

**LORENZO
COLANTONI**

**GIULIA SOFIA
SARNO**

**MARGHERITA
BIANCHI**

FIGHTING ENVIRONMENTAL CRIME IN EUROPE

AN ASSESSMENT OF TRENDS, PLAYERS AND ACTIONS

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About Ambitus

Project Ambitus was developed in the years 2019-2022 with the aim of boosting the operational activities of law enforcement authorities in their combat against environmental crime in the long term, while:

- Deepening the analysis of the environmental crime phenomenon, offering a more accurate knowledge of, for instance, threats and trends, areas and flows, criminal networks and links;
- Developing further cooperation by gathering knowledge, standardising and improving practices and procedures, and establishing more efficient networking mechanisms among member states and with non-EU partners;
- Implementing or supporting operational actions based on intelligence-led investigations and tools while focusing on specific locations, clusters and organised criminal groups (OCGs).

In the course of its activities, Ambitus has produced detailed reports, summary records & decisions, dedicated tools & training programmes on environmental crimes in Europe, as well as tailored communication items.

More information is available at <https://en.ambituseuropa.com>

About IAI

The Istituto Affari Internazionali (IAI) has been responsible for the development of this report. IAI is a private, independent non-profit think tank, founded in 1965 on the initiative of Altiero Spinelli. IAI seeks to promote awareness of international politics and to contribute to the advancement of European integration and multilateral cooperation, focusing on topics such as European integration, security and defence, energy and climate policies, as well as key regions such as the Mediterranean, the Middle East, Asia, Eurasia, Africa and the Americas. The IAI publishes an English-language quarterly (*The International Spectator*), an online webzine (*Affari Internazionali*), three book series (*Global Politics and Security*, *Quaderni IAI* and *IAI Research Studies*) and other paper series related to IAI research projects.

For more information please visit <https://www.iai.it/en>

About the Authors

Lorenzo Colantoni is Researcher in the Energy, Climate and Resources (ECR) Programme of IAI and coordinated the analysis behind this report.

Giulia Sofia Sarno is Junior Researcher in the ECR Programme of IAI.

Margherita Bianchi is the Head of the ECR Programme of IAI.

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The opinions expressed in this publication are those of the authors. The content of this publication is based on the information available at the time of the research, on authors' analysis, and on the information provided by the national and international institutions involved in the workshop and feedback processes during the project.



Reading Guide

SCOPE

The objective of this report is to provide a full picture of environmental crimes in the EU-27, from multiple perspectives: types of crimes, trends and estimated impact, structure of enforcement and other players involved, and obstacles to effective action. It aims at highlighting the novelty of the phenomenon, focusing on issues that are still overlooked on the European level, at elements that are often approached in silos by most players in the sector. The ultimate scope is to lay the foundations for a new, comprehensive approach to environmental crimes, which considers them not as a fragmented mosaic of different issues and players, but as a single phenomenon requiring common and coherent action.

METHODOLOGY

This report has been produced as part of the EU project “Ambitus” and is the result of more than two years of data collection, interviews and analysis.¹ The authors have developed and applied an original methodology to confront the scarcity of available information on the topic of environmental crimes in Europe.² This has been divided into three different steps.

1. Preliminary Report

The IAI team developed a first, preliminary report out of desk research, with the aim of mapping the information already available, the work done by other institutions, and definitions of the players involved. The Preliminary Report³ was published in October 2020 and took into account reports, national and international databases, legal documents (regulations, laws, directives, judgements, etc.) and news articles. It has also been used as a basis for this report in terms of structure and content, with the current report being conceived as an upgraded and enriched version of the first one, thanks to the new and original data collected by the authors in these two years.

2. Questionnaire

A detailed questionnaire was sent to Law Enforcement Agencies (LEAs), representatives from the judiciary, international, European and domestic organisations and civil society, covering the EU-27 and several non-EU member states (among others Albania, the UK, Norway and Serbia⁴), and replies were received from 29 among countries and international organisations. The questionnaire was prepared in two different versions, one for national and one for international authorities, but generally speaking it is divided into five sections to ease the compilation by different stakeholders: overview (focused on trends and the definition of environmental crimes), institutional architecture (the different institutions involved), law enforcement authorities (a section dedicated to LEAs, the obstacles they face and the investigative techniques they apply), judiciary (for prosecutors and judges) and

◀ The Balule natural reserve in South Africa, home to a large number of white rhinos

cross-border crimes (on international cooperation). The aim of the questionnaire was to gather first-hand, original information on environmental crimes in the country. The two versions are available in Annex 1 of this report.

3. Workshops

The IAI team then organised a series of workshops with LEAs and, when possible, with representatives from the judiciary and civil society for the EU-27, and with Europol, Eurojust and Frontex. The aim of these workshops was to fine tune the information gathered via desk research and the questionnaire responses, using a series of interview-style questions to obtain data that were neither in the questionnaire nor publicly available, or to comment on some of the most interesting and unique trends discovered in the previous analysis. All workshops were recorded for internal use.

All of this information has been consolidated in this final report, for sections 1 through 5 as well as the Country Fiches section at the end of the document.

Documents from desk research are quoted throughout the document using footnote citations, also collated in the reference section at the end of the document. Interviews and questionnaire have been consolidated in a list available in section 6; in the document, the wording "Findings from Ambitus workshops and questionnaires" refers to conclusions based upon the information gathered from all the workshops and questionnaires conducted in the context of the Ambitus research. The wording "Country 1" (and similar) refers to the information provided by institutions from the member state corresponding to the number (assigned in alphabetical order, covering the whole EU-27 and detailed in section 6.1, which includes a list of all institutions and sources consulted for the country).

STRUCTURE

This report is intended as a small handbook on environmental crime in Europe. Its sections are thus designed to be read in their entirety, but also to be consulted individually, depending on the specific interest of the reader, who may want to deepen their knowledge on specific aspects, such as technological solutions, or may be seeking specific information on national legislative frameworks.

The sections are thus the following:

Main findings, which summarises the results of our analysis and provides highlights from all the sections of the report. This part is intended also as a summary for policymakers and contains a list of policy recommendations.

Overview, which aims at providing a general picture of environmental crimes in

Europe, debating their definition (section 1.1), trends and estimates (1.2) and discussing the sectors involved and types of envicrime (1.3), with a small in-depth for main offenses.

Legislative and institutional framework, which describes how action against environmental crimes is structured in Europe considering laws, agencies, the judiciary and other players. It considers a general perspective (section 2.1), and then the national (2.2) and international (2.3) level, with a focus on the role of civil society (2.4).

Obstacles, which discusses the different issues preventing effective action considering the specific features of environmental crime (section 3.1), focusing on transnationality (3.2) and then moving on to the legislative tools (3.3, debating for instance insufficient penalties or inadequate laws) and operative tools (3.4, from lack of specialisation to inadequate access to technologies and investigative tools).

In depth, a large section which focuses on the dynamics and developments that are currently more relevant for effective action against environmental crimes. It starts from the EU debate (section 4.1), providing an analysis of how previous and current EU policies (particularly the Green Deal) have influenced and will influence the sector. It continues with a focus on technologies (4.2), ranging from the most well-known (drones) to the most innovative ones (AI, LiDAR). It then discusses the interaction of environmental crimes with other offenses (4.3, financial crimes and 4.5, cybercrime), as well as the growing role of organised crime groups in a variety of sectors (4.4, analysing sectors from waste trafficking to timber and wildlife trade).

Country analysis is the final section, providing a series of short, individual country fiches dedicated to the EU-27 member states and to Europol, Eurojust and Frontex. Each fiche provides fundamental information about environmental crimes in the country, such as trends, main offenses, main agencies involved, specific obstacles, existence of a centralised unit or of a specialised judiciary, international partnerships and collaborations.



Main findings

Environmental crimes are one of the biggest threats not only to ecosystems and protected species, but also to our economy and our society. They disrupt the integrity of territories and of communities, damage companies and individuals working and living in a sustainable way, and threaten the very existence of fragile and carefully protected habitats across Europe. In an EU where sustainability, environmental protection and coexistence with nature are now key values leading both political and economic action, environmental crimes are an existential threat to the very future of Europe.

This is a global problem: waste trafficking, illegal timber trade, emissions fraud and other old and new offenses are on the rise worldwide – some situations gaining more attention (illegal logging in the Amazon, rhino poaching), others less (bird poaching in sub-Saharan Africa, illegal logging in Siberia). The EU is however one of the focal points of these worrying trends; as the foremost economic and trading bloc in the world, the European Union is one of the leading destinations or transit hubs for illegal trade linked with environmental crimes, as well as the origin for others. The unique natural resources of member states such as Romania or Poland, and the significant demand for cheap waste disposal in countries such as Italy or Germany, make Europe an appealing theatre for traffickers.

Despite this, the general picture of environmental crimes in Europe is that of a complex, growing and al-

ready serious threat which, regardless of increasing attention by policymakers and enforcement agencies, is still largely missing an effective, coherent and integrated action. As regulations and budget on environmental matters are expected to further grow in the next years, adequate enforcement and generally speaking a full framing to counteract environmental crimes will be fundamental for the success of the EU and its Green Deal. If successful, this European system could become a model for many other regions in the world; a leadership by example that the EU has already developed in other sectors, climate action in particular, and which could be replicated also for the growing threat of environmental crime.

THE GENERAL PICTURE

Environmental crimes are on the rise. This has been highlighted at the global level by Interpol/UNEP estimates, which recorded a 5 per cent increase in the 2010–2020 decade,⁵ and specifically on the European side by the vast majority of respondents to the Ambitus questionnaire and workshops.⁶ According to the latter, this is partially due to an increase in the recognition rate of crimes – in many member states many offenses were not even considered as such one or two decades ago, or there were no available tools to easily detect them. Such an increase has also been different among offenses, some being sharply on the rise (e.g., waste trafficking), others being relatively stable (e.g., poaching).

Nonetheless, an increase in absolute terms for the phenomenon as a whole is clear and very likely to further speed up in the decades to come, also because of the growing involvement of large international companies and of organised crime groups (OCGs), and of the significant economic stakes and the low penalties involved. Indeed, not only has the absolute value of environmental crimes risen, but players and offenses have changed: white collar crimes are now very relevant, also because of the involvement of several companies (particularly multinational ones) in activities whose illegality is complicated to prove (timber trade in particular). The high value of illicit trade flows, such as hazardous waste or endangered species, the low penalties and obstacles to international investigation have also led to a growing role played by both small and big OCGs, which sometimes even infiltrate the institutional level, rigging tenders and environmental evaluations.

The time to address these issues is quickly running out. Considering the extreme fragility of the European and global environment, due in particular to climate change, habitat destruction and air, soil and land pollution, the impact of environmental crimes can represent a tipping point for some of the most precious ecosystems and species in Europe, from primeval forests in Eastern and Northern Europe, to wetlands and rivers. In the years to come, the huge flows of money from Next Generation EU will be largely devoted to sustainable and environment-related projects, which will require careful monitoring.

Similarly, the increasing regulations brought by the Green Deal initiative will also open new possibilities for offenders – VAT fraud from the expansion of the EU Emissions Trading System, illegal trade of banned chemicals from the new regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), for instance.

THE OBSTACLES

Despite recent improvements, the EU as a whole and most member states are still far from effective action against environmental crimes. One of the key obstacles is the lack of a shared definition (discussed in detail in section 1.1): there is not a comprehensive delimitation of what environmental crimes are, either in the EU (the old *envicrime* Directive and the proposed new one are both missing this) or in the majority of member states. While some countries have partial or full definitions in their criminal code (as in the case of Spain or Italy), this is however not matched by similar statements on the administrative or political side, thus limiting effectiveness. This translates into a number of issues: some offenses have a strong recognition within national frameworks (illegal logging in Romania, for instance) but others do not (waste), despite their equally strong impact in the country. The same crime can expect significantly different penalties across countries, facing minor administrative penalties on one side of the border and heavy criminal sanctions on the other – this also leads to the creation of “en-

vicime havens” across the EU. A missing common definition prevents authorities, particularly policymakers and the judiciary, from understanding that environmental crimes are not isolated offenses, but part of an interconnected phenomenon in which each case can and likely does influence the others. It also leads to an insufficient environmental awareness among most of the judiciary and a good share of LEAs, which has been highlighted as a critical issue across workshops.⁷

Environmental crimes are also complicated to deal with because of a number of intrinsic features related to such offenses, such as the low detectability and the difficulty in linking the offense to the perpetrator. Transnationality, which is a characteristic of the large majority of environmental crimes, is another key problem; addressing transnational crimes requires an intra-European and international cooperation that in several cases is missing (particularly when it comes to extra-EU countries). Transnational crimes also exploit loopholes in legislation and benefit from lack of coordination and shared definitions, which makes prosecution particularly hard. Understanding the whole environmental crime phenomenon is also generally complicated, because of the lack of data and reliable estimates, able to inform on the actual magnitude of offenses and their interconnection (section 1.2).

Generally speaking, the most common challenge in fighting environmental crime remains the inadequate legislative and operative frameworks (dis-

cussed respectively in sections 3.3 and 3.4), which translates into penalties that LEAs consider to be too low in the majority of cases and sectors, and in low levels of specialisations – an issue which affects the judiciary the most, and which often results in low convictions or even in many cases being blocked from the beginning.

THE SOLUTIONS

New legislative, economic, policy and political tools can however overturn this situation even in the short to medium term. Centralised units, dedicated solely to environmental crimes, have proved particularly effective across the EU – this is the case for OCLAESP in France, SEPRONA in Spain and CUFA in Italy, for instance – because of their inherent specialisation, their ability to promote information sharing and coordination among agencies and, above all, because of their cross-sectorial, comprehensive approach on environmental crimes as a whole. Centralised units also make contacts across countries easier and more effective, as well as facilitating dedicated international operational activities.

While a stronger operative and legislative framework is heavily needed in most member states, international cooperation is indeed key for the success of action against environmental crime. Aside from local and often minor infractions, virtually all environmental crimes are transnational: the success of networks such as EnviCrimeNet, the widespread usage of tools such as Eu-

ropol's SIENA communication platform, and the growing role of European projects such as SWiPE and OPFA Waste show the significant impact this kind of collaboration can have on the sector.

Yet, more widely, what Europe truly needs is an EU-wide guidance on how to address the growing threat of environmental crimes – and this is still largely missing. The proposal for the new Directive (discussed in section 4.1) expands the field of action and increases the accuracy of its predecessor⁸ in several cases, yet it misses one of the key necessities: that of a common, EU-wide vision on environmental crimes, which should not entail one-size-fits-all solutions (which won't work because of the EU's diversity), but should produce common guidelines on legislative frameworks and enforcement action, as well as standards for data gathering and information sharing. Above all, it should lead towards effective EU coordination on action against environmental crimes, which is instead still scattered across countries, sectors and different players. This will require a consolidation of the understanding that environmental crimes are not subordinate to other offenses, but are one of the most serious threats the Union, and the world, is facing; and that the current rapid and significant expansion of the European environmental ambitions must receive an equivalent upgrade on the enforcement side.

The concurrent process to this intra-European effort in defining a stronger framework should be the promotion of action against environmental crimes in

the rest of the world: this would be needed to counteract some of the most devastating offenses for which the EU is at least partially responsible (illegal logging in Latin America or Southeast Asia, for instance). In addition, this could be key to strengthening the EU's role as a global model for environmental action, also through the wider use or replication of many of the political, legislative and technological solutions which are proving their effectiveness across member states, from centralised units to satellite imagery analysis. In a world where clear leadership on environmental crimes is still missing, the EU could have the tools, the political will and, to some extent, even the necessity to cover that role.

POLICY RECOMMENDATIONS

Understand the moment we live in and its unique nature

The growing impact of environmental crimes requires swift and new action that, if not taken, can undermine the efforts taken by key policies such as the Green Deal, and destroy some of the last, irrecoverable ecosystems and natural resources across the EU. In many cases, this is the last call we have to address these issues.

Provide EU guidance

While environmental policies are largely European, enforcement is strictly national. This creates loopholes and shadow areas in which all offenders, and particularly transnational ones, thrive. A common EU vision can counteract this, and also raise the level of awareness among both players in the sector and the general public.

Promote collaboration across countries, but also across sectors and players

Some offenses extend across sectors (air, soil and land pollution) or across countries (waste trafficking), but they are often addressed locally or adopting a siloed mentality. Players often do not dialogue or coordinate with each other; this is particularly true for civil society, whose contribution can be strong, but is still limited in many countries by laws or by mistrust on the institutional side.

Work on key issues

While the array of problems preventing effective action is wide, there are a few prominent obstacles which, if solved, can bring the greatest results: low penalties, lack of specialisation by judges and enforcement agencies, lack of data, low information sharing and inadequate international cooperation are the most important to address.

Act local, but think global

This is key to strengthening EU action, but also to increasing its links and contribution to global activities, particularly for issues such as timber, waste and wildlife trafficking, which have a strong extra-EU component. Networks, partnerships, operational activities, capacity building, sharing best practices and promoting joint research are some of the initiatives that can make the EU a world leader in the fight against environmental crimes.

1. OVERVIEW



1.1 THE DEFINITION ISSUE

A missing definition

Despite growing political and media attention, a universally accepted definition of environmental crimes does not yet exist, either on the global and European, or in most cases even on the national level. The absence of shared consensus on what constitutes an environmental crime, at least in the EU, is likely the greatest obstacle to the fight against such offenses. It is one of the key reasons behind the mismatch among national legislations: it prevents the alignment of enforcement strategies along common lines, the gathering of data and the establishment of standards – it is indeed rather complicated to consolidate information, if there is no mutual clarity among the sectors and players involved. While some offenses are commonly recognised across the EU as environmental crimes (e.g., poaching), others receive a significantly different focus depending on the country considered (waste and timber trafficking). Due to the absence of a specific “envi-crime” category in some European judicial systems, offenses such as air or water pollution sometimes are only investigated when damage to property or human health is involved.

Such a situation is a reflection of a time when environmental issues were exclusively considered as secondary to other offenses. The situation has however rapidly evolved: a shared framework for a common, unified action against the different crimes affecting the environment is now required because of their compelling impact; the growing amount of environmental legislation, requiring adequate enforcement; and the clear interconnection among different sectors, even the apparently most distant ones (waste trafficking, illegal landfills and habitat destruction, for instance; illicit F-gases trade and climate change, as another example). While advancements have been made (notably the development of specialised units, European networks and projects), a shared understanding of the whole picture is however missing in the EU.

The Commission’s approach

The Commission states⁹ that environmental crime covers acts which “breach environmental legislation and cause significant harm or risk to the environment and human health”. The fundamental piece of EU legislation on environmental crimes (at the time of writing) is the Directive 2008/99/EC, which focuses on crimes in relation to pollution, waste, use or release of dangerous substances, protected species and habitats. The extent of coverage appears uncertain and the categorisation unclear, not least because overlaps are very common (i.e., the illegal use of fuel oil mixed with waste oil readily causes other environmental damage, such as air pollution). Although marking a significant step towards regulating an area of criminal law which has been disregarded for decades, the Directive leaves significant room for interpretation to policymakers and judges¹⁰ and it only partially covers the range of conduct related to envicrime. Even the reference used in the Directive to define whether a conduct constitutes a criminal offence

is unclear, as the text considers actions that are “*unlawful and committed intentionally or with at least serious negligence*”¹¹ – again leaving significant room for interpretation. Consequently, the same kinds of offence are often treated in a different manner depending on the country involved, and key issues such as illegal disposal of waste could represent a major criminal offence in some member states, while facing only administrative sanctions in others. This has a number of consequences, including the delocalisation of environmental crimes towards member states that have smaller sanctions (and usually less stringent controls). In the case of transnational crimes, such a significant heterogeneity among national regulations on the same topic further hinders the ability of LEAs and the judiciary to coordinate and to prosecute offenders.

The 2021 proposal for a revision of the Directive (analysed fully in section 5.2) does not sufficiently resolve the definition issue; while extending the range of offenses, its focus is on *creating an EU-wide common set of definitions of specific environmental crimes*, thus detailing what constitutes single environmental breaches, but without aiming at delivering a shared framework.

Most member states have equally failed so far to deliver a national definition of environmental crime: among the member states most active on the issue, the French criminal code does not provide any specific characterisation for *envicrime*,¹² if we exclude the very limited notion of “Ecologic Terrorism” under articles 421 and 422 of the code. Similarly, the comprehensive Italian “Codice dell’Ambiente” (Environmental Code), both in its original 2006 text¹³ and in the latest, 2019 update, does not include any definition of this sort. Law 68 of 2015 introduced into the Italian criminal code the notion of “*delitti contro l’ambiente*” (crimes against the environment), improving the overall framework, listing a series of critical offences and also addressing the involvement of organised crime, yet failing to provide a comprehensive definition including, for instance, wildlife trafficking.¹⁴

A single definition is however needed, for several reasons. It would offer a flexible tool to include new offenses that will likely appear as a result of new environmental legislation, without the need for an update of the Directive – the proposal alone for the new one has taken almost 15 years. It would improve coordination among countries and institutions along shared and clearly defined principles on what the environment is and what the actions damaging it are, regardless of national legislations. It would match the ambitious policies proposed by the current European Commission through the Green Deal with an adequate enforcement framework – something that, despite the significant involvement of some of Ursula von der Leyen’s predecessors, has been mostly missing. It would also be coherent with the encompassing approach of the Green Deal initiative, which overcomes the climate-energy focus of Juncker’s vision, extending it to sectors

The member states’ perspective

The need for a definition

such as biodiversity protection and circular economy. Above all, it would put a spotlight on environmental crimes as a single, interconnected, transnational threat, despite the heterogeneity of sectors and players involved; a decision which would empower LEAs, prosecutors and judges, and would strongly promote their still low specialisation in a sector that is now key for Europe.

