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Abstract

The nexus between illegal trade and environmental crime

Shunta Yamaguchi

Environmental crime is on the rise and is of growing concern to policy makers, to legitimate businesses, and more broadly to the general public. While measuring the scale of environmental crime is very challenging, available estimates indicate that it is growing rapidly worldwide on average at over 8% per year, with an estimated value between USD 110-281 billion in 2018. The range of issues include wildlife trafficking, illegal timber, illegal mining, illegal chemicals, illegal waste trafficking, and illegal, unreported and unregulated (IUU) fishing. Environmental crime can have serious implications to human health and the environment, to the global economy, and more broadly to good governance, national security and sustainable development.

Addressing these criminal activities affecting the environment is difficult exclusively at the national level as they often extend on a transnational scale. In this context, this report provides a snapshot of cross-border environmental crime and available initiatives to tackle illegal activities at a transnational scale, with a particular focus on multilateral and regional frameworks. The key message from this report is that the increasing prevalence of cross-border environmental crime is due to regulatory failures and the growing involvement of transnational organised crimes, which require an internationally co-ordinated response, both at the multilateral and regional level.

JEL classification: F18, F64, K42, Q56

Keywords: Trade and environment, trade policy, environment policy, illegal trade, environmental crime, wildlife trafficking, illegal timber, illegal mining, illegal waste, illegal chemicals, illegal, unreported and unregulated fishing.

Résumé

Le nexus entre le commerce illégal et la criminalité environnementale

Shunta Yamaguchi

La criminalité environnementale est en augmentation et préoccupe de plus en plus les décideurs politiques, les entreprises exerçant dans la légalité et, plus largement, le grand public.

Bien qu'il soit très difficile de mesurer l'ampleur de la criminalité environnementale, les estimations disponibles indiquent qu'elle croît rapidement dans le monde entier, en moyenne de plus de 8 % par an, avec une valeur estimée entre 110 et 281 milliards d'USD en 2018. L'éventail des problèmes inclut le trafic d'espèces sauvages, l'exploitation illégale des bois et forêts, l'exploitation minière illégale, les produits chimiques illégaux, le trafic de déchets illégaux et la pêche illégale, non déclarée et non réglementée (INN). La criminalité environnementale peut avoir de graves répercussions sur la santé humaine et l'environnement, sur l'économie mondiale et, plus généralement, sur la bonne gouvernance, la sécurité nationale et le développement durable.

Il est difficile de s'attaquer à ces activités criminelles qui affectent l'environnement exclusivement au niveau national, car elles s'étendent souvent à l'échelle transnationale. Dans ce contexte, le présent rapport donne un aperçu de la criminalité environnementale transfrontalière et des initiatives disponibles pour lutter contre les activités illégales à l'échelle transnationale, en mettant l'accent sur les cadres multilatéraux et régionaux. Le message clé de ce rapport est que la prévalence croissante de la criminalité environnementale transfrontalière est due à des défaillances réglementaires et à l'implication croissante de la criminalité organisée transnationale, ce qui nécessite une réponse coordonnée au niveau international, à la fois au niveau multilatéral et au niveau régional.

Classification JEL: F18, F64, K42, Q56

Mots clés: Commerce et environnement, politique commerciale, politique environnementale, commerce illégal, criminalité environnementale, trafic d'espèces sauvages, exploitation illégale des bois et forêts, exploitation minière illégale, déchets illégaux, produits chimiques illégaux, pêche illégale, non déclarée et non réglementée.

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Table of contents

Abstract	2
Résumé	3
Acknowledgements	4
Executive summary	7
1 Introduction	9
1.1 Background	9
1.2 Objectives and outline of the report	10
2 The nexus between illegal trade and environmental crime - state of play	11
2.1 Definitions and scope of cross-border environmental crime	11
2.2 Trends and magnitude of cross-border environmental crime	12
2.3 Drivers of cross-border environmental crime	15
2.4 Methods used to conduct cross-border environmental crime	17
2.5 Impacts of cross-border environmental crime	18
2.6 Sectoral differences in the policy landscape and cross-border challenges	21
3 Multilateral frameworks in addressing cross-border environmental crime	24
3.1 Multilateral Environmental Agreements and multilateral frameworks with primary environmental objectives	24
3.2 Multilateral frameworks with primary crime prevention and anti-corruption objectives	29
3.3 Multilateral frameworks with primary police and customs control objectives	30
3.4 Multilateral frameworks with primary financial crime prevention and anti-money laundering objectives	31
3.5 OECD legal instruments with environmental, due diligence, and governance objectives	32
3.6 Effectiveness and challenges of multilateral approaches	33
4 The potential role of regional frameworks to complement multilateral efforts	37
4.1 Regional networks on environmental compliance assurance	37
4.2 Regional trade agreements addressing cross-border environmental crime	38
4.3 Good practices on the implementation of regional frameworks	40
4.4 Effectiveness and challenges of regional frameworks to complement multilateral efforts	43

5 Overarching policy recommendations	45
6 Concluding remarks	49
References	50
Annex A. Overview of Multilateral Environmental Agreements addressing cross border environmental crime	57
Annex B. Overview of additional international conventions and normative frameworks with environmental objectives	64
Annex C. Overview of OECD frameworks to counter cross-border environmental crimes	66

FIGURES

Figure 2.1. Environmental crime is growing at an alarming pace	13
Figure 2.2. Cross-border environmental crime cases are also growing rapidly	14
Figure 2.3. Environmental crime involves different sectors	14
Figure 2.4. Environmental crime converges with other serious crimes	15
Figure 4.1. Regional trade agreements (RTAs) with environmental provisions to address cross border environmental crime	40

TABLES

Table 1. International and national frameworks to address cross-border environmental crime	22
Table 2. Mapping of multilateral frameworks to address cross border environmental crime	25
Table 3. Multilateral Environmental Agreements (MEAs) and other legally binding instruments with trade controls for sectors related to cross-border environmental crime	27
Table 4. Regional networks on environmental compliance assurance and enforcement strategies	38
Table A A.1. Trade controls under CITES	58
Table A A.2. Trade controls under the Basel Convention	59
Table A A.3. Trade controls under the Rotterdam Convention	60
Table A A.4. Trade controls under the Stockholm Convention	61
Table A A.5. Trade controls under the Montreal Protocol	62
Table A A.6. Trade controls under the Minamata Convention	63

BOXES

Box 2.1. Cross-border environmental crime and money laundering	17
Box 5.1. Digital technologies to tackle cross-border environmental crime	47

Executive summary

Environmental crime is on the rise and is of growing concern to policy makers, to legitimate businesses, and more broadly to the general public. Due to its very nature, it is very difficult to get exact estimates of the magnitude of environmental crime. Nonetheless, Nellemann et al. (2018^[1]) suggest that environmental crime in general is growing rapidly worldwide on average at over 8% per year, with an estimated value between USD 110-281 billion in 2018. This is likely to be a conservative estimate. The range of issues include wildlife trafficking, illegal timber, illegal mining, illegal chemicals, illegal waste trafficking, and illegal, unreported and unregulated (IUU) fishing. Environmental crime can have serious implications to human health and the environment, to the global economy, and more broadly to good governance, national security and sustainable development. Its prevention helps achieve overarching objectives such as the UN Sustainable Development Goals, the Paris Climate Accord, and the Convention on Biological Diversity.

The cross-border aspects of environmental crime also appear to be an increasing concern. For example, the number of cross-border environmental crime cases handled by the EU Agency for Criminal Justice Cooperation has increased fourfold from 2014 to 2018 (Eurojust, 2021^[2]). Addressing criminal activities affecting the environment is difficult exclusively at the national level as they often extend on a transnational scale. In this context, this report provides a snapshot of cross-border environmental crime and available initiatives to tackle illegal activities at a transnational scale, with a focus on multilateral and regional frameworks. It focuses on the cross-border elements of environmental crime and is complementary to the OECD (2022^[3]) report, *Compendium of good practices in promoting, monitoring and enforcing environmental compliance*, which primarily focuses on national policies to combat environmental crimes.

The key message from the present report is that the increasing prevalence of cross-border environmental crime is due to regulatory failures and the growing involvement of transnational organised crimes, which require an internationally co-ordinated response, both at the multilateral and regional level. Cross-border environmental crime needs an internationally co-ordinated response that addresses key underlying drivers:

- Environmental crime is extremely lucrative and offers perpetrators a low-risk, high-return business opportunity. It is a main source of income for organised criminal groups and emerging as the third-largest criminal sector after drugs and counterfeits. It converges with other crimes such as financial crimes and corruption. There is a social dimension as low-level perpetrators are often driven by poverty.
- It has a significant trade dimension. It is driven by the growing global demand for environmentally sensitive goods (e.g. wildlife, timber), and avoided costs of circumventing regulations (e.g. waste, chemicals). Criminals exploit vulnerabilities in law enforcement, particularly in developing countries with weaker enforcement and customs frameworks compared to developed countries, and also abuse regulatory fragmentation between countries and free trade zones. It often involves false declaration of the traded good, comingling of legal and illegal goods, and concealment of origin and destination.
- It is often not prioritised, and not well documented due to its concealed nature. Environmental crimes are still considered as minor offences rather than serious crimes in many countries and the lack of a globally accepted definition presents significant challenges for prosecution. Many countries still devote limited priority and resources to tackle environmental crime over other crime areas. There is no single repository providing an overall picture. The lack of data poses significant challenges in this field.

The trade dimension of environmental crime requires global coordination. As core architectures, multilateral frameworks are in place to address cross-border environmental crime. These include several Multilateral Environmental Agreements (MEAs) that are legally binding and with trade controls, such as: the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and

Pesticides in International Trade; the Stockholm Convention on Persistent Organic Pollutants; the Montreal Protocol on Substances that Deplete the Ozone Layer; and the Minamata Convention on Mercury.

These MEAs have provided, to some extent, effective frameworks to address cross-border environmental crime. One of the positive aspects of these MEAs is that they bring together enforcement agencies in importing and exporting countries, to share responsibilities to tackle these cross-border issues.

However, cross-border environmental crime remains widespread. For example, between 2016 and 2020, 272 kilo-tonnes of illegal waste shipments were reported worldwide (UNEP, 2022^[4]). The question is how these MEAs could be improved or strengthened. In some cases, MEAs alone are not effective in strengthening the underlying domestic laws and regulations. In addition, MEAs do not (or only partially) cover specific sectors such as illegal timber, illegal mining, and IUU fishing. Diverging approaches between international environmental policy, border controls and crime prevention also raise concerns in providing an internationally co-ordinated response.

Regional trade agreements (RTAs) and regional frameworks may be well placed to complement multilateral frameworks to help bridge these gaps, as they can reflect common interests and priorities of likeminded countries that share high ambitions to take action. Out of 775 RTAs worldwide between 1947 and 2021, 226 agreements contained one or more provisions related to cross-border environmental crime, including substantive provisions to address illegal trade related to wildlife, timber, waste, chemicals, and fisheries, and references to MEAs related to cross-border environmental crime.

Some RTAs have effectively supported the implementation of MEA commitments such as CITES and the Minamata Convention, and have worked to establish frameworks in sectors lacking MEAs such as illegal trade related to timber, mining and fisheries. RTAs have also helped strengthen environmental jurisdiction and law enforcement against cross-border environmental crime. RTAs can foster environmental co-operation and community development to address the root causes of environmental crime and poverty-related concerns. Some RTAs have established public participation mechanisms to strengthen links with the private sector and civil society that can help identify and target these crimes.

Multilateral and regional frameworks can be considered together to provide an internationally co-ordinated response to cross-border environmental crime, in particular to address the following key pressure points:

- Establishing an international legislative response is paramount to set appropriate laws and regulations to trigger proper investigation and prosecution. Horizontal legal instruments may help fill gaps, such as those established by the UN Convention against Transnational Organized Crime (UNTOC) and the UN Convention against Corruption (UNCAC) to prevent and combat environmental crimes and corruption.
- Enabling effective law-enforcement and co-operation at the border is critical. The OECD Council Recommendations on environmental compliance assurance, illegal trade of pesticides, free trade zones, and responsible business conduct in mineral supply chains, can be useful tools to facilitate effective action. Interpol, the World Customs Organization and the UN Environment Programme, play central roles to strengthen law enforcement. Such co-operation efforts between police, customs, and environmental regulators can be further complemented by exploring links with the Financial Action Task Force (FATF) and agencies dealing with financial crimes and corruption to target criminal syndicates.
- Targeting root causes is also critical so that low-level perpetrators do not simply shift from one criminal activity to another to sustain their livelihoods. It is important to establish alternative means of community development. Initiatives such as the UN Resolution on Mineral Resource Governance may help bridge gaps between law enforcement and sustainable development.
- Increasing awareness and transparency on cross-border environmental crime is essential. More information and data are required to obtain a full picture and to introduce targeted responses. Adoption of existing standards on key risk indicators and effective engagement with the private sector and civil society is crucial to raising awareness and identifying suspicious transactions. Digital technologies can help increase transparency of value chains, but they are still in early stages of their application.

1 Introduction

1.1 Background

Environmental crime has risen rapidly in recent decades, endangering a range of environmental objectives. For example, wildlife trafficking and illegal timber trade can risk species extinction, deforestation, and is therefore directly related to biodiversity loss. Illegal trade of chemicals can worsen depletion of the ozone layer and climate change. While measuring the scale of environmental crime is very challenging due to its concealed nature, available estimates indicate that the magnitude of environmental crime has reached between USD 110 and 281 billion in 2018, up from USD 70-213 billion in 2014 (Nellemann et al., 2018^[1]). The range of issues include wildlife trafficking, illegal logging and timber, illegal mining, counterfeit chemicals and pesticides, and illegal waste management. It is the third largest category of criminal activities following drug trafficking and counterfeit crimes, and it recently surpassed human trafficking (Nellemann et al., 2018^[1]).

These illegal activities related to the environment can extend beyond borders to a transnational scale that are difficult to address exclusively at the national policy level. This is particularly important as economies are increasingly integrated and commercial activities are dispersed across national borders. Despite the recent slump in trade due to the COVID-19 pandemic, world merchandise exports increased by 2.7% per year over the period of 2010 and 2020 (WTO, 2021^[5]). With the increase in the volume of international trade, however, an increase in illegal trade in environmentally sensitive goods and cross-border environmental crime is suspected to have followed (Nellemann et al., 2018^[1]).

Illegal trade encompasses both environmental and non-environmental components. For example, wildlife trafficking clearly raises biodiversity and other environmental concerns, while illegal trade in drugs or counterfeit goods normally falls outside the scope of environmental issues. At the same time, environmental crime occurs both on a national and transnational scale. For instance, illegally harvested timber can be placed on the domestic market or reach foreign markets through international trade.

This current report focuses on the nexus of illegal trade and environmental crime, which can be described as cross-border environmental crime or illegal trade in environmentally sensitive goods. The OECD (2012^[6]) describes illegal trade in environmentally sensitive goods as a “deliberate evasion of environmental laws and regulations by individuals and companies in the pursuit of personal financial benefit, where the impacts are transboundary or global, often referred to as “international environmental crime””. Elliott and Schaedla (2016^[7]) define transnational environmental crime as “cross-border trading of species, resources, waste or pollutants in violation of prohibitions or regulatory regimes established by multilateral environmental agreements (MEAs), or in contravention of national laws”. From a trade policy perspective, the issue is approached as a part of illegal trade that has negative environmental consequences. From an environment policy perspective, the issue is framed as a part of environmental crime that has an international or transboundary dimension. As these two terms represent a similar concept and are often used interchangeably, this current report aligns with the term cross-border environmental crime wherever possible.

These issues around cross-border environmental crime are receiving increased attention by both policymakers and the global community, which recognise the importance of taking action against these crimes and alleviating the negative impacts on global trade and the environment. In particular, importing

countries are currently facing challenges to ensure that their imports are produced in an environmentally sustainable way and are not conducive to illegal activities such as illegal logging or illegal mining. Cross-border environmental crime can also emerge in end-of-life products, for example, as illegal waste trade. Cross-border environmental crime can not only undermine efforts towards sustainable development, but also have broader impacts on rule of law and good governance. Combatting cross-border environmental crime helps achieve overarching objectives such as the UN Sustainable Development Goals (SDGs),¹ the Paris Climate Accord, and the Convention on Biological Diversity.

For these reasons, there is an important role for trade controls and cross-border environmental co-operation through various means, such as multilateral and regional frameworks, which are the focus areas of this current report.

1.2 Objectives and outline of the report

This report aims to provide a snapshot of cross-border environmental crime and available initiatives to tackle illegal activities at a transnational scale, with a particular focus on multilateral and regional frameworks. It focuses on the cross-border elements of environmental crime and is complementary to the OECD (2022^[3]) report, *Compendium of good practices in promoting, monitoring and enforcing environmental compliance*, including addressing environmental crime.

The OECD has so far covered cross-border environmental crime in a broad assessment in the OECD (2012^[6]) report on illegal trade in environmentally sensitive goods, and more recently focused on the specific issue of tackling illegal trade in pesticides (Frezal and Garsous, 2020^[8]; OECD, 2018^[9]).² In addition, illicit trade has been covered as a part of public governance initiatives (OECD, 2016^[10]), as well as efforts to ensure due diligence and responsible business conduct in mineral supply chains (OECD, 2016^[11]). This current report builds on these initiatives and insights wherever relevant.

This present report draws on the following bodies of information: (i) data and reports on illegal trade and environmental crime, including but not limited to those by the OECD, INTERPOL, UN Environment (UNEP), UN Office on Drugs and Crime (UNODC), the World Customs Organization (WCO), and the Financial Action Task Force (FATF); and (ii) available documentation on multilateral and regional frameworks to tackle illegal trade and environmental crime (e.g. Multilateral Environmental Agreements, Regional Trade Agreements).

The remainder of this report is structured as follows. Section 2 presents the state of play of the nexus between illegal trade and environmental crime, including the scope, trends, drivers and impact of the issues. Section 3 covers the existing multilateral frameworks to address cross-border environmental crime involving wildlife, timber, waste, and chemicals. It also identifies potential limits and loopholes of existing regulations, frameworks, and mechanisms. Section 4 introduces the current state of play on regional frameworks, such as RTAs and other regional agreements, to tackle cross-border environmental crime. This includes environmental provisions in RTAs and their actual implementation. It highlights how like-minded partners can use RTAs as an opportunity to make further progress in the field. Sections 5 and 6 set forth policy recommendations and concluding remarks, respectively.

¹ Tackling cross-border environmental crime can help achieve SDGs goal 3 (good health and well-being) by mitigating risks of zoonotic diseases linked to wildlife trafficking, goal 13 (climate action) by countering deforestation via illegal timber, goal 14 and 15 (life below waters and on land) by addressing offences against fisheries and wildlife, and goal 16 (partnerships) through ensuring peace, justice, and strong institutions (UNODC, 2022^[39]).

² The OECD Global Forum on Environment “Working towards the elimination of mercury and reducing its harmful impacts on human health and the environment” on 7-8 November 2022 also explicitly discussed the cross-border environmental crime aspects of mercury.

2 The nexus between illegal trade and environmental crime - state of play

This section provides the state of play of the nexus between illegal trade and environmental crime. It first covers generic issues concerning the definition, trends, drivers, methods used and impacts, and then turns to sector specific challenges. It also touches upon basic conceptual issues when facing cross-border environmental crime: how illegality can lie within the traded good itself or in the way the good is traded or harvested.

2.1 Definitions and scope of cross-border environmental crime

Environmental crime can encompass a wide range of sectors including wildlife trafficking, illegal logging and timber, illegal waste management, counterfeit chemical and pesticides, illegal mining,³ and illegal, unreported and unregulated (IUU) fishing. A broad understanding of environmental crime can also extend indirectly to threat finance and tax fraud that can result in environmental impacts (FATF, 2021^[12]; Nellemann et al., 2016^[13]).

There is currently no globally accepted definition of environmental crime. One main challenge in the legal field when prosecuting criminals involved in transnational environmental crime, is the lack of a common global definition of what constitutes an “environmental crime”. Some recent and emerging definitions on environmental crime have been reported to restrict the scope by only focusing on environmental regulations or particular sectors such as endangered species (Nellemann et al., 2016^[13]). Narrowly defined terminology may limit opportunities for prosecution and punishment, where environmental crimes would potentially be considered as infractions (with fines) or minor offences (with fines or short-term imprisonment) rather than as serious crimes (EUROPOL, 2022^[14]; Nellemann et al., 2016^[13]). As a consequence, the sole application of environmental regulations against environmental crimes may constrain the broader application of regulations addressing the involvement of organised crime, threat finance or tax fraud (Nellemann et al., 2014^[15]).

