulations). The report states that "*the case demonstrates the environmental, health and economic impacts associated with environmental infringements committed by industrial companies and provides a particularly interesting scenario for the research on environmental crime*", but without elaborating on the question if the criminalized harms mentioned capture all of the detrimental impacts described. The concept of environmental crime itself is not mentioned in the policy implications, but what is pointed out is the "*ineffectiveness of administrative sanctions against environmental infringements committed by industrial companies*" and "*the inadequacy of an environmental criminal law system based only on misdemeanors against natural persons, whenever the non-compliance with environmental provisions is due to specific business policy choices.*"

In conclusion many of the case studies do not seek to provide or analyse definitions of environmental crime, often *implicitly* defining the concept only as breach of law.

Two case studies have discussions with clear policy implications in regards to a broadening of the concept – that on **Environmental Crime in Armenia case study** and that on **Illegal Wildlife Trade in the United Kingdom, Norway, Colombia and Brazil**. The former discusses the concept and acknowledges that an understanding of environmental crime as a breach in the law is inadequate. This could be explored further in future research in regards to how to understand environmental crime. The latter considers that environmental crime includes also harms which are not currently criminalized and includes nonhuman victims, thus implying a more holistic approach to environmental crime (e.g. justice perspectives).

An implicit reading of the concept of environmental crime from the illegal fisheries case study may be that because what is understood by environmental crime may be imprecise, it is necessary to always specify what kind of crime/illegality/harm etc. is discussed.

Indirect policy implications arising from the other case studies concern stricter criminalization and enforcement of environmental crime. In conclusion, there are no *consistent* policy implications from case studies with regard to the concept of environmental crime. However, the Armenia, the wildlife trade and fisheries cases may be interpreted as referring to environmental crime only as those acts which are breach of law may serve to disguise that other equally harmful activities which are not breach of law may be overlooked.

2.2 The motivation and drivers to commit environmental crime

The case studies provide different degrees of information on the motivations and drivers leading to environmental crime being committed. In most cases the core motivation is economic – whether by small individual actions or those of major organised crime or corruption by government officials. Examples from the case studies are set out below.

The EUTR, CITES and Money Laundering case study identified a range of motivations to commit crime, which are fundamentally financial in nature, but distributed across a chain from where the logging or species are extracted to their final destination. The core economic interests are those of those companies and individuals involved in the illegal extraction of timber/species through to their sale in destination countries. Surrounding this are the interests of corrupt officials, etc. Also important in many cases are the needs to secure livelihoods.

The ILVA steel plant case study found a strong economic motivation for non-compliance with environmental law. The case concluded "*the ILVA steel production capacity of approximately 10 million tons per year represents around 40% of the national demand. If Italy had to be forced to import such a quantity, it would be necessary about €9 billion, which represents one point of the national GDP and 7-8% of the regional GDP of Puglia. Moreover, the closure of the plant would have other economic consequences on the production of the steel mills of Novi Ligure and Genoa, which directly depend from Taranto*."

The case study on the Illegal Wildlife Trade in the United Kingdom, Norway, Colombia and Brazil found a strong economic motivation, including for the individual: "*the collection and killing of wildlife is influenced by market forces and thus motivated largely by the potential for substantial economic gain; the resale value of rhino horn is estimated at around €40,000/kilo (comparatively gold is approximately €31.000/kilo), tiger bones sell for up to € 900/kilo, while raw ivory prices reach € 620/kilo [..]. Even with substantial death rates of live individuals, the pet trade remains lucrative. As is the case with drug traffickers, animal traffickers can sustain loss of 'goods' because of the substantial revenue which can be made from (even single) transactions - a pair of rare parrots can be sold in the EU for €50,000*." However, the causes of the illegal wildlife trade are complicated and extend beyond financial gain – "*Cultural practices of hunting, eating or using animals may be motivated by religion, traditions, entertainment or fashion [...] thereby differentiating the motivation of and incentives for offenders*."

The Victims in the "Land of Fires" case study showed the economic incentives driving illegal waste dumping, are very relevant for understanding the phenomenon; indeed, due to illicit waste markets, firms avoid the costs of the legal disposal and organized crime groups (mafia-like and not) gain very large profits offering their services to economic actors that take part to waste trafficking. The paltry sanctions and the short statute of limitations, together with a weak enforcement of waste laws create strong incentives to commit environmental offences. All these conditions allow the growth of illegal waste activities..

The Illegal shipment of E-waste from the EU case study found that although profit-making is a key explanatory factor, the main conditions, motivations and drivers for illegal e-waste shipments from Europe to China are the asymmetries in WEEE regulation and its enforcement, the asymmetries in development/unemployment and access to resources which exist between Europe and China, the massive production of e-waste in Europe, the reuse value of e-waste in China, the complexity of the e-waste flows and the competiveness of the market and the ineffective or insufficient enforcement of regulations in relation to the shipment of waste. In addition, factors such as ethnic networks, the cheapness of ship container transports and the nature of e-waste facilitate illegal transports.

The case study on illegal localized pollution incidents in the EU found that given the small scale of localised pollution incidents, in many cases there is not enough potential gain at stake for them to be the result of organised crime. It is possible that small-scale incidents occur more as a result of negligence and/or opportunistic attempts to avoid the cost/effort of carrying out 'proper' waste disposal, for example to avoid paying the gate fee for delivering bulky waste to a municipal landfill or arranging for the collection

of bulky items, which may require a fee to be paid. Some incidents may, however, involve larger scale and more organised criminal activity, for example those involving industrial wastes, tyres, construction and demolition and liquid wastes.

The Environmental Crime in Armenia case study found that in RA, environmental crime is fuelled by a cyclical process. RA continues to depend on the mining industry to strengthen its economy and is a means for RA to make an income which can be used to pay back international loans which further develop RA. Due to the need to increase national revenues, the mining sector has dominated RA's economic agenda and its profits have attracted corruption and malpractices which increase mining production at the expense of human health and the environment.

The Aznalcollar and Kolontar mining accidents case found that in the mining sector, there is a need to distinguish between the motivation of operators adopting illegal behaviours that can lead to environmental damage and crime and the motivation of administrations and civil servants not updating the environmental values and standards of bylaws and tolerating and permitting activities that can produce environmental damage and be classified as environmental crimes. The case found that cost-cutting was one simple cause of illegal behaviour by operators. For the administration, illegal activity serves the general interest of prioritising economic activities over the environment as well as the particular economic interests of a specific company, which may link to corruption. Finally, the case notes that a driver for environmental crime is the failure to adequately enforce the law due to problems in inspections and cuts in administrations due to the economic crisis.