1.2 TRENDS AND ESTIMATES

Proper estimations of the impact, economic value and magnitude of environmental crime, in Europe and around the world, are scarce and often unreliable and incomplete. The most quoted estimate was assessed by Interpol and the UN Environment Programme (UNEP) in 2016, and at the time of the writing it remains the only trustable appraisal for all categories of environmental crime (some offenses, such as wildlife trafficking and waste crime, can instead rely on a variety of analyses). The two agencies estimated that environmental crime amounted to an annual global turnover whose value lies between 91 and 258 billion US dollars every year.¹⁵ Yet, such a wide range and the fact that this estimation has not since been updated are clear signs of the difficulties and uncertainty surrounding calculations on the real dimension of the phenomenon – a fact which is valid on the global, but also on the European level. Indeed, there is no such overall estimate for the EU, and even the proposal for the new directive on environmental crime only quotes the Interpol-UNEP value.

Reasons behind the missing data

Reasons behind the lack of a global picture for environmental crimes are many. Most member states do not compile dedicated statistics, or they do not make them public;¹⁶ the vast majority do not consolidate them in a single, “environmental crime” category, the only exception being countries such as Austria¹⁷ and Spain,¹⁸ which include this category in their annual statistical reports – in the other cases environmental offenses are split among different categories. Even if member states were to compile such statistics, however, the lack of a common definition would make it hard – if not impossible – to compare the different estimates among member states, as they would either include or lack categories that some countries are considering environmental crime, and others are not.¹⁹

Finally, delineating a complete image of environmental crimes in Europe would be further complicated by intrinsic features that represent key obstacles in assessing the actual extent of the offenses (such as lack of visibility, described in detail in section 1.3) and by the lack of a common measurement unit in estimating their overall impact. While most countries count the number of offenses, others try to estimate the economic damage, for instance. Indeed, according to the analysis of the EFFACE project,²⁰ there are three ways to assess the impact of environmental crime: qualitatively, where the effect is described without putting figures

on the impact (number of offences); quantitatively, where the impact is described with figures referring to the scale of the impact (sometimes using financial flows, for instance); and lastly, on the basis of this quantified data, proceeding with a financial or health impact analysis of the environmental crime.²¹ These different approaches are heterogeneously applied across the EU and even among different national institutions – as reported by the Council,²² in most member states statistics on environmental crimes are not only insufficient, but also fragmented and based on multiple individual sources, as they are collected separately by each authority involved in preventing and combating crime, with no interlinking among them.

Neither is there coordination at the EU level – Eurostat does not compile this kind of data, nor does the Commission perform any consolidation of national data (also because of its scarcity). Not by chance, the proposal for the new directive on environmental crime (discussed in detail in section 5.2) indicates as one of its key objectives to *improve informed decision-making on environmental crime through improved collection and communication of statistical data, proposing also an obligation on the member states to collect and report statistical data according to harmonised common standards*.²³ However, while such an option is still being negotiated among European institutions, the lack of shared information is one of the key obstacles to action against environmental crime in Europe, particularly regarding transnational offenses, since it impedes coordinated action and a true understanding of the impact of crimes and of the effectiveness of enforcement strategies (as discussed in section 4.1).

While a full and precise picture of environmental crimes is hard to obtain, it is evident that offenses are growing. In 2016, Interpol and UNEP identified environmental crime as the fourth most lucrative criminal business; in November 2020, the agency ranked it third and highlighted a worrying 5 per cent increase rate globally for the previous ten years.²⁴

A growing threat

The perception of this increase is quite varied among different LEAs in the EU, also because the rise has impacted differently sectors and countries. In the course of Ambitus's workshops, a slight majority of participants clearly identified a rise in environmental crimes in their country or in Europe, while a robust majority agreed that such increase has taken place in at least some sectors (waste trafficking above all, but also wildlife and pet trade).²⁵ Many LEAs (Italy, France) agreed however that at least part of this perceived rise has been due to a better recognition rate of environmental offenses, because of improved investigation techniques, growing environmental awareness or simply the expansion of legislation to cover damaging actions that were once not considered offenses (particularly regarding pollution and poaching). Some member states, such as Sweden, have seen a sudden rise of the recognition rate particularly after enacting new legislation in the course of the *acquis communautaire*.

A changing threat

Environmental crimes have not just increased in magnitude in the past two decades: they have also changed in the number and types of sectors involved. Waste trafficking and illegal disposal have not only become wider phenomena, but also significantly extended from hazardous waste also to plastic or non-toxic materials, mostly because of increased regulations, which made the trafficking more lucrative, and decreased exports, particularly towards China and Southeast Asia. New offenses have appeared on the European scene: trafficking of fluorinated greenhouse gases is becoming a growing issue in several member states, while Poland and France, for instance, recorded cases of VAT fraud associated to the EU Emission Trading System (EU ETS).²⁶ Others, which were once considered administrative offenses, are now taking centre stage because of their growing impact on European ecosystems, such as illegal logging, illegal fishing and water theft. Players are also changing: as environmental crimes are becoming more transnational and lucrative, organised crime groups are increasingly becoming more involved in a wider number of issues, which are not restricted to well-known offenses, such as waste trafficking or rhino or ivory trade, but extend also to other kinds of environmental crime, such as wildlife trafficking (glass eels) and timber trade.

The role of the pandemic

According to the Ambitus workshops,²⁷ the impact of the pandemic has been varied across EU member states. Some, such as Slovenia, have not perceived significant changes across the different waves in Europe in the 2020–2022 period. For others, the impact has been negative: in the case of Greece, for instance, lockdown measures also limited the possibilities for LEAs to travel and perform inspections, particularly on foreign ships. In other cases, as reported by the Spanish SEPRONA, the pandemic redirected resources from environmental activities to monitoring the respect of restrictions, thus reducing the staff available for inspections and investigations. Others, Italy's Carabinieri in particular, highlighted the increased economic vulnerability of many communities and companies, caused by the economic downturn brought by the pandemic; this can lead many entities to resort to environmental crime to reduce costs or access new sources of income. Some LEAs have however also reported a positive impact of the pandemic: the French OCLAESP indicated how some kinds of wildlife trafficking (glass eels in particular) has reduced as a consequence of diminished travel and trade. Similarly, several LEAs, such as the Estonian, have reported easier monitoring of waste trafficking because of reduced activities on the roads.

1.3 SECTORS INVOLVED AND TYPES OF ENVICRIME

Despite the uncertainty over definition and magnitude, environmental crimes are committed in one form or another throughout the whole EU. Environmental crimes include illegal actions with a harmful impact on the environment – water, air, earth and soil, and flora and fauna in particular.²⁸ The geography of environ-

mental crimes is varied but some tendencies within the EU are nonetheless observable. All member states denounce significant issues in waste trafficking, due to the profitability of the business and the need for cheap disposal of both domestic and industrial waste as regulations are tightening. Certain countries' geographical locations and their trade patterns make them a favourable gateway to European and Asian markets. The forests of Central and Eastern European countries (Romania and Bulgaria in particular) are valuable prey for illegal logging, and their rich biodiversity is threatened by poachers. This is also the case for member states where migrating species transit (Italy, Spain and Malta among others), often within the Mediterranean Basin. Coastal countries also suffer from illegal fishing, while others are still endowed with a strong chemical industry (such as the Netherlands or Belgium) and have thus to deal with crimes regarding water, air and soil pollution.

These offenses might aggravate (or be aggravated by) other longer-term problems, such as climate change. Some are of a local nature (e.g., poaching in Malta), whereas many others have a transnational component (e.g., trafficking in wildlife, trafficking in electronic waste, timber, etc.), involving several countries, their neighbouring states and other continents (especially Latin America, Africa and Asia).²⁹ However, due to the strong interlinkages in global trade and the frequent transnational nature of environmental issues (as in the case of climate change or interconnected habitats), it is becoming increasingly difficult to find environmental crimes restricted to single countries.

An analysis of the most important offenses across the EU, including their impact and their geographical distribution, is available below.

1.3.1 Waste, trafficking and illegal disposal

Waste-related crimes are likely the most common across the EU, having been reported as one of the key offenses throughout all our research (highlighted in all questionnaires and workshops).³⁰ According to Europol, it is particularly easy for criminals to challenge honest players in the industry.³¹ The offense has received significant attention from policymakers in past years: illegal waste disposal and shipment is one of the cases considered under article 3 of Directive 2008/99/EC, and until 2013 waste trafficking was the key focus of concern of environmental crimes in the EU. The issue has also been regulated on the international level already with the Basel Convention, signed in 1989 and entered into effect in 1992.

Waste trafficking in the EU comes in different forms. Offenses are varied and change depending on the country, but they generally regard unauthorised transport and false declarations (when usually hazardous waste is presented as non-hazardous, or waste is illegally mixed). Flows are both intra- and extra-European; while some member states usually act as origin countries (Germany or France, for in-

**Different shapes
of waste trafficking**

stance) and others as destination (Bulgaria), others can be mostly transit countries (Slovenia) or cover multiple roles (Austria).³² Flows are also domestic (as in the “Land of Fires” case in Italy) but above all international: illegal international waste shipment indeed still constitutes emblematically up to 30 per cent of all waste shipments according to the European Commission.³³ An investigation reveals that the EU ships large amounts of toxic electronic waste to developing countries,³⁴ especially in Africa and the Asia-Pacific. According to the European Environmental Bureau, the annual revenues in the EU for illicit hazardous waste trafficking range between 1.5 billion and 1.8 billion euro, while for illicit non-hazardous waste trafficking they range between 1.3 billion and 10.3 billion euro (a wide range, also highlighting again the difficulties in making such estimates).³⁵ Illicit maritime consignments of hazardous and other wastes transported from waste-exporting regions (Europe) to the Asia-Pacific region have occurred frequently in the recent past.³⁶ One of the troubles with international flows is that the distinction between legal and illegal shipments is often blurred: discarded electronics are often sold as “second-hand goods” to developing countries to avoid expensive disposal at home. These are then recycled in countries such as Ghana (for instance in the well-known Agbogbloshie area³⁷), in an often-unsafe manner and to recover raw materials, eluding national waste import bans and the Basel Convention itself. This happens also to cars and to ships, the illegal recycling of the latter having been included even in the revision of the *envicrime* Directive as a new spotlight category.

Illicit waste disposal is another part of the problem. Cases are found basically everywhere throughout Europe: illegal disposal of toxic waste in disbanded open pits has been frequently discovered in Brandenburg, Germany.³⁸ Other notable cases include the already recalled “Land of Fires” in Campania, Italy, where systematically, since the end of the 1980s, toxic waste has been illegally burnt and buried.³⁹ Eastern European countries, Romania and Bulgaria, also highlighted illegal burning of waste from other European countries in incinerators and cement factories.⁴⁰

1.3.2 Wildlife trafficking

Wildlife trafficking takes on many shapes and is one of the most common environmental offenses across the EU. Annually, the global trade in endangered species is estimated to be worth billions of euro – the EP for example estimates that illegal wildlife trade ranges between 8 and 20 billion euro each year globally.⁴¹ Even though the EU has a legal framework (EUWTR) which sets out strict arrangements for trading in wildlife products, the Union faces new challenges emanating for example from the growth of e-commerce, and remains a major destination market for illegal wildlife or its products.⁴²

The EU as a destination, origin and transit region

The EU is mostly a destination for trafficked wildlife, even if in some cases the continent is also a source area for the illegal catch of endangered species, as well as a transit region: customs across the EU reported cases of ivory and

rhino horn illegal trade from sub-Saharan Africa and destined partially to member states and partially to Asia (as in the case, for instance, of Czechia),⁴³ the major ports and airports of the EU being key global transit points for those trafficking activities.⁴⁴ The illicit trade of wildlife is often associated to the import of exotic pets: it includes endangered reptile or parrot species,⁴⁵ even if the EU is also witnessing a worrying increase in large animals, such as tigers in Italy, Czechia and France.⁴⁶ They are sometimes kept as pets for the first four or five years of their lives and then, as costs to keep them become too high, they are slaughtered, and their body parts sent to China to be used for traditional medicine.⁴⁷ This trade also involves exotic flora – as in the case, for instance, of illegal trade of endangered cacti from Chile to Italy⁴⁸ – and has a devastating impact on biodiversity globally, as well as on animal and human health. The unregulated trade of wildlife has been indicated as a key driver of zoonotic diseases⁴⁹ even during the latest Portuguese Council Presidency.⁵⁰ The trade can also lead to the introduction of invasive alien species (a category also included in the *envicrime* Directive revision).

The seizure of such species is also another issue for LEAs, since often member states are missing the adequate structures to host them (such as recovery centres) or the repatriation of species is either too expensive or almost impossible. This happens also because of missing information on their origin (this a case highlighted for instance by SEPRONA concerning the seizure of Colombian turtles in Spain⁵¹). Wildlife trafficking also relates to poaching: according to the Humane Society International report, the EU is the second largest importer of trophies, an issue rapidly increasing (a doubling has been recorded in the period 2014–18) and largely involving avifauna, as well as endangered species such as cheetahs and Hartmann's zebras.⁵²

The EU is also the origin region for some traded species, particularly from salt and freshwater: the glass eels trade has been recognised as one of the most lucrative (the species is worth up to 6,000 euro/kg)⁵³ and, following extensive investigations by several member states and by organisations such as Europol and UNODC,⁵⁴ the involvement of several organised crime groups has been clearly recognised.⁵⁵ Generally speaking, illegal fishing in Europe is still a significant issue because of the use of illegal practices, taking place even in protected areas (as in the case of the UK⁵⁶), alongside the disregard of quotas, as in the case of the catch of bluefin tuna between Malta and Spain.⁵⁷

1.3.3 Poaching

Although similar to wildlife trafficking, poaching is perpetrated in Europe often for different reasons, depending on the species. Poaching in the EU usually takes place against herbivores, such as deer or boars, for game consumption or sale, the hunt being illegal when it takes place in protected reserves, outside hunting

The issue of animal and plant seizures

seasons, exceeding quotas or towards protected species or sub species (such as the Corsican and Sardinian red deer).

The return of large carnivores in Europe

Hunting predators such as wolves, bears and lynxes is a growing issue for many European countries that are witnessing an increase in numbers of these animals in areas where they have disappeared for centuries: this is the case for wolves and bears in Italy and Slovenia, for instance, or in Spain, where the hunt of the relatively large populations of Iberian wolf has been fully banned in September 2021 (possibly triggering further poaching⁵⁸). Large carnivores are hunted by farmers, because of predations on domestic animals, as well as by hunters, who fear competition with predators. Competition with hunters is also one of the causes for bird poisoning, one of the main threats to the survival of raptors across the EU and a dangerous habit which is rooted in many European hunting cultures – Italy, Austria and Malta among the others. Indeed, poaching is often associated with cultural reasons and traditions dating back centuries – this is the case, for instance, in the Messina Straits for poaching honey buzzards, whose successful capture during the migration period was associated with protection against marital infidelity.

While poaching is done mostly by shooting, poisoning has been used for the past half a century and is a well-rooted tradition in many hunting communities with a potentially devastating cascade-effect: the poisoned bait contaminates not only the targeted animal, but whatever species then eats the body of the poisoned animal, thereby damaging different levels of the food chain and different species at the same time.

1.3.4 Pollution

Pollution is a variegated and often blurred category of offenses: it concerns air, soil and water (sometimes two or more elements together) and relates to a number of human activities which, under certain conditions, could be considered legal or have a limited impact on the environment (as in the case of CO₂ emissions or wastewater). EnviCrimeNet itself considers that the differences between pollution, contamination or degradation are often blurred,⁵⁹ and judgement over whether an action is an offense or not also depends on the ability of LEAs to properly detect pollution and its source. The issue is sometimes aggravated by the fact that unsustainable levels of pollution derive from the combined action of several polluters, the single breaches being minor but their overall impact unsustainable for environmental and human health (as in the case of agricultural wastewater or air pollution from industries in the Po Valley⁶⁰).

Water and soil pollution

Water is one major element involved: waste dumping, illegal wells or ponds, marine pollution or the contamination of surface water are at the basis of problems impacting ecosystems and the overall food chain. Water pollution is sometimes

evident – consider the case of oil spills or “point sources”, such as urban wastewater – or but other times is very hard to detect; such is the case for diffuse sources of pollution, such as agricultural losses of fertilisers (particularly impactful when the fertiliser is illegal or used in excessive quantities). Soil is another (and connected) element. Its contamination puts groundwater at risk and can affect human health and the environment; this normally arises from the illegal use of pesticides or the discharge of waste (hence the connection with the above-mentioned “diffused” sources of water pollution).

Forms of illegal pollution and contamination might also be a consequence of illegal mining or processing of hydrocarbon and natural resources, affecting the soil, but also water. This occurred in the recently settled Turow mine case,⁶¹ where expansion of the coal mine in Poland was contaminating and reducing the water reservoir of the neighbouring Czech villages and led to a long legal dispute between the two countries. The issue again showed the different perceptions (also due to political reasons) on the legality of actions affecting the environment, with Poland being strongly supportive of the expansion despite a clear ruling by the European Court of Justice.⁶²

Air pollution is considered by the European Environmental Agency (EEA) the *single largest environmental health risk* in Europe,⁶³ and it represents another case where the illegality of actions could be complicated to prove. Particulate matter, sulphur or CO₂ emissions can lead to sanctions against individual polluters and can be criminally prosecuted, but only if they breach approved quotas – a fact which is not always easy to prove because of obstacles in detection or through active deception. In this sense, cheating software on vehicles, such as linked to the well-known Dieselgate scandal, also falls under the category. The unlawful production, import, export, placing on the market or use of ozone-depleting substances is also considered a criminal offence: amongst the most recent cases, the Spanish Guardia Civil discovered a company and an organised crime group involved in the illegal export of ozone-depleting substances, with 10 tonnes of the banned R-22 gas being smuggled from the EU.⁶⁴ There are also growing concerns over fluorinated greenhouses gases, which act as a substitute for ozone-depleting substances but have strong global warming effects;⁶⁵ despite the EU target to cut them by two-thirds by 2030, a wave of illegal imports of these substances from China through Turkey (up to 16–42 per cent of total imports) can have a significant impact on EU climate policies and has sparked calls for coordinated police action at the EU level.⁶⁶

Air pollution

1.3.5 Timber trade and illegal logging

Timber-related offenses are one of the fastest growing issues in the EU and the urgent need to tackle them has led the Commission to explicitly name them in the proposed revision of the *envicrime* Directive.⁶⁷

EU as an importer of illegal timber

The EU acts as a leading importer of deforestation and suffers from illegal logging within its borders as well. According to the WWF, the Union is the second largest importer of tropical deforestation in the world, only second to China,⁶⁸ and 80 per cent of this trade is caused by a few European countries (Germany, France, Italy, Spain, the Netherlands, Belgium and Poland). Member states worked on the issue back in 2003 with the Forest Law Enforcement Governance and Trade (FLEGT) Plan at the European level, yet with mixed results⁶⁹ and only addressing direct timber trade. Tropical deforestation is however mostly imported to Europe via agricultural products and biofuels feedstock,⁷⁰ making its traceability often extremely complicated, if not impossible. The EU Commission has tried to address the issue in 2021, by proposing a regulation on deforestation-free products which, at the time of writing, is still undergoing negotiations.⁷¹

Illegal logging in the EU

Despite the steady growth of the EU's forests, illegal logging also constitutes a major issue in several member states such as Bulgaria and Romania, where illegal practices are destroying the last remaining primary forests in the continent, both inside and outside parks and often including Natura 2000 areas, with NGOs reporting that more than 20 million cubic metres were logged illegally each year from 2014 to 2017.⁷² While illegal logging threatens some of the rarest and most precious habitats in Europe, such as the primeval Carpathian forests, as well as the rare species depending on them (from red-listed fungi to the Eurasian lynx), the violence and the involvement of organised crime groups are exacerbating the issues, particularly after the recent deaths of six rangers in Romania.⁷³

Illegal logging as a political issue

Illegal logging in the EU can also be a political issue on the national and European level: amongst recent examples there is the legal battle between the EU and Poland over the logging of Białowieża,⁷⁴ a primeval and extremely precious forest bordering Belarus, where the Polish government started heavy logging in 2016 and 2017 despite protests by thousands of volunteers from all over Europe. The logging stopped only after the ECJ ruling in 2018,⁷⁵ but the Polish government has partially resumed activities in October 2021.⁷⁶ Primary forest logging has also been at the centre of the debate in Finland and Sweden, with many activists claiming that the national forestry companies are logging extremely valuable Arctic primeval forests, exploiting the lack of mapping and monitoring in the Lapland regions of the two countries.⁷⁷