In this context, the United Nations Environment Programme (UNEP) and INTERPOL offer a broad description of environmental crime as “a collective term to describe illegal activities harming the environment and aimed at benefiting individuals or groups or companies from the exploitation of, damage to, trade or theft of natural resources, including, but not limited to, serious crimes and transnational organized crime” (Nellemann et al., 2016^[13]). This definition aims to capture the diverse types of

³ While illegal mining would generally cover those for metals and minerals, it could also encompass related activities more broadly, such as illegal oil extraction and trade, and illegal sand mining and trade.

environmental crime and is arguably and intentionally broader than a strictly legal sense of criminal law enforcement that generally involve serious crimes and those dealt with in court (OECD, 2022^[3]).⁴

Environmental crime can occur not only at the national level, but also at the international level where illegality can result from the violation of national regulations as well as international legal frameworks, and where the impacts are transboundary or global. This cross-border element of environmental crime further complicates definitional issues, as what constitutes a crime in one country may not necessarily be considered as a crime in another (OECD, 2012^[6]). Criminals often take advantage of the lack of international consensus and differences in national approaches (Nellemann et al., 2016^[13]). In certain jurisdictions, the scope of criminal offences is too narrowly defined to address environmental crimes that may actually occur, falling short to cover import, export and trade related elements and thus affecting countries' responses (FATF, 2021^[12]). To this end, there is a need to properly identify “environmental crime”, which is enforceable throughout the transnational crime chain, to enable a common understanding of the terminology (Nellemann et al., 2014^[15]).

The term cross-border environmental crime not only refers to goods, but it encompasses a wide range of cross-border elements such as people (criminals) and money. In the case of goods, the scope includes both the illegal characteristics of the traded good itself (e.g. protected species), as well as those that were illegally harvested and subsequently traded (e.g. illegal timber trade), at times making it difficult for prosecutors to intervene (OECD, 2012^[6]).

Against this background, Elliott and Schaedla (2016^[7]) refer to the term transnational environmental crime to capture its international dimensions. They define transnational environmental crime as “cross-border trading of species, resources, waste or pollutants in violation of prohibitions or regulatory regimes established by multilateral environmental agreements (MEAs), or in contravention of national laws”. This broad approach may enable to cover the different range and types of environmental crime, which have varying gravity (i.e. seriousness of violations). This current report takes a similar approach to cover the violation of regulatory regimes including serious crimes that harm the environment with transnational or global impacts.

2.2 Trends and magnitude of cross-border environmental crime

Cross-border environmental crime is particularly prevalent in the following fields: wildlife trafficking, illegal trade related to forestry, timber, and mining; illegal trade in chemicals and pesticides; illegal trade in hazardous waste, and illegal, unreported, and unregulated (IUU) fishing. In recent years, illegal trade in mercury linked to artisanal and artisanal small-scale gold mining (ASGM) also emerged as a field of concern (UNEP, 2020^[16]).⁵

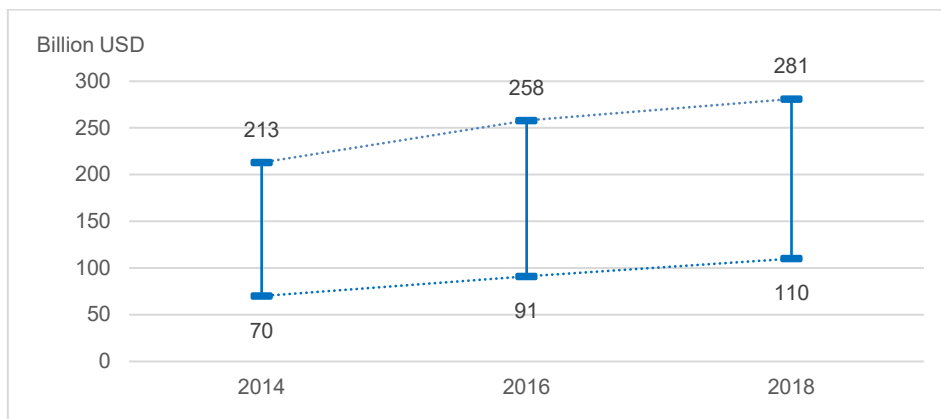
⁴ Environmental enforcement (i.e. responses to non-compliance) can be classified into administrative enforcement, civil judicial enforcement, and criminal enforcement. Administrative measures, such as warnings, statutory notices, penalties and fines, are applied by government agencies to deal with violations and to restore compliance. In contrast, civil and criminal measures are imposed, respectively, by civil and criminal courts and are sometimes referred to as judicial response. These measures are aimed, respectively, to address damage caused to persons or property, or seeks penalties to extreme unlawful behaviour. For further details on environmental compliance and enforcement, see OECD (2022^[3]).

⁵ The two terms “transnational environmental crime” and “cross-border environmental crime” represent a similar concept and are often used interchangeably. This current report aligns with the term cross-border environmental crime wherever feasible.

The trend and magnitude of cross-border environmental crime is difficult to estimate due to its hidden and concealed nature. However, some general estimates on environmental crime are available from UNEP and INTERPOL's joint study.

The magnitude of environmental crime is progressively increasing, from USD 70-213 billion in 2014, to USD 91-258 billion in 2016, and to USD 110-281 billion in 2018, growing at an average annual rate of more than 8% (see Figure 2.1) (Nellemann et al., 2018^[1]; 2016^[13]; INTERPOL, 2016^[17]). This includes the illegal revenues from environmental crime, losses to legitimate commerce and losses of tax revenues. These figures are based on extrapolation of actual seizures and additional estimates of illegal logging, illegal mining, illegal waste management and trade of hazardous waste, wildlife trafficking, and IUU fishing. The results are presented as ranges, illustrating the difficulty of identifying an exact value for cross-border environmental crime at the global level. Other estimates suggest that these ranges could be much higher.⁶ Therefore, these results are indicative and should be interpreted with caution.

Figure 2.1. Environmental crime is growing at an alarming pace

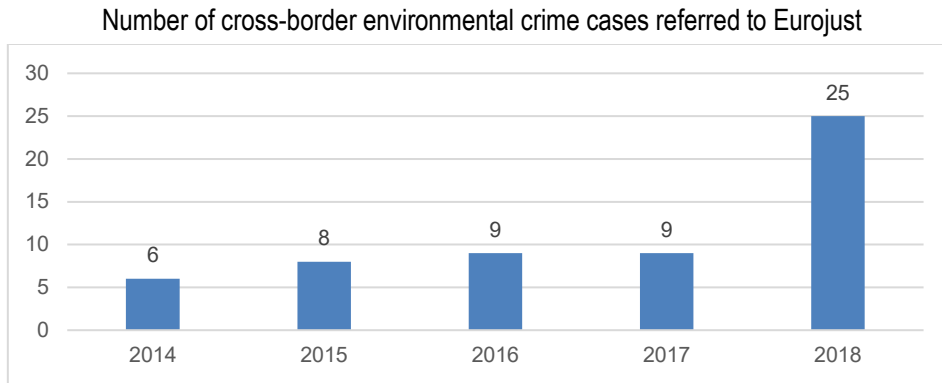


Note: Based on illegal logging and trade, illegal extraction and trade in minerals and mining, illegal trade and dumping of hazardous waste, Illegal trade and poaching of plants and other wildlife, and IUU fishing.
Source: Nellemann, et al (2018^[1]), Nellemann, et al (2016^[13]), INTERPOL (2016^[17])

Along with this trend, the number of cross-border environmental crime cases handled by the European Union Agency for Criminal Justice Cooperation (Eurojust), to facilitate international judicial co-operation in the investigation and prosecution of cross-border environmental crime, has also increased fourfold between 2014 and 2018 (see Figure 2.2). These cases handled by Eurojust should be interpreted with caution, as they are only indicative of judicial co-operation efforts among EU member states and are not a global representation of environmental prosecution. Nevertheless, these cases illustrate another aspect of the growing trend of cross-border environmental crime and highlight the striking difference between the huge estimated value of the environmental crimes and the relatively small number of judicial co-operation on environmental prosecution.

⁶ For example, in 2019, the World Bank estimated that the financial and economic impacts of illegal trade in wildlife, timber and fisheries can reach between USD 1 and 2 trillion (World Bank, 2019^[93]).

Figure 2.2. Cross-border environmental crime cases are also growing rapidly



Source: Eurojust (2021^[2])

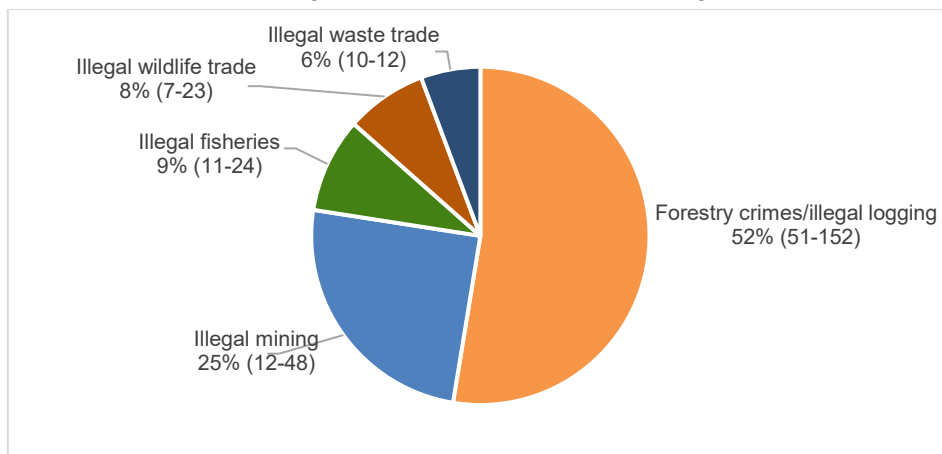
The study by Nellemann, et al (2016^[13]) provides for a breakdown of different categories for environmental crime (see Figure 2.3). Based on estimates from 2016, the largest sector impacted from environmental crime is forestry crimes and illegal logging representing over half of environmental crime ranging between USD 51-152 billion. This is followed by illegal mining representing one quarter of environmental crime varying between USD 12-48 billion. The remaining quarter is shared by illegal fisheries 9% (USD 11-24 billion), illegal wildlife trade (USD 7-23 billion), and illegal waste trade (USD 10-12 billion).

These estimates are based on 2016 figures, and should also be interpreted with care as they build on actual seizures and extrapolations (Nellemann et al., 2016^[13]). More recent studies show signs that certain sectors, such as illegal waste trade, are becoming more significant (INTERPOL, 2020^[18]).

This breakdown does not capture other related sectors such as illegal chemicals and pesticides. While the magnitude of these sector remain largely unknown, partial estimates suggest that these can be significant. The value of illegally traded mercury alone is in the range of USD 100–215 million per year. Between 2009 and 2014, counterfeit pesticides resulted in an annual revenue loss of EUR 1.3 billion in the legitimate pesticides markets in the European Union (UNEP, 2020^[16]). Challenges remain in obtaining a full picture.

Figure 2.3. Environmental crime involves different sectors

Estimated costs including revenue and loss based on 2016 figures in billion USD.



Note: The estimated values (min-max) are show in brackets in billion USD. Percentages shown for average estimates. There are other sectors that are not covered in this pie-chart, such as illegal chemicals and pesticides. While the magnitude remains largely unknown, some estimates show that this can be significant where illegally traded mercury can be in the range of USD 100–215 million annually (UNEP, 2020^[16]).

Source: Nellemann, et al. (2016^[13])

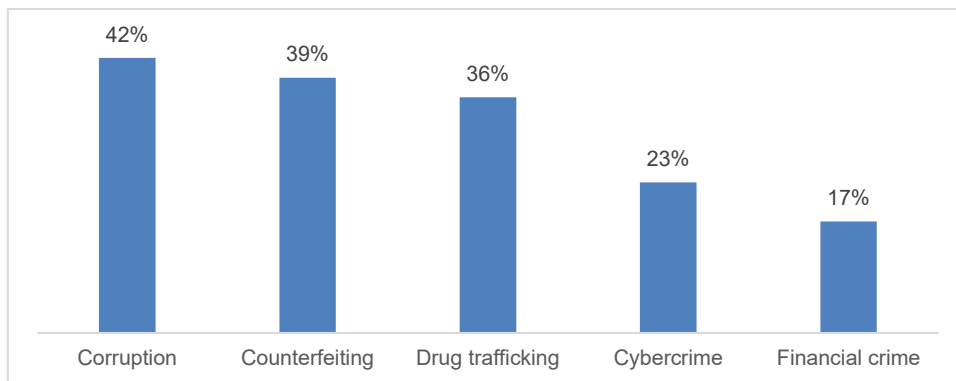
2.3 Drivers of cross-border environmental crime

The drivers of cross-border environmental crimes are multifaceted, involving different levels of perpetrators from individuals, to multinational companies and large organized crime groups. The motivations and drivers of environmental crime are further explored below.

First, and most notably, the emergence of environmental crime is not only due to regulatory failures, but also driven by the growing involvement of organised crime. Multiple sources, including the OECD workshop in 2021,⁷ highlight that environmental crime is generally perceived as a low-risk high return operation that is extremely profitable and lucrative, attracting organised criminals (OECD, 2021^[19]; FATF, 2021^[12]; Nellemann et al., 2016^[13]). It is considered “high-reward” as prices can rise between 300% and 5 200% from the moment the illegal good is harvested or produced to the moment it is sold to the final customer (UNEP, 2018^[20]). It is considered “low-risk” because, while most countries criminalize some aspects of environmental crime, regulations are not co-ordinated and may vary greatly from one country to another (UNEP, 2018^[20]). Environmental crime is one of the main sources of income for transnational organised criminal groups, and emerging as the third-largest criminal sector after drugs and counterfeit goods (FATF, 2021^[12]; Nellemann et al., 2018^[11]). They are estimated at USD 24-39 billion and account for 64% of illicit and organised-crime finance in fragile states associated with conflict areas (Nellemann et al., 2018^[11]). There are also signs of convergence with other crimes such as corruption, counterfeiting, drug trafficking, cybercrime and financial crime (see Figure 2.4).

Figure 2.4. Environmental crime converges with other serious crimes

Percentage of survey responses from countries reporting convergence with environmental crime



Note: Based on INTERPOL survey to member countries.

Source: UNEP-INTERPOL (2016^[21]).

Second, these criminal activities take advantage of weak regulatory frameworks. This includes two main aspects of governance and regulatory failures, and enforcement failures (OECD, 2012^[6]). Governance and regulatory failures include for example poor governance structures and widespread corruption, that are often prevalent in developing countries (Nellemann et al., 2016^[13]). Unclear and inconsistent regulations can also encourage criminal activities, such as the case for timber legislations and controls for hazardous waste in some countries (OECD, 2012^[6]). Enforcement failure involves limited capacity and resources for

⁷ See: OECD (2021^[19]) Workshop on Regional Trade Agreements and the Environment-Summary Report.

police, prosecution and courts (Nellemann et al., 2016_[13]).⁸ A common problem in many developed and developing countries is the lack of priority and associated resources given to environmental crime compared to efforts to combat other criminal sectors such as drugs, counterfeit goods, and human trafficking that are considered to be more dangerous (UNEP, 2018_[20]; OECD, 2018_[22]; 2012_[6]). Another problem particular to cross-border environmental crime in contrast to other criminal areas such as drugs is that they often occur alongside legal commercial transactions such as trade in timber, wildlife, chemicals and waste (Elliott and Schaedla, 2016_[7]).

Third, environmental crime is driven by the increasing global demand for environmentally sensitive goods, which is upheld by the lucrative nature of the business. For example, one factor is the growing consumer demand for scarce or cheaper products, such as illegal wildlife, illegal timber, or unregistered minerals (Nellemann et al., 2016_[13]). Consumer spending power, especially in developed countries, plays a major role in consuming products resulting from environmental crime, such as rosewood, agarwood, and other exotic species (UNEP, 2018_[20]). This demand is linked with the political economy of “lootable commodities” that have high value but low barriers to extraction (Elliott and Schaedla, 2016_[7]). Another factor is the avoided cost to (illegal) businesses by circumventing international and national regulations, for instance, involving illegal chemicals, counterfeit pesticides, and illegal waste trade (Nellemann et al., 2016_[13]).

Fourth, poverty and vulnerable livelihoods are also serious factors that influence criminal behaviour (UNEP, 2018_[20]; Nellemann et al., 2016_[13]).⁹ In some cases, criminalised economies are a critical, if not the only, source of revenue and employment for those living in poverty (Elliott and Schaedla, 2016_[7]; OECD, 2012_[6]). Poverty is considered one of the root causes of environmental crime (as well as organised crime in a broader sense), as it facilitates the recruitment of low-level perpetrators (Nellemann et al., 2016_[13]). Criminal networks often take advantage of vulnerable communities to facilitate illegal poaching and harvesting (UNEP, 2018_[20]). Those living in poverty and vulnerable conditions may become criminals or be criminalised and exploited as low-level perpetrators for illegal fishing, logging or poaching (OECD, 2012_[6]).

Finally, environmental crime has a significant trade dimension. Criminal activities including environmental crime, are increasingly becoming globalised (OECD, 2021_[19]). The regulatory policy landscape for environmental crime is not always globally consistent,¹⁰ and therefore, criminal networks take advantage of weak regulatory controls to exploit and move (illegal) goods across borders (FATF, 2021_[12]). Vulnerabilities and asymmetry in law enforcement (e.g. between developed and developing countries) are often misused to link global supply and demand of environmentally sensitive goods (OECD, 2021_[19]). Transnational organized crime, including transnational environmental crime, quickly adapt to new law enforcement techniques and spread in countries with challenges in law enforcement or judicial responses (OECD, 2021_[19]). Trade based fraud related to environmental crime is often exploited by criminals as a way to make transactions more difficult to track not only concealing the movement of illicit goods themselves, but also as a guise for financial transactions and money laundering (see Box 2.1) (FATF,

⁸ Many African and some Asian countries have some of the lowest number of police officers per capita (Nellemann et al., 2016_[13]). Furthermore, prosecution, courts, and judiciary systems are extremely poor in many developing countries. A regional breakdown of relative spending on police, prosecution services and courts revealed that in North America, 43% of these funds went to prosecution and courts, while only 16% in Southern Africa (Nellemann et al., 2016_[13]).

⁹ For example, a study in the Serengeti found that poaching was more profitable than any other activity, at USD 425 per year, compared to USD 118 for small businesses, USD 79 for crops and USD 61 for livestock (Nellemann et al., 2016_[13]).

¹⁰ For example, countries without mining reserves were found not to criminalise cross-border aspects arising from illegal mining (FATF, 2021_[12]).

2021^[12]). The use of front companies¹¹ to commingle illegal goods with legal goods early in the supply chain, and the use of shell companies¹² in offshore jurisdictions to further disguise transactions to launder proceeds from environmental crimes have also been reported (EUROPOL, 2022^[14]; FATF, 2021^[12]). Furthermore, Free Trade Zones are identified as one of the potential loopholes for illicit trade, especially when good governance is not present (OECD, 2016^[10]). The emergence of global environmental governance, such as Multilateral Environmental Agreements (MEAs), are paradoxically also reported to have created incentives for profitable black markets in certain circumstances (Elliott and Schaedla, 2016^[7]): criminals can make profits e.g. by illegally providing controlled or banned goods at premium prices. Finally, the lack of data also poses significant challenges to understand the magnitude and trends of cross-border environmental crime.

Box 2.1. Cross-border environmental crime and money laundering

Environmental crimes are increasingly reported to have significant links to threat finance and money laundering (FATF, 2021^[12]; Elliott and Schaedla, 2016^[7]; Nellesmann et al., 2014^[15]).