The case study into illegal fishing and the role of rights-based fisheries management in improving compliance found that there are a number of economic drivers of IUU fishing, including: i) overcapacity of fishing fleets (caused by management failures). This has the potential to be 'an extremely powerful driver' of IUU fishing, particularly in fisheries exploiting higher value catches, because if vessels are not offered incentives to remove themselves from the fleet, they will face large costs which can only be mitigated through engaging in IUU fishing; ii) market demand and price for IUU fish as the higher the price of a fish species the more likely it is to be targeted illegally; iii) levels of sanctions as in the absence of severe penalties, IUU fishing can be a lucrative option. However, there are instances when even high sanctions do not pose a sufficient disincentive, for example when the perpetrators suffer from extreme poverty; iv) the economic and social condition of fishers is a major driver as IUU fishing presents a response to poverty; v) the level of monitoring, control and surveillance activities can have a significant effect on IUU fishing, by providing positive signals to legitimate fishing operators and discouraging potential non-compliance.

The Case Study on Mercury Pollution by Gold Mining in the Guiana Shield demonstrates the motivation for short term economic gain, particularly in areas of extreme poverty. It also suggests that the interests of high level politicians in the gold mining operations act to disincentivise actions to reduce the problem.

The cocaine production in Colombia case study identifies two sets of actors contributing to environmental degradation caused by cocaine production in the Colombian region: private and public. Private bodies are motivated by economic gains: the amount of money generated through cocaine production and the illicit supply of chemical precursors to cocaine producers. Public bodies on the other hand, albeit bona fide in their motivation to eliminate illicit crops, contribute to severe environmental degradation through the use of highly toxic chemicals in aerial spraying.

The Kosovo case study shows that, with illegal waste dumps, one motivation is the lack of an alternative – until sufficient legal landfills and waste collection are in place, illegal activity will continue as there are no other options. This is also a problem for industrial and mining activities, where new standards are not enforced on old processing methods as there is no economic alternative.

The case study on EU promotion of environmental protection in Kosovo, in considering illegal logging, noted the motivation for individuals to extract wood for domestic consumption and this is driven by

poverty and lack of available alternative, economically viable fuels. The extent of the problem is demonstrated by the fact that forest guards may also engage in these illegal activities for the same reason.

In **conclusion**, there are several motivations and drivers of environmental crime illustrated by the case studies. Not all of the case studies were focused on exploring motivation and drivers and it is important to take this into account. Further, the cases are that – cases, so that the motivations and drivers are illustrative. Clearly economic drivers are the most important driver found across the cases – whether these are the core business of organised crime or the driving force behind major governmental corruption, through to the decisions of individuals seeking to avoid paying a charge at a disposal site when dumping waste on the street.

However, not all drivers are economic. Culture may be important (e.g. in relation to some types of hunting). Clearly, enforcement is a disincentive in some cases and the lack or failure of enforcement is a permissive condition leading to increasing criminal activity. Further, the lack of any alternative is also a permissive condition (e.g. for waste in Kosovo due to lack of investment) and ignorance is also a cause of illegal activity (even if it cannot be termed a 'motivation').

Therefore, the cases provide a range of interesting examples of contexts of the drivers and motivations of environmental crime, from the local incident to major international criminal activities.

2.3 Organised environmental crime (understanding it and tackling it)

Several of the case studies either addressed organized environmental crime or included a consideration of it. Examples of the conclusions on this issue are set out below.

In the case study report on the Illegal Wildlife Trade in the United Kingdom, Norway, Colombia and Brazil the link between the illegal wildlife trade (IWT) and organised crime is diffusely analyzed. For instance, organised crime was broadly recorded in the UK in terms of rhino horn thefts and trade, egg and raptors. In this context, two enforcement officers asked about the presence of organised crime stated that owing to "*limited resources they were unable to collate the necessary evidence*". A link between organised crime and IWT was identified also in the Amazon border areas (Brazil), but no relation between the organised drug trade and wildlife trafficking in Sao Paolo was found from the Military Environmental Police. Generally, the involvement of organised crime groups in the IWT is strongly perceived as a critical issue, giving rise to international resolutions (by UNODC and CITES) for tackling it. However, as emphasized by the report, *"not all forms of IWT are controlled by organised crime groups and most trafficking offence are committed by individuals (e.g. carrying wildlife in their luggage or on their bodies or as a result of noncompliance)."* The case notes some policy implications concerned with organised crime. Some possible ways to tackle IWT are: (i) support wildlife rangers in source countries through the use of UN troops; (ii) fully exploit expertise of agencies already in place (e.g. Europol, Eurojust, EU Anti-money laundering directive). Additionally, the UK should enhance the development of 'intelligence' on the IWT with regard to the link between organised crime and repeat offenders.

The illegal shipment of E-waste from the EU case study discusses the concept of organised crime and has policy implications in that regard. It is widely stated and documented that "*loosely structured organised crime groups are often behind illegal trafficking of e-waste to China*" even though "*traditional mafia-like organised crime groups seem to be rather marginally involved, mostly as facilitators of the e-waste crime*". The case study emphasizes, in fact, that "*the involvement of organised criminality in illegal e-waste shipments is loosely structured: small groups organize for a short period of time to commit crime to obtain financial or other benefits, but dissolve more easily to form new groups*". The policy implications are based on the fact that this peculiar nature of e-waste illegal activities "*should be recognized by European policy makers and should encourage them to make the fight against transnational e-waste crimes and other transnational crimes related to the 'grey environment' a priority and to provide for instance for substantial*

and permanent budgets for international police cooperation (at the level of Interpol or Europol) or for increased custom controls at the external borders of the EU".

In the Victims in the "Land of Fires" case study the role of organised crime is analyzed with regard to the Italian waste trafficking business that is characterized by the presence of many affiliated to mafia-like groups. In the report it is underlined that even though organised crime plays a significant role in the waste illegal trafficking, however, it is not the only player. In fact, although often in the public domain there prevails a simplistic view according to which the waste dumping is due only to mafia clans, a more substantial explanation of the phenomenon is provided emphasizing the interplay between varieties of actors (i.e. organised crime, businessmen, firms and administrative officers). Legal enterprises without links to criminal clans have a very important role in the illegal trafficking of waste; they use organised crime to dispose the waste they produce but often they try to get rid of them directly without using the services of organized crime mafia-like groups. Even if public opinion stigmatizes organised crime for the illegal waste trafficking, corporations often commit waste related environmental crimes. The attractiveness of trafficking waste is mainly due to the extremely lucrative possibilities that the business offers and the very loose sanctions that Italian laws and legislators have implemented for fighting this kind of environmental crime. Thus, the first results of the case study on the so-called "land of fires" helps to explain that there is a clear link between mismanagement of waste and organised crime but, at the same time, the role of the latter should not be overestimated. Focusing only on organised crime would not be an effective policy; it is essential to try to curb legal entity interests with specific penalties for corporate illicit behaviors in waste trafficking.