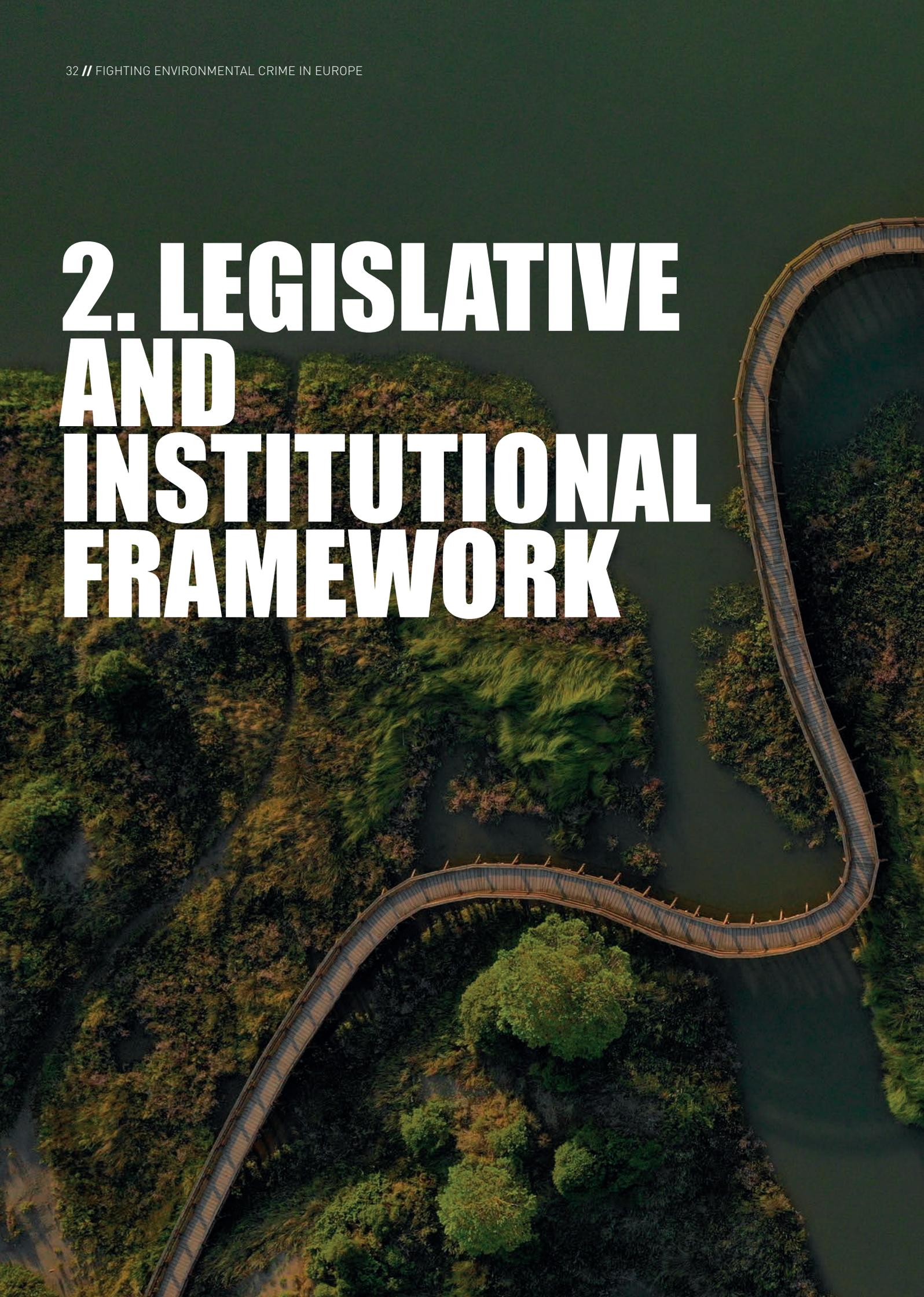
1.3.6 Trade of toxic substances, emissions fraud and new environmental crimes

While the above categories contain the majority of environmental offenses in the EU, the range is however wider – and increasing. Among others, in many member states the illicit trade of toxic substances and illegal fertilisers is becoming a stand-alone issue regardless of their actual use on the field and the damage done via soil or water pollution (as in the case of Sweden⁷⁸). This is re-

inforced by the October 2020 new EU chemical strategy⁷⁹ and by the ongoing revision of EU legislation on hazard classification, labelling and packaging of chemicals.⁸⁰ Generally speaking, the growing number of environmental regulations in the EU and in member states is likely to expand the number of offenses and the categories involved, while environmental pressure on territories and resources is making previously minor offenses more damaging and evident. This is the case, for instance, for water theft in Spain, which has become a central issue for regions such as Castilla-La Mancha and Andalusia also due to the expanding desertification because of climate change and intensive agriculture.⁸¹ Carbon market frauds have caused more than 5 billion euro of damage in a notorious 2008–2009 case involving several member states⁸² but, as the EU ETS is set to expand in the years to come, the offense could become central again.⁸³



2. LEGISLATIVE AND INSTITUTIONAL FRAMEWORK



2.1 GENERAL OUTLINE

Environmental law has developed in Europe since the 1970s. In the early phase, in most EU countries environmental regulations were strongly characterised by an administrative nature, and the role of criminal law was limited to punishing the violation of such administrative duties.

This implied that if an offence caused serious endangerment of the environment but did not breach any administrative obligation, the use of criminal law was not possible. Over the past 30 years, this structure has radically changed. Legislative reforms across member states have broadened the scope of environmental criminal law, whose focus has shifted towards the protection of ecological values and punishing the damage or threat caused to the environment. In addition, environmental criminal law has been included in Penal Codes or incorporated into environmental codes in many member states, overcoming the previous situation of fragmentation over a variety of sectorial regulations. For instance, environmental criminal law was included in the Penal Code in Germany in 1980, in the Netherlands in 1989, and in Finland, Portugal and Spain in 1995.⁸⁴

The role of the EU in shaping environmental law

Throughout this initial process, the EU played no role in terms of environmental criminal law harmonisation, which contributed to a high degree of heterogeneity in relevant legislative and institutional frameworks across member states. The turning point was the adoption of the Environmental Crime Directive (ECD) in 2008 (Directive 2008/99/EC) that is currently the main EU instrument protecting the environment through criminal law.⁸⁵ The ECD was designed as the EU-wide response to the need to tackle an increase in environmental offences and to the widespread low crime detection and lack of implementation of environmental law at the member state level. The Directive requires member states to criminalise serious violations of 72 pieces of EU environmental legislation, listed in the two annexes to the ECD. More precisely, it defines the environmental offences that must be criminalised; it requires member states to ensure criminal liability also with regard to inciting, aiding and abetting such offenses; it requires liability of both natural and legal persons, and it seeks to approximate criminal sanctions levels by requiring effective, proportionate and dissuasive criminal penalties for environmental crimes.

Article 3 of the ECD

In particular, Article 3 lists the conducts that are criminalised, which include: the discharge, emission or introduction of materials into air, soil or water; the collection, transport, shipment, recovery or disposal of waste; the operation of a plant in which a dangerous activity is carried out; the production, processing, handling, use, holding, storage, transport, import, export or disposal of nuclear materials or other hazardous radioactive substances; the killing, destruction, possession or taking of specimens of protected wild fauna or flora species; trad-

◀ The Giardino Botanico in the Po River Delta, Italy

ing in specimens of protected wild fauna or flora species or parts or derivatives thereof; any conduct that causes the deterioration of a habitat within a protected site; and the production, importation, exportation placing on the market or use of ozone-depleting substances.

One of the key objectives of the ECD is to *create a level playing field with respect to the offences criminalised and the relevant sanctioning systems*, referring to the idea of defining a common set of offences that should be criminalised across all member states and establishing homogenous levels of sanctions for these offences. Initially the Commission aimed at introducing specific types and levels of sanctions to achieve this goal, but the European Court of Justice clarified that this was out of the sphere of competence of the then European Community, leading to the elimination of all references to specific sanctions and the introduction of the vague requirement for member states to provide for “effective, dissuasive and proportionate criminal penalties”. It was only with the entry into force of the Lisbon Treaty in 2009 that it became possible to establish minimum rules with regard to the definition of criminal offences or sanctions, if the alignment (“approximation”) of criminal laws is essential to ensure the effective implementation of a given policy. In 2015, the European Commission announced that it would consider the need to further align criminal sanctions in the area of environmental crime. However, this existing limitation within the ECD has been identified as one of the major issues to battling environmental crime across the EU. After more than a decade from its adoption, it became clear that the ECD is limited on several fronts and has only partially led to the expected results. Building upon a thorough evaluation of the ECD 2008/99/EC, a proposal for a new Directive on the protection of the environment through criminal law has been adopted by the commission in December 2021, which will be discussed in depth in the “EU debate” section.

One of the key issues is the inconsistencies between the ECD and the evolution of environmental regulation at the EU level. The scope of the Directive is largely outdated and it does not include a clear mechanism to ensure that new relevant legislation is included within its scope over time. In the past decade the EU environmental legislation has grown substantially, especially following the adoption of the Green Deal. This has led to new types of environmental crime, or areas of crime that have become of greater concern yet fall out of the scope of the ECD. For instance, the ECD does not include, and thus does not provide criminalisation for, increasingly relevant criminal activities such as illegal logging, illegal ship recycling and ship-source discharge of polluting substances, which are covered by EU environmental legislation respectively through the EU Timber Regulation (2013), Ship Recycling Regulation (2013) and Directive 2009/123/EC on ship-source pollution.

Overall, in recent years there has been a rapid and significant evolution at the EU level with regard to environmental protection and strengthening compliance with

The objective of the ECD

Recent developments in EU legislation

existing EU legislation. The adoption of the European Green Deal in 2019 represented a watershed moment as environmental protection and green transition goals were placed at the core of the EU's growth strategy and vision for the future. The Green Deal has also been framed as the strategy to revamp the European project, under pressure from populism, Brexit and an increasingly challenging geopolitical context, building the EU's identity and leadership around sustainability and environmental protection. The significance of the Green Deal was further enhanced following the COVID-19 crisis, as it represented the EU commitment to build back through a green recovery. Therefore, the Green Deal creates an unprecedented momentum on environmental action, dedicating attention not only to widely addressed sectors such as the energy transition, but also to biodiversity and the fight against wildlife trafficking or illegal logging. This broader vision includes also an increased focus on environmental crimes that represent a direct threat to the implementation of the Green Deal, which in fact states that it will "protect, conserve and enhance the EU's natural capital, and protect the health and well-being of citizens from environment-related risks and impacts" and "promote action by the EU, its Member States and the international community to step up efforts against environmental crime".

With the Green Deal

Especially following the introduction of the Green Deal, other key developments took place at the EU level, namely through the introduction of a number of pieces of environmental legislation very relevant for environmental crimes. The most significant include: the EU biodiversity strategy for 2030 aiming to protect nature and reverse the degradation of ecosystems;⁸⁶ the new EU forest strategy for 2030 aiming to improve the quality and quantity of EU forests recognising their role towards achievement of biodiversity and emission reduction targets;⁸⁷ the chemicals strategy for sustainability towards a toxic-free environment;⁸⁸ the revised Renewable Energy Directive (RED II);⁸⁹ the new Circular Economy Action Plan setting norms for circularity and sustainable products;⁹⁰ and the F-gases Regulation to control emissions from fluorinated greenhouse gases (F-gases) including hydrofluorocarbons (HFCs).⁹¹ These pieces of legislation are further described in section 4.1.

Environmental crimes and the EU security agenda

The fight against environmental crimes also progressively gained importance and steps were taken to strengthen enforcement of existing EU regulation. In 2015, the EU Agenda on Security recognised the link between environmental crime and organised crime, and between environmental crime, money laundering and terrorist financing. In 2016, the Council invited the Commission to monitor the effectiveness of EU legislation in the field of environmental crime and the Council also chose the implementation of environmental criminal law in the EU as the subject for the 8th Round of Mutual Evaluation. In 2017, environmental crimes were included for the first time in the EU policy cycle 2018–21, an EU flagship instrument aiming at tackling the most pressing criminal threats facing the EU,

and were reconfirmed among the priorities for the following cycle 2022–25. In 2016, the European Commission adopted a Communication on the EU action plan against wildlife trafficking that sets out a comprehensive set of measures against wildlife crime inside the EU. In 2018, the Commission adopted an Action Plan on Environmental Compliance Assurance creating an Environmental Compliance and Governance Forum in order to support effective enforcement on the ground across the EU. EU-level networks of environmental practitioners were also created, such as ENPE (prosecutors),⁹² IMPEL (inspectors),⁹³ EUFJE (judges)⁹⁴ and EnviCrimeNet (police and other enforcement officers).⁹⁵ Moreover, the Environmental Liability Directive and its subsequent implementation efforts introduced rules on companies' environmental liability to reduce and prevent environment harm. Finally, the Internal Security Fund (Police) is the financial instrument of the European Commission to support law enforcement including in the area of environmental crimes; since 2018 it also supports projects to strengthen cross-border law enforcement operational activities to fight environmental crimes in line with the EU policy cycle's priorities.

2.2 NATIONAL LEVEL

The introduction of the ECD increased awareness on environmental crimes and contributed to a prioritisation of the issue across the EU. It identified the set of environmental offences that should be considered as the most serious, and raised attention on the fact that criminalisation of such offences was necessary in order to express a high degree of social disapproval for harmful conduct against the environment.⁹⁶ However, considerable limitations in the formulation of the ECD and the fact that it came relatively late, compared to the evolution of criminal environmental law in EU member states, significantly limited its harmonisation potential leading to the proliferation of different legislative and institutional systems devoted to fighting environmental crime across the EU. Despite this, main common trends can be identified.

2.2.1 National institutional frameworks: Law enforcement authorities

With respect to national institutional frameworks, these are composed of quite articulated architectures of bodies and agencies that can be generally divided between those with law enforcement competences and administrative competences.

For what concerns law enforcement authorities, national police forces are always involved and usually play a central role, flanked by customs authorities typically responsible for cross-border criminal activities against the environment such as illegal wildlife and waste trade. Other bodies, such as maritime and coastal authorities, border authorities, tax authorities and authorities responsible for forests and national parks, are also commonly involved. Law enforcement

authorities are typically sided by administrative authorities with competences ranging from monitoring and licensing powers to conducting pre-trial proceedings and opening investigations.

- National Police Forces** In most cases, national police forces lead action against environmental crimes. In a limited number of member states there are highly specialised police bodies: namely, the Servicio de Protección de la Naturaleza (SEPRONA) in Spain, the Federal Unit Public Health and Environmental crime (FUPHEC) in Belgium, the OCLAESP in France and the Comando unità forestali, ambientali e agroalimentari (CUFA) in Italy. In other cases, national police forces have specialised units at the national and/or regional level. For instance, in Greece the police have a specialised Environmental Police Department. Similarly, in Hungary, there is the Environmental Crime Unit, a small specialised central unit (counting 16 people) and a police officer trained on the topic in each police station.⁹⁷
- Missing specialised units** In most countries, however, there are no specialised units but a national coordinator and a limited number of officers trained on environmental crimes, among other areas. For instance, in Slovenia, there are 12 specialised officers, one environmental crimes coordinator for each region and one at the national level within the Criminal Police Directorates. Usually, as in the case of Slovenia, national environmental crime coordinators are part of Criminal Police Departments. However, in some cases they can be part of Economic Crime Departments, as in the case of Poland, reflecting the widespread tradition across member states to consider environmental crimes as a branch of economic crimes. Other countries can present unique arrangements, such as in the case of Croatia, where the national coordinator responsible for environmental crimes is part of the Homicide Department.⁹⁸
- Role of customs authorities** Police forces usually cooperate closely with customs authorities in cases of trans-boundary environmental crimes. Customs authorities also have different levels of specialised personnel on environmental crimes and in some cases they are responsible for and specialised in a specific area of environmental crimes, such in the case of Germany where customs are responsible for CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) crimes.⁹⁹ As mentioned, there are also other categories of LEAs that can be involved in countering environmental crimes. For instance, in the area of forests and wildlife, the national park authorities in France and Hungary, the Department of Forest and the Game and Fauna Service in Cyprus; in the area of rivers and seas, the Coastal Guard Marine Environment Protection Directorate in Greece, the Port and Marine Police in Cyprus, the Maritime Police in Portugal and the Waterways Police in Germany; and in the financial area the Special Secretariat for Financial and Economic Crime Unit in Greece, the Tax and Customs Board in Estonia or the finance police (Guardia di Finanza) in Italy.¹⁰⁰

In the most serious cases, environmental crimes are intertwined with other crime areas such as document fraud, financial crimes, cybercrime or organised crime. This requires close cooperation between units specialised in these areas of crime and police forces responsible for environmental crimes. However, this kind of cooperation is not always present and systematic. Typically, it is more well-established with financial crimes and organised crime units, while cooperation with cybercrime units is still quite sporadic.¹⁰¹

On most occasions, cooperation on these fronts is informal and based on the individual initiative of officers. For example, in Slovenia cooperation with OCG units is essential given the relevance of cross-border crimes but it is entirely informal and reportedly successful because of the limited size of the police force where “everybody knows each other”.¹⁰² In other cases, such as in Greece, cooperation between environmental and cybercrime units is largely missing, despite being very relevant in the country, especially for HFCs illegal trade.¹⁰³ A notable positive case with regard to cooperation with cybercrime units is Belgium, where the new wildlife/CITES unit within the FUPHEC is establishing close cooperation with the existing cyber unit. Another positive example is Germany, where the surveillance competent authorities for plant protection and protected species are setting up control centres for internet trade, in light of the cybercrime relevance in the illegal trade of pesticides and protected species.¹⁰⁴

Cooperation among agencies

2.2.2 National institutional frameworks: Administrative authorities

With regard to administrative authorities involved in the fight against environmental crimes, some countries have a centralised structure, typically with one main environmental administrative authority with substantial powers, while other countries have many different bodies with various sectorial competences.

Concerning the first category, for instance in Sweden there is the Environmental Protection Agency that has substantial supervising powers and can impose significant administrative fines. Similarly, in Estonia, all environmental offences are investigated by the Environmental Board which is also responsible to conduct extrajudicial misdemeanour proceedings, while the national Environmental Agency focuses mainly on monitoring activities. In Greece, the Hellenic Environmental Inspectorate is responsible for administrative proceedings and also acts on a mandate from the public prosecutor to carry out preliminary investigations for suspected crimes. Other countries with prominent administrative authorities are Denmark where the Environmental Protection Agency (EPA) is de facto the leading authority in the fight against environmental crimes and the Netherlands with the Human Environment and Transport Inspectorate (ILT) and the Food and Consumer Product Safety Authority (NVWA) which have supervisory duties but also include intelligence and investigation units responsible for environmental crimes. Several other countries have a chief administrative authority such as Po-

Administrative authorities with strong powers

land (Chief Inspectorate of Environmental Protection, the GDOŠ) and Slovenia (Environment and Spatial Planning Inspectorate).

Countries with complex administrative architectures

However, in the majority of cases the administrative structure is more articulated. For instance in Bulgaria, there are 16 Regional Inspectorates of Environment and Water under the homonymous Ministry, four Basin Directorates (Danube River, Black Sea, East Aegean and West Aegean), the three National Park Directorates (Rila, Pirin and Central Balkan) and the customs administration (waste and CITES regulation). In Hungary, the administrative bodies involved in the fight against environmental crimes include the Ministry of Agriculture (on food chain security, CITES management, waste management and fishing and hunting), the National Park Directorates, the Inspectorates in the field of waste management, wildlife and food chain security, the National Directorate for Disaster Management (on the control of dangerous materials transported) and the National Transport Authority. Similarly, in France on the administrative side several bodies are involved including the Ministries of Ecology (especially CITES issues) and of Agriculture and Food (particularly concerning the EU Timber Regulation, EUTR), decentralised services of the State such as the Direction départementale des territoires et de la mer (DDTM, on buildings), the Direction régionale de l'Environnement, de l'Aménagement et du Logement (DREAL, on CITES, waste and activities classified as hazardous for the environment) and the Direction Interrégionale de la Mer Méditerranée (maritime issues) and the French Office for Biodiversity.

The case of federal states

Across EU member states, federal states typically have more ponderous institutional structures and are characterised by the efforts to establish sound coordination between the federal and regional level. This is the case also for the institutional frameworks dealing with environmental crimes. In Belgium, the heterogeneity and lack of cooperation between the three regions (Flanders, Wallonia and Brussels) has been successfully addressed through the creation of a "Joint Ministerial Conference for Environment" and the dedicated central police unit FUPHEC. By contrast, in Germany, the ponderous coordination between the federal and Länder level remains one of the main obstacles, especially with regard to the multitude of administrative authorities with different structures and powers within the Länder.

National strategies on environmental crimes

In a few countries, the institutional architecture devoted to countering environmental crimes also includes special bodies gathering the key institutional stakeholders to define national strategies on environmental crimes. For instance, in the Netherlands there are two chambers: one at the strategic level responsible to set the priority areas of investigation for environmental crimes (the Strategic Environmental Chamber), which includes the inspector general of ILT and NVWA, the head of the police and the Ministry of Justice. The second chamber acts more on the operational level deciding which environmental crime cases are to be pur-

sued and defining allocation of capacity among the competent bodies. Similarly, in Finland there is the Finnish Environmental Monitoring Group which is responsible for monitoring environmental crimes, assessing enforcement action and providing recommendations. It includes all relevant authorities such as customs, border guards, police, the Finnish Environmental Institute, local environmental authorities and prosecutors.