In particular, the cross border elements of environmental crime provide structural opportunities for legal companies to engage in shadow enterprises, front companies, and shell companies to launder proceeds from these criminal activities (FATF, 2021^[12]; Elliott and Schaedla, 2016^[7]). Criminals often explore possibilities to go through multiple and complex layers of transactions to conceal the movement of illegally possessed or traded goods as well as to launder financial undertakings (FATF, 2021^[12]). Trade offers criminals the opportunity to exploit regulatory differences and loopholes between different jurisdictions (FATF, 2021^[12]).

In contrast to other forms of crime (such as drug trafficking), cross-border environmental crime is unique in that it is often conducted alongside legitimate transactions, such as trade in licensed metals and minerals, wildlife trade with permits, or trade in non-hazardous waste and second-hand goods (Elliott and Schaedla, 2016^[7]). Taking advantage of these characteristics, criminals frequently appear to commingle legal and illegal goods together early in the supply chain to conceal their (illegal) origin or (illegal) status, masking them as a part of a legal supply chain, and making it difficult for cross-border authorities and agencies to detect them (FATF, 2021^[12]). This not only makes it easier for criminals to pursue illegal trade in environmentally sensitive goods, but also to launder the proceeds from these environmental crimes (FATF, 2021^[12]). Partially for these reasons, environmental crime is reported to be a low-risk, high-return activity that is becoming increasingly attractive as a money laundering route for criminal organisations.

Source: FATF (2021^[12]) Money Laundering from environmental crimes, supplemented by other sources (Elliott and Schaedla, 2016^[7]; Nellesmann et al., 2014^[15]).

2.4 Methods used to conduct cross-border environmental crime

Several methods are used by criminals and perpetrators to conduct cross-border environmental crime. This can include the falsification of origin of goods, nature of goods, quantities of goods, or smuggling through and circumvention of border controls (OECD, 2012^[6]). The *modus operandi* of these criminal activities are further explored below.

¹¹ Front companies are considered to be a fully functioning company with the characteristics of a legitimate business, serving to disguise and obscure illicit financial activity (FATF, 2018^[86]).

¹² Shell companies are considered as an incorporated company with no independent operations, significant assets, ongoing business activities, or employees (FATF, 2018^[86]).

First, a common modality is the misdeclaration or false declaration of the traded good. This can include false claims of hazardous waste as non-hazardous waste, mislabelled waste as raw materials or second-hand goods, and those misdeclared for recycling and recovery (EUROPOL, 2022^[14]; INTERPOL, 2020^[18]). For chemicals, this can include the misrepresentation of the product content, such as uncertified and counterfeit pesticides (Frezal and Garsous, 2020^[8]), or misdeclaring mercury trade for dental use and redirecting them to artisanal and small-scale gold mining (UNEP, 2020^[16]). There are other examples where the trader falsifies or fails to obtain the required permits, licenses or documentation (UNEP, 2020^[16]).

Second, concealment of the traded good is another commonly used method. For chemicals, falsifying documents by declaring the wrong classification of goods, and disguising the origin and provenance of a product is often exploited (Frezal and Garsous, 2020^[8]; UNEP, 2020^[16]). For example, illegal trade in fluorinated gases (F-gases) in the European Union has taken place on legal online marketplaces and ad hoc websites and has been disguised using refillable cylinders (Eurojust, 2021^[2]). Similarly for timber, there are widespread issues around the falsification of eco-certification permits, transport permits and customs papers, or use of false customs codes (Nellemann et al., 2016^[13]). In the case of minerals and waste, the comingling of illegal goods with legitimate goods is another method to by-pass controls. Other examples include the mixture of illegally sourced minerals with legally sourced minerals to falsely declare their provenance (FATF, 2021^[12]), filling containers with hazardous waste concealed by non-hazardous waste near container doors (BMLFUW Austria, 2014^[23]), and hiding mercury among other goods (UNEP, 2020^[16]). For wildlife trafficking, falsification of permits and licencing schemes can also cause a problem (Eurojust, 2021^[2]; OECD, 2012^[6]). Criminal networks can also exploit energy certificate systems and emission trading schemes, undermining the integrity of carbon pricing mechanisms (EUROPOL, 2022^[14]). Falsifying required documents, licences and labels is an often abused channel, where criminals can exploit bribery and corruption of the authorities in charge (FATF, 2021^[12]; Nellemann et al., 2018^[1]). Therefore, anti-criminal and anti-corruption approaches are required as a response.

Third, trading with the purpose of tax avoidance or tax evasion is another method identified. For example, tariffs or tax payments can be evaded by double invoicing schemes (e.g. shippers preparing two invoices, one with the true value of sale, and the other with false value for submission to Customs) (FATF, 2021^[12]; UNEP, 2020^[16]). In this context, linkages with environmental crimes are increasingly being identified, such as waste being shipped illegally to circumvent recycling fees and landfill taxes (Barteková and Börkey, 2022^[24]).

Fourth, the misdeclaration of the final destination is also increasingly observed, using a transit country or free trade zone to disguise origin and provenance of a product or to comingling with legitimate goods (OECD, 2018^[22]). In the absence of good governance and transparency, the use of transit countries and free trade zone could trigger false declaration and changing markings to disguise the origin of the good, or repackaging goods from a container that was supposed to remain sealed (UNEP, 2020^[16]).

Fifth, the use of smuggling routes through an unauthorized point of entry. This includes smuggling of goods through unauthorised channels and ports that are exploited by criminals (UNEP, 2020^[16]; Nellemann et al., 2018^[1]).

2.5 Impacts of cross-border environmental crime

The externalities and social costs of cross-border environmental crime are not always clear and difficult to quantify. For this reason, cross-border environmental crime is sometimes not recognised as a serious problem and is not given sufficient attention. Consequently, it often receives less priority from policy makers compared to other criminal sectors such as drugs, counterfeit goods, and human trafficking (OECD, 2012^[6]).

Nevertheless, cross-border environmental crime can have serious consequences ranging from environmental and health impacts, to wider impacts on socio-economic development as well as on state governance, national security and sustainable development. These are discussed in sequence below.

2.5.1 Environmental impacts

Cross-border environmental crime can have significant consequences on environmental degradation including resource depletion and biodiversity loss, as well as environmental pollution such as climate change and local pollution to air, land and water resources (OECD, 2012^[6]).

For example, illegal mining and trade can lead to different environmental impacts such as mercury and cyan pollution from artisanal gold mining, depriving the landscape with negative impacts on arable land, crops and trees, damaging natural flora and fauna, and over-extraction of natural resources (Elliott and Schaedla, 2016^[7]; Nellemann et al., 2016^[13]).

Wildlife trafficking can threaten species and ultimately result in species extinction, and thus biodiversity loss (Nellemann et al., 2016^[13]). It can also lead to the unwanted introduction of invasive species (Elliott and Schaedla, 2016^[7]).

Illegal logging and associated illegal timber trade can risk deforestation, species extinction, and is therefore directly related to biodiversity loss. It can also be a driver of climate change through increased emissions from deforestation (Elliott and Schaedla, 2016^[7]; Nellemann et al., 2016^[13]). It similarly increases the risk of floods, landslides, and erosion of coastal areas, and other ecological consequences such as loss in soil quality and water retention (UNEP, 2018^[20]).

Illegal trade in hazardous and non-compliant waste can provoke local pollution (air, land and water pollution) from mismanaged waste such as open burning and chemical leaching, as well as leakage into the environment through open air stockpiling and open dumping (Elliott and Schaedla, 2016^[7]) (Nellemann et al., 2016^[13]; OECD, 2012^[6]). This can also lead to contamination of land as well as water reserves, and threaten local ecosystems, negatively affecting livelihoods, animals and plants (Elliott and Schaedla, 2016^[7]).

Illegal trade of chemicals can also result in serious environmental consequences. For example, counterfeit pesticides can pose a threat to food security and the environment through its wide scale application (OECD, 2018^[9]). Illegal use, management and trade of chlorofluorocarbons (CFCs) and Ozone Depleting Substances (ODS) can result in depletion of the ozone layer (Elliott and Schaedla, 2016^[7]).

IUU fishing is a serious issue for the global fishing sector having negative consequences for safety, environmental issues, conservation and sustainability. It is reported to contribute to over extraction and depletion of fish stocks, undermining food security, and negatively affecting marine biodiversity (Elliott and Schaedla, 2016^[7]; Nellemann et al., 2016^[13]). This also poses problems in obtaining actual harvest rates for fisheries.

2.5.2 Health impacts

Cross-border environmental crime involving waste and chemicals can have significant health impacts (OECD, 2012^[6]). For example, hazardous waste and non-compliant waste can cause local pollution including air, land and water pollution that could lead to serious health impacts resulting in deaths or extreme disability (Elliott and Schaedla, 2016^[7]). In particular, informal workers exposed to substandard treatment methods are at further risk, leading to physical injuries and chronic diseases such as asthma, skin diseases, eye irritation and stomach disease (UNEP, 2018^[20]).

Similarly for illegal trade of chemicals, counterfeit pesticides can lead to severe health impacts for farmers, consumers and the local population (OECD, 2021^[19]). CFCs and ODS can cause ozone depletion and hence be causes for skin cancer and cataracts, reduced immune systems and increased vulnerability to

infectious diseases (Elliott and Schaedla, 2016^[7]). Chemicals can also be channelled illegally through a range of consumer products, posing direct risks to human health and the environment. For example, many countries report concentrations of toxic heavy metals in toys. Another concern are the illegal contaminants of chemicals such as excess amounts of mercury contained in skin-lightening creams and soaps, which can cause adverse effects such as kidney damage, deterioration of skin, and also anxiety or depression (UNEP, 2020^[16]).

Furthermore, other sectors can also provoke negative health impacts. Illegal and artisanal mining can be a cause of mercury and cyan pollution for terrestrial land and water resources, contaminating drinking water, and lead to significant health impacts. Some sources indicate that artisanal gold mining spills 30 tonnes of mercury into the environment on an annual basis (Elliott and Schaedla, 2016^[7]).

Around three-quarters of emerging infectious diseases in humans are known to come from animals (OECD, 2020^[25]). Wildlife poaching and trafficking can bring people and domestic animals in close proximity and thus be a cause for transmitting unknown diseases from animals to humans (Elliott and Schaedla, 2016^[7]). Similarly, deforestation and land use change is also reported to contribute to the unnatural spread of wild animal borne diseases, such as Ebola and Lyme disease (UNEP, 2018^[20]; OECD, 2012^[6]). While the links to wildlife trafficking, deforestation or land use change remains to be clarified, such an argument may also be relevant to the global spread of the Coronavirus pandemic (OECD, 2020^[25]).

2.5.3 Economic impacts

Cross-border environmental crime is not only limited to environmental and health impacts, but can also have wider impacts on socio-economic development. This is particularly the case for cross-border environmental crimes as they usually run in parallel to legitimate trade (Elliott and Schaedla, 2016^[7]). There can be substantial economic losses due to cross border environmental crime that can create unfair competition and undermine legitimate markets and trade such as in the areas of timber and fisheries. For example, illegal logging is estimated to push global timber prices down by between 7% and 16%, depending on the product (UNEP, 2018^[20]). Furthermore, economic losses caused by illegal fishing is estimated to be between USD 9 and 15 billion per year for developing countries (UNEP, 2018^[20]).

There are also foregone revenues due to cross-border environmental crime and related circumvention of domestic regulations which undermine legitimate markets and trade (Nellemann et al., 2016^[13]). For instance, illegal logging is estimated to deprive developing country governments of at least USD 10 billion a year due to lost revenues and taxes (UNEP, 2018^[20]). It should be noted, however, that there are no solid data sources on cross-border environmental crime as well as their economic impacts (OECD, 2012^[6]). Should such data be available, cross-border environmental crime would be controlled more easily.

2.5.4 Governance, national security and sustainable development impacts

From a broad perspective, cross-border environmental crime can also compromise core values such as democratic processes, rule of law, national security and global environmental governance (Nellemann et al., 2016^[13]; OECD, 2012^[6]). Cross-border environmental crime is often intertwined with other forms of crimes, such as corruption, money laundering, obstruction of justice, and thereby undermining the rule of law (UNEP, 2018^[20]). Several studies highlight the central role of corruption risks in source and transit countries of illegal wildlife trade. Corruption is particularly prevalent in certain hot spots at border crossing points, such as airports, internal borders and seaports, where several public sector officials have been arrested for their involvement in illegal wildlife trade (OECD, 2019^[26]; 2018^[27]). Furthermore, as indicated in Box 2.1 and Figure 2.4, environmental crime generates illicit proceeds, which must then be laundered, compromising the integrity of the global financial system (FATF, 2021^[12]). The environment can be subject to conflicts between populations and states seeking to control important resources (e.g. water sources, arable land, forests, mineral deposits). As a result, regional and national security and stability may be

threatened. Cross border environmental crime can also have a disproportional impact on the poorest and most vulnerable sectors of the society (OECD, 2012_[6]).

Cross-border environmental crime can also compromise efforts and act as barriers towards broader objectives, such as Sustainable Development Goals (SDGs) (Nellemann et al., 2016_[13]). They can also undermine the effectiveness of Multilateral Environmental Agreements (MEAs) and global environmental governance (UNEP, 2018_[20]).

2.6 Sectoral differences in the policy landscape and cross-border challenges

There are sectoral differences in terms of the characteristics of cross-border environmental crime as well as the international policy landscape that shape global responses.

Certain sectors such as wildlife trafficking, illegal timber, and IUU fishing, involve illegally harvested commodities that often have an intrinsic value.¹³ Therefore, illegal trade generally tends to flow from developing countries where they are illegally sourced to developed countries where there are markets and demands for such goods (FATF, 2021_[12]; UNEP, 2018_[20]). At times, the final consumer is not aware of how the commodity was extracted, since the illegality of the good (how they were sourced or how they crossed borders) is concealed.

Other sectors such as waste and chemicals are highly regulated and often have a negative value in jurisdictions with stringent environmental regulations (FATF, 2021_[12]). With drivers to avoid regulations in these jurisdictions, illegal trade tends to occur from developed to developing countries and emerging economies. For example, hazardous waste is sometimes found to be illegally shipped to destinations with substandard treatment methods and technologies (Waste Force, 2020_[28]; INTERPOL, 2020_[18]; Huisman et al., 2015_[29]; UNEP, 2018_[20]; Elliott and Schaedla, 2016_[7]). Furthermore, highly hazardous pesticides, which are not allowed to be used in industrialized countries, are legally manufactured and exported to developing countries that still allow their use (UNEP, 2020_[16]). This is not an environmental crime, but regulatory fragmentation and gaps between countries pose significant challenges in regulating international trade in chemicals to ensure their sound management and to reduce air, water and soil pollution.

The international policy landscape for tackling cross-border environmental crime also varies from sector to sector, and therefore presents sector specific challenges. Some sectors, such as wildlife trafficking and trade in waste and chemicals, are subject to transboundary controls under international legal frameworks, such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention), the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention) and the Stockholm Convention on Persistent Organic Pollutants (Stockholm Convention). Some other sectors, such as illegal timber, illegal mining, and IUU fishing, have no (or limited) international legal frameworks to facilitate transboundary controls and are often subject to national or regional controls.¹⁴ These differences in international and national frameworks to tackle cross-border environmental crime by sector are compiled in Table 2.1 below.

Sectors such as wildlife, waste and chemicals have received relative attention and action in the fight against cross-border environmental crime due to the existence of these international legal frameworks regulating the transboundary movement of relevant goods. Nevertheless, illegal trade in these sectors

¹³ To be clear, the harvest (the point of obtaining them) can be illegal for these commodities.

¹⁴ IUU fishing often originates outside of national jurisdiction (e.g. the high seas) and therefore is slightly different to the other examples listed here.

continues to prevail as they are profitable for illicit actors. This is induced by the various economic and social drivers, and regulatory loopholes, as discussed in Section 2.3. In particular, the effectiveness of these international legal frameworks depends on the law enforcement in each jurisdiction to properly control these transboundary movements (Elliott and Schaedla, 2016^[7]).

Moreover, sectors with no, limited, or partial international legal frameworks, such as timber, mining and fisheries, are often further challenged to properly control their transboundary movement and to separate illegally harvested or produced goods from legitimate goods (OECD, 2012^[6]). In the absence of international legal frameworks, the asymmetry of national regulations between jurisdictions can further confer for illegal trade and cross-border environmental crime. Indeed, criminal activities are reported to take advantage of differences and gaps in national and international regulations and frameworks to pursue such criminal activities (OECD, 2021^[19]; Nellemann et al., 2016^[13]).

Table 2.1. International and national frameworks to address cross-border environmental crime

Sector	International frameworks ^a	National frameworks
Wildlife	<ul style="list-style-type: none"> International trade in species of wild plants and animals, identified as being threatened by such trade, is regulated by CITES (1975). 	<ul style="list-style-type: none"> Species that do not fall under CITES may be protected under national conservation laws.
Timber	<ul style="list-style-type: none"> There is no international regulation controlling the trade in timber, however, a few timber species fall under CITES (e.g. rosewood, ebony wood).^b 	<ul style="list-style-type: none"> Producing countries have installed several measures, such as: <ul style="list-style-type: none"> issuing permits and concessions, introducing sustainable forest management requirements, designating protected species, protected areas and quotas for logging, or imposing taxes and export duties. Consumer countries have taken several unilateral measures to exclude the illegal timber products from their markets (e.g. US Lacey Act, EU FLEGT).
Mining	<ul style="list-style-type: none"> There is no international regulation controlling trade associated with illegal mining. However, there are some related initiatives: <ul style="list-style-type: none"> The Minamata Convention on Mercury (2017) introduces a ban on new mercury mines and phase-out of existing mines. The UNEA Resolution on Mineral Resource Governance (2019) provides a framework to promote environmental sustainability in the governance of the extractive sector. The OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (2016). 	<ul style="list-style-type: none"> National measures and controls have been put in place to tackle illegal mining.
Fisheries	<ul style="list-style-type: none"> There is no global agreement specifically related to controlling trade in fish, however, a few fish species fall under CITES. There are also some related initiatives: <ul style="list-style-type: none"> FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing (2001). FAO Agreement on Port State Measures to Prevent, Deter, and Eliminate IUU Fishing (2016) FAO Voluntary Guidelines for Catch Documentation Schemes (2017) 	<ul style="list-style-type: none"> Controls imposed by Regional Fisheries Management Organisation (RFMO/A) or by coastal states (e.g. EU Illegal, unreported and unregulated fishing regulation and fisheries control regulation).
Waste	<ul style="list-style-type: none"> A number of international agreements regulate international trade in hazardous waste and non-compliant waste: <ul style="list-style-type: none"> The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1992) The OECD Decision on the Control of Transboundary Movements of Wastes Destined for Recovery Operations (1992) Bamako Convention (1998) Waigani Convention (2001) Central American Regional Agreement (1995) 	<ul style="list-style-type: none"> National and regional measures have also been taken, such as: <ul style="list-style-type: none"> additional export requirements (e.g. EU Waste Shipment Regulation) additional import requirements (e.g. Import bans installed by China)

<p>Chemicals</p>	<ul style="list-style-type: none"> • The consumption (and production) and trade in hazardous chemicals is increasingly subject to international as well as national regulation. <ul style="list-style-type: none"> ○ The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (2004). ○ The Stockholm Convention on Persistent Organic Pollutants (2004) with objective of banning or regulating production, consumption and trade in a specified list of long-lasting organic chemicals ○ The Minamata Convention on Mercury (2017) ○ The Montreal Protocol on Substances that Deplete the Ozone Layer (1989) to address the depletion of the Earth's stratospheric ozone layer. 	<ul style="list-style-type: none"> • National requirements to phase out or ban certain chemicals (e.g. phase-out process of all CFC-using equipment, national ban on hazardous pesticides such as Aldicarb, Paraquat, and Endosulfan).
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Notes: a) Years shown in brackets indicate the entry-into-force date of each convention and framework.

b) A reference lists of timber species covered by CITES is available at (NEPCon, 2018^[30]; Groves and Rutherford, 2016^[31]).

Source: Author based on UNEP (2020^[16]) and OECD (2012^[6]).

3

Multilateral frameworks in addressing cross-border environmental crime

This section maps out Multilateral Environmental Agreements (MEAs) and other relevant multilateral frameworks that address cross-border environmental crime. While there are many ways to classify these frameworks, this section aims to distinguish them by their primary objectives, namely (i) environment, (ii) criminal prevention and anti-corruption, (iii) police and customs controls, and (iv) anti-money laundering and counter terrorist financing. It also covers relevant OECD legal instruments with cross-cutting objectives. Table 3.1 below provides an overview. These frameworks are discussed further in the following sub-sections.