In the **case study on EU promotion of environmental protection in Kosovo** it emerged that organised crime is a major issue in Kosovo and, together with corruption, is the main hindrance for the country to become an EU Member State. The Criminal Code has provisions on organised crime but the number of convictions and asset-confiscations is low. The weak enforcement is due to weak administrative infrastructure, lack of legal and judicial tradition, few human resources and corruption which links together interests of some public officers and members of organised criminal groups. The report states that organised crime interests in Kosovo are fundamentally human trafficking and drugs. Recently, Interpol has warned against the infiltration of criminal groups in illegal environmental practices, but it remains a minor issue. Even though the report introduces several illegal practices, spread all over the country, related to logging, hunting waste, building and cultural heritage of minorities, the only reference to the explicit role of organised crime is related to illegal logging. The transnational dimension of such a crime is highlighted, being Kosovo part of a network of illegal timber market that connects the country with Macedonia, Albania and Montenegro. Legal logging activities are interweaved with illegal ones; the traded illegal woods disappear from official statistics thanks to the corruption of public officers. Currently, there is no information available on whether the judiciary considers the presence of organised crime in committing an environmental crime an aggravating circumstance.

The Environmental Crime in Armenia case study highlighted the particular organised crime associated with systemic corruption of officials and collusion between political and business interests. This leads to a system where the economic interests of these individuals/companies undermine the rule of law.

The cocaine production in Colombia case study found that organised crime is a central actor in cocaine trafficking. The production of cocaine has serious environmental impacts. The pollution is due mainly to the tons of chemical precursors (e.g. potassium permanganate) dumped in the environment as a consequence of cocaine production. The restriction on the marketing of those products in EU is meant, inter alia, to contribute to the fight against organised crime. The trafficking of precursor chemicals is punished in EU with sanctions from 1 to 3 years of imprisonment, which becomes from 5 to 10 years when an organised crime group commits it. However, in the report it is underlined that this restriction can create illicit markets that organised crime could infiltrate. According to UNODC, organised crime seems not involved in importing precursors, but criminals succeed in obtaining the precursors or manufacture them in the countries that produce cocaine. The chemical precursors monitoring system has to be flexible enough to respond to the continual strategy shifts of the criminals. Production is often replaced in a

country with weak environmental restriction. Under policy implications, the report recommends to: a) make the precursors trafficking a criminal policy priority in EU; b) tighten further penalties, handling pre-export notifications by competent authorities and customs control; and c) avoid diversion and re-export of chemical precursors to countries producers of cocaine.

The case study on illegal localized pollution incidents in the EU noted that there is ”a lack of information on whether organised crime is suspected in many cases of pollution incidents. In addition, there is also a lack of clarity in several information sources as to whether the localized pollution incidents concerned can be considered as deliberate illegal or criminal activity”. It stated that “given the small scale of localized pollution incidents, in many cases there is not enough potential gain at stake for them to be the result of organised crime”. However, it is underlined that it is possible that “some incidents may involve larger scale and more organised criminal activity, for example those involving industrial wastes, tires, liquid wastes, etc.”.

The case study into illegal fishing and the role of rights-based fisheries management in improving compliance does not explicitly discuss the link between illegal fishing and organised crime, though it is stated that “the fishing industry has been identified as vulnerable to international organised crime”.

In the **EUTR, CITES and Money Laundering case study** the link between illegal logging and organised crime is not directly explored. A definition of Transational Organised Crime is given and the potential relationship between global trade in illegal forest products and transnational criminal organization is noted. However, the case focuses more specifically, among other issues, on enforcement procedures and on the impact of EU legislation on third countries in their efforts to combat environmental crime. Under policy implications, it considers three EU policy mechanisms that have the potential to reduce incentives for illegal exploitation of forest resources in producer countries: the EU Timber Regulation (EUTR), CITES and anti-money laundering legislation, but does not mention organised crime.

The environmental crime and corporate miscompliance case study on the ILVA steel plant in Italy focuses on the environmental, health and economic impacts associated with environmental infringements committed by the industrial company. The case reveals that the fair balance between the right to health and the protection of environment, on the one hand, the right to work and production needs, on the other one, could be very difficult to achieve. The case involves mainly the relationship between judiciary, administrative and legislative powers. The concept of organised crime is not mentioned. It implies, therefore, that there is no involvement of organised crime groups in the analyzed case study.

Overall, six of the twelve case studies analyze and discuss the link between environmental crime and organised crime groups:

- The illegal wildlife trade. A Case Study report on the Illegal Wildlife Trade in the United Kingdom, Norway, Colombia and Brazil
- Illegal shipment of e-waste from the EU. A case study on illegal e-waste export from the EU to China
- Victims in the “Land of Fires”: a case study on the consequences of buried and burnt waste in Campania, Italy
- The EUs promotion of environmental protection in Kosovo. A Minor Case Study on the Protection of the Environment through Criminal Law in Kosovo
- The Environmental Crime in Armenia case study.
- Cocaine production in Colombia: A case study on the effect of EU legislation on the trade

The policy implications deriving from these five case studies with regard to the concept of organised crime are of course different since different are the types of environmental crimes analyzed. Overall, it is possible to deduce that indirect policy implications common to all five reports are with regard to strengthening the enforcement strategies and approaches and harshening the sanctioning system. The case studies explore the conditions that allow organised crime to flourish, such as in Armenia where politicians, officials and

business collude to avoid the rule of law. The cases make conclusions on the effectiveness of enforcement systems and how these can be used to address organised crime.

2.4 The effectiveness of enforcement procedures to combat environmental crime

Understanding the processes in place to combat environmental crime and whether these are effective is an important strand of analysis within EFFACE. Clearly, the wide range of different types of environmental crime and their context (from the local to the international) require different enforcement responses. The cases explore enforcement procedures and their effectiveness to different extents. Examples from the case studies include:

The Victims in the "Land of Fires" case study shows that the weakness of both the sanctioning and the enforcement systems of waste laws has been a major contributing factor to the proliferation of illegal waste dumping. The extent of the problem was exacerbated by the fact that until 2001 the Italian legal framework did not consider the activity a crime but just a misdemeanour. Moreover, the short statute of limitations often have discouraged prosecutors to sue offenders to avoid that their actions come to naught. The case also concludes that politicians and many journalists have disseminated a simplistic view of the problem to stakeholders and this has served as a foundation for actions that do not really and effectively address the root causes of the problem.