Finally, bodies within the judiciary sector are also an important part of the institutional framework devoted to countering environmental crimes. In the majority of member states, there are no specialised prosecutors or judges on environmental crimes. This is the case also for countries with advanced enforcement systems, such as Italy and Estonia. In a few cases, there is a higher level of specialisation among prosecutors which can range from a fully specialised Prosecutor's Office to one or a few prosecutors focusing fully or partially on environmental crimes. For instance, in Spain there is a specialised Prosecutor's Office for the Environment and Urban Planning at the central level and specialised prosecutors throughout the country; similarly in the Netherlands there is the National Public Prosecutor's Office for Serious Fraud, Environmental Crime and Asset Confiscation. Meanwhile other countries such as Germany and Greece only have a few specialised prosecutors mainly in the biggest cities. France and Sweden represent two exceptional cases as they have specialised courts working on environmental crimes, even though in Sweden they deal only with administrative issues while criminal cases are taken by ordinary courts and in France the number of such courts is still limited.¹⁰⁵

The judiciary

2.2.3 Legal frameworks and administrative vs. criminal focus

With regard to the legal frameworks used to fight environmental crimes, member states adopt different combinations of criminal and administrative law, depending mainly on their legal traditions and on how the ECD was transposed into their national legal system.

Historically, as mentioned previously, the protection of the environment has been addressed through administrative law in most member states. According to the European Commission, the introduction of criminal sanctions for the most serious environmental offences through the ECD was necessary to express a higher level of social disapproval than what can be achieved through existing administrative penalties, and thereby create a more effective deterrent. However, the ECD does not address how criminal and administrative sanctioning systems should interact in member states, which has led to a variety of different national approaches.¹⁰⁶

Some countries have adopted systems strongly skewed towards either administrative or criminal law to counter illegal activities against the environment. For instance, in Hungary there is a clear tendency to favour criminal law to prosecute

The administrative and criminal law models

environmental crimes, while administrative sanctions are only used for minor offences. On the opposite side of the spectrum, Malta relies mainly on administrative law in the attempt to quicken enforcement action, especially to face the growing environmental offences related to the building sector.¹⁰⁷

Between the two models the latter, skewed towards a greater reliance on administrative law, appears to be more frequently adopted across EU member states. In fact, in many member states environmental criminal law that exists on paper is not enforced in practice. This trend is led by several factors, including the fact that in many countries criminal law has higher requirements with regard to evidence, more complex and time-consuming procedures and limited or no specialised prosecutors and judges that can adequately follow environmental cases while criminal courts are often severely congested. In addition, another element observed in many legislative systems is that criminal fines are lower than administrative ones while prisons sentences are often suspended or seldomly applied. The combination of these factors leads many countries to favour reliance on administrative law to ensure more effective enforcement and a more proportionate and deterrent system against environmental offences.

The case of Poland

A significant example is Poland, where there is a clear tendency to decriminalise environmental offences.¹⁰⁸ This is mainly the result of an overly rigid system of sanctions where broad categories of environmental offences are classified as serious crimes, leading to a high risk of congestion of criminal cases in the already saturated courts. Moreover, enforcement authorities are given great discretion in the evaluation of the “significance of the damage” – which determines whether an offence should be considered as a crime – and they tend to avoid going into criminal proceedings, favouring administrative liability, as this does not require them to prove the offender’s guilt.

The case of Germany

Another country where environmental cases tend to be dealt with through administrative law over criminal law is Germany. In the German legislative systems, criminal law is defined as accessory and subsidiary to administrative law, which means that it depends on the enforcement of administrative law. Given the high complexity of the German administrative architecture and regulations, the dependence of criminal law on this system has a negative impact on its enforcement. In addition, criminal law itself is ponderous due to some procedures (e.g., burden of proof) and persecutors lack specialisation on environmental issues, thus they often reportedly prefer to hand cases back to administrative authorities.¹⁰⁹

Pros and cons of the two models

However, from a legal perspective, administrative sanctions are usually designed to prevent the reiteration of the offence and to repair the damage caused, whereas criminal law has the important function of imposing punishment on the most serious misconducts, conveying a higher degree of social disapproval to-

wards a specific set of severe offences. Therefore, countries that rely heavily on administrative law can reportedly face issues in providing appropriate punishment for the most serious behaviours. For instance, in Denmark, there is a strongly rooted tendency to deal with environmental cases through non-criminal regulations (i.e., “special laws”), mainly because they can impose harsher sanctions compared to criminal ones. Nevertheless, a recent case involving the extended and systematic alteration of vehicle emission documents by a company has questioned this widespread practice in the country, as many argued that the use of sanctions with a criminal connotation is necessary in such cases given the severity of the damage caused.¹¹⁰

Concerning systems mostly based on criminal law, one notable example is Finland. In the country, criminal law is the main instrument used to deal with environmental offences and it has a full range of criminal sanctions for a maximum of nine years’ imprisonment for environmental crimes. Nevertheless, courts tend to apply these sanctions very mildly; for instance, since 1995 only one unconditional sentence has been passed for an environmental crime.¹¹¹

These examples show that the tendency to rely more on an administrative or criminal law to deal with environmental crimes is not a meaningful indicator *per se* of the effectiveness of the enforcement system; rather the overall set of available tools and their interaction should be considered to assess the effectiveness and deterrent effect of the legal system. For instance, in both Poland and Germany, the tendency to decriminalise environmental crimes is balanced by a solid set of administrative sanctions that can be higher (financially) than criminal ones, making administrative responsibility more deterrent and proportional in some situations.¹¹² In Finland, despite mild application of criminal sanctions, criminal assets recovery is a legal obligation and a very widely adopted practice along with compensation payments for the damage caused, which can be very dissuasive tools. Similarly, in France, criminal judges typically order the remedy of the environmental damage and the confiscation of the proceeds and benefits of the crime, balancing rather low criminal sanctions.¹¹³ In fact, it is widely understood that a “toolbox approach” including both criminal and administrative regimes and clear dispositions on their interaction is a successful approach to improve the level of enforcement. This allows for a flexible and tailored response according to the level of offences, including for instance using exclusively administrative law for minor offences to leave space in the criminal justice system to deal with the most serious cases. This toolbox approach is also supported in the new proposal for the Environmental Crime Directive, as discussed in section 5.2.

Hybrid systems

Some EU countries, such as Sweden and the Netherlands, already present a well-balanced interaction between administrative and criminal law to counter envi-

ronmental offences, which is regarded by national authorities as a positive set-up and is likely to positively contribute to the good level of enforcement in both countries. In Sweden this is possible thanks to a specialised authority for the enforcement of administrative law entrusted with significant powers (i.e., the possibility to impose very high fines) and a clear division of responsibilities among all competent authorities. In the Netherlands a well-articulated institutional architecture is supported by a National Enforcement Strategy which defines in detail the interaction between administrative and criminal law.

However, despite these positive examples, one of the main trends that characterises EU legislative systems devoted to fighting environmental crime is the legal uncertainty and conflict of competences stemming from the introduction of criminal sanctions (through the ECD) without guidelines defining their interaction with existing sanctioning systems. As a result, many countries reportedly identify blurred definitions and unclear boundaries between administrative and criminal regimes as a dominant and problematic feature of their legal framework, including for instance Bulgaria and France.¹¹⁴

2.2.4 Prosecution of companies

The increasingly prominent role of companies as perpetrators of environmental crimes has made the question of their prosecution a critical one for legislative systems. The ECD has obliged member states to provide for the liability of legal persons but it leaves it to member states to decide whether the nature of the liability is criminal or not. Following the ECD, some countries including the Czech Republic, Slovakia, Spain and Italy have introduced criminal liability for legal persons. However, many other countries have not. In these cases, a strong administrative system with the power to impose high fines should compensate for the impossibility to criminally prosecute companies, as in the case of Germany. For example, following the Dieselgate case, in Germany administrative sanctions as high as 1 billion euro (imposed on Volkswagen) were applied. Despite the level of the financial sanction, this case led to criticism as the lack of criminal prosecution was argued to be inadequate given the types of offence at stake. Nevertheless, even in countries where the possibility to criminally prosecute legal entities exists, it does not automatically translate into effective prosecution. For instance, in Slovenia illegal activities of companies threatening the environment are a critical issue and criminal prosecution is possible, however in most cases it only results in conditional sentences thus leading to lack of enforcement and no deterrent effect, while on the administrative side fines are too low to be dissuasive.¹¹⁵

2.2.5 The way forward

In light of the fragmentation and room for improvement that exist with regard to the legal and institutional systems devoted to fighting environmental crimes across member states, several EU countries are undertaking steps to improve

their legislative and institutional frameworks. Specialisation trainings for enforcement and judicial authorities and the creation of new specialised units are the most common measures.

For instance, in Slovenia, in the past four years the police have received a special budget for training and equipment for environmental crimes. Between 2021 and 2026 the budget should amount to 700,000 euro and then increase to 1 million euro.¹¹⁶ Moreover, Slovenia is currently working to revise both the definition of environmental crimes and the associated sanctions. The aim is to broaden the definition to include more environmental offences as crimes. For example, the import of illegal pesticides will be defined as a crime, aligning Slovenia with other EU countries, and allowing the use of more effective investigation techniques and sanctions.

In Belgium, to address the growing role of illegal trafficking of waste, wildlife and CITES timber species, namely through the port of Antwerp, in 2019 a new team working on timber and CITES species was established within the investigation unit of the city and the FUPHEC is strengthening action in the same areas.¹¹⁷

Finally, countries have mentioned successful participation in EU projects specifically designed to target improved enforcement action on environmental crimes. For instance, in Poland a LIFE project¹¹⁸ was designed to increase knowledge and improve cooperation between judicial and enforcement authorities. Similarly, Greece is benefitting from another LIFE project¹¹⁹ to overcome the lack of a national strategy and internal cooperation on waste crimes that are the main concern in the country. The Hellenic Ministry of the Environment is bringing together all stakeholders including LEAs, public administration, NGOs and the private sector to build a dedicated national strategy and a national online data platform.

**The case
of Slovenia**

**The case
of Belgium**

**The role
of EU projects**

2.3 ACTORS AT THE INTERNATIONAL AND EU LEVELS

At both the international level and EU level a great variety of institutions are involved in the fight against environmental crimes. At the international level, some UN convention bodies are key. The most relevant include the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES),¹²⁰ aiming to list and protect endangered plants and animals, and the Basel Convention aiming at protecting human health and the environment against the adverse effects resulting from the generation, transboundary movements and management of hazardous wastes and other wastes.¹²¹ Furthermore, the International Convention for the Prevention of Pollution from Ships (MARPOL) represents the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes.¹²² These are flanked by UN

organisations, including the Office for Drug Control and Crime Prevention (UNODC)¹²³ that is increasingly stepping up its focus on environmental crimes, the United Nations Interregional Crime and Justice Research Institute (UNICRI)¹²⁴, as well as UNECE¹²⁵ and UNEP.¹²⁶ In addition, on the international side, Interpol represents a critical actor working towards enhanced cooperation of international criminal police forces, while other organisations also significantly contribute.¹²⁷ For instance, the World Customs Organization (WCO) supports key initiatives on the field, such as in the case of WCO coordination of the DEMETER operations aimed at detecting and disrupting illegal shipments of hazardous waste.¹²⁸ Other organisations are also emerging with a relevant role for the fight against environmental crimes, for instance the Paris-based international Financial Action Task Force on money laundering that is developing important studies on money laundering from environmental crimes.¹²⁹

2.3.1 European level

The Commission level

At the European level, several bodies are involved in ensuring compliance with the legislative framework and providing support to member states. DG Justice is responsible for the development and monitoring of implementation of the Environmental Crime Directive. It provides judicial training and develops instruments for mutual cooperation on criminal matters regarding environmental crime. DG Environment deals with improving inspections in member states, can initiate infringement proceedings if member states do not properly implement the EU environmental legislation and works on the implementation of legislation. Furthermore, DG Home, responsible for the EU's security policy internally and across borders and for implementing the EU Security Union Strategy, plays an important role in defining the EU approach towards combating the most serious internal and cross-border crimes threats as well as in strengthening law enforcement cooperation, collaborating also with key EU agencies including Frontex and Europol.

Europol

Europol is the European Union's law enforcement agency. It supports member states in the fight against serious and organised forms of crime such as terrorism and cybercrime, in order to ensure an effective and coordinated response.¹³⁰ For this purpose, it also collaborates with non-EU partner states and international organisations. Europol serves as a support centre for law enforcement operations, as a hub for information on criminal activities and as a centre of expertise for law enforcement. It also investigates together with national enforcement authorities or within joint investigation teams but is not allowed to conduct operations independently of member states. Regular reports assessing crime and terrorism in the EU are produced to give partners deeper insights into the crimes they are tackling. Europol is also home to a number of specialised bodies and systems that ensure a flexible and innovative response to criminal activities, using the most up-to-date methods and tools, as well as offering partners fast, secure and linked information. In cooperation with Europol, also Interpol channels are

used for information exchange in support of enforcement agencies. Interpol has in the past advised jurisdictions on environmental crimes, for example suggesting the establishment of National Environmental Security Task Forces.

To facilitate its information-sharing functions, Europol adopted the Secure Information Exchange Network Application (SIENA),¹³¹ a platform that enables the swift exchange of operation and strategic crime-related information among Europol's liaison officers, analysts and experts, EU law-enforcement agencies, cooperating partners such as Eurojust, Frontex, OLAF and Interpol, as well as non-EU cooperating countries such as Norway, the US and Canada.

SIENA information sharing system

In addition, Europol produces the Serious and Organised Crime Threat Assessments (SOCTAs) which identify the priorities in the fight against major crime that the operational response in the EU should focus on. The findings of the SOCTAs are submitted to the EU Council and its findings support the Council's definition of the priorities for the EU policy cycle for serious and international organised crime (EMPACT), the latest for the period 2022–25 including environmental crimes among the priorities.¹³²

Among other relevant EU agencies, Eurojust also has an important role as it is responsible for judicial cooperation in criminal matters, supporting the activities of national authorities and easing their cooperation. It can request member states to investigate a case or institute a prosecution and set up joint investigation teams of several member states in cross-border cases, but it lacks decision-making power with regard to national authorities. Other networks and bodies also support judicial cooperation, such as the European Judicial Network and the European Public Prosecutor's office.¹³³

Eurojust

Furthermore, Frontex is the European Border and Coast Guard Agency. It promotes, coordinates and develops European border management in line with the EU fundamental rights charter and the concept of Integrated Border Management. Frontex focuses on preventing cross-border crimes and helps identify trends in cross-border criminal activities by analysing data on the EU's borders and beyond. It supports the coordination and sharing of information between border authorities and member states, and it shares any relevant intelligence gathered during its operations with the appropriate national authorities and Europol. Frontex also produces vulnerability assessments to evaluate the capacity and readiness of each member state to face challenges at its external borders. Moreover, the agency coordinates and organises joint operations and rapid border interventions to assist member states at the external borders.¹³⁴

Frontex

Finally, the European Anti-Fraud Office (OLAF) investigates fraud against the EU budget, corruption and serious misconduct within the European institutions, and

OLAF

develops anti-fraud policy for the European Commission. It is very relevant as it has the competence to tackle the links between environmental crime and financial crime, such as for instance VAT fraud in emission trading schemes. OLAF has also collaborated with Europol on environmental crimes; for instance, in 2019 550 tonnes of goods were seized in an operation targeting the illegal trade of pesticides. OLAF also cooperates with third countries on preventing, detecting and combating fraud and irregularities that also concern the environment (i.e., with China on pesticides) although patterns of cooperation are little documented.¹³⁵

2.3.2 Networks and intra-agency cooperation

Environmental enforcement networks including government and non-government enforcement and compliance practitioners promote effective implementation and enforcement of environmental law, help share information and experience among members, build contacts across jurisdictions, assist with practices and procedures, etc. At the EU level the most relevant include: the European Network for the Implementation and Enforcement of Environmental Law (IMPEL) including 55 environmental authorities in 36 countries (EU, UK, North Macedonia, Serbia, Turkey, Iceland, Kosovo, Albania, Switzerland, Norway)¹³⁶ and the European Network of Police Experts for Environmental Crime (EnviCrimeNet, an informal network, including EU LEAs such as SOCTA and Tragsatec from Spain, the Carabinieri from Italy, ILT-IOD from the Netherlands, as well as German, Austrian, Slovak authorities and Europol).¹³⁷

Judicial networks, information sharing and joint operations

On the judicial side, the main networks are the European Network of Prosecutors for the Environment (open to prosecutors in EU member states, candidate countries as well as member countries of the European Economic Area, European Free Trade Association or European Environmental Agency)¹³⁸ and the European Union Forum of Judges for the Environment (open to judges who are members of the Court of Justice of the European Union, the European Court of Human Rights or a court or tribunal of a member state of the European Union, a member state of the European Free Trade Association or of a former member state of such an organisation, as well as any judicial or judges organisation in one of these states).¹³⁹ Other examples of cooperation also include information sharing among law enforcement authorities across the EU. Besides the above-mentioned SIENA, a notable example is the EU-Twix database that facilitates information exchange on illegal wildlife trade in Europe.¹⁴⁰ During the interviews carried out with national authorities, countries have generally reported very good cooperation at the EU level, mostly with the support of Europol and Interpol. Transboundary waste trafficking is one of the major areas of cooperation and has led to several initiatives. These include joint enforcement operations such as: operation Green Tuscany, supported by Europol and led by Italian authorities in cooperation with Slovenia, which dismantled a large OCG trafficking plastic waste from Italy to China through Slovenia;¹⁴¹ the recent operation

RETROVIRUS coordinated by Europol aiming at preventing illegal management of sanitary waste used to tackle the COVID-19 pandemic;¹⁴² or the broad participation of EU member states in the international operations dubbed DEMETER.¹⁴³ Other cooperation initiatives focus on strengthening enforcement systems, providing training and sharing best practices on waste crimes, such as the widely participated-in WasteForce project¹⁴⁴ and the LIFE SWEAP project.¹⁴⁵ Another key area of cooperation at the EU level is wildlife crimes, which includes for instance the LIFE SWiPE project led by the WWF.¹⁴⁶

The LIFE SWEAP project (Shipment of Waste Enforcement Actions Project) coordinated by the IMPEL network aims at supporting the circular economy by disrupting illegal waste trade at the EU level.¹⁴⁷ OPFA Waste is another prominent initiative in the sector of illicit waste trafficking, focusing on raising awareness among competent authorities, providing operational guidelines including through the setting of harmonised investigation methodologies and fostering cooperation including through promoting joint investigations.¹⁴⁸ In the area of wildlife, the SWiPE project works with enforcement authorities to discourage and ultimately reduce wildlife crime by improving compliance with EU environmental law.¹⁴⁹

2.3.3 Cooperation outside the EU

Most EU member states also cooperate with non-EU countries with the support of Europol and Interpol or bilaterally, even if this is not always successful. The main relevant areas of cooperation concern waste trafficking, transboundary pollution, wildlife trafficking, timber trafficking and ship dismantling involving neighbouring states as well as Asia, Africa and Latin America. Concerning Africa, European countries are significantly involved in exports of waste trafficking towards the African continent. A recent Interpol operation found that 68 per cent of all criminal cases involving interregional shipments consisted of exports from Europe to Africa.¹⁵⁰ The type of materials illegally exported include electronic waste, hazardous waste, plastics, tires and old vehicles and also cases of illegal ship dismantling. West Africa is among the main recipients, including Côte d'Ivoire, Ghana and Nigeria. Some examples include a recent case where SEPRONA (Spain) with the support of Europol and the Italian Carabinieri dismantled an OCG trafficking hazardous waste and used electronics from the Canary Islands to several countries in Africa amounting to about 2,500 tonnes of materials over two years,¹⁵¹ or an investigation by the Italian Carabinieri that highlighted also the export of exhausted solar panels.¹⁵² With regard to wildlife, elephant and rhino poaching is among the main issues¹⁵³ with Europe as one of the most important markets, as well as illegal hunting parties in Africa organised by EU citizens, for instance from Malta to Sudan.¹⁵⁴ Nevertheless there are also cases of endangered species exported from Europe to Africa, as shown in a recent case of parrots smuggled from Spain to North Africa.¹⁵⁵

With regard to Asia, similar trends can be identified. Exports from the EU include

waste mainly electronic waste and plastics destined to China (particularly relevant for WEEE or e-waste), Bangladesh, India and Pakistan, Hong Kong, the Philippines, Malaysia and Vietnam,¹⁵⁶ as well as end-of-life maritime vessels that are trafficked from the EU to Asia for demolition.¹⁵⁷

Cooperation on wildlife trafficking

Wildlife trafficking is also relevant, considering also that Europe is a major transit point for illegal trade in wildlife, in particular between Africa and Asia.¹⁵⁸ Moreover, timber trafficking is a major issue both concerning exports from the EU (mainly Romania) to Asia (mainly Japan),¹⁵⁹ as well as imports from Asia to the EU, as in the recent case of illegally sourced timber from Myanmar sold in Europe against EUTR regulations.¹⁶⁰ Finally, Asia and in particular China has been identified as a major source of F-gases imported to European markets, as confirmed by a recent operation carried out by OLAF and Spanish authorities.¹⁶¹ Latin America has also been identified as a region involved with EU countries in environmental cross-boundary crimes, particularly in the area of wildlife – for instance, involving the smuggling of CITES-protected reptiles including turtles originating from countries such as Argentina, Ecuador and Mexico,¹⁶² while Portugal was identified as a key entry point for timber and wildlife illegally imported from Brazil.