3.1 Multilateral Environmental Agreements and multilateral frameworks with primary environmental objectives

Multilateral Environmental Agreements (MEAs) provide legally binding mechanisms and means for promoting international co-operation to address cross-border environmental crime. While there is no international agreement that encompasses all aspects of environmental crime all together, several MEAs introduce trade controls and work to tackle cross-border environmental crime in specific sectors (see Table 3.2 for an overview).¹⁵

A number of MEAs are specifically dedicated to address trade related aspects in specific sectors concerning environmental crime. These include:

- **The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)**, that regulate the trade in endangered species;
- **The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention)**, that establishes controls for trade in hazardous and other waste;¹⁶ and
- **The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention)** that aims to protect people and the planet from potentially harmful impacts from trade in certain hazardous chemicals.

¹⁵ This list is compiled based on the UN Treaties Collection List, Chapter XXVII: Environment: <https://treaties.un.org/pages/Treaties.aspx?id=27&subid=A&clang=en>.

¹⁶ In addition, the OECD Council Decision on the Control of Transboundary Movements of Wastes Destined for Recovery Operations (C(2001)107/Final) aims at facilitating trade of recyclables in an environmentally sound and economically efficient manner within OECD member countries (see also Section 3.5).

Table 3.1. Mapping of multilateral frameworks to address cross border environmental crime

	Wildlife	Waste	Chemicals	Timber	Fisheries	Mining
Multilateral frameworks with primary environmental objectives						
UN	Multilateral Environmental Agreements (MEAs) with trade controls					
	CITES	Basel Convention	Rotterdam, Stockholm, Minamata Conventions, Montreal Protocol	/	/	/
	Additional international conventions and normative frameworks with primary environmental objectives					
	/	/	/	International Tropical Timber Agreement (ITTA)	FAO Agreement on Port State Measures to Prevent Deter, and Eliminate IUU Fishing (PSMA)	UNEA Resolution on Mineral Resource Governance
UN Environment Programme, Green Customs Initiative (GCI)						
INECE	International Network for Environmental Compliance and Enforcement (INECE)					
Multilateral frameworks with primary crime prevention and anti-corruption objectives						
UN	UN Resolution "Preventing and combating crimes that affect the environment" (led by UN Office on Drugs and Crime (UNODC))					
	UN Resolution "Preventing and combating crimes that affect the environment falling within the scope of the United Nations Convention against Transnational Organized Crime" (led by UN Convention against Transnational Organized Crime (UNTOC))					
	UN Resolution "Preventing and combating corruption as it relates to crimes that have an impact on the environment" (led by UN Convention against Corruption (UNCAC))					
G20	G20 Principles on Combatting Corruption - Illegal Trade in Wildlife	/	/	/	/	/
Multilateral frameworks with primary police and customs control						
Interpol	Resolution - INTERPOL response to emerging threats in Environmental Security					
	Environmental Security Programme					
WCO	Environment Programme					
	Operation Thunder (wildlife trafficking)	Operation Demeter (waste trafficking)	/	/	/	/
Multilateral frameworks with primary financial crime prevention and anti-money laundering objectives						
FATF	Financial Action Task Force (FATF)					
OECD legal instruments with environmental, due diligence, and governance objectives						
OECD	/	OECD Council Decision on the Transboundary Movements of Waste	OECD Council Recommendation on illegal trade of pesticides	/	/	OECD Council Recommendation on responsible business conduct in mineral supply chains
	OECD Council Recommendation on free trade zones					
	OECD Council Recommendation on environmental compliance assurance					

Source: Compiled by author.

These instruments have a similar intent of controlling trade to achieve certain environmental objectives, e.g. CITES to control trade in endangered species, the Basel Convention to control the transboundary movements of hazardous and other waste that may pose a risk for human health and the environment, and the Rotterdam Convention to protect people and the planet from potentially harmful impacts from the trade in certain hazardous chemicals.

Nevertheless, these instruments rely on slightly different mechanisms. CITES builds on an import and export permit system for certain specimens of wild species. The Basel Convention, *inter alia* establishes Prior Informed Consent (PIC) procedures that requires prior agreement of import, export and transit countries for each shipment made. The Rotterdam Convention also establishes Prior Informed Consent (PIC) procedures where the importer makes a blanket decision on the extent of allowing future import of specified hazardous chemicals, and where the exporter has obligations to comply with these decisions made by the importer.

Other MEAs address trade-related issues as a part of their conventions:¹⁷

- **The Stockholm Convention on Persistent Organic Pollutants (Stockholm Convention)**
- **The Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol)**
- **The Minamata Convention on Mercury (Minamata Convention)**

The Stockholm Convention on Persistent Organic Pollutants (Stockholm Convention) has the objective of banning or regulating production, consumption and trade in a specified list of long-lasting organic chemicals. It only allows trade in Persistent Organic Pollutants (POPs) where there are specific exemptions or acceptable purposes in effect. It also incorporates provisions to take account of any existing international Prior Informed Consent (PIC) instruments in place, such as the Basel Convention and Rotterdam Convention.

Similarly, the Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol) regulates the production and consumption of industrial chemicals referred to as ozone depleting substances (ODS). As a part of its commitments, it establishes a national licensing system to control ODS imports and exports. Some Parties also rely on a voluntary informal Prior Informed Consent (iPIC) procedure to help facilitate cross-border controls (UNEP, 2020^[16]).

The Minamata Convention on Mercury aims to protect human health and the environment from anthropogenic emissions and releases of mercury. As a part of its commitments, it sets forth control measures to limit the supply and trade of mercury (based on restrictions as well as prior informed consent), and a deadline for phasing out manufacture, import and export of listed mercury-added products (including certain lamps, batteries, cosmetics, pesticides) by 2020.

To promote international and national cooperation to tackle cross-border environmental crime, countries are encouraged to sign Multilateral Environmental Agreements and other environmental accords and to take appropriate measures to implement them (UNEP, 2018^[20]).

¹⁷ The UN Food and Agriculture Organization (FAO), Agreement on Port State Measures to Prevent, Deter, and Eliminate IUU Fishing (PSMA), is also a legally binding instrument aiming to prevent, deter and eliminate IUU fishing. The PSMA serves as a part of FAO instruments to combat to address IUU fishing, however, not part of the UN Treaties Collection List, Chapter XXVII: Environment. Therefore, they are not classified as MEAs, but as other multilateral frameworks with primary environmental objectives in this report.

Table 3.2. Multilateral Environmental Agreements (MEAs) and other legally binding instruments with trade controls for sectors related to cross-border environmental crime

Sector	Agreement	Key features	Trade controls
Wildlife	<ul style="list-style-type: none"> Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) 	<ul style="list-style-type: none"> International trade in species of wild plants and animals, identified as being threatened by such trade, is regulated. 	<ul style="list-style-type: none"> Import and export permits required for species threatened with extinction. Export permit required for species not necessarily threatened with extinction but may become so unless trade is regulated.
Timber	<ul style="list-style-type: none"> No MEA dedicated to timber trade. Some timber species covered by CITES, e.g. rosewood, ebony wood 	<ul style="list-style-type: none"> See above 	<ul style="list-style-type: none"> See above.
Mining	<ul style="list-style-type: none"> No MEA dedicated to mining. The Minamata Convention on Mercury, introduces a phase-out and ban on mercury mines. 	<ul style="list-style-type: none"> See below 	<ul style="list-style-type: none"> See below
Fish	<ul style="list-style-type: none"> No central MEA dedicated to fish. Some fish species covered by CITES 	<ul style="list-style-type: none"> See above 	<ul style="list-style-type: none"> See above
	<ul style="list-style-type: none"> FAO Agreement on Port State Measures to Prevent, Deter, and Eliminate IUU Fishing (PSMA) 	<ul style="list-style-type: none"> Aims to tackle IUU fishing by regulating vessels in using ports and landing catches. 	<ul style="list-style-type: none"> Blocks fishery products derived from IUU fishing from reaching national and international markets.
Waste	<ul style="list-style-type: none"> The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention) 	<ul style="list-style-type: none"> Establishes controls over the transboundary movement of hazardous wastes and other wastes that may pose a risk for human health and the environment. 	<ul style="list-style-type: none"> Prohibit trade of hazardous waste and other waste with non-parties. Prohibit OECD, EU, and Liechtenstein from exporting hazardous wastes to other group of countries (i.e. Ban Amendment) Regulate trade by requiring prior agreement between the export, import, and transit countries for each shipment (i.e. Prior Informed Consent (PIC)" procedure).
	<ul style="list-style-type: none"> The OECD Decision on the Control of Transboundary Movements of Wastes Destined for Recovery Operations (OECD Decision) 	<ul style="list-style-type: none"> Establishes simplified controls to facilitate trade of recyclables in an environmentally sound and economically efficient manner. 	<ul style="list-style-type: none"> Simplified procedure based on Prior Informed Consent (PIC), requiring prior agreement between the export, import, and transit countries for each shipment.
Chemicals	<ul style="list-style-type: none"> The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention) 	<ul style="list-style-type: none"> Aims to protect people and the planet from potentially harmful impacts from the trade in certain hazardous chemicals. 	<ul style="list-style-type: none"> Prior Informed Consent (PIC) procedure: <ul style="list-style-type: none"> Importing parties decide on whether or not to permit future imports of specified hazardous chemicals. Exporting parties ensure compliance with decisions by each importing party.
	<ul style="list-style-type: none"> The Stockholm Convention on Persistent Organic Pollutants (Stockholm Convention) 	<ul style="list-style-type: none"> Aims to ban or regulate production, consumption and trade in a specified list of long-lasting organic chemicals (i.e. persistent organic pollutants (POPs)) 	<ul style="list-style-type: none"> Prohibit or restrict import and export of intentionally produced POPs. Trade only allowed with specific exemptions or acceptable purposes. Take account of existing international Prior Informed Consent (PIC) instruments (e.g. Basel and Rotterdam Conventions).
	<ul style="list-style-type: none"> Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol) 	<ul style="list-style-type: none"> Regulates the production and consumption of industrial chemicals referred to as ozone depleting substances (ODS). 	<ul style="list-style-type: none"> National licensing systems to control ODS imports and exports. Importers or exporters must apply for a permit that specifies quantity of ODS, countries involved in transaction, purpose of use of the chemicals, and other relevant information, before shipment. Licensing systems also contain quotas to limit consumption to required levels. Informal Prior Informed Consent (iPIC) system to facilitate cross-border controls.
	<ul style="list-style-type: none"> The Minamata Convention on Mercury (Minamata Convention) 	<ul style="list-style-type: none"> Aims to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. 	<ul style="list-style-type: none"> Control measures to limit the supply and trade of mercury (prohibition of imports and exports except for those with written consent, allowed use, and other conditions). Deadline for phasing out manufacture, import and export of listed mercury-added products (e.g. lamps, batteries, cosmetics, pesticides) by 2020.

Source: Author based on UNEP (2020^[16]; 2018^[20]), OECD (2012^[6]) and related information compiled in Annex A.

In addition to MEAs, there are other multilateral frameworks with primary environmental objectives that can be non-binding or without specific trade controls. While these frameworks either do not have specific trade controls or actions directly addressing cross-border environmental crime, they appear to have indirect linkages by offering possible avenues to alleviate root causes and drivers of cross-border environmental crime, and therefore, ample synergies can be further explored. These include the following (further discussed below):

- UN Environment Programme (UNEP) and the Green Customs Initiative (GCI)
- The International Network for Environmental Compliance and Enforcement (INECE)
- International Tropical Timber Agreement (ITTA)
- UN Environment Assembly (UNEA) Resolution on Mineral Resource Governance
- UN Food and Agriculture Organization (FAO) initiatives to address IUU Fishing

The UN Environment Programme (UNEP) organises multiple programmes to combat cross-border environmental crime and has two main pillars of action: legislative response, and implementation and enforcement (OECD, 2021^[19]). Regarding the legislative response, UNEP plays a central role at both the international and national level, through the development of MEAs and the provision of technical legal assistance to countries. For implementation and enforcement, UNEP works with countries at the global, regional, and country level to support effective implementation and enforcement of legislative and regulatory frameworks and to strengthen international networks. Among others, UNEP hosts the Secretariat of the Green Customs Initiative (GCI), which is a partnership launched in 2004 to promote inter-agency co-operation and bringing together international entities such as secretariats of the relevant MEAs, INTERPOL, the World Customs Organization, UNEP, and UNODC (UNEP, 2022^[32]). The initiative aims to enhance the capacity of customs and other relevant border control officials through training courses and knowledge tools, to monitor and facilitate legal trade and to detect and prevent illegal trade in environmentally sensitive commodities covered by relevant MEAs and international conventions.

The International Network for Environmental Compliance and Enforcement (INECE) is a global organisation focused on achieving compliance with environmental law through effective compliance promotion and enforcement strategies, including administrative, civil, criminal, and judicial enforcement (INECE, 2022^[33]). The network brings together environmental regulators, investigators, prosecutors, judges, employees of international environmental and development organisations, officials from customs, police, non-governmental organisations, academia, media, and business. It aims to build the capacity of relevant stakeholders involved in compliance and enforcement to contribute to the rule of law and good governance that promote sustainable development.

The International Tropical Timber Agreement (ITTA) is a voluntary agreement administered by the International Tropical Timber Organization (ITTO) aiming to promote the expansion and diversification of international trade in tropical timber from sustainably managed and legally harvested forests and to promote the sustainable management of tropical timber producing forests (ITTO, 2022^[34]). The agreement has no specific trade controls. (See Annex B for details).

The UN Environment Assembly (UNEA) Resolution on Mineral Resource Governance is a voluntary resolution on sustainable management of metal and mineral resources. It provides, *inter-alia*, a mandate to UNEP: (i) to collect information on sustainable practices, (ii) to identify knowledge gaps and options for implementation strategies, (iii) to undertake an overview of existing assessments of different governance initiatives and approaches (UNEA, 2019^[35]). It does not have specific trade controls (See Annex B for details).

The UN Food and Agriculture Organization (FAO) sets forth several initiatives to tackle IUU fishing. First, the FAO International Plan of Action to Prevent, Deter and Eliminate IUU Fishing is a voluntary instrument aiming to prevent, deter and eliminate IUU fishing by providing all States with comprehensive, effective

and transparent guidelines (FAO, 2011^[36]). Second, the FAO Agreement on Port State Measures to Prevent, Deter, and Eliminate IUU Fishing (PSMA) is a legally binding instrument aiming to prevent, deter and eliminate IUU fishing by preventing vessels engaged in IUU fishing from using ports and landing their catches (FAO, 2016^[37]). Third, the FAO Voluntary Guidelines for Catch Documentation Schemes sets out basic principles in establishing or reviewing catch documentation schemes, which serves as trade-based tools to prevent, deter, and eliminate illegal, unreported and unregulated (IUU) fishing, by determining throughout the supply chain whether fish have been caught in compliance with applicable national, regional and international conservation and management measures (FAO, 2017^[38]). While these frameworks aim to address IUU fishing as a whole, they are either voluntary (non-legally binding) or only have partial trade controls (See Annex B for details).

3.2 Multilateral frameworks with primary crime prevention and anti-corruption objectives

Recognising that environmental crime is a serious issue, multilateral forums on crime prevention and anti-corruption under the aegis of the United Nations Office on Drugs and Crime (UNODC) as well as UN Resolutions addressing crimes that affect the environment are on the rise to establish a horizontal response (UNODC, 2022^[39]; 2022^[40]). In particular, the following three UN Resolutions are unique in a way that they address environmental crimes holistically (instead of a sector specific focus such as wildlife trafficking) through a cross-cutting framework in terms of crime prevention, criminal justice, and anti-corruption. In addition, the G20 set forth High Level Principles on Combatting Corruption Related to Illegal Trade in Wildlife and Wildlife Products. These are listed below and further explained below:

- UN Resolution “Preventing and combating crimes that affect the environment (Resolution 76/185)”
- UN Resolution “Preventing and combating crimes that affect the environment falling within the scope of the United Nations Convention against Transnational Organized Crime (Resolution 10/6)”
- UN Resolution “Preventing and combating corruption as it relates to crimes that have an impact on the environment (Resolution 8/12)”
- G20 High Level Principles on Combatting Corruption Related to Illegal Trade in Wildlife and Wildlife Products

In December 2021, the UN General Assembly adopted the Resolution “Preventing and combating crimes that affect the environment (Resolution 76/185)”, which was instigated by the Commission on Crime Prevention and Criminal Justice (CCPCJ), the governing body of the UNODC (UN, 2021^[41]). The Resolution sets forth practical actions for its Member States and the international community to prevent and combat crimes that affect the environment. It also provides, *inter-alia*, a mandate to the UNODC to support efforts to effectively prevent and combat crimes that affect the environment by: (i) strengthening the collection, analysis and dissemination of accurate and reliable data and information; (ii) providing technical assistance and capacity-building as requested by Member States; and (iii) further enhancing and expanding its cooperation and coordination with other forums (e.g. UN bodies, MEAs, INTERPOL, and the World Customs Organization).

In October 2020, the Conference of the Parties to the United Nations Convention against Transnational Organized Crime (UNTOC), adopted the Resolution “Preventing and combating crimes that affect the environment falling within the scope of the United Nations Convention against Transnational Organized Crime (Resolution 10/6)” (UN, 2020^[42]). The Resolution affirms, *inter alia*, that UNTOC is “an effective tool and an essential element of the legal framework for preventing and combating transnational organized crime that affects the environment and for strengthening international cooperation”. It also calls upon States parties “to make crimes that affect the environment, in appropriate cases, serious crimes, in accordance with their national legislation”. Through the Resolution, UNODC has a mandate to support the

effective implementation of the Convention by providing technical assistance and capacity-building to States parties upon request, and advancing cooperation with the other relevant bodies. It mainly covers issues relating to legal aspects of criminalisation and international cooperation, based on the provisions of the UNTOC. It is considered complementary to the Resolution 76/185 (as above) and the associated processes led by the CCPCJ. In October 2022, UNTOC followed up by issuing a revised draft resolution that sets out recommendations based on the outcomes of a joint thematic discussion of the two working groups on technical assistance and international cooperation.¹⁸ This revised draft resolution, *inter-alia*, calls upon States parties to consider, where appropriate, treating crimes that affect the environment as predicate offences for money-laundering purposes and to strengthen financial investigations, to prevent and combat related corruption, to enhance international co-operation including law enforcement cooperation and joint investigations, and to make further use of technology.

In a related vein, in December 2019, the Conference of the States Parties to the United Nations Convention against Corruption (UNCAC) issued the Resolution “Preventing and combating corruption as it relates to crimes that have an impact on the environment (Resolution 8/12)” (UN, 2019^[43]). The Resolution specifically focuses on the fight against corruption and environmental crime. In particular, it calls upon States parties to make use of other relevant legal instruments available at the national, regional and international levels to tackle corruption as it relates to crimes that have an impact on the environment, including through legislation on money-laundering, corruption, fraud, racketeering and financial crime. It also mandates the UNODC to conduct scientific-based research and to develop technical assistance programmes, research, studies, training materials, guides and tools for Governments, and to disseminate information and good practices, which could help to inform possible future measures to prevent and combat corruption as it relates to crimes that have an impact on the environment.

In particular, UNTOC and UNCAC play a central role in setting forth an international legislative response against environmental crime. Based on these two cross-sectoral agreements, the latter two Resolutions (i.e. 6/10, 8/12) have established quasi-universal legal instruments that can be used to prevent and combat environmental crimes and strengthen international cooperation in this area (Ministry for Europe and Foreign Affairs, France, 2022^[44]).

In addition to efforts by the UN, the G20 established High Level Principles on Combatting Corruption Related to Illegal Trade in Wildlife and Wildlife Products, as a part of the G20 Leaders Declaration under the German Presidency in 2017 (G20, 2017^[45]). These Principles were developed in the context of the G20 Anti-Corruption Action Plan 2017-18, and focuses on corruption related to illegal trade in wildlife and wildlife products. It serves as a reference for countries willing to strengthen their efforts to combat corruption related to the illegal trade in wildlife and wildlife products. The four pillars of these Principles include: (i) strengthening frameworks, (ii) prevention; (iii) investigation, prosecution and sanctioning, and (iv) assessment of progress.