The case study on the Illegal Wildlife Trade in the United Kingdom, Norway, Colombia and Brazil examined factors affecting the effectiveness of enforcement in Norway, the UK, Colombia and Brazil. The case found the following aspects of enforcement were strong, including robust legislation, use of non-CITES legislation to enhance punishment of offences, partnership between agencies and country and international level, training of staff, high involvement of NGOs, etc. The case also found weakness in the enforcement frameworks, including: incoherent and outdated domestic legislation, IWT not being prioritise by enforcement agencies, inconsistent application of sanctions, long delays in prosecution, lack of specialist training at all levels of the criminal justice system, limited resources, lack of public awareness, etc.

The case study on illegal localized pollution incidents in the EU found that in England and Wales (UK) the Environment Agency (EA) is responsible for the enforcement of waste regulation. EA staff work with local government, other regulators/enforcement bodies, conservation bodies, voluntary groups and NGOs to ensure coherent regulation. In cases of non-compliance, advice/guidance is normally provided to the offender in the first instance, and solutions and timescales for improvements agreed where appropriate. The use of formal enforcement powers and sanctions may be necessary if these approaches do not succeed. The EA's guidance on enforcement and sanctions suggests that 'prosecutions, because of their greater stigma if a conviction is secured, may be appropriate even for minor non-compliances where they might contribute to a greater level of overall deterrence'), and it seeks to recover the costs of investigation and enforcement proceedings in accordance with the 'polluter pays' principle. For example, in the last reported year in England, 171 successful prosecutions were made, and 62 formal cautions for waste crime were issued. Total fines imposed for waste crime amounted to £827,940 (the highest fine was £75,000 and the average fine £7,137). Five custodial sentences were also handed down, with the longest sentence being 18 months. However, while it is possible track individual offender behaviour as a result of these enforcement actions, it is still difficult to determine the overall effectiveness of these enforcement actions. This case, therefore, illustrates the inherent difficult in moving from a conceptual understanding of effectiveness to a real-world assessment.

The illegal shipment of E-waste from the EU case study found that the effectiveness of the Waste Shipment Regulation and the WEEE Directive in halting illegal e-waste exports from the EU and halting the negative impacts on public health and the environment in China (and other developing countries) remains relatively limited given the complexity of the e-waste problem and its inter-linkage to broader waste management in the EU. The new amendments to the EU legislation on inspection and enforcement might yield improvements in enforcement but is unlikely to change the fundamental fact that approaches beyond enforcement and inspections are needed to deal adequately with the e-waste problem.

The EUTR, CITES and Money Laundering case study shows the challenges of coordinating enforcement activities in situations where fundamentally different institutional arrangements and underlying legal principles (for example in the distinction between criminal and administrative illegalities) operate across the EU28. It also demonstrates the importance of European Commission leadership on enforcement coordination despite the limitations of its mandate in this area. The findings of this case study suggest that coherent policy mechanisms which target both the 'supply' and 'demand' for timber (e.g. the EUTR in the EU) can be both mutually supportive and have dynamic impacts on the enforcement of other, linked, bodies of environmental legislation – in this case CITES.

The Environmental Crime in Armenia case study highlighted severe problems with the enforcement of environmental law. However, of particular interest compared with the other cases, is its conclusion on the law-making – as opposed to law-implementation – stage. The case study finds that Armenia's environmental laws are vague, convoluted, contradictory, and often outdated. Presidential decrees and orders occasionally contradict environmental laws which they constitutionally must not. Overall, the legislation is inadequate and badly framed to protect the country's environment. This further undermines the effectiveness of enforcement agencies which are underfunded and often corrupt.

The case study into illegal fishing and the role of rights-based fisheries management in improving compliance found that right-based fisheries influence the amount of enforcement that is required, because it reduces the number of participants in the fishery and thereby allows more intensive monitoring of landings and discards, and increases the probability of detecting illegal activity. However, this conclusion is not that rights-based fisheries is a 'magic bullet', but a contributing factor. In practice, many rights-based management systems continue to have problems with illegal behaviour. The ownership effect is not sufficient to outweigh the net gains from committed an offence. Nevertheless, there is evidence that fisheries managed using rights-based systems do perform better with respect to sticking within quotas.

The Aznacollar and the Kolontar Mining accidents case study found that the lack of enforcement procedures or their malfunction encourage environmental harmful activity and in some cases are at the root of environmental crime, involving criminal liability of civil servants. Both accidents in the case raise questions on the shortcomings and loopholes of the existing legislation when the catastrophe occurs regarding: licences and authorisation procedures, mechanisms to update environmental standards and requirements according to scientific knowledge; remedial measures; and financial guarantees and legal liability. There is an inadequate regulation in all these issues during the years after accidents occurred has been corrected at the national and EU levels.

The cocaine production in Colombia case study shows that the interception rate for potassium permanganate is low (average 15%) compared to the total available to drug manufacturers. This shows that while there is some enforcement, it is insufficient to form an effective control mechanism. Organised criminals make use of various loopholes in the monitoring system, such as shipping via third countries, taking advantage of complex supply chains, etc. This makes enforcement problematic. Within the EU the case found that whilst the monitoring of potassium permanganate trade within the EU seems to be effective, significant variants in seizures of the chemical precursor suggest that the issue is not prioritised

and well-understood at the Member State levels. Penalties are harmonised, but the sentences imposed are still far from satisfactory.

The Kosovo case study shows the limitations for enforcement bodies in cases where individuals or industry simply has no alternative to carrying on illegal activity as the country approximates its laws to EU legislation. The lack of legal landfills, lack of investment in new equipment, etc., places institutions in impossible situations. Effectively, the problem arises from a rush to approximation without a concern about the practical problems of implementation. This undermines the rule of law.

The case study on EU promotion of environmental protection in Kosovo also identifies a number of capacity issues affecting the enforcement of controls on illegal logging, such as numbers of staff, skills, etc., as well as procedural delays in the judicial system affecting efficiency of the system. Poverty is another factor affecting the effectiveness of the enforcement system – as illustrated by forest guards engaging in illegal logging activity.

In **conclusion**, many of the cases report on problems in the enforcement of environmental laws and, therefore, problems leading to environmental crime. Problems identified include:

- Poor framing of legislation leading to problems for enforcement authorities.
- Under-resourcing of enforcement authorities.
- Lack of sufficient powers for enforcement authorities.
- Lack of sufficient sanctions.
- Overwhelming drivers for illegal activity which enforcement authorities find difficult to counter.

The cases do describe examples of improvements or possible steps forward – from better legislation being put in place, to use of a wide range of sanctions and alternative management systems (as with fisheries).