Troubles in international cooperation

In light of these criminal trades several EU countries have tried to establish cooperation with non-EU countries often with little success, especially concerning Africa, as it is reportedly very difficult to identify and establish a dialogue with counterparts.¹⁶³ Examples of difficult cooperation were reported for instance by Denmark particularly with regard to the export of cars to Africa and waste to Asia and by Malta concerning the issue of illegal ship dismantling and illegal hunting in Africa, while initial cooperation on waste crimes has been established by France with some African countries.¹⁶⁴ Nevertheless, difficult cooperation on environmental crimes is also observed with non-EU neighbouring countries, such as with Russia for Estonia and Poland, particularly for offences related to pollution in the Baltic Sea and illegal trade of pesticides respectively. Similar issues are observed with non-EU Balkan countries, for instance between Slovenia and Bosnia and Serbia, reportedly due to lack of prioritisation on environmental crimes by the non-EU counterparts.¹⁶⁵

In other cases cooperation with extra-EU countries is more well-established and successful. For example, Germany has successful cooperation agreements with China, South America and the US especially for wildlife crimes, while closer cooperation with China and India on pesticides trafficking is necessary but not yet established.¹⁶⁶

The role of regional networks

In tackling these cooperation issues, regional networks play an important role. For instance, Sweden is part of ENPRO, the Network of Prosecutors on Environmental Crime in the Baltic Sea Region, including Russia.¹⁶⁷ Furthermore, Spain

is part of the Jaguar Network, the Network of Police Specialised in Environmental Crimes in Latin America and the European Union,¹⁶⁸ as well as of the EL PACCTO, the Europe Latin America Programme of Assistance against Transnational Organised Crime working for instance on wildlife trafficking, alongside Portugal.¹⁶⁹

2.4 CIVIL SOCIETY

Civil society participates to different degrees in the fight against environmental crimes across member states. In general, it has benefitted from the strengthening of awareness and interest in environmental protection among the population following the rise in EU climate ambitions, the adoption of the Green Deal and the emergence of popular international movements centred on environmental protection.

The role of NGOs with regard to environmental crimes usually includes early detection and reporting of illegal activities, providing expert opinions and information during investigations, offering training on specific subjects to LEAs and the judiciary, contributing to increase the public debate on the relevant issues and, in countries where this is allowed by the law, participating in proceedings for public surveillance and representing the citizens' interest. Functions related to awareness raising and informal cooperation with LEAs are quite widespread, whereas formal and long-term cooperation with institutions and the possibility to play a role in environmental proceedings is less frequent. A notable case is Germany, where NGOs participate significantly in major environmental law-making procedures and in public hearings concerning permits of major infrastructures potentially threatening the environment. NGOs can also initiate court proceedings against projects with a negative impact on the environment and to do so they often have specialised lawyers. Therefore, NGOs in Germany represent a significant control against damaging projects, which are very often challenged in courts. In addition, the civil society has a role in influencing environmental law, as demonstrated by the recent case of activists filing a complaint with the Federal Constitutional Court which resulted in the Federal Climate Protection Act being declared as partially unconstitutional. Another example of greater engagement by civil society on environmental matters is Estonia, where three Councils were established to promote cooperation between enforcement authorities and the civil society and research institutions on key environmental topics (environment, fisheries and natural protection, i.e., flora and fauna).¹⁷¹

Other countries are now strengthening the participation of NGOs. This is the case for Austria which, despite a traditionally quite restrictive access to justice for NGOs, signed in 2018 the Aarhus-Beteiligungsgesetz (Aarhus Participation Act) which aims to improve access to justice in environmental matters for environ-

**An overview on
the role of NGOs**

**Countries
empowering NGOs**

mental NGOs and individuals in the areas of waste, water and air quality. Another example is Czechia, where customs and the national police have started positive collaborations with some NGOs (Alka Wildlife for lynx protection, Wildlife Justice Commission and ENV for imports of wildlife from Vietnam), despite limited access to justice by the civil society. On the opposite side of the spectrum, Slovenia has recently seen a significant restriction in the participation of NGOs in legal proceedings on construction. This was achieved through the introduction of limiting criteria which exclude 90 per cent of Slovenian NGOs (i.e., 10,000 euro in income, at least three employees with university education, over 50 active members) and is linked to an easing in the legislation on construction aimed to boost recovery after the COVID crisis.¹⁷²

Usually, local NGOs are more active on detection and informal support to authorities, whereas bigger international organisations are involved in larger training programmes or lead the country's participation in EU cooperation projects. For instance, WWF Bulgaria has a particularly important role as it is in charge of the SWiPE project on improving wildlife prosecution in Europe.¹⁷³

Areas of action by NGOs

With regard to the areas of crime where NGOs are more active across Europe, wildlife and biodiversity emerge as the main fields, while waste crimes and climate- or energy-related offences are less frequently addressed. WWF and Birdlife were among the NGOs most frequently mentioned by member states during the workshops we carried out for the present research. For example, in Poland, conservationist NGOs (namely WWF Poland and PTOPIK "Salamandra") play a major role to counter wildlife and CITES crimes, reportedly often compensating for the reduced capacity of public authorities in these specific areas.¹⁷⁴ They regularly provide training to law enforcement authorities and had a significant role in addressing the internet trade of CITES species through developing a specific monitoring methodology.¹⁷⁵ In many cases, NGOs also represent a key source of information to identify emerging trends in environmental crime that are not yet recognised in official data. For example, in Slovenia, traditionally considered a transit country for bird smugglers, the NGO Birdlife Slovenia (DOPPS) in 2020 published data highlighting a significant issue of bird poaching, revealing that Slovenia is also a country of origin in these illicit activities.¹⁷⁶ In Belgium, the WWF and Greenpeace had an important role in bringing to light the overlooked issue of the port of Antwerp as a major EU hub for wildlife and CITES trafficking. Similarly, NGOs had a crucial role in calling for urgent action on the criminal activities in Romanian forests or the illegal fishing and trade in Malta and Spain.

3. OBSTACLES



3.1 GENERAL OUTLINE

Despite its relative advancement in the past two decades and the increasing political focus, action against environmental crime remains significantly undermined by a number of issues often critically impairing efforts by LEAs, the judiciary and civil society across Europe. Such obstacles are largely caused by an inadequate legislative framework or by insufficient operative tools, yet the lack of an encompassing European framework and structural tools to fight environmental crimes also remains one of the key issues to address. In addition to this, the sector's specific features, such as the transnationality of offenses and their often low visibility, make investigations and enforcement particularly complicated, if compared to other, more consolidated offenses. The understanding of these obstacles and of the specificity of environmental crimes is however key to deliver efficient solutions able to address the novelty and magnitude of the issue.

Lack of boundaries and of a definition

The outstanding challenge to fighting environmental crimes is, above all, the lack of clear boundaries and, ultimately, of a definition. While this has been discussed in detail in section 1, it is however clear that the often-fragmented measures, the lack of coordination and of solid national strategies is correlated to the different and often contradictory perspectives on the issue held by authorities across Europe and even within member states. It is indeed intrinsically complicated to fight a phenomenon whose magnitude is unclear and whose concerned sectors are not clear or commonly agreed among the different players involved. This leaves an ample space for interpretation over legislation, leading to a frequent mismatch between the attitude of the different players on the national level (particularly between LEAs and the judiciary).

The novelty of environmental crimes

Countries are however often badly equipped to deal with environmental crimes also because of the novelty of such offenses. Environmental laws have appeared sporadically across history and mostly in response to public health issues, rather than as individual environmental topics in the more comprehensive perspective shared today. These pieces of legislation were often associated with individual emergencies, such as the UK's Clean Air Act of 1956 (produced in response to the 1952 Great Smog of London¹⁷⁸). A more systematic approach to environmental issues started with the rise of environmentalism in the 1970s and 1980s (particularly after the 1972 Stockholm Convention, which ultimately led to the creation of the United Nations Environmental Programme, UNEP). In the EU, it was the rise of "green" member states in the 1990s, Germany, Denmark and the Netherlands in particular, that boosted environmental action,¹⁷⁹ which ultimately led to the 2001 Communication *A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development*.¹⁸⁰ The document was however lacking strength, and it was not until 2006 that the EU managed to publish a stronger plan for a comprehensive approach to environmental issues, i.e., *the Renewed EU*

« An illegal dump near Kruja, Albania

*Strategy for Sustainable Development*¹⁸¹ – a series of steps which finally led to the 2008 Directive on environmental crime (discussed in section 4.2, alongside an in-depth analysis of EU policies). Most agencies across Europe have often complained about the insufficient case history for many environmental offenses,¹⁸² which in turn complicates the interpretation of the law. The situation is also worsened by a very varied level of environmental awareness across member states, different generations and urban and rural population in the EU.¹⁸³

Environmental crimes are also less detectable than most personal or property offences; some, for instance, are either the result of an accumulative process (e.g., illegal fishing), or their effects are visible only some time after the offence has taken place (e.g., contamination of land due to illegal waste disposal), or never. Most cases of poaching on Italian wolves go undetected, because they take place on private land or in mountainous areas which are particularly hard to monitor – a problem which could also become common in other countries where the number of wolf packs is rapidly increasing, such as in Germany or Austria. In the case of the industrial area of Portoscuso, in the Italian region of Sardinia, it took decades to recognise a significantly higher rate of cancer and pulmonary diseases and to link it to extensive pollution from several plants in the area – above all the aluminium smelting factory Eurallumina. Although industrial activities started between the 1960s and the 1970s, early reports highlighted the issue only in the late 1990s and early 2000s. A prohibition on eating the heavily contaminated dairy products from a vast area surrounding the town was established only in 2012,¹⁸⁴ and the Eurallumina management was brought to court with the accusation of environmental disaster only in July 2018.

While a few environmental crimes could be conspicuous, as in the case of oil spills, it is also true that it is not always possible to directly link the crime to offenders – or even to prosecute them. The Romanian Carpathian Mountains contain circa two-thirds of the last remaining virgin forests in Europe.¹⁸⁵ Despite protection levels being relatively low – less than 3 per cent of the total forest surface is fully protected – illegal logging represents at least half of all the timber sourced in Romania, for a total of estimated 20 million cubic metres for the period 2013–18, out of which only 1 per cent was discovered by the authorities.¹⁸⁶ Opaque practices, mostly the use of intermediate actors and third-party log yards that are unable to trace timber origin, allow the laundering of illegal logs that then enter the timber market. This issue of timber traceability has so far prevented an effective corporate accountability and liability for the companies which have been exploiting this system for decades – particularly the Austrian industry leader HS Timber Group (formerly Schweighofer Scholz), which is now under investigation.¹⁸⁷

Envicrime is also deeply linked to the territory, and collaboration with local communities is thus fundamental. Such a task is however not always easy to achieve,

Obstacles to the detection of environmental crimes

Linking the offense to the offenders

Controlling the territory

especially when the population directly or indirectly benefits from environmental crimes and has little or no economic alternative, when it mistrusts LEAs or when corruption is diffused among local authorities. In the case of Portoscuso, for instance, the illegal disposal of waste and the contamination of the area have been hidden also by the local political class and by the unions, pushed by a population which feared the unemployment ravaging one of the poorest areas of Italy.¹⁸⁸ The devastating illegal logging in primary forests in Romania has been allowed also by widespread corruption on both the local and the national level, as well as by the connivance of the population, which obtained jobs as lumberjacks and received small profits in exchange for turning a blind eye on both the illegal exploitation and the intimidation of foresters.¹⁸⁹ Cultural and societal aspects are also linked to the relation between environmental crimes and the local population; in several European countries, poaching is often linked to traditional hunting practices, as in the case of Malta.¹⁹⁰ In some parts of Southern Italy, poaching is perpetrated also by local mafia groups, as a challenge to the state and to show its inability to enforce laws and control the territory.

The role of national political and economic interests

Finally, national interests in the exploitation of fragile or highly valuable resources, such as fish stocks, often lead to underreporting of illegal activities. The Polish government has strongly defended the expansion of the Turow coal mine, despite the activity being in full breach of EU environmental regulations, being denounced by neighbouring Czechia and finally sanctioned by the European Court of Justice.¹⁹¹ The ILVA aluminium plant in Italy has had emissions and pollution strongly exceeding legal limits for decades, with significant damage to the health of the surrounding population, but this has been tolerated because of the interest on the part of the state in keeping employment high in the area.¹⁹² The significant economic interests and the corruption behind tuna fishing in Malta have led to lack of transparency by the involved authorities, scarce monitoring and significant overfishing,¹⁹³ which ultimately resulted in the suspension of Malta's fisheries director Andreina Fenech Farrugia¹⁹⁴ over bribery allegations and the launch of an EU investigation in 2020.¹⁹⁵

3.2 TRANSNATIONALITY

Among the specific features of environmental crime, transnationality is worth a special mention, the issue being in several cases the key element preventing effective action. Indeed, in a globalised world and in an open-border Europe most (if not all) environmental crimes are transnational or have at least a transnational element. Offenses are often perpetrated by international companies or pushed by interests originating in a different country than where the crime is taking place – this is the case in particular for waste crime, for which some European countries act as destination, others as the origin, but also timber and wildlife traffick-

ing. Air, soil and water pollution can easily have an impact across borders, particularly when key water bodies are shared (the Danube, Peipsi Lake between Russia and Estonia, the Adriatic Sea). New environmental crimes, such as illicit trade in F-gases and emissions fraud, are transnational by definition, as they originate in the violation of international or European treaties and regulations – indeed, as environmental legislation is becoming increasingly if not completely defined on the global and EU stage, so it increases the transnational nature of environmental offenses. Even poaching, which is usually a local offense, can have a significant cross-country element when migratory species are considered, or when we take into account the increasing movements of large carnivores across EU borders (between Italy, Austria and Slovenia, or France and Spain, for instance).

Transnationality complicates action against envicrime in a number of ways: coordination among different countries is often hard because of lack of resources, adequate platforms for information exchange, political will and consolidated practices and channels for collaboration. The lack of statistics and of consolidated, accessible information undermines the ability to understand the whole picture of complex, multi-layered offenses, such as waste trade or ivory trafficking, sometimes also including financial crimes, VAT fraud and document forgery in several EU and non-EU states, some acting only as transit countries. The involvement of extra-EU countries often complicates investigations because of the difficulties in sharing information outside the secure channels available to EU countries (SIENA in particular) or because of the lack of political will to cooperate on environmental issues (particularly for countries not part of international networks). This has been noted by several enforcement agencies regarding the Russian Federation (on pollution issues¹⁹⁶) and some sub-Saharan African countries (on poaching and wildlife trafficking).¹⁹⁷

Above all, transnationality represents a significant obstacle because of the mismatch between national legislation and regulations. Countries with less strict penalties offer a safe haven for traffickers, the same offense being sometimes treated as a minor crime in one member state and as a major criminal offense in another (as in the case of waste trafficking between Bulgaria and Italy¹⁹⁸). Different standards and definitions hamper the effectiveness of coordinated action, while creating loopholes that are increasingly exploited by organised crime groups, which are often transnational in order to make their detection and prosecution more difficult. The still limited use of EU-wide judicial tools, such as the European Arrest Warrant or the many supporting measures offered by institutions such as Eurojust, limit the effectiveness of EU-wide action against transnational environmental crimes. Yet, the growing number of such initiatives, of European and international networks and of platforms to promote cooperation (analysed in section 2.3) indicate a growing understanding of the global nature of environmental crimes.

The several impacts of transnationality

Loopholes and mismatch among national legislations

3.3 MISSING LEGISLATIVE TOOLS

The relatively new focus on environmental crimes and the lack of a solid European framework have also resulted in an inadequate legislative framework dedicated to the issue in most member states. The scope of laws is often too narrow, sanctions too low or regulations too scattered and thus hard to interpret in a coherent and effective way. An insufficient legislative focus on envicrime often translates into fines that are often significantly lower than the impact of the offence. In the case of violation of CITES, Greek law establishes penalties ranging from 587 to a maximum of 14,674 euro; in Malta, the range is even lower at 497 to 4,967 euro.¹⁹⁹ In Hungary, a subcontractor for the Bács-Kiskun County Government Office destroyed a floodplain habitat and century-old poplars at Tiszaug in 2020, only to receive a 525 euro fine,²⁰⁰ despite the damage done to biodiversity and the significant increase in flood risk in the area caused by the clearcut. Criminal penalties are equally often low, even in very visible cases; a 2011 major rhino horn investigation in Czechia involved 164 agents and led to the seizure of almost 30 horns and the arrest of 15 people.²⁰¹ Yet, only one received a deferred two-year sentence for “unauthorised use of protected wildlife”, while the others were found not guilty.

The impact of inadequate legislative frameworks

In many cases the inadequate legislative framework indeed translates into very low conviction rates (particularly, for instance, regarding biodiversity laws) for a variety of reasons: the burden of proof is often excessively heavy (especially considering the low detectability of environmental offenses) or estimates of the damage are complicated or impossible to accurately produce, for instance. Additionally, the use of advanced investigating techniques, such as wiretapping, is frequently and largely restricted, and in some member states is only allowed when envicrime is associated with other offences (in Belgium, for instance), even regarding core issues such as waste trafficking.²⁰² Missing legislative tools also concern insufficient clarity in legal definitions, thus leading to overlaps between administrative and criminal procedures and penalties. In the case of waste trafficking, several EU authorities have underlined the problem caused by the unsuitability of evidence gathered through administrative procedures for use in judicial proceedings.²⁰³

The role of the EU framework and the ECD

All of this goes largely against the provisions of the 2008 Directive itself, which states that offences against the environment must be “*punishable by effective, proportionate and dissuasive criminal penalties*”.²⁰⁴ Yet, the again very generic definition has supported the insufficient implementation of the Directive in many member states, especially in sectors such as the protection of biodiversity. In the case of the protection of birds, member states such as Bulgaria or the Czech Republic treat illegal killings as minor offences, even when the crime is systematic, heavily damaging to the environment or particularly cruel – an issue worsened by the lack of implementation of other pieces of legislation, such as the Biodiversity Act.²⁰⁵ The

strength of the legislative framework is significantly varied across sectors and member states; the Swedish system imposes significant fines for violations in the forestry sector. Illegal logging in Romania, being treated as a national environmental emergency, equally faces relevant fines, while criminal sanctions are relatively easy to apply – what prevents successful action is actually corruption, alongside other enforcement issues. Poaching in countries severely affected by the issue, such as Malta, Italy and Spain, is mostly dealt with as a minor crime, with low sanctions and difficulties in obtaining criminal convictions.²⁰⁶

A specific issue concerns corporate criminal responsibility (already partially discussed in section 2.2.4). In many member states it is not possible to prosecute legal persons or this is procedurally uncommon or complicated, or is limited to a number of specific cases (as in the case, for instance, of Estonia²⁰⁷). Prosecuting companies is however a powerful tool for enforcement agencies; it usually offers a wider range of sanctions, as well as other tools – in some countries, companies found guilty of specific offenses can be put under judicial supervision, as in the case of Malta. This is particularly relevant when considering the role of white collar crimes in the recent spike in environmental crimes, and the fact that environmental crimes perpetrated by companies are often ingrained in their business model, rather than being the responsibility of the management (as in the case of sourcing illegal timber, or concerning air and water pollution). As many member states lack the possibility to prosecute companies, the only available alternative is the prosecution of representatives – often a lengthy, ineffective process, especially when directed towards the top-tier management and against international companies.

Corporate criminal responsibility

3.4 MISSING OPERATIVE TOOLS

Action against envicrime is also hindered by an often incomplete approach to the issue by member states, a lack of a dedicated avenue of action and of a variety of technological and generally operative tools.

No country has so far delivered a strategy against environmental crime, even if some member states have started the process of building a dedicated framework for some of the most relevant offences, such as waste crime, building on EMPACT activities and dedicated Internal Security Fund findings.²⁰⁹ Yet, a lot remains to be done: this inadequacy leads to a lack of vision and coordination, and to frequent overlaps not only between different European countries, but also among domestic authorities and institutions.²¹⁰ This is particularly evident in sectors where different agencies are involved, as in the case of waste or wildlife trade, where police authorities, environmental agencies, customs and other authorities often play a role concurrently.²¹¹ This further complicates coordination among agencies in different

Missing national strategies

countries, due to the difficulty of identifying the correct authority in charge of the specific issue when competences are not clearly defined. In federal or decentralised countries, such as Belgium and Spain, the exchange of information between local and national authorities is often difficult and lengthy, increasing the response time which is often key for investigations such as those on waste trafficking.²¹²

Even when national laws are detailed and the space for interpretation by local authorities is limited, the lack of an enforcement strategy eventually leads to very limited effects of such legislation. Many member states have reported a significant discrepancy between the methodology, the number and the reporting of environmental inspections – a key part of enforcing environmental law,²¹³ which also relates to the lack of consolidated data on envicrime (detailed in section 1.2).

Insufficient dedicated budgets

The lack of a member state focus on environmental crimes is also reflected in the absence of a dedicated budget on the national level in most countries. Although this does not always equate with underfunding in all member states for action against envicrime, it negatively influences the proper allocation of resources towards key activities, such as capacity building and training. Indeed, one of the key obstacles in fighting environmental crime in Europe is the lack of specialisation – an issue affecting both LEAs and judges and prosecutors. Environmental law is per se a complex, multi-layered area, affecting a number of different and often very technical sectors: the number of environmental laws, the frequent overlaps between the regional, national and European level, the significant space for interpretation and the complexity of many cases require a significant level of specialist training for judges, prosecutors and the police, which most member states are missing.²¹⁴ This is particularly evident when dealing with offences related to sectors involving particularly complex legislation, such as treatment of chemicals.