3.3 Multilateral frameworks with primary police and customs control objectives

Ensuring effective law enforcement is a critical element in combatting cross-border environmental crime. In addition to activities by UNEP (mentioned in Section 3.1), INTERPOL and the World Customs Organization (WCO) have taken pivotal roles to enhance international co-operation and co-ordination to enhance law enforcement against cross-border environmental crime. These are listed below, and further discussed.

¹⁸ For further details, see: (UNTOC, 2022^[90]) “Outcomes of the joint thematic discussion of the Working Group of Government Experts on Technical Assistance and the Working Group on International Cooperation on the application of the United Nations Convention against Transnational Organized Crime for preventing and combating transnational organized crimes that affect the environment”.

- INTERPOL Resolution “Response to emerging threats in Environmental Security (AG-2014-RES-03)” and Environment Security Programme
- World Customs Organization (WCO) Environment Programme

In 2014, INTERPOL’s General Assembly adopted the Resolution “INTERPOL response to emerging threats in Environmental Security (AG-2014-RES-03)”, which raises serious concerns over environmental security and impacts from environmental crime, and recognises broader links with criminal networks engaged in financial crime, fraud, corruption, illicit trade and human trafficking (INTERPOL, 2014^[46]). In parallel, the Environmental Security Programme of INTERPOL is responsible for addressing environmental crime and aims to assist member countries in the effective enforcement of national and international environmental laws, including Multilateral Environmental Agreements (INTERPOL, 2022^[47]). The programme brings together member countries, international organisations, civil society, and the private sector to collectively tackle the issue of environmental crime and focuses on five areas (fisheries crime, forestry crime, illegal mining, pollution crime, and wildlife crime). It provides law enforcement agencies with the necessary operational support to facilitate intelligence-led policing and to dismantle international criminal syndicates and sophisticated networks. It also participates to the Green Customs Initiative (see Section 3.1).

In 2012, the World Customs Organization (WCO) launched its Environment Programme to ensure that Customs play an essential role in the implementation of Multilateral Environmental Agreements (MEAs) and the fight against environmental crime (WCO, 2022^[48]). The WCO’s two flagship operations are Operation DEMETER on illegal waste trade and ozone-depleting substances (ODS) since 2009, and Operation THUNDER on illegal wildlife crime since 2020. In 2021, operation DEMETER VII was successfully implemented by 87 customs administrations in partnership with the WCO to tackle illegal trade in waste, ozone depleting substances (ODS) and hydrofluorocarbons (HFCs). Using risk indicators and focusing on pre-identified routings and hotspots, the project resulted in 107 seizures, including 3,851 tonnes of waste, 6,108 pieces of waste materials, and 101 kg and 493 pieces of substances controlled by the Montreal Protocol (WCO, 2021^[49]). In 2021, Operation THUNDER, which is a joint WCO-INTERPOL project, involved customs, police, financial intelligence units and wildlife and forestry enforcement agencies in 118 countries. It achieved more than 1,000 seizures and identified some 300 suspects, triggering a series of worldwide arrests and investigations linked to illegal trading of CITES-listed species (WCO, 2021^[50]). The WCO is also involved in the Green Customs Initiative (see Section 3.1), the Basel Convention Plastic Waste Partnership, and the Asia Pacific Plastic Waste Border Management Project.

3.4 Multilateral frameworks with primary financial crime prevention and anti-money laundering objectives

The Financial Action Task Force (FATF) is a multilateral framework that has primary anti-money laundering and counter terrorist financing objectives. As an inter-governmental body, it serves as global money laundering and terrorist financing watchdog.¹⁹ It was founded during G7 Summit in Paris in 1989. In 2012, it developed “FATF recommendations” to ensure a co-ordinated global response to prevent organised crime, corruption, and terrorism related to illegal drugs, human trafficking, and other crimes such as environmental ones.

The FATF Recommendations are recognised as the global anti-money laundering and counter-terrorist financing standard. For environmental crimes, the FATF published the study “Money Laundering from Environmental Crime” (FATF, 2021^[12]) to strengthen awareness of the scale and nature of criminal gains and laundering techniques for environmental crimes. This study builds on the FATF (2020^[51]) report on

¹⁹ See: FATF-GAFI website - <https://www.fatf-gafi.org/about/>.

financial flows from the illegal wildlife trade. It brings together expertise from across the FATF's Global Network to identify good practices that governments and the private sector can take to disrupt the profitability of environmental crimes.

The FATF (2021^[12]) report on money laundering from environmental crime shows the significant role of trade-based fraud and misuse of shell and front companies to launder gains from illegal logging, illegal mining, and waste trafficking. It also shows that criminals frequently commingle legal and illegal goods early in the resource supply chains to conceal their illicit source. This can make it difficult to detect suspicious financial flows later in the value chain. This highlights the need for anti-money laundering (AML) authorities to build working relationships with non-traditional partners, including environmental crime investigators and environmental protection agencies, and to establish multi-stakeholder dialogues

3.5 OECD legal instruments with environmental, due diligence, and governance objectives

The OECD has several legal instruments in the form of OECD Council Decisions and Recommendations that is related to tackle cross-border environmental crime. These include the following are further described below:

- OECD Council Decision on the Control of Transboundary Movements of Wastes Destined for Recovery Operations
- OECD Council Recommendation on Countering the Illegal Trade of Pesticides
- OECD Council Recommendation and Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas
- OECD Council Recommendation on Free Trade Zones
- OECD Council Recommendation on Environmental Compliance Assurance

The OECD Council Decision on the Control of Transboundary Movements of Wastes Destined for Recovery Operations (C(2001)107/Final) is in force since 1992, to establish controls to facilitating trade of recyclables in an environmentally sound and economically efficient manner within OECD member countries (OECD, 1992^[52]). It uses a similar but simplified control mechanism compared to the Basel Convention. In particular, a simplified Prior Informed Consent (PIC) requires prior agreement between the export, import, and transit countries for each shipment. The OECD Decision is binding to OECD member countries and establishes trade controls for hazardous and other waste based on these mechanisms.²⁰

The OECD Council Recommendation on Countering the Illegal Trade of Pesticides was adopted in 2019, in response to emerging concerns on illegal international trade of pesticides that present negative economic impacts on farmers and pesticides manufacturers, undermine national legislation, and pose a threat to food security, human health, and the environment (OECD, 2019^[53]). The Recommendation aims to encourage countries to fight illegal trade of pesticides at the national level, and to promote greater co-operation between countries and between custom authorities and regulatory agencies on their efforts to identify and respond to illegal trade of pesticides. In 2018, the OECD also developed a “Best Practice Guidance to Identify Illegal Trade of Pesticides”, which sets forth several guiding principles, such as record keeping of manufacturers, traders and distributors, monitoring transit time to identify potentially suspicious consignments, and general guidance for regulators and inspectors (OECD, 2018^[9]).

²⁰ Status of updates of the OECD Decision on the Transboundary Movement of Wastes is available here: <https://www.oecd.org/env/waste/theoecdcontrolsystemforwasterecovery.htm>.

The OECD has developed legal instruments and tools based on principles of due diligence and responsible business conduct, to help assist companies in ensuring that they respect human rights and do not contribute to any type of conflict along the supply chain (OECD, 2016^[11]). In 2012, the OECD updated a Council Recommendation on Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. It recommends, inter-alia, governments to actively promote the Guidance and to support the uptake of the 5-Step Framework for Risk-Based Due Diligence in the Mineral Supply Chain. Building on this Council Recommendation, in 2016, the OECD updated its Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas. The Guidance provides a framework for companies to undertake detailed due diligence as a basis for responsible global supply chain management of mineral resources. While the Recommendation and the Guidance are not specific to the environment, and do not specifically address illegal trade and environmental crime related to minerals, these tools may help promote better corporate behaviour to avoid involvement in such activities.

The OECD Council Recommendation on Countering Illicit Trade: Enhancing Transparency in Free Trade Zones was adopted in 2019 to urge member countries to promote transparency in order to deter the abuse of Free Trade Zones (FTZs) as channels for illicit trade (OECD, 2019^[54]; OECD/EUIPO, 2018^[55]). The Recommendation inter-alia aims to ensure a concrete legal framework for FTZs, to guarantee the access of competent authorities to information and data, and to enhance international and domestic inter-agency co-operation. It also calls on Adherents to take measures to encourage FTZ to implement the Code of Conduct for Clean Free Trade Zones that is set out in its Appendix. Such measures include the conduct of strict control of consignments transited through FTZ that do not implement the Code of Conduct for Clean Free Trade Zones.

The OECD Council Recommendation on Environmental Compliance Assurance was adopted in June 2023 (OECD, 2023^[56]). It aims to help Adherents in designing an effective and efficient package of tools for promoting, monitoring, and enforcing compliance with environmental law. It also aims to fill implementation gaps, such as insufficient compliance with environmental requirements. The Recommendation serves as a reference point on environmental policy implementation and identifies measures to further strengthen their environmental rule of law. It covers three aspects of environmental compliance assurance (compliance promotion, monitoring, and enforcement) as well as institutional arrangements.

Beyond OECD legal instruments, there are a number of OECD related frameworks in addressing cross-border environmental crime, such as: (i) the OECD Network on Illegal Trade of Pesticides (ONIP); (ii) OECD Informal Network on Law Enforcement Agencies; and (iii) the OECD Task Force on Countering Illicit Trade (TF-CIT). Details of these frameworks are compiled in Annex C.

3.6 Effectiveness and challenges of multilateral approaches

Multilateral Environmental Agreements (MEAs) are core architectures of providing an international response against cross-border environmental crime. Indeed, there are many successful examples of MEAs providing an effective framework for environmental protection, curbing illegal trade that hampers the environment and addressing cross-border environmental crime. For example, CITES has had much success in regulating international trade in wildlife through commitments of States parties to take appropriate measures for enforcement and to prohibit trade in specimens in violation of the Convention (UNEP, 2018^[20]; OECD, 2012^[6]).

The Basel Convention also appears to have contributed to better regulation of the trade in hazardous waste and reduction in the dumping of this waste in developing countries, which used to be a prominent issue in

the 1980s (OECD, 2012^[6]). Between 2016 and 2020, 272 kilo-tonnes of illegal traffic of waste were reported as confirmed cases during this period.²¹

The Montreal Protocol is also often cited as a successful example in regulating production, consumption and trade of ozone depleting substances. This includes regulating trade of chlorofluorocarbons (CFCs) and hydro chlorofluorocarbons (HCFCs) through the provision of several initiatives such as the informal Prior Informed Consent procedure, customs training and focused enforcement operations (UNEP, 2020^[16]; Nellemann et al., 2016^[13]).

One of the positive aspects of MEAs is their role in bringing together importing and exporting countries, in particular the two sets of enforcement agencies on illegal trade, to share responsibilities to address cross-border environmental crimes (OECD, 2012^[6]). It provides a framework for authorities to co-operate, rather than leaving the authorities of one country to be solely responsible for illegal flows.

However, there are some indications that MEAs provide only a partial or limited response and that cross-border environmental crime continues to prevail. Indeed, some studies claim that increased trade controls under MEAs have, in some cases, resulted in counter-intuitive developments in providing incentives for illegal trade and black markets in the absence of good governance (Elliott and Schaedla, 2016^[7]). Criminals can make profits by e.g. selling controlled or banned goods at premium prices, circumventing controls under MEAs that regulate the cross-border movement of certain goods, such as wildlife under CITES, hazardous waste under the Basel Convention and products containing ozone depleting substances (ODS) under the Montreal Protocol. Some of these challenges and gaps are further explored below.

First, approaches among MEAs in attributing responsibility along the value chain in tackling cross-border environmental crime vary according to their characteristics and risk factors (OECD, 2012^[6]). For example, the Prior Informed Consent Procedures under the Basel Convention require the prior agreement of export, import and transit countries. For other agreements, controls are only required at the point of export or import. For CITES, export permits suffice in certain specimens not necessarily threatened with extinction. In other cases, prior agreement on imports are only necessary, for example on hazardous chemicals covered by the Rotterdam Convention. In the area of chemicals, countries appear to impose fewer restrictions on exports rather than imports - some countries allow the export of chemicals that are not permitted in the domestic economy as long as they are being notified (UNEP, 2020^[16]).

Second, there are differences to the extent that MEAs address illegality and criminality (UNEP, 2018^[20]). For example, the Basel Convention is the only MEA covered in this current report that specifies criminality in breach of the Convention – explicitly stating that illegal trafficking of hazardous waste is considered criminal.²² CITES establishes obligations for Parties to take appropriate measures to enforce its provisions and prohibit trade in specimens in violation of the Convention, through measures such as penalties, confiscation, and return of specimens to the exporting country.²³ However, the Convention does not specify whether such violations would qualify as criminal or illegal (Elliott and Schaedla, 2016^[7]).²⁴ Other

²¹ Authors calculations based on (UNEP, 2022^[4]) cases of illegal traffic which have been closed in the reporting year.

²² See Basel Convention, Article 4 (3): “The Parties consider that illegal traffic in hazardous wastes or other wastes is criminal”.

²³ See CITES, Article VIII (1): “The Parties shall take appropriate measures to enforce the provisions of the present Convention and to prohibit trade in specimens in violation thereof. These shall include measures: (a) to penalize trade in, or possession of, such specimens, or both; and (b) to provide for the confiscation or return to the State of export of such specimens”.

²⁴ CITES parties have adopted several resolutions on illegal wildlife trade, including those declaring all trade in certain species and products to be effectively illegal. Parties are urged to strengthen enforcement of illegal trade, avoid encouraging illegal trade, and intensify efforts to combat illegal trade across the full range of the enforcement chain. (Elliott and Schaedla, 2016^[7])

MEAs, such as the Stockholm Convention, the Rotterdam Convention, the Montreal Protocol, or the Minamata Convention do not explicitly define illegal trade or provide specific consequences for imports or exports contrary to their provisions and protocols (UNEP, 2020_[16]).²⁵

Third, while many MEAs build upon national laws and regulations in terms of the legality and applicable scope of trade in certain goods that may have an impact on the environment, some sources suggest that they are not always effective in strengthening domestic laws and regulations (Elliott and Schaedla, 2016_[7]). In most cases, international environmental law delegates criminal protection of the environment to the Parties of each MEA. This means that the crimes prosecuted are often national crimes subject to national laws and regulations, although they require international co-operation for their prevention and punishment (UNEP, 2018_[20]). For example, adherent countries to the Basel Convention have the discretion to define certain wastes as hazardous and introduce additional trade controls beyond those stipulated in the Convention. Therefore, the exact scope of the Convention is different from one country to another, where in some cases waste defined as hazardous in one country may be defined as non-hazardous in another (Yamaguchi, 2022_[57]). In the area of pesticides, the allowed maximum residue levels can differ from country to country, and therefore, food products banned in one country can still enter markets in other countries that allow higher levels of hazardous substances or do not regulate particular substances in a product (UNEP, 2020_[16]). Since the Rotterdam Convention, the Stockholm Convention, the Montreal Protocol, and the Minamata Convention, do not contain explicit provisions on illegal trade, this is often defined under the regulatory framework of each country, where rules and practices can differ (UNEP, 2020_[16]). These differences in national laws and regulations can potentially provide incentives for trade in goods and specimens of high environmental concern. For this reason, strengthening national laws and regulations to reduce these gaps is essential to provide a holistic response. Some MEAs, such as CITES, have taken steps to improve the situation by developing legislative guidelines (UNODC, 2022_[39]). However, MEAs alone may not be the best way to achieve this goal.

Fourth, there are concerns about the fragmented international governance against cross-border environmental crime. Currently, there is no single institutional framework overseeing the entire issue and providing a system-wide response to establish norms, policies and procedures at the international level (see Table 3.1 on the mapping of different multilateral frameworks and initiatives). As a result, there are often separate approaches between international and transnational environmental policy, and border controls and crime prevention (Elliott and Schaedla, 2016_[7]). Considerations on illegality and criminality is increasingly being recognised as a crucial element to identify and act against cross-border environmental crime. For an appropriate and proportionate response, it is also important to find the right balance between regulatory approaches and economic incentives, and the policy mix between prevention, detection, seizure, and prosecution. For this reason, promoting effective collaboration between different stakeholders, including environmental authorities, police, customs, and prosecutors, is essential (OECD, 2022_[3]; 2021_[19]). Combining efforts under different MEAs, with efforts under other multilateral horizontal frameworks on legislative responses with criminal prevention and anti-corruption objectives (such as those under UNODC, UNTOC and UNCAC), and enforcement responses with police and customs control objectives (such as Interpol and the World Customs Organization), could offer promising ways forward.

Fifth, there are other areas that do not have dedicated MEAs with trade controls to help address environmental crime. These include, for example crimes related to forestry and timber, fisheries, and mining (see Sections 2.5 and 3.1). Some of these sectors have multilateral frameworks with primary environmental objectives, such as the International Tropical Timber Agreement (ITTA) for timber, and the UNEA Resolution on Mineral Resource Governance. However, they remain to be voluntary frameworks without specific and legally binding trade controls. In the area of fisheries, the FAO Agreement on Port

²⁵ The parties to the Montreal Protocol have adopted several decisions on illegal trade, however, emphasis appears to be placed on effective tracking and reporting systems rather than referring to terms "crime" or "criminal" (Elliott and Schaedla, 2016_[7]).

State Measures to Prevent, Deter, and Eliminate IUU Fishing (PSMA) is a legally binding instrument providing vital means to prevent illegal sources from entering markets, however, the mechanism does not explicitly cover trade and the entire value chain. Furthermore, there are gaps in the coverage and scope of MEAs to prevent the trade in several sectors, such as harmful chemicals. There is also an abundance of complex exemptions allowed under MEAs, which makes implementation and enforcement a very complicated task (UNEP, 2020^[16]).

4

The potential role of regional frameworks to complement multilateral efforts

In addition to multilateral frameworks and multilateral environmental agreements, regional trade agreements (RTAs) and regional approaches could provide a complementary response to combat cross-border environmental crime. This section explores these approaches by: (i) first, compiling information on regional networks on environmental compliance assurance; (ii) second, examining existing provisions under RTAs, (iii) third, investigating the extent of implementation of these provisions by drawing on case studies, and (iv) fourth, assessing their effectiveness and challenges.

4.1 Regional networks on environmental compliance assurance

To complement multilateral efforts on environmental compliance assurance, regional networks within trading blocs are also available to promote co-operation on effective environmental compliance and enforcement strategies.

Several networks are available under the EU including: (i) the European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL), (ii) The European Network of Prosecutors for the Environment (ENPE), (iii) The European Union Forum of Judges for the Environment (EUFJE), and (iv) the Network for Countering Environmental Crime (EnviCrime-Net).

In Asia, there are similar initiatives, such as (i) Asian Environmental Compliance and Enforcement Network (AECEN); and (ii) the Asian Judge Network on Environment Asia. These are summarised in Table 4.1 below.