However, while the cases provide many examples of where illegal activity is taking place and, hence, where enforcement is insufficient and also identify where improvements may be made, there is a fundamental challenge to understand what enforcement actions are effective – whether they change behaviour. However, follow-up studies may help to examine this further.

2.5 Information and data on environmental crime and its use

The case studies provide examples of the use of information and data on environmental crime, the role of such information and limitations of such information. However, not all cases addressed this issue specifically. Some draw on, or make reference to, specific data sources, but the cases are not focused on critically examining those sources, but address other aspects of the EFFACE analytical framework. Conclusions on information and data on environmental crime arising from relevant case studies are set out below.

The EUTR, CITES and Money Laundering case study shows the importance of data sharing as a key element of effective enforcement. Where EU Member States have statistically significant CITES imports, there are relatively well managed flows of information/ activities between relevant enforcement departments for EUTR and CITES. The case illustrates the different data sharing situations in Member States such as the Czech Republic, Italy and the UK, where sharing between institutions may necessitate the establishment of specific processes for that purpose. In developing countries data sharing is also critical to enforcement. However, it is the establishment of databases in their countries that can be shared with enforcement bodies in the EU Member States that present a major

opportunity to share timely data on companies, etc., operating in those countries and importing to the EU, thus providing the basis for tracking and monitoring.

The case study on illegal localized pollution incidents in the EU found that information on landfills that do not conform with the requirements of the EU Landfill Directive has been collected by the European Commission through implementation reporting and this has been supplemented at EU level by the investigations to support several infringement proceedings launched against Member States. Other data sources are rather informal in nature (e.g. citizen-led initiatives) and, therefore, should not be seen as wholly scientific or representing a completely accurate picture, in particular since they rely on the engagement of individual citizens which may be more extensive in some countries than in others. These sources do, however, give an overall sense of the extent of the problem within the EU. Data on specific quantified environmental, social and economic impacts have also been estimated in a few Member States.

The environmental crime and corporate miscompliance case study on the ILVA steel plant in Italy provided a good overall example of a case examining information on the different impacts of environmental crime. There are data on environmental impacts, health impacts and effects on the agriculture sector, alongside data on the economic 'benefits' from the steel plant (see above). The case both shows the importance of data to understand the problem, but also that demonstrating impacts is not in itself sufficient to make a change.

The illegal wildlife trade case study found that the complexity of the illegal wildlife trade raises a number of challenges for data gathering and sharing. The principle data requirements are for sharing of information on seizures and individuals and organisations involved. Work that has sought to quantify the economic impacts is also important in helping to understand motivation and, therefore, target information campaigns and enforcement actions.

The illegal shipment of E-waste from the EU case study found that there is a wide amount of information on the extent of impacts of illegal waste shipment, although the extent of the information remains patchy. The shipment of waste is also controlled to the extent that there is technically a trail from first disposal to a municipal site to processing or export. However, there are issues in capturing information on waste along this chain and estimates of the extent of illegal waste shipment are based on leakage estimates, rather than on quantification of what occurs in third countries. Improving understanding of the exact nature and extent of illegal waste movement is seen as critical in enhancing the effectiveness not only of enforcement but of wider strategies to reduce the push and pull motivations to commit the crime in the first place.

The case study into illegal fishing and the role of rights-based fisheries management in improving compliance did not address data issues per se. The case instead examined alternative management approaches to affect the motivation to commit non-compliant behaviour. However, it did note that the monitoring of IUU fishing in EU waters has improved significantly.

The Environmental Crime in Armenia case study found significant evidence of the environmental, health and economic impacts of illegal mining activity. The case shows the pathway from production of environmental pollution through various pathways to exposure to people – in water, air, food chain and a transboundary dimension. The case also provides information on the economic benefits of the mining sector - *"In Armenia the mining sector is a key contributor to the national economy. Ore concentrates and metals produced in Armenia account for over half of our country's exports, making the mining industry Armenia's most important economic driver."* It attracts significant foreign direct investment and is important for jobs. This type of information is critical in understanding not only basic costs and benefits of environmental crime, but in determining the political context of any possible measures to address the

problem – in this case illustrating that action would come up against strong entrenched political and economic (both national and personal) economic interests.

The cocaine production in Colombia case study notes that relevant data relating to the involvement of the EU regarding the environmental crime in Colombia has been problematic. This is due to the fact that the sources available were mainly focused on local activities in Colombia, rather than in the EU. Another obstacle faced regarding the information was lack of definite usage of the chemical precursors data. This is due to the fact that the chemicals used are various and can be substituted.

The case study on EU promotion of environmental protection in Kosovo provides information on the extent and distribution of illegal waste dumps. It notes limitations, however, on information and data, alongside other capacity issues within Kosovo.

The Case Study on Mercury Pollution by Gold Mining in the Guiana Shield noted that there are data on the negative health impacts from mercury used in gold mining in Guiana through accumulation in the environment, thus demonstrating the seriousness of the problem.

The Aznacollar and the Kolontar Mining accidents case study noted that questions have arise with regard to Kolontar concerning the veracity of official reports and that several important documents relating to the case have been classified by the Hungarian Government as confidential. These include the 2012 Report of the Fact-finding Committee of the Hungarian Parliament and the National Investigation Office and the police reports on the criminal liability of operators and administration. The Hungarian authorities have stated that they will provide these documents once the courts adopt their decisions on the case. It will be seen in due course what information becomes available to the public domain and the accuracy of this will then be open to scrutiny.

In conclusion, many of the cases show the importance of good information and data in understanding the extent of environmental crime, its impacts and where action to tackle that crime may be most effective. The cases show that good reporting systems (e.g. for an EU directive), tracking systems (e.g. for waste shipment) or systems for data sharing (e.g. CITES) provide the foundation for information provision. Current data management systems also allow the potential for rapid data sharing (e.g. between third countries and the EU).

Overall, the cases also illustrate the wide range of different types of information that are needed to understand and address environmental crime. Several report some information on the extent of illegal activity and the localised pollution case provides data on enforcement actions. Several cases provide information on the impacts of the environmental crime – environmental, social and economic. This information necessary to reach an understanding of the importance of a particular environmental crime and of targeting of control measures varies for each type of environmental crime. However, in most cases there are significant challenges to gathering the necessary information.

The Aznalcollar and Kolontar mining accidents case illustrates the problems on access to information due to the following constraints:

- That ongoing court cases may prevent certain information being made available prior to the conclusion of those cases.

- That research on environmental crime can be hampered by key data and information not being made available.