Consequences of the lack of specialisation

The lack of specialisation among enforcement agencies has a number of consequences: it complicates the monitoring of wildlife, waste or timber trafficking, for instance, because this requires a solid knowledge of the complex documentations and of the forgery and smuggling techniques operated by criminals. It increases the chances of offenders exploiting the loopholes created by the overlaps between national and international legislation (EUTR and CITES, for instance). Lack of specialisation also makes the monitoring of productive activities by companies more difficult, particularly considering the exponential and continuous increase of environmental legislation in the EU in the past decade (and after the launch of the Green Deal in particular). The challenge posed by new environmental crimes, such as trade in dangerous chemicals or F-gases, demands a specific knowledge of the issue, as well as a general awareness on the full picture of environmental crime, which only specialised agents have. The creation of dedicated environmental units (which has been analysed in section 2.2.2) has proved

so far to be one of the most effective tools in improving both coordination and the specialisation of LEAs (these units often benefit from continuous training, as in the case of the Spanish SEPRONA).²¹⁵

Lack of specialisation is also a notable issue concerning the judiciary, the sector having not benefitted from as much advancement as LEAs. Most member states do not have specialised judges for environmental cases or they are a small percentage, limited to administrative law (as in the case of Malta) or lacking constant, structured training (as in the case of Romania).²¹⁶ This has a remarkable impact on action against environmental crime as a whole: unspecialised judges and prosecutors are less likely to be interested in pursuing environmental cases, especially if the penalties are low.²¹⁷ They are also less likely to allow the use of advanced investigation tools, such as wiretapping, or to accept evidence (particularly when related to the use of new technologies, such as satellite imagery applied to illegal landfills²¹⁸). The still developing legislative framework for environmental offenses requires a significant degree of flexibility and ability to interpret legislation, which unspecialised judges do not often possess. Several enforcement agencies reported the lack of specialisation by prosecutors as one of the main elements not only preventing effective action, but also discouraging the start of several investigations – this is the case, for instance, for SEPRONA and the Romanian police.²¹⁹

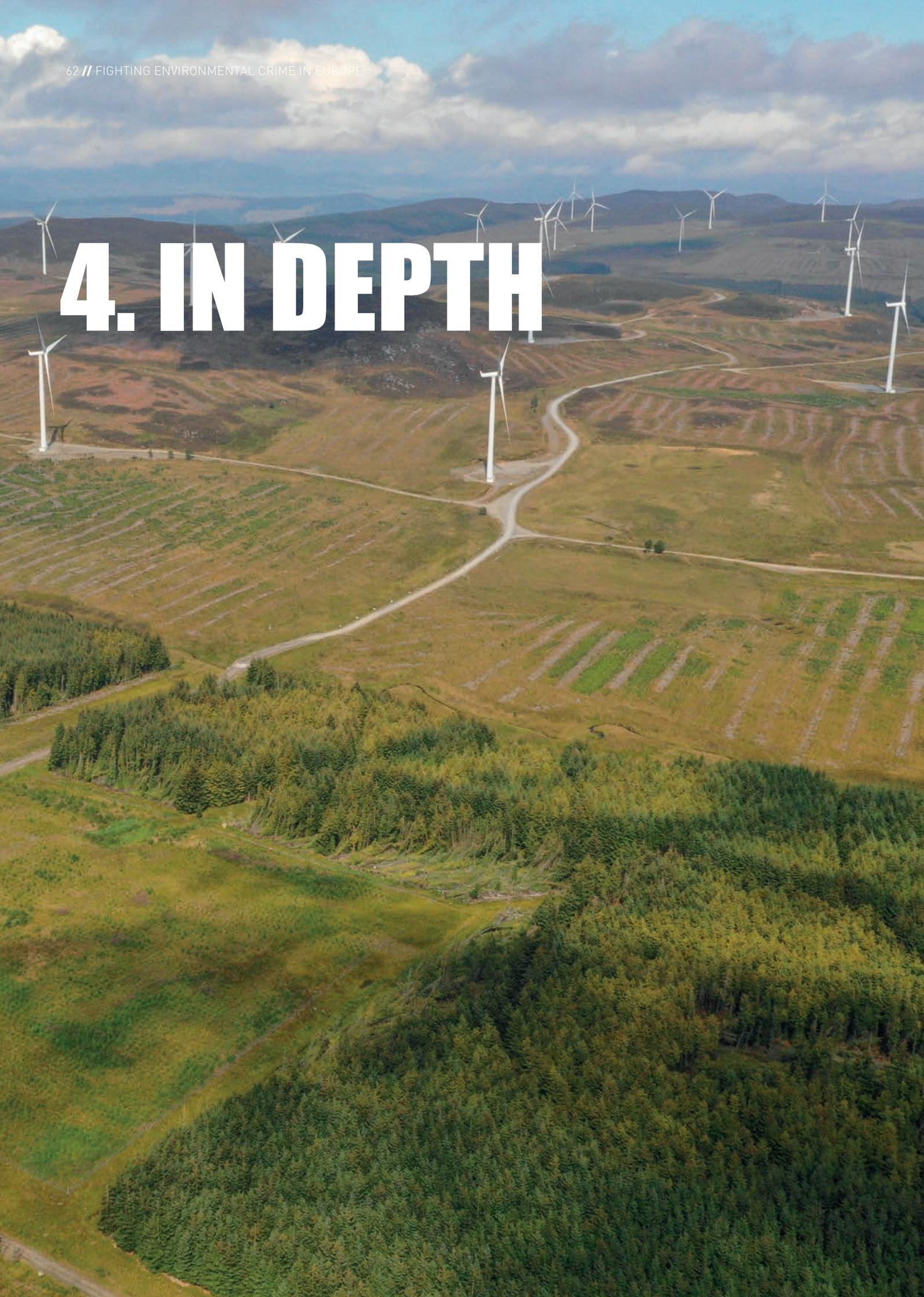
Finally, the insufficient adoption of technological solution is sometimes a relevant hindrance in the investigation of environmental offenses. Tools such as drones, satellite imagery analysis or the development of dedicated apps for the analysis of documents and the detection of forgeries have proved fundamental in many member states; yet, their application is limited not only by budgetary issues, but also by insufficient training in their use, lack of supporting laws (allowing an easier employment of drones, for instance) or simply by insufficient awareness on the existence and range of application of these measures by enforcement authorities. The topic is however analysed in depth in section 4.3.

Lack of a specialised judiciary

Insufficient adoption of technologies



4. IN DEPTH



4.1 IN DEPTH: THE EU DEBATE

With the adoption of the European Green Deal in 2019, environmental protection and the transition towards a climate-neutral continent by 2050 have become the main drivers of the EU's growth strategy. Environmental crimes that cause environmental degradation and slow down the fight against climate change have thus become a direct threat to the backbone of Europe's economic, political and societal future. Among others, the destruction of ecosystems, especially by illegal logging, releases greenhouse gases and reduces the ability to absorb them, while also causing issues like flooding and landslides. Similarly, illegal management of waste, illegal trade in HFCs, frauds altering the amount of emissions caused by an economic activity or the amount of polluting fuels contained in biofuels, directly affect the EU's collective efforts to reach its climate goals and implement the Green Deal.

The historical evolution

The evolution of the EU environmental policy and the legislation on environmental crimes have been very divergent. While environmental policy was starting to develop already in the 1970s, a common legislation to criminalise the most serious environmental offences was adopted only with the Environmental Crimes Directive in 2008. The level of priority, awareness and ambition between the two areas of policy developed at very different speeds across the EU, in particular in the past decade, when the acceleration of environmental policies was striking, while the fragilities and limited impact of the ECD became clear. As the EU is now approaching a future where environmental matters will be key also for its industrial, trade and even security strategies, it will be fundamental to match the level of ambition of its environmental policies with adequate enforcement.

The recent evolution of EU environmental legislation

4.1.1 New EU environmental legislation

In recent years and in particular after the adoption of the Green Deal, several key pieces of EU environmental legislation introduced significantly more stringent rules on different sectors in order to strengthen the level of environmental protection. The EU Biodiversity Strategy for 2030 is a core part of the European Green Deal and builds on the previous strategy to 2020, trying to expand some of its key targets (establishing protected areas for at least 30 per cent of land and 30 per cent of sea in Europe²²⁰) and possibly address the shortcomings of the previous strategy to 2020. Indeed, the earlier undertaking missed part of its objectives because of insufficient cross-sectorial policies and inadequate governance (particularly on the local level²²¹); the new strategy thus focuses on delivering a new governance framework, on building a network of natural and renaturalised areas, and on acting not only locally, but also globally – all elements key for action against environmental crimes as well. The strategy also provides for taking steps to crack down on illegal wildlife trade which is directly linked to the emergence of zoonotic disease outbreaks, while it also states that zero-tolerance will be ap-

« A wind farm in the southern Highlands, Scotland

plied towards illegal fishing practices. In 2021 the Commission also published the new EU Forest Strategy for 2030²²² which will protect, restore and enlarge EU's forests to combat climate change, contribute to biodiversity objectives and support the socio-economic functions of forests. The strategy's key objectives include strictly protecting remaining EU primary and old-growth forests, establishing legally binding nature restoration targets for forests and planting 3 billion additional trees by 2030. Furthermore, it requires member states to develop Strategic Plans for their forests, it promotes sustainable forest management including sustainable harvested wood for the construction sector, and it encourages improved monitoring of forests also through citizens' involvement, with digital systems to track the 3 billion trees objective.

In 2020, the Commission published the zero-pollution action plan for 2050,²²³ which tackles key issues related to environmental crimes such as reduction of plastic litter at sea (by 50 per cent) and microplastics into the environment (by 30 per cent), reduction of chemical pesticides (by 50 per cent) and reduction of residual municipal waste (by 50 per cent). The strategy includes specific provisions for hazardous chemicals introducing more stringent regulations relevant especially for various industrial sectors, namely through the revision of the REACH regulation. Moreover, the revision of the Renewable Energy Directive in 2018²²⁴ introduced a target obliging member states to supply a minimum of 14 per cent of the energy consumed in road and rail transport by 2030 as renewable energy, which has significant implications in the field of sustainable biofuels and associated frauds which aim at replacing them with unsustainable and cheaper fuels.

Another very relevant environmental legislation concerns F-gases, whose entry into the EU market has been limited since 2015 through a system of quotas aiming to reduce their GHG emissions by two-thirds by 2030 compared to 2014. Stricter targets are expected as the regulation is currently under review, leading to important implications with regard to the significant phenomenon of illegal trade in F-gases entering the EU market.²²⁵ Finally, in July 2021, the European Commission adopted a package of proposals to update and revise many of the relevant pieces of EU legislation to make them fit for achieving the 55 per cent emission reduction target by 2030 defined by the Green Deal (Fit-for-55²²⁶). The proposals concern for instance strengthening of the EU ETS and increased targets for the Renewable Energy Directive and Energy Efficiency Directive.

4.1.2 The need for a new enforcement

The introduction of more advanced and stricter rules extending to a broader range of sectors leads inevitably to new demand for ways to get around the law and, as a consequence, to new opportunities for illicit profits and new types of environmental crime. In parallel, in order to implement the ambitious EU environmental strategies and align the post-COVID recovery to these goals, both the Green Deal and Next

**The zero-pollution
action plan**

**Legislation
on F-gases**

Generation EU allocate an unprecedented amount of resources to environmental protection, which could represent low hanging fruits for criminal organisations interested in making illegal profits hiding behind green projects or businesses. For instance, the Next Generation EU will provide 806.9 billion euro in investments, out of which 18.9 billion will go to the area of natural resources and environment.²²⁷ Therefore, ambitious environmental legislation has to be paired with a dedicated and comprehensive strategy to strengthen law enforcement action. For instance, a more articulated and complex body of EU environmental legislation means increased monitoring and enforcement workload for national authorities which will need to be supported by adequate training to increase their capacity and level of specialisation. As investments and policies for environmental protection increase, a coherent vision for a correspondent evolution of enforcement systems has to be developed, to avoid a further surge of environmental crime in the EU.

4.1.3 The new Directive on environmental crime

The EU has moved some steps towards reinforcing its approach towards the fight against environmental crimes, to align with its environmental policy ambitions. The European Green Deal Communication states that the Commission will “promote action by the EU, its member states and the international community to step up efforts against environmental crime”.²²⁸ Environmental crime has also been included in the EU policy cycle 2022–25, which sets the priorities in terms of most pressing criminal threats in the EU.²²⁹ More importantly, the Commission, recognising the limited success of the ECD adopted in 2008, undertook an evaluation of the ECD in 2019–20 and released a long-awaited proposal for a new Environmental Crime Directive in December 2021 under the framework of the Green Deal.

The 2019-20 evaluation of the ECD

The 2019–20 evaluation highlighted that the adoption of the ECD raised awareness and visibility on environmental crimes in member states, which is a key step to obtain the political support, allocation of resources and prioritisation on the issue needed to reinforce the legislative and law enforcement systems devoted to countering environmental crimes. However, in terms of concrete impacts on the reduction of environmental crimes, data show that despite the introduction of the ECD the number of environmental crime cases successfully investigated, prosecuted and punished remains low, while sanctions are often too low to be dissuasive, cross-border cooperation is not carried out in an effective and systematic manner and the fragmentation across member states remains significant.²³⁰

The issues highlighted in the ECD

Specific issues in the ECD formulation have been identified as one of the main causes for these limited results. The ECD does not indicate the types and minimum levels of criminal sanctions that should be introduced in member states, leading to different interpretations of “effective, dissuasive and proportionate criminal penalties”. Furthermore, the definition of criminal offences to be sanctioned lacks clarity in the ECD. Article 3 defines the offences to be sanctioned

using vague terms, such as “substantial damage”, “negligible quantity” or “significant deterioration”, leading to different understandings across member states. The lack of common definitions has severely hindered in particular cross-border cooperation. In addition, the ECD does not include a system to effectively include new environmental legislation under its scope.

The new proposal was designed against this backdrop, aiming at aligning the new Directive with the evolution of the EU environmental legislation and responding to new challenges and trends.²³¹ To do so, it focuses mainly on four aspects: include new environmental criminal offences and clarify existing definitions; introduce sanction types and levels for environmental crimes; support more effective investigations and criminal proceedings; and foster cross-border cooperation.

First of all, key categories of crimes that were overlooked by the previous ECD and that are becoming increasingly relevant are introduced among the offences to be criminalised. They include illegal timber trade, illegal ship recycling, serious breaches of EU chemicals legislation and legislation on invasive alien species, serious circumvention of requirements to carry out an environmental impact assessment leading to substantial damage and serious breaches related to fluorinated greenhouse gases. In addition to the inclusion of new offences to reflect current environmental crime trends, the proposal addresses a critical shortcoming of the previous ECD, proposing to establish a mechanism to keep the new Directive up-to-date in light of the legislative progress under the European Green Deal.

The proposal also aims at better aligning and raising the level of criminal sanctions across member states. To do so, it introduces minimum standards and specific types and levels of sanctions for environmental criminal offences. In addition, to further reinforce the available tools to sanction environmental crimes, the proposal introduces aggravating and mitigating circumstances that can for example increase the punishment based on the severity of the damage caused and the profits generated, as well as in case of involvement of organised crime groups. Accessory sanctions (e.g., withdrawal of permits, exclusion from public funding or disqualifications) are also introduced in the toolbox available to judges and prosecutors, placing an increased focus on the restoration of the damage. It is interesting to highlight that aggravating circumstances and accessory sanctions can also be applied to legal persons, with the aim to increase the sanctions levels for white-collar crimes regardless of the possibility to criminally prosecute companies in a given country.

The new proposal also pursues the objective of introducing national environmental crime strategies in all member states setting an obligation to adopt such documents. Further, it addresses the issue of lack and fragmentation of enforcement data by introducing an obligation for member states to collect statistics to

Main elements of the new proposal

New categories included

Rising criminal sanctions

Introducing national strategies

monitor the effectiveness of their systems to combat environmental crimes, and requires them to regularly publish a consolidated review of their statistics, which will feed into an annual EU-wide report. Moreover, the proposal aims at reinforcing the level of specialisation at all stages of the enforcement chain and improving cooperation among relevant authorities as these were identified as two major obstacles in the current EU enforcement frameworks. Similarly, it introduces measures to increase cross-border cooperation, including through the introduction of harmonised investigative tools whose heterogeneity was indicated among the factors hampering international cooperation, as well as the obligation to cooperate through Europol, Eurojust and OLAF. Finally, the proposal aims at addressing a key aspect that was overlooked by the current ECD, that is supporting through specific measures environmental defenders and whistle-blowers who face a risk of threats and harassment for their contribution to the fight against environmental crimes.

Still a weak approach

The new proposal addresses most of the shortcomings of the previous ECD identified by the 2019–20 evaluation. However, the approach towards some key points remains weak: how to ensure that as EU environmental policy evolves the range of environmental crimes will expand accordingly; a common definition of environmental crimes; the collection of statistics at the EU level; the interaction between criminal and administrative sanctioning systems; as well as a shared approach to tackle the issues of interlinkages with organised crime, cybercrime and the role of white-collar crimes and effective prosecution of legal entities. The proposal is currently under revision from the European Parliament and the Council which will decide upon its text and adoption, thus leaving some room for potential improvements. Nevertheless, in general proposing a simple revision of the 2008 Environmental Crimes Directive seems a limited approach compared to the level of ambition adopted with regard to environmental protection, and an inadequate response to contrast the major threat that environmental crime poses to the EU's growth strategy and core values.

4.1.4 The future role of the EU

A new comprehensive strategy with a clear long-term vision on countering environmental crime in the EU could be an even more effective approach. Such a strategy could be modelled along the lines of similar documents (the industrial strategies or the recent hydrogen strategy, for instance). It will not need to be as detailed and prescriptive as a Directive, but could provide fundamental guidelines for action, which are still largely missing. In particular, the document should aim at increasing standardisation and boosting coordinated action, in order to overcome fragmentation and inconsistencies across member states. This concerns first legislative frameworks: the strategy should generally guide them in a common evolution towards a more interconnected structure concerning different environmental offenses (unlike the siloed attitude of many member states). It should

also provide advice on how to get around some of the key obstacles (low level of sanctions, low convictions and complicated burden of proof, among the others). This guidance however should extend also to other sectors: standardised and EU-wide statistics collection should be a priority (instead of an ancillary measure, as in the proposal for the new ECD), as well as the application of some technologies already available at the EU level (particularly satellite imagery analysis produced through the Copernicus programme). Above all, it should contain a shared definition for environmental crimes, which could overcome the issue of divergent interpretations and allow countries with weaker and less articulated environmental laws at the national level to strengthen their action.

A new comprehensive approach would also have positive spill-overs; it would support the creation of a European leadership in the fight against environmental crimes, leading by example in placing this issue at the top of the agenda, and highlighting its importance towards the achievement of other targets – climate goals above all. It could reinforce the EU's role as a global environmental leader (as already done with climate change mitigation during the different Conferences of Parties of the UNFCCC, for instance) in a sector, that of environmental crime, which is rapidly gaining attention on the global stage, positively impacting the overall soft power of the EU.

4.2 IN DEPTH: TECHNOLOGY

Among the most important and recent developments on the fight against environmental crime, new technologies are some of the most promising and impactful tools available not only to LEAs, but also to civil society and, to some extent, even to citizens. The range of technologies is significantly varied and goes from highly advanced instruments, such as Light Detection and Ranging (LIDAR) scanners, to apps and commercial drones.²³² Similarly, the sectors of application are equally ample: while technologies are particularly helpful concerning offenses such as poaching, waste and pollution, they can considerably contribute to tackling issues such as illegal logging and document fraud. Some technologies, such as drones, also have a series of cross-cutting applications, making them a tool basically applicable to every sector touched by environmental crimes.

Advantages of new technologies

The benefits of using new technologies are clear and varied. The use of advanced sensors with an increased accuracy or able to scan large or underground areas boosts the detectability of environmental crimes, while reducing the cost and time of such operations – this is the case, for instance, for ground-penetrating radar (GPR) used for the detection of buried waste in Italy.²³³ Advanced detection methods also increase the availability of data and thus contribute to the understanding of the scale and impact of criminal activities; GPR has been for instance widely used on helicopters in the Italian “Terra dei Fuochi” case on illegal waste disposal, to understand which parts of the territory were involved, and if other regions beyond Campania (where most of the waste was found) were affected.²³⁴ Satellite imagery offers even a wider picture than aerial analysis, with the possibility of scanning territories as large as European countries. The use of automatic analytical systems is also a way to study large amounts of data quickly and often cheaply – indeed, the lack of data is not always the only or main problem for LEAs, but also insufficient manpower to investigate such data. Above all, new technologies can automate several monitoring activities usually run by officers, such as checking documents for wildlife or timber trafficking, and which sometimes require a high level of specialisation, such as that needed to understand the different papers required by complex regulations like CITES and the EUTR. Once this is done by an app which, for instance, checks the validity of a QR code summarising the documentation needed, this dramatically reduces the level of specialisation asked of officers, while increasing the difficulty of forgery.