Table 4.1. Regional networks on environmental compliance assurance and enforcement strategies

Network	Objectives and activities
IMPEL	<p>In 1992, the European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) was established as an informal network, and upgraded in 2008 as an international non-profit association, to ensure a more effective application of environmental legislation in the European Union. It involves environmental authorities of the European Union Member States, acceding and candidate countries of the EU, EEA and EFTA countries and potential candidates to join the European Community. Main activities include:</p> <ul style="list-style-type: none"> • awareness raising, • capacity building, • peer review, • exchange of information and experiences on implementation, • international enforcement collaboration; and • promoting and supporting the practicability and enforceability of European environmental legislation.
ENPE	<p>In 2012, the European Network of Prosecutors for the Environment (ENPE) was developed to contribute to protecting the environment by supporting the operative work of environmental prosecutors. The Association seeks to:</p> <ul style="list-style-type: none"> • promote the exchange of information and experience of the enforcement and prosecution of environmental crime, • foster knowledge of environmental law among prosecutors and promote the development of environmental criminal law, • share experience of investigations, prosecutions and sanctions in the field of environmental criminal law, • facilitate co-operation and capacity building, • facilitate data collection, • identify best practice and produce guidance, tools, and common standards, • share training programmes in relation to environmental criminal law, and • cooperate with relevant international organisations.
EUFJE	<p>In 2004, the European Union Forum of Judges for the Environment (EUFJE) was created to contribute to better implementation and enforcement of national, European and international environmental law. Three pillars of activities include to:</p> <ul style="list-style-type: none"> • contribute to a better knowledge of environmental law among judges, • share case law, and • sharing experience in the area of training of the judiciary in environmental law.
EnviCrimeNet	<p>The Network for Countering Environmental Crime (EnviCrimeNet) is a network of European Law Enforcement Agencies to fight against environmental crime. It aims to establish a comprehensive regulatory framework and approach by bringing together the expertise of competent authorities, prosecutor and judicial activities of IMPEL, ENPE, and EUFJE respectively. Some main activities include investigations of several forms of environmental crime, such as:</p> <ul style="list-style-type: none"> • waste-related crime, and illegal import and export of waste products, • smuggling of protected animal and plant species, and • forgery of transport documents pertaining to waste products, and protected animal and plant species.
AECEN	<p>In 2005, the Asian Environmental Compliance and Enforcement Network (AECEN) was founded to provide a venue for exchange of innovative policies and best practices, to improve compliance with environmental policies and legal requirements in Asia. Activities are executed through technical assistance, programs, knowledge support and small grants.</p>
AJNE	<p>In 2010, Asian Judges Network on Environment (AJNE) was established as an information and experience sharing arrangement among senior judges of the Association of Southeast Asian Nations (ASEAN) and the South Asian Association for Regional Cooperation (SAARC). This informal judicial network is committed to providing a dynamic forum for judicial capacity building and multilateral exchanges on environmental adjudication.</p>

Source: Compiled by Author based on (IMPEL, 2022^[58]; ENPE, 2022^[59]; EUFJE, 2022^[60]; EnviCrimeNet, 2022^[61]; AECEN, 2022^[62]; AJNE, 2022^[63]; EC, 2021^[64]; UNEP, 2018^[20]).

4.2 Regional trade agreements addressing cross-border environmental crime

Regional trade agreements (RTAs) present additional opportunities to address cross-border environmental crime between trading partners. RTAs incorporate a range of commitments to address cross-border environmental crime among its signatory Parties (see Figure 4.1). Out of 775 total RTAs worldwide between 1947 and 2021, 226 agreements contained one or more provisions related to cross-border environmental crime. Among them, 185 agreements included at least one substantive provision (e.g. on

trade in waste and chemicals, wildlife trafficking, illegal trade in forestry and fishery products) and 99 agreements included at least one reference to an MEA addressing cross-border environmental crime.²⁶

Across these commitments, the most common substantive provision was addressing hazardous waste trade (147 agreements), followed by addressing chemical management (76 agreements), and promoting protected areas and nature reserves (58 agreements), all of which prevailed since the 1990s. Shortly after, commitments addressing wildlife trafficking emerged from the 2000s (47 agreements). Notably, since the 2010s, dozens of RTAs included commitments to promote sustainable trade and address illegal trade in forestry and fishery products that are not specifically covered by MEAs (42 and 40 agreements respectively).²⁷

Several RTAs also included provisions to reaffirm commitments under specific MEAs that address cross-border environmental crime. This included references to CITES, the Basel Convention, and the Montreal Protocol (from the 1990s), and the Rotterdam and Stockholm Conventions (from the 2010s).²⁸ The number of RTAs that refer to MEAs appears to be related to the starting year of each MEA. As a result, MEAs signed in earlier years, such as CITES, the Basel Convention, and the Montreal Protocol relatively prevail compared to more recent MEAs such as the Rotterdam and Stockholm Conventions (see Figure 4.1, Panel B). Due to data limitations, references to the Minamata Convention were not identified.

According to the data, the most active countries to include these provisions in their RTAs were the African Economic Communities and Customs Unions (for Africa); the United States, Canada, Mexico, Chile, Costa Rica, Peru, Guatemala, Panama, Colombia (for the Americas); Korea, New Zealand and Chinese Taipei (for the Asia-Pacific); and the European Union (EU).

In a specific effort to bridge international environmental policy and criminal prevention and criminal justice, the United States – Mexico – Canada Agreement (USMCA) in force since 2020, makes an explicit reference to treat intentional transnational trafficking of wildlife protected under its laws, as a “serious crime” as defined in the United Nations Convention on Transnational Organized Crime (UNTOC).²⁹ This is likely the first of its kind to explicitly make cross references between international environmental policy and crime prevention in a RTA. Given that UN Resolutions related to crimes that affect the environment by the UN General Assembly, UNTOC and UNCAC are relatively recent and have only been in place since 2019, future RTAs may consider similar provision depending on the priorities of signatory countries.

Some more recent RTAs also include references to address cross-border environmental crime. For example, the UK-New Zealand FTA signed in February 2022 include provisions on IUU fishing, illegal logging and deforestation, illegal trade in wildlife, and illegal trade in ozone-depleting substances and hydrofluorocarbons.³⁰

²⁶ CITES, the Basel, Rotterdam and Stockholm Conventions, and the Montreal Protocol.

²⁷ This is with the exception of certain timber species covered by CITES.

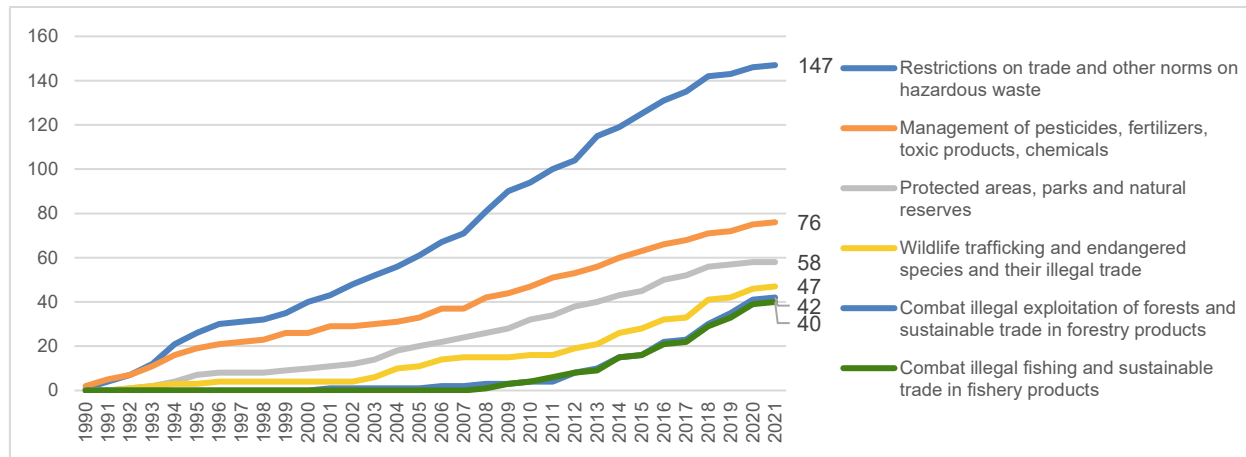
²⁸ References to MEAs included those that support the ratification, the implementation, and the prevalence of MEAs in case of inconsistency.

²⁹ See: USMCA, Article 24.22, 6 (b).

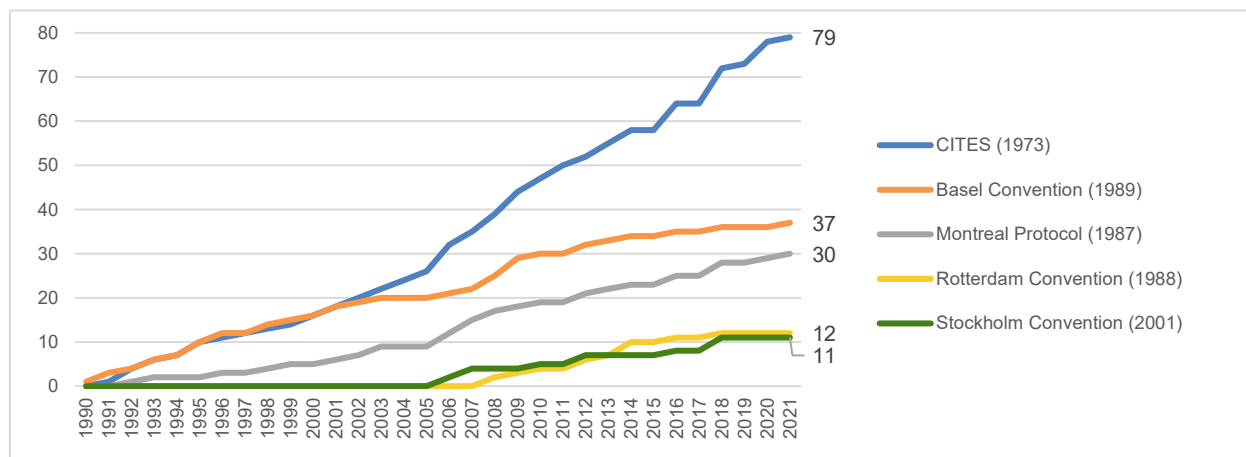
³⁰ See: UK-New Zealand FTA, Articles: 22.9; 22.11; 22.12; and 22.14.

Figure 4.1. Regional trade agreements (RTAs) with environmental provisions to address cross border environmental crime

Panel A: Evolution of substantive provisions



Panel B: Evolution of references to MEAs



Note: Covers 730 RTAs signed between 1947-2018. Years in brackets signify the year of signature of the agreement.

Source: Authors based on TREND database – <https://www.chaire-epi.ulaval.ca/en/trend>.

4.3 Good practices on the implementation of regional frameworks

Some of these environmental commitments under RTAs have led to successful implementation and follow up activities between trading partners (George and Yamaguchi, 2018^[65]). Several RTAs have fostered environmental co-operation and public participation to help strengthen environmental jurisdiction and law enforcement against cross-border environmental crime. The following case studies illustrate some examples of addressing cross-border environmental crime through the implementation of regional frameworks in depth.

Case study 1: Combatting wildlife trafficking, illegal timber trade, and Illegal, Unreported and Unregulated (IUU) Fishing through CAFTA-DR and other US FTAs

The Dominican Republic - Central America - United States Free Trade Agreement (CAFTA-DR), in force since 2006, is the first Free Trade Agreement in Central America and the Dominican Republic that incorporates an environment chapter. CAFTA-DR, through its environmental co-operation programme,

showed success in improving or creating environmental laws, regulations, policies, and norms. For cross-border environmental crime, these included (i) update of laws and regulations to apply the CITES Convention in Honduras, Costa Rica, El Salvador, and Guatemala, (ii) establishment of the National Biodiversity Policy, development of Regulations to the Wildlife Conservation Law,³¹ and policy updates for the prosecution of wildlife crimes in Costa Rica, and (iii) help introducing a new regional regulation³² to prevent, discourage and eliminate IUU Fishing between Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama and the Dominican Republic (OAS, 2021, p. 117_[66]).

The environmental co-operation programme of CAFTA-DR also led to strengthened law enforcement capacity of regulatory agencies. The programme trained 2,205 judges, prosecutors, customs officers, and other enforcement officials. This has led to: (i) improving controls to reduce illegal timber trade, by providing the necessary tools for reliable identification of timber species to scientifically support administrative and criminal processes (e.g. Honduras),³³ (ii) increasing the number of CITES cases prosecuted before courts as well as the number of administrative sanctions, and (iii) strengthening mechanisms to prevent illegal, unregulated, and unreported (IUU) fishing (OAS, 2021, p. 116_[66]). The programme also created the Central American and Dominican Republic Wildlife Enforcement Network (CAWEN), which combined forces of officials in the region to jointly conduct cross-border operations resulting in seizures of illegally trafficked species of wood, animals and plants (OAS, 2021_[66]).

The environment chapter also establishes a unique regional environmental co-operation programme setting forth various opportunities for public participation. This public participation and transparency mechanism complements domestic institutional frameworks and promotes environmental justice and environmental enforcement. Administered by the CAFTA-DR Secretariat of Environmental Matters (SEM), the mechanism enables the public to make submissions asserting that a Party is failing to enforce its environmental laws. Environmental submissions include those related to environmental permits, environmental impact assessments, protected areas, and on solid waste management. Some of these public submissions have led to issuing factual records, which resulted in increased controls against environmental crime, such as action against illegal products made from sea turtles in the Dominican Republic (OAS, 2021_[66]; SEM, 2022_[67]).

The US-Mexico-Canada Agreement (USMCA) agreement and its parallel Environmental Cooperation Agreement (ECA), which entered into force in 2020, also promotes legal, sustainable, and traceable production and trade in wildlife, timber, and fish; and supports fulfilling international commitments. In particular, the provision to “treat intentional transnational trafficking of wildlife protected under its laws as a serious crime as defined in the UNTOC”, can be meaningful to link transnational environmental policy and crime prevention. However, as being a rather recent agreement, more time is required to assess the implementation of these provisions.

The US-Peru Trade Promotion Agreement (TPA), which entered into force in 2009 is often cited as a successful example of combatting illegal timber trade. In particular, the agreement contains a unique Annex on Forest Sector Governance,³⁴ which addresses the environmental and economic consequences of trade associated with illegal logging and illegal trade in wildlife. This includes detailed provisions on strengthening forest sector governance (including those aimed at better law enforcement and application of criminal and civil liability), a dedicated institutional mechanism namely “a sub-committee on forest sector governance” involving both Parties, and a public participation mechanism. The provisions in this Annex is also subject to dispute settlement mechanisms and is legally binding. The TPA particularly supported

³¹ Executive Decree (No. 40548-MINAE) Regulations to the Wildlife Conservation Law, Costa Rica.

³² Regional IUU Fishing Regulation - OSP-08-2014.

³³ This included promoting the use of a “wildlife app” to inspect and verify wildlife permits and shipments, including species recognition and knowledge of laws and regulations.

³⁴ See US-Peru Trade Promotion Agreement, Annex 18.3.4.

Peru's national and sub-national governments in strengthening the institutional framework, improving conservation and management of forest ecosystems, and improving access to natural resource information, transparency, and public participation (USTR, 2013^[68]).

Additional RTAs between the United States and Latin American countries are also active in this area. The US-Chile Free Trade Agreement (FTA), and the US-Panama Trade Promotion Agreement (TPA) are reported to successfully improve enforcement in combatting wildlife trafficking of flora and fauna, illegal logging, and illegal, unreported and unregulated (IUU) Fishing. The US-Chile, US-Mexico, and US-Peru FTAs also made efforts toward ensuring compliance and enforcement of sustainable fisheries management regulations among parties (OECD, 2021^[19]).

Other RTAs between the United States and Middle-Eastern Countries have led to significant improvements in the implementation of MEAs, in particular for CITES commitments. The US–Morocco, US-Jordan, and US-Oman FTAs strengthened CITES enforcement, reduced wildlife trafficking, and improved management of protected areas (OECD, 2021^[19]).

Case study 2: Combatting illegal timber trade through EU agreements

The EU sets forth several regional initiatives to combat illegal logging and timber. For example, the EU-Georgia Association Agreement in effect since 2014, has a chapter on trade and sustainable development that incorporates specific articles on biological diversity and sustainable management of forests and trade in forest products.³⁵ These commitments include for example: (i) exchanging information on trade actions in natural resource-based products aimed at reducing pressures on biodiversity, (ii) promoting the listing of species under CITES for those considered at risk, (iii) undertaking global and regional co-operation to promote conservation and sustainable use of biological diversity, (iv) combating illegal logging and related trade, and (v) exchanging information on policies to exclude illegally harvested timber and timber products from trade flows. Bilateral co-operation and follow-ups to these commitments confirmed that in 2018 Georgia adopted a work plan on trade and sustainable development for the period 2018-2020, covering key elements necessary for the implementation of the chapter on trade and sustainable development, including addressing wildlife trade, conducting sustainable forest management, and combating trade in illegally logged products (EC, 2019^[69]).

As a parallel effort to regional trade agreements, the EU established the Forest Law Enforcement, Governance, and Trade (FLEGT) Action Plan in 2003. It sets out measures: (i) to prevent the importation of illegal timber into the EU, (ii) to improve the supply of legal timber, and (iii) to increase demand for timber from responsibly managed forests. Two key instruments have been developed to enforce the FLEGT Action Plan: the EU Timber Regulation (EUTR), a legislative framework on the demand side to control imports of illegally harvested timber into the EU; and Voluntary Partnership Agreements (VPAs) between the EU and timber-producing countries to install controls on the supply side. VPAs include commitments by trading Parties to prevent trade in illegal timber and to assure the legality of timber consignments imported into the EU. Notably, this is organised through a licensing scheme by the partner country and the issuance of FLEGT licences to certify the legality of timber exported to the EU. So far, the EU has signed VPAs with seven countries,³⁶ concluded negotiations with two countries,³⁷ and negotiating with six other countries.³⁸ Indonesia is the first country that started issuing FLEGT Licences from 2016 (EC, 2022^[70]). (Womack et al., 2019, p. 2^[71])

³⁵ See EU-Georgia Free Trade Agreement, Articles 232 and 232.

³⁶ Countries which signed a VPA include: Ghana, followed by the Republic of the Congo, Cameroon, Indonesia, the Central African Republic, Liberia and Vietnam.

³⁷ Countries which concluded VPA negotiations include: Honduras and Guyana.

³⁸ Countries with on-going VPA negotiations: Côte d'Ivoire, Democratic Republic of the Congo, Gabon, Laos, Malaysia and Thailand.

Case study 3: Combatting Illegal trade in mercury through the US-Peru and US-Colombia TPAs

The US has been particularly active in tackling the issue of illegal trade in mercury both on an international and regional scale. On the international scale, it was one of the main driving forces in the formation of the UNEP Global Mercury Partnership. On the regional scale, in Latin America, the US–Peru and US–Colombia Trade Promotion Agreements (TPAs) addressed the issue of illegal trade in mercury, *inter alia* by supporting the effective implementation of MEAs including the Minamata Convention on Mercury, and through the analysis of regulatory and enforcement gaps in mercury tracking systems (OECD, 2021^[19]).

In 2009, the US-Peru Environmental Cooperation Agreement (ECA) entered into force as a parallel agreement to the US-Peru TPA, establishing a framework for enhancing bilateral environmental cooperation between the Parties. Based on this ECA, in 2017 the US Environmental Protection Agency (EPA) started a collaboration with Peru’s Ministry of Environment on managing, storing and disposing of identified stocks and supplies of mercury in Peru. This bilateral co-operation also supported the Peruvian Ministry of Environment to develop its “Minamata Implementation Plan” by organising a multisector, public-private stakeholder workshop to develop action plans, which successfully informed this work (US EPA, 2022^[72]).

In 2012, within the framework of the United States-Colombia Trade Promotion Agreement (TPA), Parties committed to adopt, maintain, implement and enforce laws and regulations to fulfil its obligations under MEAs, including the Minamata Convention. As part of the bilateral co-operation under the TPA, US EPA collaborated with Colombian authorities to support the implementation of Minamata Convention obligations to reduce the use, emission and release of toxic mercury into the global environment. Detailed initiatives included technical support on local management and interim storage of mercury from artisanal and small-scale gold mining (ASGM) operations, and training local authorities in using technologies to test air, soil and water and detect the presence of mercury at mine sites (US EPA, 2022^[72]).

4.4 Effectiveness and challenges of regional frameworks to complement multilateral efforts

While multilateral environmental agreements (MEAs) and multilateral approaches are generally preferred avenues to tackle global issues including cross-border environmental crime, regional approaches can complement them. In some cases, regional approaches can be criticised for their partial geographical coverage and their nature of allowing potential circumvention of controls by transshipments through other countries that are not a party to these agreements (OECD, 2012^[6]). Nonetheless, they can fill specific gaps in MEAs and allow likeminded countries to make further progress.

Regional trade agreements and regional frameworks have been used to complement multilateral efforts to combat cross-border environmental crime. Within trading blocs, several regional networks have been created to foster co-operation on environmental compliance assurance and enforcement strategies among competent authorities, prosecutors, and judges (see Table 4.1). In addition, several commitments have been included in RTAs to address hazardous waste trade, chemical management, wildlife trafficking and promoting protected areas. Furthermore, commitments to address illegal trade in forestry and fishery products that are not covered by specific MEAs have also been covered by dozens of RTAs.