- There can be strong views on the veracity of information so that, without independent verification, caveats need to be applied if such information is an important source within research on environmental crime.

2.6 The coherence of the EU level framework for tackling environmental crime

The coherence of the EU level framework for tackling environmental crime is addressed by some of the cases, but not all. The subject concerns either legal or practical of the EU framework. For example, are EU laws adequately drafted, do Member States co-operate effectively, are systems in place to share information, etc. The practical coherence is an important aspect given the customs union, whereby the external frontier of each Member State is the frontier of the Union and, therefore, coherence of control measures are important for many of the issues addressed by the case studies.

The EUTR CITES and money laundering case provided interesting comparative conclusions regarding the legal and enforcement structures of CITES and EUTR at EU level. The case found there has been a demonstrable willingness to explore options for improvement and mutual enforcement cooperation on the part of key officials in the relevant parts of the European Commission. The European Commission has, however, been "*relatively slow to support enforcement cooperation and capacity*", resulting in different 'tiers' of Member States. The case also concluded that "*while enforcement is a member state competence, there are still a number of areas where a more proactive facilitation/funding by the [European Commission] could have encouraged consistency and robustness across the Union*". For example, EUTR/CITES officials will have an annual policy meeting hosted by Brussels, but there are still no joint enforcement meetings planned.

The EUTR, CITES and Money Laundering case study illustrates another key EU level measure to enhance coherence – funding. It notes that the European Commission is considering providing resources to establish a platform to allow EUTR enforcement officials to communicate with each other and store data.

The case study on the Illegal Wildlife Trade in the United Kingdom, Norway, Colombia and Brazil focused particularly (within the EU) on enforcement issues for Norway and the UK rather than the nature of the EU framework itself. However, it concluded that there is a need to revise EU regulations and legislation relating to the IWT, such as to update Council Regulation (EC) No 1/2005 in line with the enhanced welfare standards as part of CITES compliance. Further coherence of tackling IWT would be supported if the Commission encouraged "*all Member States to review their domestic wildlife crime legislation in order to respond to the current IWT issues and to ensure EU policy/legislation is enacted in an appropriate and consistent manner by each Member State*."

The illegal shipment of E-waste from the EU case study found that the current EU legislative framework (the Waste Shipment Regulation and the WEEE Directive) to fight illegal e-waste shipments is sufficiently coherent and does not show major gaps. However, there is still no level playing field within Europe as a result of differences in implementation and interpretation at Member State level. This is illustrated by considering prosecutions: the number of infringements actually brought to the courts, the extent to which penalties are applied and the levels of the actual penalties greatly vary. There is also a lack of exchange of information among public prosecutors. As a result of this practical coherence problem, the EU is struggling to adequately enforce the rules to counter illegal shipments of e-waste to countries such as China. The EU has introduced extensive amendments to both the Waste Shipment Regulation (in 2014) and the WEEE Directive (in 2012) concerning inspections and enforcement. These amendments have the potential to improve inspection and enforcement on the ground. Whether these will effectively occur will however depend on the willingness of the individual Member States to provide the necessary resources (such as budget and staff) to implement the new provisions in a meaningful way.

The case study on illegal localized pollution incidents in the EU found that the overall EU legislative framework was not a constraint on addressing the problem – the requirements of EU waste law were not

affecting negatively the levels of illegal dumping nor its compliance monitoring and enforcement. The problems were at Member State level. The case does consider the issue of the variation in sanctions across the Member States. Weak sanctions is an issue affecting levels of compliance, but whether this translates into a need to EU level coherence or Member State level action is a mute point. It is certainly unlikely that the extent of EU level coherence of sanctions affects specific behaviour in a Member State.

The environmental crime and corporate miscompliance case study on the ILVA steel plant in Italy noted that the critical issue was coherence enforcement of EU law at Member State level supported by EU level intervention. The steel plant was known not to be compliant with the Industrial Emissions Directive (and predecessor), which should have triggered a response at EU level earlier than it did. The fact that the situation dragged on is a criticism of the integration of policy objectives at EU level.

The case study into illegal fishing and the role of rights-based fisheries management in improving compliance was set within the coherent legal framework of the EU Regulations of the Common Fisheries Policy. Further coherence is provided by the Fisheries Control Agency and the joint inspection processes. Indeed, the inspection framework for fisheries is unique across the cases in being an EU-level intervention at the compliance assessment level. Therefore, the issue is not one of legal coherence, but one of delivering a management regime that can improve compliant behaviour, which rights-based fisheries examined by the case may do.

The Aznacollar and the Kolontar Mining accidents case study concluded that environmental crime related with mining activities is connected with serious violations of permits and licences, lack of control and malpractice of monitoring systems. It needs more attention because it is also a consequence of the problems of the enforcement of EU environmental law. The Aznalcollar case demonstrated *"the relevance of prevision of mechanisms for updating environmental legislation, the content of environmental authorizations and determination of an appropriate legislative framework to enforce liability for legal persons"*. The Kolontar case shows that *"even though Hungary complied with the Environmental Liability Directive [..], the incorrect enforcement of the waste management directive undermined the enforcement of the former and other directives."* This case, therefore, does not specifically question the coherence of the legal framework at EU level, it does illustrate the importance of ensuring coherence of implementing the different elements of that framework at Member State level.

In **conclusion**, the following points can be made:

- Several issues of potential coherence problems at EU level (e.g. harmonisation of sanctions, inspection regimes, etc.) were not analysed in the case studies. These issues are not ignored, but no case, for example, analyses whether harmonisation of existing diversity of sanctions for a particular regime would deliver benefits.

- Lessons of practical coherence, such as data sharing, experience of practical enforcement, can be important.

- EU funding can be an important tool to deliver coherence across the EU (e.g. supporting shared enforcement data systems for Member State authorities).

- There are useful lessons to be learned from the enforcement of different legal regimes, such as CITES, EUTR and waste shipment. This helps deliver a 'coherence of experience'.

- Coherence of practical enforcement of EU law can be enhanced by joint compliance monitoring (inspection) institutions and processes as illustrated by the fisheries case. However, while such examples provide lessons, they cannot be replicated across all policy areas.

- Where coherence (or at least links) is made at EU level between different items of legislation, the effectiveness of such links depends on application at Member State level, as illustrated by the practical implementation of EU waste and liability law in the Kolontar case.

3 Recommendations and Conclusions

The case studies make a series of conclusions and recommendations. Many of these are highly specific to the individual case study. However, others have wider consequence to addressing environmental crime and it is these which are summarised here. Given the focus of the case studies it is not surprising that many of recommendations are addressed to EU level institutions.