Improvements and cost reduction of new technologies

The role of new technologies has been boosted in the past decade thanks to a series of advancements which decreased costs and favoured the interconnection of tools: the advent of smartphones, of Wi-Fi and Bluetooth connections (also for cameras and other sensors), the commercialisation of instruments once available only to professionals (thermal cameras, long-range lenses) and the diffusion of new devices (drones in particular). Generally speaking, we now have a set of tools

which not only provide information that was not available one or two decades ago, but are much easier to use and cheaper to buy, being sometimes designed also for consumer or prosumer use (this is the case, again, with drones).

Obstacles remain. Inadequate legislative frameworks are sometimes the greatest challenge in the use of new technologies – some are for instance affected by regulations that strongly restrict their application, even by LEAs. This is the case, for instance, for drones, which, despite recent EU regulations,²³⁵ are strongly limited in countries such as Hungary and Italy. As reported by several LEAs,²³⁶ information provided by relatively new technologies is not always accepted as evidence²³⁷ in court, often due to lack of specialisation or knowledge by judges, or by unclear laws. In the past decade, several EU countries have struggled to allow an easier use of satellite imagery as primary evidence, but while the application of such imagery has increased on the policy side, its role in court is still limited.²³⁸ Technical limitations are also an issue: while some tools have become easily available, others are still very expensive or their use requires advanced training – this is the case for the above-mentioned LiDAR, for instance. Some technologies need an adaptation of the tool to the individual need of the country or the agency employing them (attaching cameras for the detection of specific gases on drones, for instance), which can be significantly expensive. However, sometimes limitations are also due to a cultural component – i.e., the perception that new technologies are high-priced, or that they require a particular training, while in most cases users only need the digital skills employed in using a smartphone.

Two key tools needed by most of the technologies discussed below are Artificial Intelligence (AI) and Machine Learning (ML), the first generally intended as the ability for machines to perform tasks usually performed by humans (in the case of environmental investigations this means for instance detection of suspicious noises or analysis of large quantities of images or data).²³⁹ The latter is instead the ability of the machine to improve its understanding of the task required, either in a supervised or unsupervised way.²⁴⁰ The increase in computational capacity and the growing application of these technologies for commercial and non-commercial uses has also promoted their employment in a wide range of environmental issues: AI can be taught to recognise patterns of deforestation or illegal dumps, thereby constantly monitoring even large territories. This can be enhanced by ML (and by more complex systems, such as neural networks and deep learning), meaning that the more the AI works on the issue, the more accurate and quick it will become in recognising dumps or deforested areas. This can be also applied to a variety of tools, from the interpretation of suspicious noises recorded by networked sensors (discussed below), to the constant monitoring offered by automatic operations run by drones (where the operation is not guided by a human pilot but by the drone's software, and the resulting images are analysed by AI). AI can also be used to study large quantities of data, thereby avoiding the often-ex-

Obstacles in expanding the use of new technologies

The role of Artificial Intelligence and Machine Learning

pensive advanced training needed by data analysts. Such analytical systems are also replicable: AI designed to detect deforestation could work equally well in Brazil, Romania or Sweden, with minimal changes. These tools have so far seen limited application by LEAs, with the exception of the Italian Carabinieri, which is integrating AI and ML in its extensive data analysis.²⁴¹

4.2.1 Drones

Concerning specific technologies, drones are one of the most flexible, cheap and already applied tools in enforcing environmental regulations. The recent success of commercial unmanned aircraft systems (UAS) has managed to shift the technology from primarily military applications to civil uses – the first authorisation for a non-military drone in the US dates back to 2006.²⁴² This happened thanks to a sharp increase in autonomy (in terms of battery and range) and a decrease in costs which affected both consumer and professional drones in the past decade: DJI Mavic 3, a 2021 prosumer drone, has now a maximum 46 minutes autonomy and a 15 km range, with zoomable, highly detailed images,²⁴³ while falling below the 2,000 euro price tag. Its professional equivalent, the Matrice 30 series, can withstand a 15 metres per second wind and a temperature range from -20 to +50 degrees Celsius, with an infrared sensing system, a thermal camera and a laser range finder able to detect coordinates of objects up to 1,200 metres away.²⁴⁴ For comparison, the DJI 2014 Phantom 1 had 15 minutes of theoretical autonomy (which however was closer to a ten minute range) and could not go beyond 1 km in distance from the operator.

Uses of drones in fighting environmental crimes

UAS have an astounding number of applications. Commercial drones with no special cameras are particularly fit for geospatial surveys, also thanks to the remarkable accuracy of GPS. They can be used to monitor large areas in a relatively short time (drones like those mentioned above can go as fast as 70 km/h but others, such as the Inspire 2, can reach almost 100 km/h²⁴⁵), while being able to detect information not available on the ground, from the number and movements of fishing boats, to damages done to the sea bed in protected areas.²⁴⁶ Drones below 250 grams have now significant range (easily beyond 1 or 2 km, as in the case of the Parrot Anafi²⁴⁷), are very quiet and are thus fit for a wide range of investigations. They can also mount specific systems or cameras extending their professional use: the Parrot Anafi has an Ai version designed for photogrammetry and one with a zoomable thermal camera, the latter costing under 2,000 euro retail.²⁴⁸ Adding advanced cameras strongly empowers the use of drones in environmental matters: while LiDAR drones are still very expensive (some exceeding 100,000 euro) multispectral cameras are relatively easy to mount and can offer key information on land-use, deforestation or even poaching (thanks to night monitoring through thermal cameras).

Advantages of drones over other solutions

The advantages are many; they range from accessing remote territories and easily collecting samples from industrial emissions,²⁴⁹ to ensuring the safety of officers, who can investigate dangerous situations from a remote location. How-

ever, these advantages are matched by a number of obstacles in their application, which are generally higher than for other technologies; professional operators require a license which is sometimes hard or expensive to obtain, while national laws are often very restrictive, not allowing for night, automatic or beyond visual line of sight operations (as in the case of Italy²⁵⁰). Exceptions are hard to obtain even by LEAs, which in most cases are also subject to the same regime of authorisations needed for operations over critical areas (cities, power plants, airports), which can be lengthy and involve complicated bureaucratic procedures. This is a case highlighted, for instance, by Italy's Carabinieri or by the Hungarian police.²⁵¹ While most drones are now extremely easy to use, advanced operations or models can be complicated to drive and will need expert pilots.

4.2.2 Apps

Apps constitute another promising field for technologies applied to environmental crimes. While the arena is very wide, commonly these apps exploit the ease of use, interconnection, good camera quality and computational capacity of contemporary smartphones for investigations, the automation of checks and the monitoring of territories. In Romania, the police are using the Sumal 2.0 application to fight illegal logging;²⁵² the programme has to be used by timber companies to upload all documentation needed for a certain timber load, including pictures from the logged area. Those are automatically checked by the system and can also be remotely analysed by central units, thus reducing the monitoring burden for local officers. The Spanish SEPRONA is developing an app able to use a DNA scanner attachable to smartphones, to trace the origin of imported timber.²⁵³ Apps and smartphones can also be used to increase the speed of information flow by linking to central databases, and can receive information from networked sensors (discussed below). In addition, apps are a tool for citizens to report environmental offenses: this has been particularly applied to waste crimes, by offering the possibility to directly report to the correct local authority fly-tipping and more serious illegal waste disposal via a GPS-based app (this has been developed, for instance, in Germany already in 2017²⁵⁴). The success of these projects however depends on the ability to involve citizens, but also to screen the information received.

4.2.3 Satellite imagery

Satellite imagery is another key tool to fight environmental crime. Since the launch of the Global Monitoring for Environment and Security programme in 2010 and of the Copernicus programme in 2014, the amount of free information on Earth monitoring available to EU member states has increased exponentially and now a variety of applications are available, concerning environmental offenses. Copernicus land monitoring service can detect land use not only in terms of forest cover, but also regarding the kind of cultivation and the amount of fertiliser being employed. SEPRONA is using low-frequency infrared waves to detect water theft

via the development stage of plants, among other things. NASA and ESA satellites can indeed use a range of different radar and multispectral sensors, including LiDAR, that can detect the diffusion of invasive species, nitrogen and other kinds of pollution and land degradation (and most of these data are completely open access).²⁵⁵ While a 10-metre resolution is usually free, authorities or even private players can buy images with a significantly higher resolution (2 metres) and high frequency (even photos every 15 hours), not only for the EU, but for the world as a whole. This can be used to monitor pollution in high seas, to track shipments of waste and forest crimes (the latter is also part of the SEPAL system launched by the UN's Food and Agricultural Organization for land monitoring²⁵⁶). While the availability of such information is significant, a number of obstacles remain for their use, particularly concerning the analysis of these data, which require high computational capacity and a professional expertise which is not yet largely available, on either the European or the global level.

4.2.4 Networked sensors and other instruments

Networked sensors is another area of vast application for environmental action. The concept is to position a series of audio, video but also other kinds of sensors (collecting data on emissions, water quality or others), which are connected to each other and ideally to an external station via Wi-Fi, Bluetooth, mobile connection or other systems. This allows for a constant monitoring of even remote areas which can also be automated – AI can be trained to recognise specific sounds or shapes and then alert officers. This is happening in the “Nature Guardians” project, run by WWF Italy with the support of Huawei and the start-up Rainforest Connection, where the adoption of audio sensors in protected areas is used against poachers and has already led to 15 actions by the local police, based on the alert received.²⁵⁷ Such a system is also being implemented in Romania by Vodafone, to spot illegal logging via the detection of suspicious noises (cars, chainsaws, etc.).²⁵⁸

The new role of well-known detection tools

A vast array of detection instruments is also available, some already in use for a relatively long time, but gaining more attention in the past decade. GPRs have existed for more than a century, but are gaining increasing importance in issues such as illegal waste disposal, since they allow the surveying of the subsurface without the need for excavation. Magnetometers are also being applied in this sense (also thanks to their substantial miniaturisation in recent years), while laser scans are now employed to quickly estimate the size of waste deposits (among other uses). The already recalled LiDAR is a relatively new technology, merging a laser, a scanner and a GPS receiver to provide a detailed 3D model of the area. Unlike satellite photos, which uses the reflection of the sun's light, LiDAR technology only needs the light provided by the laser: the image can be analysed without shadows and regardless of the weather, focusing on elements that are interesting to the viewer (excluding, for instance, the vegetation cover, if needed). This can be used to detect forest degradation, different land uses or the

hydrology of an area, for instance.²⁵⁹ A final, rising technology is Environmental DNA (eDNA), where the genetic footprint of fauna and flora is gathered through sample collection and analysis. While this is being increasingly applied in conservation, it can also be used for investigations on timber or wildlife trafficking: if the DNA of species in protected areas is known, the analysis of samples from traded specimens can lead to easy recognition of their legal or illegal origin. This is the basis for the already recalled SEPRONA timber scanner, for instance.²⁶⁰

4.3 IN DEPTH: FINANCIAL CRIME AND NEW ENVIRONMENTAL CRIMES

Environmental crime and financial crime are deeply intertwined to the extent that the demarcation between the two areas within enforcement structures is still blurred in many cases. Traditionally, environmental crime has been considered as a branch of economic crime as it consists of fraudulent behaviour for the purpose of economic gains. As a result, in several member states environmental crimes are still managed under the Economic Crime Department of the national police or the Ministry of Finance. The economic component of environmental crimes (i.e., the criminal profits) is indeed very relevant. In Europe, annual revenues from hazardous waste trafficking alone range between 1.5 and 1.8 billion euro.²⁶¹

As awareness and specialisation on environmental crimes increases the two areas tend to be better recognised as separate domains. In recent years, a more focused understanding particularly of financial crime linked to environmental crime has emerged, recognising its unique nature stemming from the damage caused not only to the economy and society but also to the environment. Thus, financial environmental crime indicates a specific category of financial frauds, including VAT frauds, or money laundering that leads to environmental damage (e.g., pollution).

VAT fraud and money laundering

One of the most widespread and deeply rooted connections between environmental and financial crimes is VAT fraud and money laundering. For instance, between 2008–09 the EU carbon market (Emission Trading Scheme, ETS) was hit by a VAT fraud worth 10 to 20 billion euro unveiled in 2016 and dubbed as “the fraud of the century”.²⁶² The EU-wide fraud consisted in criminal groups buying and selling carbon emission quotas across EU countries making profit from undeclared VAT taxes and establishing a network of shell companies to launder the money. France was at the heart of the fraud as criminals bought VAT-free credits in other member states to sell them on the French market, where VAT was applied, without paying the tax back to the French government which lost 1.6 billion euro of state budget. It is important to note that, as the ETS might likely expand to include maritime emissions, road transport and building emissions to align it to the Green Deal goals, it will require adequate training of relevant authorities and increased enforcement action to contrast new potential opportunities for crimes.²⁶³ Other types of tax fraud are also observed in other areas of environmental crime, from illegal fishing to illegal logging. For instance, a recent case revealed a large tax fraud system involving illegal timber exported to the EU, that costed the Government of Myanmar millions of dollars.²⁶⁴

The case of the EU ETS

The ETS case shows how new environmental regulations can create new lucrative illegal activities. In particular, as the EU strengthens its role as global frontrunner for environmental protection and implements its Green Deal strategy, regulations become stricter and will progressively cover a higher number of activities, leading

to new opportunities and opening up new markets for criminals. For instance, new and increasingly relevant crimes have emerged following the introduction of a broad spectrum of regulations aiming at reducing polluting emissions.

In 2015 the EU introduced a regulation (517/2014) to control emissions from fluorinated greenhouse gases (F-gases) which are used for a range of industrial applications as well as for common refrigeration. They include hydrofluorocarbons (HFCs) and are very powerful greenhouse gases. Aiming at reducing F-gases emissions by two-thirds by 2030, the regulation introduced a quota system for bulk importers and producers limiting the amount of HFCs placed on the EU market.²⁶⁵ The new restrictions opened up a market for illegal trade in F-gases imported to the EU through smuggling and document fraud (i.e., mislabelling of products). Recent cases revealed that China is the main country of origin for illegal F-gases which enter the EU market through Turkey and the EU's eastern border.²⁶⁶ In 2021, the Spanish Police and Tax Agency supported by the OLAF carried out the biggest operation against HFC trafficking so far, dismantling a criminal group importing HFCs from China to Spain, Germany, France and Portugal.²⁶⁷ Interestingly, F-gases were originally introduced on the market as substitutes for ODS (ozone-depleting substances) following the restrictions on these substances harming the ozone layer. This is an example showing how new solutions intended to strengthen environmental protection may hide equally serious problems with the risk of defeating the end goal, which is a dynamic that the EU should be very mindful of as it defines new environmental regulations to support its climate and environmental goals.

F-gases

Another key example of new crimes is fraud related to the composition of sustainable biofuels. Following the Renewable Energy Directive (REDII), fuels for EU road and rail transport must contain a minimum 14 per cent of renewable energy by 2030. One of the options counting as sustainable fuel is used cooking oil (UCO) to produce green biodiesel. Reportedly, there are significant weaknesses in the traceability of this sustainable material throughout the supply chain. Through alteration of the documentation attesting to the sustainability of the UCO, unsustainable materials were blended with fossil fuels, leading to a highly lucrative fraud, especially considering that UCO is double-counted towards achieving emission reduction targets (i.e., if UCO consumption is 2 per cent it will be counted as 4 per cent of the total energy used in transport). For instance, in the Netherlands in two investigations it was estimated that similar frauds led to profits of 57 million and 30 million euro respectively. These illegal activities have also been associated with imports of virgin palm oil to be mixed with genuine waste oils to increase UCO quantities, which has been linked to deforestation in tropical countries. Significantly, an EU database to better trace biofuels consumed in the EU should be implemented as part of the revised Renewable Energy Directive.²⁶⁸

Frauds over the composition of biofuels

The role of document fraud

In these different categories of crimes at the crossroad between financial and environmental crimes, as mentioned, document fraud is a key component. Document fraud is often associated with environmental crimes, for instance in the waste sector where mislabelling of mixed or hazardous waste as legal trade of recycling materials is a widespread criminal practice. The ease of document fraud around environmental regulations often derives from the complexity of the required paperwork, the poor working knowledge of complex regulations on the part of local enforcement authorities, and overlaps between national, European and international regulations. In the case of the European Timber Regulation for instance, different wording on matters of shared competence with the CITES Convention has led to uncertainty over which species are covered by the Regulation and which are not. This regulation overlap has also increased the documents needed to trade timber, creating loopholes and reducing the ability of LEAs to check for fraud. In this sense, overregulation could promote, rather than decrease, environmental crime, mostly by making forged permits harder to detect.

4.4 IN DEPTH: ORGANISED CRIME GROUPS

By definition, environmental crime is fertile ground for the involvement of organised crime groups (OCGs). It is a high-profit, low-risk offense which, unlike others (drug crime, fraud), offers growing opportunities in a wide range of sectors, from waste trafficking to illegal logging. It is also often a low-visibility crime, which suits the recent trend of OCGs to keep a low profile (particularly on the international level) and thus better infiltrate institutions and communities. The 2007–09 economic crisis (and now possibly the recession caused by the COVID-19 pandemic) has also economically weakened many communities across Europe. The lack of alternatives for income has made environmental crime more appealing and the infiltration of OCGs easier thanks to their offers of jobs and compensation.

The still remarkable economic disparities among several European member states, intensified by these crises, have also made countries with a significant endowment of natural resources and smaller income (such as Romania) an easier target for OCGs with access to richer neighbours and to their finance (Italy and Germany, for instance). Generally speaking, environmental crime is particularly rewarding for well-structured organisations, able to connect the local and the international levels – two features common to most OCGs. This allows them to make a margin out of the difference between the high price customers are willing to pay for the realisation of the offence (to receive illegally harvested timber or to dispose of toxic waste, for instance) and the relatively low contribution asked by impoverished local communities.

The lack of a shared EU-wide definition of organised crime is another critical factor in the spread of the phenomenon. In 2000, the United Nations Convention against Transnational Organized Crime provided an internationally shared definition, later adopted also by the EU's Council Framework Decision 2008/841/JHA on the fight against organised crime, which defines it as "a group of three or more persons existing over a period of time acting in concert with the aim of committing crimes for financial or material benefit". Most EU countries use this loose definition, while others adopt stricter approaches. In the latter case, a narrower definition has reportedly hampered the understanding of the links between environmental crime and organised crime. For instance, in Germany, even though enforcement authorities confirm the involvement of OCGs in environmental crimes, national statistics do not reflect a valid picture of the extent of this phenomenon. This is in part due to the absence of a definition of organised crime in German law, which has led to the use of a working definition that is very narrow. Other countries also present a similar situation, such as Finland, while in other cases a broad definition was explicitly mentioned among the factors that supported better enforcement against organised environmental crimes, as for example in the Netherlands.²⁶⁹ Other countries went further, as for example Bel-

A growing interest of OCGs on environmental crimes

Loopholes and the lack of a definition of organised crime

gium, where the FUPHEC has developed a working definition that clearly links OCGs to the most serious cases of environmental crime, i.e., “systematic, repeated, organised offences [...] mostly occurring in an industrial context, with supra-regional or even international ramifications”.²⁷⁰

Different OCGs across Europe

The nature of organised crime groups across EU member states is quite varied. It ranges from mafia-type groups that can operate nationally (for instance the timber mafia in Romania or the Polish organised crime groups dealing with waste)²⁷¹ or internationally, as in the case of Italian OCGs that have strong ramifications across Europe, for instance in Germany,²⁷² to less sophisticated groups of three or more people pursuing a criminal activity together, as observed for example in several instances of wildlife trafficking.²⁷³ The latter case can include also companies. For instance, in Slovakia, severely hit by illegal logging perpetuated mostly by companies, the national police argues firmly that these cases should be regarded as organised environmental crime.²⁷⁴

The complex structure of OCGs allows them to take advantage of the lack of coordination and the frequent overlaps among domestic and international institutions on environmental crimes. Transnational crimes are indeed the core of OCG activities with regard to environmental offences, since it is easy for them to avoid prosecution by slipping through different definitions of environmental and organised crime across member states. However, it is also very frequent to observe OCGs simultaneously perpetuating environmental crimes locally and transnationally. For instance, in the famous above-mentioned Italian case of “Terra dei Fuochi”, local OCGs illegally disposed of toxic waste coming from both Italy and other countries. At same time, the same OCGs also used Italy as a transit location for trafficking of special waste coming from other EU countries and shipped to extra-European destination for illegal disposal (Africa, Asia).

Sectors most affected by OCGs: waste

OCGs’ illicit activities concern most sectors of environmental crime listed in section 2, even if some are of particular interest. Waste trafficking is one of the most common offenses because of the possibility of international trade, the complexity of regulations and the growing desire by many companies to save money on disposal, which is becoming increasingly expensive due to tighter environmental regulations.