Available information on the implementation of these commitments also shows that some RTAs have led to improving domestic laws and regulations of trading partners to combat cross-border environmental crime, such as in the area of wildlife trafficking and IUU fishing in the context of CAFTA-DR, and trade associated with illegal logging in the US-Peru TPA, EU-Georgia Association Agreement, and EU VPAs. Efforts are also being made to link environmental policy and crime prevention as in the case of the USMCA as well as the US-Peru TPA and CAFTA-DR. These bilateral and regional co-operation efforts to

strengthen domestic law and regulations, may work as complementary mechanisms to MEAs that often rely on domestic regulations. Indeed, in some cases, MEAs may not be the best tool to strengthen domestic measures, and also fall short in covering some crime areas (such as timber, minerals and fisheries).

Many RTAs have also worked to strengthen law enforcement by providing capacity building to judges, prosecutors, customs officers, environmental regulators and local authorities to combat cross border environmental crimes. Such practices were seen in CAFTA-DR, US-Chile FTA, and US-Panama TPA in the areas of wildlife trafficking, illegal timber trade, and IUU fishing; US-Peru TPA to combat illegal trade in timber, mercury and fisheries; and US-Mexico FTAs against IUU fishing.

Other RTAs have worked to strengthen the implementation and enforcement of MEAs. Implementation of CITES commitments were undertaken as a part of CAFTA-DR, US-Peru TPA, US-Chile FTA, US-Panama TPA, US–Morocco, US-Jordan, and US-Oman FTAs. For the implementation of the Minamata Convention, efforts have been made in the US-Peru and US-Colombia FTAs. While commitments to support other MEAs have been included in RTAs, such as for the Basel, Rotterdam and Stockholm Conventions as well as the Montreal Protocol, no evidence of follow up could be found from the available documentation of implementation and assessment reports of the RTA Parties.

Effective domestic and international co-operation could also be made possible through information exchange and co-operation mechanisms provided under RTAs (George and Yamaguchi, 2018^[65]). In particular, dedicated institutional frameworks to bring different stakeholders to the table and exchange information could be a useful step in bridging the gaps between different regulatory bodies, from judges, prosecutors, and customs officers, to environmental regulators and local authorities. Such institutional mechanisms have been made available, for example, under the CAFTA-DR and its dedicated Secretariat on Environmental Matters, or the US-Peru TPA and dedicated sub-committee on forest sector governance.

Engagement with civil society and media have been raised as important ways forward to combat illegal trade related to the environment and cross-border environmental crime. For example, the FATF (2021^[12]) report indicates that many suspicious transaction reports related to money laundering from environmental crimes have been initially identified by the media and civil society. In a related vein, the public submission mechanisms made available by CAFTA-DR has resulted in the publication of a factual record to prevent illegal products and trade made from sea turtles (OAS, 2021^[66]; SEM, 2022^[67]). From these cases, public participation mechanisms made available under RTAs, such as those under the USMCA administered by the Commission for Environmental Cooperation (CEC), CAFTA-DR and its dedicated Secretariat SEM, the recently introduced “single entry point” mechanism by the EU covering its related FTA (EC, 2020^[73]), and other RTAs such as those involving Chile, may provide promising avenues going forward.

Finally, RTAs may also be used as a vehicle to ensure private sector engagement. The FATF (2021^[12]) report also indicates the importance of involving the private sector to ensure that environmental crime is considered within a broader financial crime response, and to ensure that the private sector is sufficiently aware of key risk indicators, particularly for those operating in resource supply chains. For example, RTAs can cross reference existing frameworks such as the OECD Council Recommendation and Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (as covered in Section 3). While linkages of RTAs with private sector engagement and investor obligations still remain to be a scarce practice, some regional and bilateral investment agreements have made such efforts, for example the COMESA Investment Agreement and the Morocco-Nigeria Bilateral Investment Treaty (Yamaguchi, 2020^[74]).

5

Overarching policy recommendations

In the previous sections, multilateral and regional frameworks to tackle cross-border environmental crimes were examined in depth. Combined insights from these two sections identify several points of action. Multilateral and regional frameworks can be considered together to provide an internationally co-ordinated response, in particular in addressing the following four key pressure points.

First, the establishment of appropriate laws and regulation to combat cross-border environmental crime is an essential element to trigger proper investigation and prosecution. It is vital to have established laws and regulations to enable cross-border co-operation between regulatory authorities from different jurisdictions that are involved throughout the transnational crime chain. Regulatory fragmentation between countries has been indicated as a loophole for criminals to exploit and undertake their activities. To this end, the quasi-universal legal instruments established by UNODC, UNTOC and UNCAC to prevent and combat environmental crimes and related corruption may play an important role in setting forth an international legislative response (UN, 2020^[42]; UN, 2019^[43]; Ministry for Europe and Foreign Affairs, France, 2022^[44]).³⁹

Second, enabling effective law-enforcement at the border is also critical to combat cross border environmental crime. This requires an effective organisational framework, involving different public actors with clear formal responsibilities and sufficient capacity to achieve useful results (EC, 2021^[64]).⁴⁰ In addition to co-operation between police, environmental regulators, and custom authorities that are already vital, exploring links with regulators and law-enforcement agencies addressing financial crimes can be an additionally important way to identify and target environmental crimes (FATF, 2021^[12]). Establishing links with the Financial Action Task Force, which is a mechanism for improving law-enforcement efforts to tackle the underlying illicit financial flows, can be particularly relevant in this regard. International references such as the OECD Council Recommendations on illegal trade of pesticides, free trade zones, and responsible business conduct in mineral supply chains, can be useful tools in supporting effective law enforcement.

Third, there is also a need to target root causes so that low-level perpetrators do not simply shift from one criminal activity to another to sustain their livelihoods. It is therefore especially important to establish alternative means of community development and economic sustainability. To this end, working in tandem with initiatives such as the UN Resolution on Mineral Resource Governance, and other relevant

³⁹ In a related vein, the European Commission issued a staff working document on the evaluation of the EU's Environmental Crime Directive, which highlight, *inter-alia*, the need for improved judicial co-operation to address the need to tackle the cross-border dimension of environmental crime more effectively (EC, 2020^[91]). In December 2021, the European Commission subsequently adopted a proposal for a new Environmental Crime Directive (EC, 2021^[92]), which aims, among other things, to make environmental protection more effective by adopting criminal law measures against environmental crimes.

⁴⁰ The EC (2021^[64]) report on "Combating environmental crimes and related infringements", sets forth several recommendations for environmental compliance assurance. While the scope of the report focuses on challenges and responses at the supra-national level, it can also be relevant for policy makers aiming to combat cross-border environmental crime.

frameworks that work towards sustainable practices, may help bridge gaps between law enforcement and sustainable development.

Fourth, a final critical point is to increase awareness, transparency and traceability of cross-border environmental crime. Due to their concealed nature, cross-border environmental crime is often scarcely documented and not systematically presented with extensive and robust data. Currently available information is often process oriented and focus on operational responses, such as increased enforcement at the border. Less attention has been paid to revealing a full picture of issues. While there are some indications of the emerging and increasing volume of environmental crime (as shown in Figure 2.1), there is no single repository to illustrate these concerning trends. The development of baseline data on existing illegal trade related to the environment could be useful to bring cross-border environmental crime to the spotlight of policy makers, prosecutors and police, customs authorities, and environmental regulators. The effective engagement of the private sector and civil society is also an essential element in raising awareness and identifying cross-border environmental crime (FATF, 2021^[12]). This involves ensuring that the private sector is sufficiently aware of key risk indicators to avoid cross-border environmental crime. In support of such effort, a list of potential risk indicators of money laundering from environmental crimes is included in several FATF reports.⁴¹ There are also claims that the private sector can place more efforts in terms of due-diligence, especially with regards to transporters and shipping companies and their action against cross-border environmental crimes. Increased engagement with the civil society can also help the initial identification of suspicious transactions. Digital technology could help increase transparency and traceability of value chains and help identify cross-border environmental crime. Nevertheless, they are still at nascent stages in their application and further work is required (see).

These points above can be considered as a part of global responses in addition to domestic policies. While MEAs are the preferred approach to establish a global response against cross-border environmental crime, regional approaches can offer complementary solutions for likeminded parties that share similar priorities in addressing these issues.

⁴¹ A list of potential risk indicators is included in the following FATF reports:

- Indicators of money laundering related to environmental crimes (FATF, 2021, p. 53^[12]).
- Indicators of money laundering related to the illegal wildlife trade (FATF, 2020, p. 60^[51]).
- Indicators of trade-based money laundering (FATF, 2020^[89]).

Box 5.1. Digital technologies to tackle cross-border environmental crime

Digital technologies could provide ways of support to tackle cross-border environmental crime by helping to increase transparency and traceability of supply chains. They can increase resilience of supply chains, make cross-border controls more efficient and effective, and ensure transparency and traceability of chemicals and waste.

New digital technologies may offer potential solutions to tackle illegal trade related to the environment, such as tackling illegal trade of pesticides (Frezal and Garsous, 2020^[8]), and tracking provenance to prevent illegal logging (WTP, 2022^[75]). Technologies such as blockchain can enable products' authentication and traceability, and allow rapid identification of suspicious activities within the supply chain. Blockchain solutions can also reduce the time and cost of exchanging information between cross-border regulatory agencies, thus improving the monitoring and control of pesticide trade. Big data and artificial intelligence also have the potential to support effective border controls by improving risk management processes, and enabling adequate monitoring and identification of illegal pesticide shipments at the border. Nevertheless, blockchain solutions require high-upfront costs and effective quality control of the initial information entered into the system, adequate legal frameworks and standardised data requirements, which all pose challenges to its adoption, application and use. Big data and artificial intelligence also require high capital costs, which work against their uptake, especially in developing countries. Other challenges are related to data privacy, confidentiality, and cybersecurity. While these digital technologies can provide potential solutions, they need to be accompanied by additional policy responses and good governance mechanisms, such as strengthening sanctions for illegal pesticide offences to provide greater deterrence to illegal activities, and co-operation and capacity building among cross-border regulatory authorities to enable effective enforcement.

Electronic data interchange systems are also being used or considered to make the implementation of MEAs easier and effective. For example, CITES introduced an electronic system to process permits in 2010. Further work is underway to facilitate electronic exchange and verification of CITES permit data among cross-border regulatory agencies (UNEP, 2016^[76]). The Basel Convention is also considering the application of electronic systems for its waste shipment notifications to make the process easier and transparent (UNEP, 2016^[76]). While these electronic data interchange systems and databases are often managed by environmental protection agencies, there could be further opportunities to link this with the single window mechanisms being introduced by custom authorities to facilitate electronic data exchange and to verify permits (Yamaguchi, 2022^[57]; WCO, 2020^[77]). Such efforts could provide ways to reinforce border controls to tackle cross-border environmental crime.

Governments have also started to take up digital solutions to support circular economy objectives, such as digital tracking of hazardous waste to ensure proper waste management and to mitigate illegal activities. In response to tax avoidance and illegal exports through mislabelled waste, the UK Government is currently examining the possibilities to introduce a compulsory electronic tracking system of waste (Barteková and Börkey, 2022^[24]). The electronic tracking system of waste would support the circular use of waste and scrap, and secondary raw materials, and help ensure the effective compliance and enforcement to combat waste crime. Such initiatives could help detect, illegal dumping, landfill tax avoidance, unusual patterns of waste transfers and potential fraud schemes; and organised criminal groups. To undertake these measures, the UK Government is utilising a fund to finance technology firms to come up with innovative solutions to waste tracking, such as through electronic chips and sensors, blockchain, new data analytics and artificial intelligence. The application of these digital technologies is expected to strengthen compliance, reduce administrative burdens and increase transparency in order to tackle waste-related crimes more effectively.

Geo-spatial intelligence and satellite technology is also used to track and monitor environmental crime (UNODC, 2022^[40]). Within the CAFTA-DR Parties, surveillance systems updated with the use of satellite technology are being introduced to combat IUU fishing (OAS, 2021^[66]). In Brazil, geospatial data and satellite imagery are being used to effectively respond to environmental crimes, including illegal mining and illegal deforestation (Nellemann et al., 2016^[13]; 2014^[15]). Between 2020 and 2022, the application of granular and timely geo-spatial data in Brazil has enabled faster detection of illegal activities, improved efficiency in response measures, and greater geographical coverage, resulting in fines, seized goods, and freezing of assets worth of USD 1.9 billion (Planet, 2022^[78]). In Romania, a timber traceability information system is being implemented together with satellite alerts detecting changes in forest vegetation (UNEP, 2018^[20]). Similarly, in Australia, the Queensland and New South Wales governments are using satellite technology to detect illegal clearing of native vegetation. (UNEP, 2018^[20]). Nevertheless, some challenges to their application appear in fragmented data requirements and absence of data standardisation (e.g. data granularity, update frequency) (Gore et al., 2022^[79]; WWF, 2022^[80]), lack of capacity and qualification of regulators to use the technology for law-enforcement (Mahfud et al., 2021^[81]), and high costs in introducing the technology (OECD, 2012^[6]). Application of geospatial data intelligence to cross-border elements of environmental crime also remain to be an area to be further explored.

The use of digital technologies to combat cross-border environmental crime is emerging. However, they are still at a very nascent stage. They also need to be accompanied by parallel efforts to strengthen laws and regulations, to enhance law enforcement at the border, and increase regulatory awareness among the different actors including judges, prosecutors, police, customs officers, and enforcement officials.

6 Concluding remarks

This report provides a snapshot of cross-border environmental crime and available initiatives to tackle illegal activities at a transnational scale, with a particular focus on multilateral and regional frameworks. It aims to increase awareness amongst policy makers and stakeholders on cross-border environmental crime, and possible responses that can be taken at the global level.

The report does not capture domestic policy responses to environmental crime. The main reason for this is that domestic policy perspectives are covered by the parallel OECD (2022^[3]) report *Compendium of good practices in promoting, monitoring and enforcing environmental compliance*.

One of the main challenges in tackling cross-border environmental crime is the rapidly changing nature of transnational organised criminal groups, and their evolving tactics to undertake illicit activities. While MEAs and RTAs may provide overarching mechanisms for international regulatory co-operation, dedicated mechanisms may be required to enable a rapid response. The OECD Rapid Alert System (RAS) for suspected illegal international trade of pesticides, and the OECD Informal Network on Law Enforcement Agencies may provide mechanisms to enable rapid responses. Nonetheless, detailed analyses on possible responses would be subject to future work in dedicated sectors, or detailed focus on enforcement mechanisms.

Further work is also needed to have a clearer picture of cross-border environmental crime. Future work could aim to establish a single repository of cross-border environmental crime, by bringing together the information and data that is collected under different MEAs such as CITES, the Basel, Rotterdam, and Stockholm Conventions, the Montreal Protocol and the Minamata Convention, and by different organisations such as UN Environment, Interpol, the World Customs Organization and the OECD.

The role of digital technology is briefly discussed in this report. Further work can explore opportunities and challenges of digital technologies to help identify and tackle cross-border environmental crime. In this vein, the forthcoming OECD report on the use of digital tools to combat waste crime and illegal trade in waste may provide additional insights to this underexplored area (OECD, 2023, forthcoming^[82]).

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Annex A. Overview of Multilateral Environmental Agreements addressing cross border environmental crime

Multilateral Environmental Agreements (MEAs) that address cross-border environmental crime are listed below and summarised as follows.

- The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention)
- The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention)
- The Stockholm Convention on Persistent Organic Pollutants (Stockholm Convention)
- The Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol)
- The Minamata Convention on Mercury (Minamata Convention)

Some MEAs such as CITES have been in force as early as 1975, while the most recent MEA that addresses *inter-alia* cross border environmental crime is the Minamata Convention on Mercury that entered into force from 2017. Other MEAs have been introduced in between these timeframes, mainly in late 1980's and early 1990's, and the 2000s.

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

CITES is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species. Signed in 1973 and entered into force in 1975, it is the oldest MEA in the list above, and has 184 Parties as of September 2022.

CITES regulates international trade of endangered species by listed them into three appendices covering 36,000 species of animals and plants. It is largely based on an import and export permit system before a shipment is made. Trade controls for specimens covered by each appendix depend on the extent to which the species is threatened with extinction. See Table A A.1 for details of trade controls under CITES.

Table A A.1. Trade controls under CITES

Category	Key Features	Trade Controls	Coverage
Wild species: Appendix I specimens	<ul style="list-style-type: none"> Species threatened with extinction. International commercial trade is generally prohibited. 	<ul style="list-style-type: none"> Import permit is required, with certain conditions: <ul style="list-style-type: none"> not used for primarily commercial purposes trade not detrimental to the survival of the species. Export permit or re-export certificate is also required, with certain conditions: <ul style="list-style-type: none"> only if legally obtained trade not detrimental to the survival of the species import permit already issued. 	<ul style="list-style-type: none"> Covers 3% of species under CITES, of which: <ul style="list-style-type: none"> 15% animal species 85% plant species
Wild species: Appendix-II specimens	<ul style="list-style-type: none"> Species not necessarily threatened with extinction but may become so unless trade is regulated, International commercial trade is allowed but controlled. 	<ul style="list-style-type: none"> Export permit or re-export certificate is required, with certain conditions: <ul style="list-style-type: none"> only if legally obtained export not detrimental to the survival of the species. No import permit needed (unless required by national law) 	<ul style="list-style-type: none"> Covers 97% of species under CITES, of which <ul style="list-style-type: none"> 65% animal species, 35% plant species
Wild species: Appendix-III specimens	<ul style="list-style-type: none"> Species subject to regulation within the jurisdiction of a Party. Cooperation of other Parties is needed to control international trade. 	<ul style="list-style-type: none"> Export permit is required In case of trade from State that included the species in Appendix III 	<ul style="list-style-type: none"> Covers 1% of species under CITES, of which: <ul style="list-style-type: none"> 95% animal species 5% plant species

Note: The Convention allows Parties to make certain exceptions to general principles, see <https://cites.org/eng/disc/how.php>.

Source: Based on <https://cites.org>.

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention)

The Basel Convention establishes controls over the transboundary movement of hazardous wastes and other wastes that may pose a risk for human health and the environment. It aims to protect human health and the environment against adverse effects, which may arise from uncontrolled imports and exports. It was signed in 1989 and entered into force in 1992 and consists of 190 Parties as of September 2022.

It introduces three specific measures that relate to trade: (i) to prohibit trade of hazardous waste and other waste with non-parties,⁴² (ii) to prohibit the OECD, EU, and Liechtenstein from exporting hazardous wastes to other group of countries (known as the Ban Amendment),⁴³ and (iii) to regulate trade of hazardous waste and other waste under the terms of prior agreement between the exporting, importing, and transit countries, known as the "Prior Informed Consent (PIC)" procedure.⁴⁴ The PIC procedure under the Basel Convention requires prior notification and agreement between import, export, and transit countries for each shipment that is subject to these controls. See Table A A.2 for details of trade controls under the Basel Convention.

Table A A.2. Trade controls under the Basel Convention

Category	Key Features	Trade Controls	Coverage
Waste: Annex VIII (waste list) & Annex III (hazardous characteristics)	<ul style="list-style-type: none"> Hazardous waste 	<ul style="list-style-type: none"> Prohibit trade of hazardous waste and other waste with non-parties. Prohibit OECD, EU, and Liechtenstein from exporting hazardous wastes to other group of countries (i.e. Ban Amendment) Regulate trade by requiring prior agreement between the export, import, and transit countries for each shipment (i.e. Prior Informed Consent (PIC)" procedure). 	<ul style="list-style-type: none"> As of 2018, share of waste trade subject to controls under the Basel Convention represented around 8% of global waste and scrap trade by weight.
Waste Annex II	<ul style="list-style-type: none"> Other waste (e.g. mixed household waste, mixed plastic waste) 	<ul style="list-style-type: none"> Prohibit trade of hazardous waste and other waste with non-parties. Regulate trade by requiring prior agreement between the export, import, and transit countries for each shipment (i.e. Prior Informed Consent (PIC)" procedure). 	
Waste: Annex IX	<ul style="list-style-type: none"> Non-hazardous waste 	<ul style="list-style-type: none"> No trade controls under the Basel Convention. Subject to standard commercial controls (parties have discretion to introduce additional controls) 	<ul style="list-style-type: none"> Remaining fractions not covered by the Basel Convention (around 92%, 2018).