3.1 EU level

The EUTR CITES and money laundering case noted that while enforcement is a Member State competence under the current Treaty, "*European Commission leadership is essential to establish consistency across the EU and avoid a "race to the bottom" in enforcement quality. Given the single market, European legislation that attempts to control the trade in environmentally sensitive/harmful products is only as strong as its weakest Member State*."

This is a conclusion and recommendation that can be made for many of the case studies. With a customs union, the EU border is a strong as its weakest link. It is known, for example, that illegal waste actors do seek out weakly controlled ports for shipping. Similarly, weak enforcement of activities within Member States (waste sites, mining, etc.) threatens not only the local health and environment, it is also a risk to the operation of the level playing field within the internal market. Thus, the EUTR CITES and money laundering case states that "*establishing norms and timelines for implementation and enforcement, as well as identifying those MS that fall below them, through benchmarking, best practice transparency measures and peer accountability mechanisms, would significantly improve the consistency of implementation of environmental legislation across the EU.*" Such approaches would be applicable to other areas of environmental crime (including, but not limited to, those addressed by the other case studies).

The illegal shipment of E-waste from the EU case study made a series of specific recommendations:

- "The waste shipment case study found that Environmental harm rather than environmental crime should be taken as a frame of reference when trying to address the negative effects of e-waste shipments in developing countries.
- The focus of policy makers in Europe (and China) should not only be on strict crimes but also on activities that are on a thin line between legal and illegal activities.
- European policy makers should nevertheless make the fight against transnational e-waste crimes (and other transnational crimes related to the 'grey environment') a priority.
- European policy makers should provide for instance for substantial and permanent budgets for international police cooperation (at the level of Interpol or Europol) or for increased customs and other controls at the external borders of the EU.
- A list of contact points of prosecutors in the different Member States could be set up in order to enhance cooperation between prosecutors around Europe.
- Practitioners should also share their relevant case law best practices. The database of case law on environmental crime which is currently being developed by the IMPEL Transfrontier Waste Shipment Task Force and which has a special focus on illegal e-waste shipment could be helpful in this respect.
- Policies are needed that are even more than now directed towards the prevention or reduction of e-waste through reducing toxics or replacing them all together, making products environmentally friendly and easier to dismantle and recycle, thereby closing loops (extended producer responsibility) but also towards the reduction of consumption of electronic and electrical tools in Europe and the rest of the developed world."

These recommendations present some more specific EU-level actions. These include the role of funding, facilitating actions such as networking and targeting action towards prevention.

The case study on illegal localized pollution incidents in the EU found that "*given the localised nature of fly-tipping/illegal dumping incidents, it is not an area where EU level involvement is necessarily obvious. Member States would likely be resistant to any attempts to introduce EU legislation on fly-tipping, since it is*

an issue that is largely dealt with at the local/regional level." However, the case also noted that EU level action can facilitate improved enforcement – via funding and improving information systems. Thus the case states that "*EU contributions to the issue could perhaps include making available funding (e.g. through the LIFE or INTERREG programmes) for exchange of information and best practices between local authorities in different Member States, to allow those with lower rates of success of dealing with fly-tipping/illegal waste dumping to learn from those who have had greater successes with tackling the issue. Some efforts could also be made to encourage Member States to gather more systematic data on fly-tipping incidents, to help to assess the scale of the problem across the EU. This could help to identify whether it is an issue that could, in fact, usefully be the subject of more EU level action (whether legislative or not)*."

The case study into illegal fishing and the role of rights-based fisheries management in improving compliance found that rights-based management is a potential tool to deliver better fisheries management and tackle some IUU fishing. The introduction of such a system would need to be coherent with the implementation of the Common Fisheries Policy and, therefore, this case has a specific policy-dependent conclusion for EU level action.

The Aznacollar and the Kolontar Mining accidents case study found that the adoption of new and compulsory inspectorate rules at EU level should address obligations such as updating licence conditions and monitoring and reinforcing inspectorate systems. The case also concluded that there should be "*a better dialogue between the different EU legal instruments and their enforcement is necessary. A better synchronicity between the different EU environmental directives, in particular, the Environmental Liability Directive and the Environmental Crime Directive is required*." This improved policy coherence would need to be developed at EU level and Member State level.

The EUTR, CITES and Money Laundering case study concluded that "*it is the severity of the sanction associated with the legislation that determines whether or not non-compliance is criminalised, not an abstract notion about whether or not certain types of environmentally damaging activities should be criminalised. The UK and the Czech Republic go for opposite approaches (criminal or administrative sanctions respectively), whereas Italian [competent authorities] have the choice*." The case concluded that it was the severity of the sanction rather than whether an environmentally damaging act is deemed to be criminal or administrative is important.

3.2 EU cooperation with third countries

Several cases also made EU level recommendations concerning relationships with third countries.

The Environmental Crime in Armenia case study concluded that the EU needs to address both the gap between national law and international commitments and the gap between national law and its enforcement and adjudication, "*reminding the RA government of its international obligations so that they are enforced in RA will also serve to strengthen the most important pro-environmental actors in RA, namely local movements and NGOs. EU support for these actors in other ways, such as through technical support and funding, can also strengthen their ability to address environmental crimes in their own country. The EU can play a role in addressing the second gap as well. The EU could provide incentives to EU owned companies working in RA's mining sector to operate in environmentally responsible and transparent ways. The EU could further use its civilian and normative power to convince the RA to enforce national and international law as a term of doing business*."

The Armenia case study concluded that its findings were applicable in many other countries – *"corruption is a common symptom of mining sectors all over the world which leads to environmental crime that harms the environment and local population. [...] outside forces such as international institutions and the EU need to incentivize compliance with international agreements and help develop local institutions to enforce both international and national laws. Incentives from outside players to create a mining sector that complies with applicable laws are an important factor to counterbalance the incentives of the mining sector to commit environmental crimes. In this sense, the results of this case study can be applied to mining sectors in other developing countries as well."*

The cocaine production in Colombia case study recommends that co-operation with third countries must continue and enhance to address monitoring and enforcement of precursor chemicals for cocaine production. The EU should also do more to understand the links with organised crime. Finally, there is a need for the EU to work towards greater harmonisation of disparities across Member States in implementing Regulation 111/2005.

The Kosovo case study shows that support from the EU for training and capacity building for enforcement institutions in the country is important in enhancing effectiveness.

The role of enforcement networks was stressed by some cases. For example, the **waste shipment case** concluded that major enforcement stakeholders such as Europol, Interpol, IMPEL, the European Commission, ENPE, the Basel Secretariat and the UNODC could enhance cooperation further. The relevant competent authorities around Europe could establish joint investigation teams specifically focusing on the illegal shipment of e-waste. **The illegal wildlife trade case** also noted the importance of such networks stressing that authorities should "*utilise the strategies and agencies already in place to respond to other serious organised crimes (e.g. Europol, Eurojust, EU Anti-money laundering directive) to enhance the identification, enforcement and prosecution of IWT cases*."

3.3 Member State level

It can be seen that several of the conclusions and recommendations for the EU level also apply at Member State level. Some case also included specific recommendation to Member State level authorities. For example, the **waste shipment case study** found that "*Member State authorities should introduce a more integrated approach towards enforcement whereby inspection activities downstream in the e-waste chain (e.g. at EEE outlets or at e-waste collection points) and inspection or other enforcement activities in more upstream segments of the chain (e.g. in ports) mutually support and inform each other. The more frequent use of intelligence-led enforcement would provide a better insight on the illegal activities and would help to track down the worst offenders and organised crime groups. Furthermore, the more information key institutions have on illegal e-waste shipment the easier it would be to prevent these illegal activities*."

The EUTR CITES and money laundering case found that "*the variance in activities of competent authorities with expert knowledge of EUTR and CITES, combined with the very distinct nature of investigation and prosecution cultures in different member states also suggests that coordination and information sharing in the earlier stages of implementation (specifically in relation to prevention/education and compliance checks) will be easier to achieve and more likely to improve enforcement outcomes*."

The case study into illegal fishing and the role of rights-based fisheries management in improving compliance proposed the conditions for successful enforcement systems in the Member States, with the inference that existing systems should be tested against the following:

- To ensure fishers know their obligations.
- To be able to track and identify non-compliance
- To have the enforcement mechanisms in place to tackle non-compliance and act as an incentive for compliance.
- To adopt systems that encourage compliant behaviour.

The illegal wildlife trade case study made a series of specific recommendations to improve the enforcement in the Member States. These recommendations included (but are not limited to):

- "Ensure all Member States implement and enforce the EU Wildlife Trade Regulations uniformly as failure to do so will place all Member States at risk.
- Require Member States to report transgressions of the IATA LAR by airlines to the Traces system (used for re-entry documents) to make transport companies accountable for their actions and to

prevent future infringements.

- Require all Member States to train relevant enforcement and agency personnel to use EU-TWIX and to engage regularly with the system.
- Encourage all Member States to utilise the ICCWC Wildlife and Forest Crime Analytic Toolkit as a comprehensive resource with relevant tools and measurements to ensure a consistent and joined-up approach to responding to the IWT.
- Encourage Member States to develop a consistent and collective approach to monitoring the Internet for IWT and penalise owners of internet sites (e.g. Ebay) which facilitate the IWT through internet auctions
- Reduce the 'dark' figure of crime through the development of more accurate measurement of the prevalence, nature and impact of IWT.
- Enable transparency in IWT prosecutions and outcomes by requiring all Member States to complete a report on sentencing outcomes for IWT prosecutions.
- Develop further opportunities (e.g. Fora) for IWT experts and agencies to discuss the IWT response, to share expertise and intelligence and to facilitate multiple agendas (e.g. political, business, welfare, etc...).
- Identify successful strategies to reduce consumer demand across the EU for health and beauty products, luxury foods and pets linked to the IWT.
- Further facilitate the cooperation between expert NGOs and enforcement agencies in Member States.
- Develop a strategy which will enable Member States to prevent and respond to the development of new markets for demand.
- Enhance compliance through educational and awareness campaigns (i.e. info at all airports, tourists' sites and involvement of stakeholders such as airlines and travel agents).
- Continue to support demand countries in their efforts to prevent the trade before it reaches our shores, through financial aid, training and education. Put measures in place to ensure financial support is used to respond to the IWT and to enhance the welfare of the local communities and wildlife involved in the trade. "

The case study on illegal localized pollution incidents in the EU made a series of specific recommendations to Member State level institutions, including:

- The development of a map/list of all known fly-tipping/illegal dumping sites to target action;
- Continued efforts to bring those responsible for (serious) cases of illegal waste dumping before the courts with a view to securing prosecutions;
- The use of media/online/public information campaigns to act as a deterrent;
- Ensure that local authorities/enforcement agencies have adequate capacity;
- Ensure that all relevant bodies involved in waste enforcement are in regular contact to enable them to work together effectively;
- Ensure that all local authorities/responsible bodies in a Member State are applying the legislation and associated sanctions for fly-tipping consistently. This will ensure that no single area of the country is seen as a 'soft touch' and therefore becomes a particular target for fly-tipping/illegal dumping of waste; and
- Where a landfill tax is in place, this (or perhaps the rate multiplied by a factor to be determined) could be applied retrospectively to those found to be responsible for illegal dumping.

The Aznalcollar and Kolontar mining accidents case concluded that *the "lack of enforcement procedures or their malfunction encourage environmental harmful conduct and in some cases are at the root of environmental crime, involving criminal liability of civil servants."*

The Kosovo case study shows that, for counties undergoing approximation to EU law, careful consideration should be given not only to legal transposition, but to ensuring the timetables for practical application are realistic – otherwise there will be built-in implementation failure and damage to the image of the rule of law.

The cocaine production in Colombia case study recommended that Member States work together to reduce disparities across MS in implementing Regulation 111/2005.

A few cases also made conclusions and recommendations with regard to non-governmental stakeholders**.**

The Victims in the "Land of Fires" case study showed the importance of civil society to influence decision-making processes (where administrative decisions have failed). Italian institutions are recommended to make stronger efforts to increase public participation finalised to raise awareness on environmental crimes.

The waste shipment case study stated that "*consumers should be made fully aware of the possible links of illegal e-waste export in the EU, in particular of the vast amount of actors involved in the lengthy chain and their potential roles. More targeted awareness-raising campaigns could ensure the opportunity for citizens to put public pressure on national decision-makers to increase their efforts to tackle this environmental crime*."

The Armenia case study stressed the importance of the use of the Aarhus Convention as a key tool for the public to understand and engage in environmental crime. The case explores the specific aspects of the Convention appropriate to the issues of mining in Armenia and its relationship to specific court cases.

At a more fundamental level, the understanding of the rights of people needs to be determined. **The environmental crime and corporate miscompliance case study on the ILVA steel plant in Italy,** for example, concluded that "*the achievement of a fair balance between the right to health and the protection of environment, on the one hand, the right to work and production needs, on the other one, is the corner stone of environmental and economic sustainability and long-term survivability of the firms*." Thus "*the State plays an essential role in order to guarantee national strategic capabilities and jobs, as well as the protection of fundamental rights enshrined in the Constitutions and in the Charter of Fundamental Rights of the European Union*".