Source: Based on <http://www.basel.int/> and (Yamaguchi, 2022^[57]).

⁴² See: Basel Convention, Article 4.5.

⁴³ See: Basel Convention, Article 4A.

⁴⁴ See: Basel Convention, Articles 4.2(a)-(b).

The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention)

The Rotterdam Convention is a Multilateral Environmental Agreement, which aims to protect people and the planet from potentially harmful impacts from the trade in certain hazardous chemicals. It was signed in 1998, and in force since 2004, and consists of 165 Parties as of September 2022. To achieve its objective, the Convention includes two key provisions: (i) Prior Informed Consent (PIC) procedure; and (ii) information exchange.

The PIC procedure is a mechanism to “formally obtain and disseminate a decision of importing parties on whether they wish to receive future shipments” of certain hazardous chemicals (listed in Annex III of the Convention). It also provides a mechanism to “ensure compliance with these decisions by exporting parties”. Parties are required to make a decision on whether or not to permit the future import of each chemical listed in Annex III of the Convention. These decisions (so called “import responses”) are updated and circulated to national authorities every six months. Exporting parties are required to ensure compliance with these decisions taken by each importing party.⁴⁵

To note, the PIC procedure of the Rotterdam Convention is based on a blanket decision by each importing party concerning all future shipments of certain hazardous chemicals. This is slightly different from the PIC procedure of the Basel Convention that require prior agreement between import, export and transit countries for each shipment of waste subject to transboundary controls. (See Table A A.3 for details of trade controls under the Rotterdam Convention.)

The Convention also facilitates an information exchange mechanism for a broad range of potentially hazardous chemicals. Parties are required to inform the Secretariat when a domestic policy action is taken to ban or severely restrict a certain chemical.

Table A A.3. Trade controls under the Rotterdam Convention

Category	Key Features	Trade Controls	Coverage
Chemicals: Annex III	Certain hazardous chemicals (i.e. pesticides and industrial chemicals banned or severely restricted for health or environmental reasons)	<ul style="list-style-type: none"> • Prior Informed Consent (PIC) procedure: <ul style="list-style-type: none"> ○ Importing parties – to decide “import responses” on whether or not to permit the future import of each chemical listed in Annex III. ○ Exporting parties – to ensure compliance with decisions taken by each importing party. 	52 chemicals listed in Annex III, including 35 pesticides, 16 industrial chemicals, and 1 chemical relevant to both categories.

Note: The Convention also facilitates an Information exchange mechanism to identify potentially hazardous chemicals.

Source: Based on <http://www.pic.int/>.

⁴⁵ See: <http://www.pic.int/TheConvention/Overview/Howitworks/tabid/1046/language/en-US/Default.aspx>.

The Stockholm Convention on Persistent Organic Pollutants (Stockholm Convention)

The Stockholm Convention on Persistent Organic Pollutants has the objective of banning or regulating production, consumption and trade in a specified list of long-lasting organic chemicals. The starting point is that persistent organic pollutants (POPs) remain intact in the environment for a very long time, they can accumulate and have harmful impacts on human health and the environment, and therefore they need to be phased out. Given that they can become widely distributed geographically, global co-operation is required to protect people and the environment from POPs. In response, the Stockholm Convention, which was adopted in 2001 and entered into force in 2004, requires parties to take measures to eliminate or reduce the release of POPs into the environment. It has 185 Parties as of September, 2022.

Regarding trade controls under the Convention, imports are only allowed for: (i) the purposes of environmentally sound disposal, or (ii) a purpose which is identified and permitted for the importing party. Exports are only allowed for cases where there are specific exemptions or acceptable purposes in place, and when destined (i) for environmentally sound disposal, (ii) to a party which is permitted to use the chemical, or (iii) to a non-party that has provided an annual certification to the exporting Party.

Importantly, all exports need to comply with existing international prior informed consent (PIC) instruments. For example, exports of POPs listed under the Rotterdam Convention need to comply with related PIC procedures, and exports of wastes containing POPs need to comply *inter-alia* with PIC procedures of the Basel Convention. (See also Table A A.4 for details of trade controls under the Stockholm Convention.)

Table A A.4. Trade controls under the Stockholm Convention

Category	Key Features	Trade Controls	Coverage
POPs: Annex A	Prohibit and/or eliminate the production and use, as well as the import and export, of the intentionally produced POPs.	<ul style="list-style-type: none"> • A chemical listed in Annex A or Annex B is imported only: <ul style="list-style-type: none"> ○ for the purpose of environmentally sound disposal. ○ for a use or purpose which is permitted for that Party. • A chemical listed in Annex A or Annex B is exported only <ul style="list-style-type: none"> ○ when a specific exemption or acceptable purpose is in effect, ○ when taking into account of any relevant provisions in existing international prior informed consent instruments (e.g. Rotterdam Convention, Basel Convention). ○ and destined: <ul style="list-style-type: none"> ▪ for environmentally sound disposal; ▪ to a party which is permitted to use the chemical; or ▪ to a non-party which has provided an annual certification to the exporting Party. 	28 POPs (including pesticides, industrial chemicals, and by products).
POPs: Annex B	Restrict the production and use, as well as the import and export, of the intentionally produced POPs.		

Note: The Convention also facilitates an Information exchange mechanism to identify potentially hazardous chemicals.

Source: Based on <http://www.pic.int/>.

The Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol)

The Montreal Protocol is a Multilateral Environmental Agreement that regulates the production and consumption of industrial chemicals referred to as ozone depleting substances (ODS). ODS, such as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), and halons have been widely used in the industry as refrigerants in the past. However, when released to the atmosphere, ODS are known to damage the stratospheric ozone layer, which acts as a protective shield to humans and the environment from harmful levels of ultra-violet radiation from the sun. ODS and their replacements, such as hydrofluorocarbons (HFCs),⁴⁶ are also considered as greenhouse gases that contribute to global warming and climate change, and therefore, need to be phased out. The Protocol was adopted in 1987 and in force since 1989 in response to this global challenge. It consists of 198 Parties as of September, 2022.

More specifically, the Montreal Protocol aims to phase down the consumption and production of the different ODS in a step-wise manner, with different timetables for signatory parties. All parties are required *inter-alia* to phase out different groups of ODS, control of ODS trade, establish and implement national licensing systems to control ODS imports and exports,⁴⁷ and submit annual reports and data. Some Parties also rely on a voluntary informal Prior Informed Consent (iPIC) procedure to help facilitate cross-border controls (UNEP, 2020_[16]) (See Table A A.5 for details of trade controls under the Montreal Protocol.)

Table A A.5. Trade controls under the Montreal Protocol

Category	Key Features	Trade Controls	Coverage
ODS	New, used, recycled and reclaimed controlled substances of ODS	<ul style="list-style-type: none"> • National licensing systems to control ODS imports and exports. <ul style="list-style-type: none"> ○ In general, importers or exporters must apply for a permit that specifies the quantity of ODS, countries involved in the transaction, the purpose of the use of the chemicals, and other relevant information, before a shipment is made. ○ Licensing systems also generally contain quotas, in order to provide a means to limit consumption to the levels required by the Protocol (licenses are awarded for specific volumes over specific periods). • Trade bans with non-parties starting from certain dates. • Voluntary Informal Prior Informed Consent (iPIC) system to exchange information on intended trade in substances controlled under the Montreal Protocol between the national authorities responsible for issuing in import and export licenses. 	Chlorofluorocarbons (CFCs), carbon tetrachloride, methyl chloroform, hydrochlorofluorocarbons (HCFCs), methyl bromide and hydrofluorocarbons (HFCs)

Note: The Convention also facilitates an Information exchange mechanism to identify potentially hazardous chemicals.

Source: Based on <https://www.unep.org/ozonaction/who-we-are/about-montreal-protocol>, UNEP (2020_[16]) and OECD (2012_[6]).

⁴⁶ HFCs have been introduced as replacements for ODS as they do not contribute to the depletion of the stratospheric ozone layer. However, they raise concerns for their global warming potential. As a result, the phase down of HFCs were formally introduced to the Montreal Protocol as a part of the Kigali Amendment agreed in 2016. See: <https://www.unep.org/ozonaction/who-we-are/about-montreal-protocol>.

⁴⁷ National licensing systems to control ODS imports and exports were formally introduced as a part of the Montreal Amendment, which entered into force from 1999 (OECD, 2012_[6]).

The Minamata Convention on Mercury (Minamata Convention)

The Minamata Convention is an international treaty aiming to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. It was signed in 2013, and in force since 2017. The Convention has 137 Parties as of September 2022.

Key features of the Minamata Convention include: (i) a ban on new mercury mines and phase-out of existing mines, (ii) phase-out and phase-down of mercury use in certain products and processes, (iv) control measures on emissions to air and on releases to land and water, (v) the regulation of the informal sector of artisanal and small-scale gold mining, (vi) addressing interim storage of mercury and its disposal once it becomes waste, sites contaminated by mercury as well as health issues.

There are also trade related controls under the Minamata Convention, including control measures to limit the supply and trade of mercury (Article 3), and a deadline for phasing out manufacture, import and export of listed mercury-added products (including certain lamps, batteries, cosmetics, pesticides) by 2020 (Article 4). There are also synergies with other conventions listed above. For example, the Rotterdam Convention lists mercury compounds as certain hazardous chemicals subject to PIC procedures, however, does not cover primary mercury and mercury-added products as in the Minamata Convention. Furthermore, the Basel Convention prohibits the transboundary movement of mercury waste except for the purpose of environmentally sound disposal (See Table A A.6 Table A A.5 for details of trade controls under the Minamata Convention).

Table A A.6. Trade controls under the Minamata Convention

Category	Key Features	Trade Controls	Coverage
Article 3	Control measures to limit the supply and trade of mercury (*)	<ul style="list-style-type: none"> • Export of mercury is not allowed: <ul style="list-style-type: none"> ○ unless the importing party provides written consent; and ○ the mercury is for an allowed use or for environmentally sound interim storage; ○ importing non-parties must also provide certification to demonstrate that they have measures in place to ensure the protection of human health and the environment, and ensure compliance with the requirements of the Convention. • Import of mercury from non-parties is not allowed: <ul style="list-style-type: none"> ○ unless there is government consent; and ○ exporting non-parties must provide certification to demonstrate that the mercury sources and proposed use are allowed. 	Mercury (includes mixtures of mercury with other substances, including alloys of mercury, with a mercury concentration of at least 95% by weight)
Article 4	Control measures to limit the supply and trade mercury-added products	<ul style="list-style-type: none"> • Deadline for phasing out manufacture, import and export of listed mercury-added products (including certain lamps, batteries, cosmetics, pesticides) by 2020. 	Mercury-added products

Notes: (*) Trade related provisions in Article 3 do not apply to trade in mercury-added products, mercury waste, mercury use for laboratory scale research or reference standards, or naturally occurring trace quantities of mercury. Parties can issue consent on an import by import basis or through a general notification of consent. Trade between non-parties is outside the scope of the Convention.

Source: Based on <https://www.mercuryconvention.org/en/about>.

Annex B. Overview of additional international conventions and normative frameworks with environmental objectives

In addition to MEAs, there are additional international conventions and normative frameworks with environmental objectives. These are listed below and summarised as follows:

- The International Tropical Timber Agreement (ITTA)
- The UN Environment Assembly (UNEA) Resolution on Mineral Resource Governance
- The UN Food and Agriculture Organization (FAO) initiatives to address IUU Fishing

International Tropical Timber Agreement

The International Tropical Timber Agreement (ITTA), was agreed in 2006 superseding previous agreements, and aims to promote the expansion and diversification of international trade in tropical timber from sustainably managed and legally harvested forests and to promote the sustainable management of tropical timber producing forests. It is administered by the International Tropical Timber Organization (ITTO), which is an inter-governmental organisation consisting of 75 members (37 producing countries and 38 consuming countries). Its membership represents 90% of the global tropical timber trade, and more than 80% of the world's tropical forests (ITTO, 2022^[34]).

ITTO sets forth a variety of soft norms and guidelines for sustainable tropical forest management and trade, collects, analyses, and disseminates data and information, and provides capacity-building and research assistance to producer countries. ITTO developed and implemented more than 1200 projects and related activities to address sustainable forest management. It not only covers timber as a primary resource, but it also covers timber products (e.g. consumer products such as furniture) (ITTO, 2022^[34]).

UN Environment Assembly (UNEA) Resolution on Mineral Resource Governance

In March 2019, the fourth session of the UN Environment Assembly (UNEA-4) adopted the “Resolution on Mineral Resource Governance (Resolution 4/19). The resolution provides, among other things, a mandate to UN Environment (UNEP) to: (i) collect information on sustainable practices, (ii) identify knowledge gaps and options for implementation strategies, (iii) undertake an overview of existing assessments of different governance initiatives and approaches on sustainable management of metal and mineral resources, and (iv) report back to the fifth session of the UNEA (UNEA-5) (UNEA, 2019^[35]).

The implementation of this Resolution involved global and regional consultations to collect information on the policy landscape and the governance of extractive industries. This helped to identify best practices and knowledge gaps, to assess governance options; and to specify next steps (UNEP, 2020^[83]).

Among the six regional consultations across Africa, Americas and Asia, there were no specific remarks on crime or illegal mining activities, except for those involving Latin America and the Caribbean (2020^[84]). Dialogues from this region identified that illegal mining is a particular challenge for the governance of mineral resources, putting pressure on biodiversity and ecosystems even in protected areas and reserves.

Some good practices identified were regional co-ordination mechanisms between Bolivia, Colombia, Ecuador and Peru to combat illegal mining, and regional frameworks under the Andean Community. A particularly relevant challenge is the increasing involvement with other crimes, such as human trafficking, child labour, smuggling, money laundering, and transnational organized crime. For this reason, a holistic and comprehensive approach is sought to be critical to combat illegal mining.

Other outcomes of the consultation mechanisms included the need to improve national level governance, better oversight of the mineral sector, heightened co-operation and capacity building at the national, regional and local level, and opportunities and challenges related to Artisanal and Small-scale Mining and promoting the inclusiveness and transformation of the sector (UNEP, 2020^[83]). While these are not actions directly addressing illegal mining and crime, they have indirect linkages by offering possible avenues to alleviate root causes and drivers of illegal mining, and therefore, there appears to be ample synergies to be further explored.

FAO initiatives to address IUU Fishing

In 2001, the FAO adopted the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (FAO, 2011^[36]). It is a voluntary instrument aiming to prevent, deter and eliminate IUU fishing by providing all States with comprehensive, effective and transparent guidelines. It includes, *inter-alia*, recommendations to develop appropriate regional fisheries management organizations, and a definition of what constitutes IUU fishing.

In June 2016, a subsequent “Agreement on Port State Measures to Prevent, Deter, and Eliminate IUU Fishing (PSMA)” came into effect (FAO, 2016^[37]). The PSMA applies to fishing vessels seeking to enter ports other than their own State. It aims to prevent, deter and eliminate IUU fishing by preventing vessels engaged in IUU fishing from using ports and landing their catches. It includes guidance documents in annexes: (i) on the information to be provided in advance by vessels requesting port entry, (ii) port state inspection procedures; and (iii) a reporting format of the results of the inspection. There are 72 Parties to the PSMA as of October 2022. Regarding trade aspects, the Agreement will impose controls on trade in fish and fish products when fully implemented. It aims to prevent illegally caught fish from entering national and international markets through ports. The PSMA also includes a definition of fishing related activities. These activities include transshipment – whereby fish are transferred from fishing boats onto larger refrigerated vessels, which then carry the fish to port – and the provisioning of personnel, fuel and other supplies at sea, which can play a central role in IUU fishing.

In 2017, the FAO published Voluntary Guidelines for Catch Documentation Schemes that provides a system for determining throughout the supply chain whether fish originate from catches consistent with applicable national, regional and international conservation and management measures, established in accordance with relevant international obligations (FAO, 2017^[38]). The Guidelines aim to support governments and relevant associations in establishing new catch documentation schemes, or harmonising and reviewing existing schemes. Catch documentation schemes are a trade-related measure to prevent, deter, and eliminate illegal, unreported and unregulated (IUU) fishing, by enabling countries to co-operate in providing information on the traceability of the origin of fish throughout the supply chain, from catch to market. The Guidelines are based on six principles that such schemes should: (i) be in conformity with the provisions of relevant international law, (ii) not create unnecessary barriers to trade, (iii) recognise equivalence, (iv) be risk based, (v) be reliable, simple, clear and transparent, and (vi) be electronic if possible (FAO, 2017^[38]). The Guideline also includes a dedicated Annex that provides core information and data elements to be considered in catch certificates and additional information along the supply chain.

Annex C. Overview of OECD frameworks to counter cross-border environmental crimes

OECD Network on Illegal Trade of Pesticides (ONIP)

The OECD responded to the threat of illegal trade in pesticides by establishing an OECD Network on Illegal Trade of Pesticides (ONIP), which aims to raise awareness and improve collaboration among stakeholders (OECD, 2019^[53]). The ONIP is organised by the OECD Environment Directorate.

ONIP's major achievements were the development of:

- the OECD Rapid Alert System (RAS) in 2012 for suspected illegal international trade of pesticides, a protected website that allows regulatory authorities involved in the network to exchange information regarding suspicious or rejected shipments of pesticides (OECD, 2019^[53]);
- the OECD Council Recommendation on Illegal Trade of Pesticides in 2019 to strengthen cooperation between countries and inspectors (OECD, 2019^[53]); and
- the Best Practice Guidance to Identify Illegal Trade of Pesticides in 2018 (2018^[9]).

The Best Practice Guidance is intended to provide guidance for inspectors and regulatory authorities on best practices for identifying and tackling illegal pesticides throughout the complete lifecycle of a pesticide, from the manufacture, through formulation, trade, and use to destruction. It was developed with the aim both of providing best practices for tackling the issue of illegal pesticides, but also of raising awareness in members and partners of the issue of illegal pesticides at different parts of the chain; in turn, facilitating regulatory authorities to take more effective action against illegal pesticides at different parts of the pesticides supply chain (OECD, 2019^[53]).

OECD Informal Network on Law Enforcement Agencies

In 2019, The OECD Directorate for Financial and Enterprise Affairs began an “Informal Network on Law Enforcement Agencies” looking at crimes in minerals supply chains. The purpose of this informal network is to connect various enforcement agencies around the world to raise awareness about the risk profiles on minerals supply chains and help with capacity building and detection of disruptions in the investigation of crimes in minerals supply chains. The work primarily focuses on precious metals and stones, as well as risks related to conflict financing and abuses on human rights (OECD, 2021^[19]).

As a part of the OECD work on Responsible Business Conduct, there is increasing focus on environmental aspects by developing practical tools to help companies conduct due diligence on environmental risk in their mineral supply chains. In 2016, the OECD updated its Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (OECD, 2016^[11]). The work increasingly looks into environmental crimes, with a specific focus on illegal trade in mercury (OECD, 2021^[19]).

OECD Task Force on Countering Illicit Trade (TF-CIT)

The OECD Task Force on Countering Illicit Trade (TF-CIT) works with governments to “better understand the full range of complex risks and threats posed to our global economies. As of December 2022, it is managed by the Directorate for Public Governance and focuses on evidence-based research and advanced analytics to assist policy-makers in mapping and understanding the market vulnerabilities exploited and created by illicit trade”.⁴⁸

The OECD (2018^[22]) looks at governance frameworks to counter Illicit trade and focuses on illicit market sectors from counterfeits and narcotics to humans and wildlife.

On wildlife trafficking, the TF-CIT developed “a set of original quantitative exercises that sheds additional information on the ways trade routes of wildlife trafficking are shaped, and on related governance gaps that enable them” (OECD, 2018^[27]).

On Free Trade Zones, their research shows that gains from reduced customs presence in FTZs can offer opportunities for illicit trade (OECD/EUIPO, 2018^[55]). Without additional transparency and oversight, there is a risk that economic benefits from FTZs could be jeopardized. As a part of this work, the Task Force laid out the foundations for the OECD Council Recommendation on Countering Illicit Trade: Enhancing Transparency in Free Trade Zones, which among others, includes a Code of Conduct for Clean Free Trade Zones (OECD, 2019^[54]).

⁴⁸ See: OECD TF-CIT official website - <https://www.oecd.org/gov/illicit-trade/>.