The waste trafficking routes more clearly of interest to organised crime are those involving Italy and Eastern European countries, which include waste imported and/or exported from non-EU countries such as China. In particular, Poland is at the centre of the EU waste trafficking, especially following the introduction of the Chinese import ban, adding up to a severe internal issue of waste mismanagement.²⁷⁵ In this context, OCGs have found fertile ground and recent investigations have identified the presence of a “Polish Junk Mafia”.²⁷⁶ Its activities included both export of waste from Poland to other countries, such as hazardous chemical waste

directed to the Czech Republic, and illegal imports from Italy, the UK, Germany and other EU countries.²⁷⁷ The magnitude of this issue led the Polish Chief Inspectorate of Environmental Protection to create a new dedicated department.²⁷⁸

Moreover, Bulgaria, Slovenia and Croatia have reportedly been significantly involved in waste trafficking activities linked to Italian OCGs. In particular, Bulgarian authorities are investigating the involvement of Ndrangheta for waste imported from the area of Naples. Similarly, the Slovenian police took part in the above-mentioned operation Green Tuscany, led by Italian authorities, which dismantled a large OCG with affiliations with the Italian Camorra.²⁷⁹

Illegal trade of natural resources is another growing area of interest for OCGs, particularly regarding timber; forest crime ranked third among EU transnational offenses in 2017 and the involvement of organised crime from several member states (including Germany and Austria) is evident, particularly in the Danube-Carpathian region.²⁸⁰

In addition, a resounding case in Spain has highlighted the participation of OCGs also in wildlife trafficking, concerning illegal fishing of glass eels, a critically endangered CITES species. The trafficking of eels has become one of the most profitable illicit wildlife trade businesses due to the high demand from Asia, in particular China and Japan, where eels are considered a delicacy and an aphrodisiac, leading the annual trade value to reach 3.7 billion US dollars according to Europe's Sustainable Eel Group.²⁸¹

OCGs are also familiar with less-known types of environmental crime; in 2017 Europol and Spanish and French LEAs uncovered trafficking in ozone-depleting refrigeration fluids worth a million euro.²⁸² The 5 billion euro 2009 Carbon Market fraud uncovered by Europol similarly witnessed the involvement of an organised EU-wide criminal structure.²⁸³

The fight against organised crime has been a priority for the EU for the past decade, but instruments against organised environmental crime remain inadequate. In particular, the Directive 2008/99/ EC does not mention the issue in any way. Moreover, although environmental crime has been included in the priority list of the "Council conclusions on enhancing financial investigations to fight serious and organised crime" of June 2020, this has not yet been translated into any dedicated measures on the topic – similarly to what happened to calls for action against organised environmental crime by the European Parliament and other institutions in previous years. The legal basis for such provisions already exists, specifically in article 83 of the Treaty on the Functioning of the European Union, which also addresses organised crime and allows for the possibility to "establish minimum rules concerning the definition of criminal offences and sanctions in

Sectors most affected by OCGs: timber trafficking, wildlife crime and others

Missing EU instruments in fighting OCGs

the areas of particularly serious crime with a cross-border dimension". The lack of an explicit mention of environmental offences gives large space for interpretation on how to address organised environmental crime. This issue could be partially solved by officially adding the topic to the Treaty (by a unanimous decision of the Council), even if the problem is rooted in the EU approach of considering, at the same time, environmental crime as a kind of organised crime, and vice versa. A dedicated approach to organised environmental crime as a specific issue would instead offer much clearer guidelines to member states on how to fight what is probably the most damaging, transnational and dangerous aspect of environmental crime in the Union.

4.5 IN DEPTH: CYBERCRIME

Another type of crime that is deeply intertwined with environmental crime is cybercrime. The European Commission defines cybercrime as “criminal acts committed online by using electronic communications networks and information systems”. However, as for environmental crimes, a more specific and commonly accepted definition is still missing as there are still challenges in defining cyberspace *per se*.

According to the 2016 joint UNEP-Interpol report, there was cybercrime converging with environmental crime in 26 per cent of the analysed states.²⁸⁴ In general, cybercrime is intertwined with environmental crimes as it provides services such as anonymity, networking, untraceable payment methods and forging tools. One sector where cybercrime is particularly relevant for environmental crimes is illegal wildlife trade, where both the surface web and the dark web (which refers to encrypted online content that is not indexed by conventional search engines) are used. With regard to the first, social media like Facebook and Instagram and online sales platforms such as eBay are used for auctioning live wild animals, endangered species and other environmental goods such as ivory or rhino horns. The dark web is used to protect the anonymity of buyers and of sellers who, in this area of cyberspace, are usually more professional perpetrators and wildlife trafficking is likely linked to other criminal activities such as the trade of drugs and arms. The use of the dark web for wildlife and environmental goods trafficking is poised to increase, according to recent studies.²⁸⁵ Cryptocurrencies are also largely used on the dark web for illegal trade transactions, again with the aim to conceal perpetrators’ identities.

During the interviews carried out for this research, wildlife trafficking was the most widely mentioned crime with links to cybercrime, and most member states highlighted that it is mostly carried out on the surface web, even though it is not clear to what extent this perception is influenced by limited awareness with regard to use of the dark web.²⁸⁶ In France, the OCLAESP mentioned the use of messaging platforms (e.g., WhatsApp, Telegram, etc.). National authorities in Malta referred to specialised forums where people exchange expertise or organise illegal wildlife trade and illegal hunting parties in foreign countries. In Germany, most wildlife trade advertisements were posted on sites such as eBay, quoka.de, Facebook and Twitter.²⁸⁷ According to data from the latest TRAFFIC and WWF report on online wildlife trafficking, in Germany in 2020, 2,149 advertisements trading endangered animal species were posted for a total number of 6,329 specimens for sale for a value of 1,126,809 euro.²⁸⁸ Member states also highlighted the use of cyberspace for cross-border environmental crimes. For instance, Malta mentioned the use of online forums to organise illegal hunting parties in Sudan, while German LEAs mentioned that illegal trade of CITES plants is largely involving online trade with China.²⁸⁹

**Interaction between
cybercrime and
environmental offenses**

**Wildlife trafficking
and cybercrime**

F-gases, carbon credit frauds and cybercrime

A second type of criminal trade relevant to environmental crimes showing a clear link with cybercrime is the illegal trade of F-gases. The entry into the EU market of these gases is regulated by quotas to limit their highly polluting emissions, which led to an illegal trafficking of these materials. Similarly to illegal wildlife trade, surface web platforms such as eBay and Facebook and even SMS texting are used to trade F-gases from China to EU countries such as Bulgaria, Croatia, Denmark, Greece, Italy and others.

Another environmental crime area where cybercrime plays a key role is carbon credit frauds. For instance, in the case of the large carbon credit VAT fraud that occurred between 2008 and 2009 across Europe, the fact that the carbon credits trade is online-based reportedly made this sector particularly attractive because of high profit and low detection for criminals compared to other sectors at risk of VAT fraud such as clothes or telephones. In general, the increasing reliance on technologies and digitalisation of the systems devoted to the implementation of the ambitious EU environmental and climate protection policies makes these systems vulnerable to cyberattacks. For instance, the EU ETS system for carbon credit trading was also subject to a hacking attack in 2011 when hackers accessed the system and illegally transferred emission allowances between accounts leading to 30 million euro worth of carbon emissions permits.²⁹⁰ The Commission improved the cybersecurity of the ETS system after 2011, yet the risk level is still significant and increasingly threatening as the system assumes growing importance in the EU climate strategy.

The role of money laundering and cryptocurrencies

Furthermore, the link between money laundering from environmental crime and cryptocurrencies is starting to be increasingly addressed. The Paris-based international Financial Action Task Force on money laundering has linked cryptocurrency exchanges with money laundering and is carrying out important work to link this trend to the laundering of profits from environmental crimes.²⁹¹ Based on the interviews carried out with national authorities, Estonia is one of the member states more advanced in addressing the use of cryptocurrencies in environmental crimes.²⁹² Finally, another area where cybercrime and environmental crime converge is the cyber-based services used for document forgery, as falsified documentation and permits are extremely relevant in particular for waste, wildlife and timber trafficking, as well as emission frauds.

An insufficient yet growing awareness by authorities

During the interviews carried out with member states, the majority of national authorities were aware of some kind of connection between cybercrime and environmental crime, in particular in the wildlife sector. Nevertheless, the level of knowledge is very heterogenous and generally quite low. Moreover, in the vast majority of cases awareness about the link between the two areas is not translated into formal and systematic cooperation between authorities responsible for environmental crimes and cybercrime units or experts. In some cases, informal

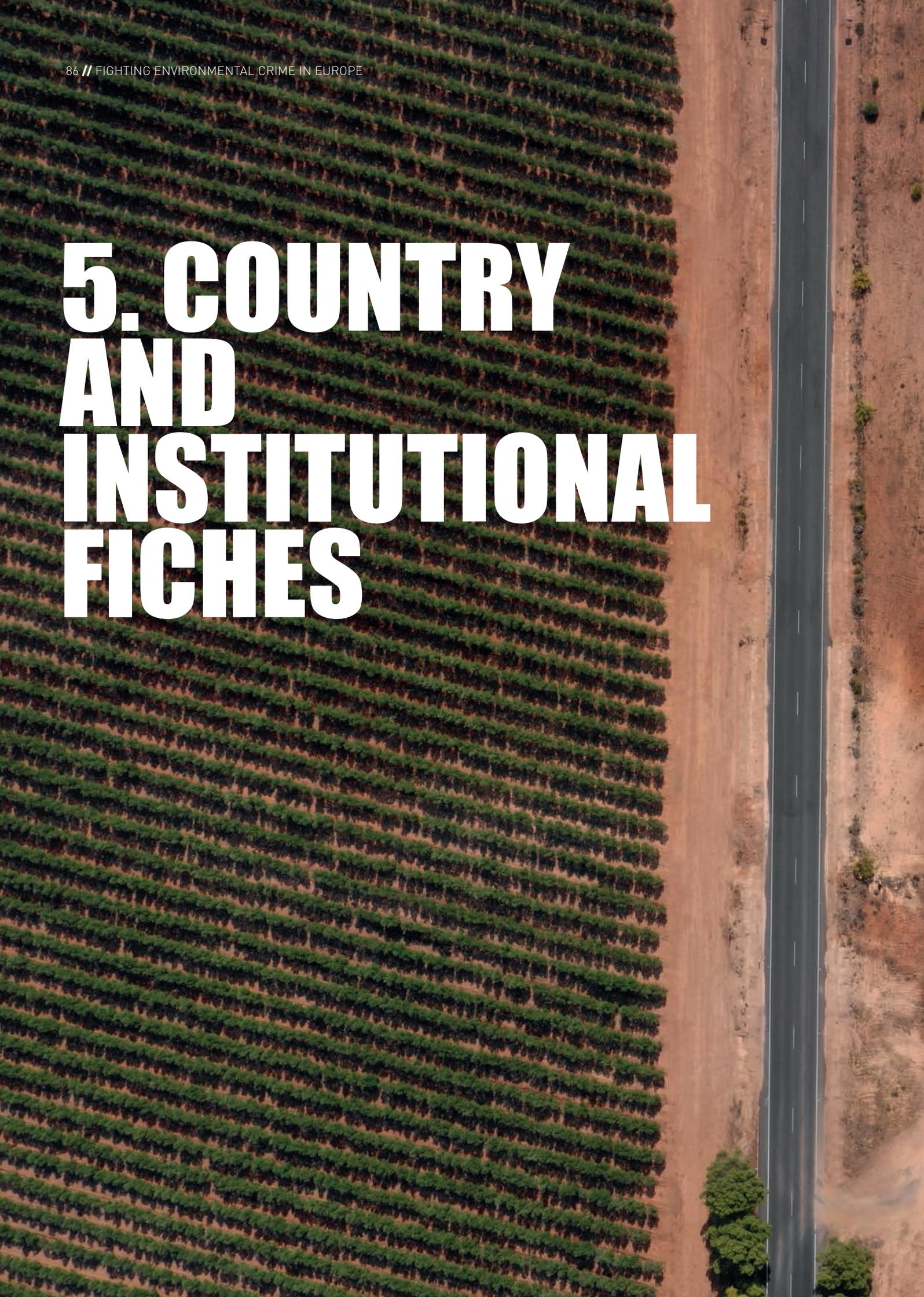
cooperation between cyber and environmental crime units exists but is entirely based on the individual initiative of officers and thus dependent on their level of awareness. In Poland, given the relevance of the cyber component in wildlife crimes in the country, a group of NGOs developed a methodology to monitor illegal wildlife trade on the internet which now supports the work of national authorities, even if capacity in this regard is reportedly still low. In a few cases stronger action to address the link with cybercrimes is emerging. For instance, in Belgium the FUPHEC has established formal cooperation between the new wildlife/CITES unit and the existing cybercrime unit.²⁹⁴

Some of the key issues hampering a more effective approach towards the cyber-crime and environmental crime link include a blurred understanding of cyber-crime which, in most member states, is limited to the so-called high technology crimes (such as malware, hacking or use of the dark web) and overlooks social media, chats and other surface web tools, despite their very significant relevance in this type of crime.²⁹⁵ In addition, there are some key bottlenecks in accessing relevant data; for instance, France has mentioned issues in accessing WhatsApp chat and Slovenia issues in accessing Gmail due to difficult cooperation with a US-based service.²⁹⁶ The EU is taking some initial steps to strengthen an EU approach towards the issue, for instance through the EU Wildlife Cybercrime Project, involving TRAFFIC, WWF Belgium, IFAW, Interpol, the Belgian Customs, WWF France and WWF Hungary, aiming at disrupting and eventually dismantling wildlife cybercriminals and their networks in the European Union.²⁹⁷

Obstacles in addressing cybercrime



5. COUNTRY AND INSTITUTIONAL FIGHES



5.1 European agencies

Europol

Europol is the law enforcement agency of the EU, supporting the coordination of activities among national institutions, as well as launching its own intra-European and international operations. Europol's work has often touched environmental offenses since its launch in 1998, but a dedicated focus started only in 2017, when the recognition of environmental crime as a serious threat in the 2014–17 EU Policy Cycle led to the creation of an Analysis Project (AP), EnviCrime.

Europol's activities on the topic include supporting joint inspections, operative meetings, operational activities and a wide range of support to national authorities in terms of skills and knowledge as well as financial resources. Cyber-crime, financial and cross-border investigations are among the most important areas where the agency is involved, using tools such as the OSINT dashboard.²⁹⁸ Europol is also responsible for the Secure Information Exchange Network Application (SIENA), one of the most employed tools for information exchange among EU LEAs. Europol is also significantly involved in the strategic coordination of action against environmental crime, also providing the permanent secretariat for EnviCrimeNet. The agency also extensively deals with data collection and analysis, both with regard to specific investigations, as well as for general analysis; Europol is indeed responsible for the (four-year) Serious and Organised Crime Threat Assessment (SOCTA),²⁹⁹ aimed at providing a holistic analysis on areas, networks, extent and impact of serious and

organised crimes, with a significant focus on environmental offenses.

Europol is also involved in a number of operations launched in collaboration with national authorities; the agency has been dealing with waste and wildlife trafficking in particular, as well as marine pollution, the trafficking of ODS and HFCs, illegal fishing and emissions fraud. Most recent activities are the October 2021 Lake V Operation (on the critically endangered European eel), which led to more than 58 thousand inspections and 52 arrests,³⁰⁰ cross-EU inspections on illegal fishing³⁰¹ in July 2021, and support for the seizure of electronic waste destined to Africa in June 2020.³⁰² While being focused on intra-EU cooperation, Europol is also expanding its reach, extending the use of the SIENA channel and other tools to South East Asia and to Latin and Northern American countries, for example.

Eurojust

Eurojust is the European Union Agency for Criminal Justice Cooperation, focused on coordinating the work of national judiciary authorities on serious organised cross-border crime. The agency has a sub-working group dedicated to environmental crimes, part of the wider group focused on economic crimes and composed of four people. Environmental offenses are however also a competence of national desks within the agency, which can sometimes deal in autonomy on these. Eurojust has given support on 57 environmental cases from 16 member states in the period 2014–18; although the number of cases has been increasing (it almost tripled from 2017 to 2018), it still represents less than 1 per cent of total casework.³⁰³

The range of support Eurojust provides is wide and crosses many different aspects of action against environmental crime. In general, the agency supports national authorities in the definition of a strategy to tackle transnational cases, focusing also on overcoming obstacles such as the mismatch between different national legislations or lack of specialisation of judges and prosecutors. Eurojust provides advice on which international judicial cooperation instruments and tools to apply, such as Mutual Legal Assistance and European Investigation Orders, the two most frequently employed instruments, as well as Joint Investigation Teams (JITs) and European Arrest Warrants. Despite their relatively low employment so far, Eurojust underlines the importance of JITs, considering specific features of environmental

crimes, such as their transnationally, the low detection rate and the role of organised crime.³⁰⁴ The agency also facilitates information sharing and communication across different authorities (judicial, law enforcement and administrative among others).

Eurojust works on a wide number of topics, with its definition of environmental crime cases also including illegal construction work (unlike most member states). In the 2014–18 period the agency mostly dealt with trafficking in wildlife species, waste and air pollution, as well as the illegal trade in hazardous chemicals. Notably, Eurojust coordinated the work in the notorious Dieselgate scandal in 2018.

Frontex

Frontex is the European Border and Coast Guard Agency tasked with supporting the law enforcement authorities of member states and certain non-EU countries with border control and return activities. Frontex also cooperates with other EU entities and international institutions to promote European cooperation on border management issues. The agency started its work on cross-border environmental crime in 2019, following the expansion of its competences through Regulation (EU) 2019/1896³⁰⁵ and the recognition of environmental crime as one of the EU's crime priorities in the EMPACT policy cycle in 2018. The Regulation expanded the agency's responsibilities from the detection and prevention of cross-border crimes at the external borders to also combatting them.

Frontex's activities against environmental offenses are thus relatively new, and the agency does not have a dedicated unit yet – the topic is currently part of the Coast Guard and Law Enforcement Unit portfolio, particularly the Law Enforcement Sector. The Research and Innovation Unit is however also involved in environmental topics and contributes to the gathering of data on environmental crimes. Nonetheless, as an agency focused on combatting transnational crime, Frontex's potential in supporting national and European authorities against environmental offenses can be significant. The agency's activities on environmental crimes have been mostly concentrated on illicit waste trafficking (also including medical waste related to the COVID-19 pan-

demic), maritime pollution and fisheries control. On the last two topics, Frontex works with the European Fisheries Control Agency and the European Maritime Safety Agency, employing its vessels and aircraft for border control on environmental monitoring.

The agency has strong experience in the application of new technologies: for example, it has used drones, satellite imagery analysis, and vessel monitoring and tracking systems to check for sea polluters. The European Border Surveillance system (EUROSUR) is a system run by the agency to promote information exchange on border-related issues between member states, and also includes information on potential environmental crimes. EUROSUR has been employed, for instance, to combat marine pollution in the Interpol Operation 30 Days at Sea and the Frontex-led MMO Black Sea conducted in Romania and in Bulgaria. Similarly, the JORA2 system provides IT support to operational activities across the EU borders and may include information on cross-border environmental crime as well.

5.2 EU member states

AUSTRIA

Main environmental crimes	Waste trafficking, wildlife trafficking, poaching, illegal dismantling of asbestos
Specialised enforcement authority	Yes
Specialised judiciary	Partly. Only in a few prosecution offices, most prosecutors are not specialised
Publicly available data and statistics	Yes, available also in annual reports available here: https://www.bmi.gv.at/508/start.aspx
Cross-border crimes	Relevant, particularly waste (also as transit country) and imports of timber
Technologies	Very limited
Cooperation between LEAs and NGOs (and other players)	Improving, particularly after the 2018 Aarhus-Beteiligungsgesetz (Aarhus Participation Act)

Thanks to a certain degree of specialisation of its police forces and a positive coordination between the regional and the federal level, action against environmental crime in Austria benefits from solid foundations. However, the country is still behind in the application of new technologies and seeks improved connections between administrative and penal law. Its central position makes cooperation with other member states central to its action against environmental crime.

Environmental enforcement is split between the police forces of its nine provinces, as well as administrative authorities. Concerning criminal investigations, the Criminal Intelligence Service and the federal Environmental Crime Unit are responsible on the federal and regional level. Austria has a centralised unit for the enforcement of environmental regulations; within the Austrian Police there are specialised Environmental Crime Units at the central level – Criminal Intelligence Service, Unit BK 3.2.4 – as well as an Environ-

mental Crime Investigation Unit in each of the nine regions. Overall, the country has circa 500 police officers trained in environmental offences beside their other duties (receiving a basic training of a week, updated each year with one to two days of additional preparation). The Environmental Unit reports good cooperation between the federal and the regional level.

The legislative foundation for environmental offences in Austria is Provision 180 (in addition to others), covering most offences and implementing the 2008 *envicrime* Directive. The amount of fines and prison terms are considered insufficient by the Environmental Crime Unit and prosecutors, with convictions being almost unknown; the publication of the Austrian Code of Corporate Criminal Liability (VbVG) of January 2006 and the institution of the Central Public Prosecution for the Enforcement of Business Crimes and Corruption (WKStA) authority in 2011 strongly improved the ability of the country to prosecute companies.

Obstacles remain. The main issue highlighted by LEAs during the workshop is the lack of cooperation with administrative authorities, which is also reflected by inadequate links between administrative and penal law (which, unlike other EU countries, are used equally for environmental offences). Austria also records issues in bringing adequate proof to prosecute offenders, sometimes also due to lack of specialisation by judges and prosecutors themselves, rather than excessively high standards (as instead happens in other member states, such as Estonia). The Environmental Crime Unit also laments the lack of specialised units in other countries, which hampers cross-border cooperation.

Transnational crimes are indeed of focal importance in Austria, due to its geographical location. It is in fact a transit country for illicit waste trade, mainly from Western member states and Germany towards Eastern Europe (concerning the EU, Slovakia and Slovenia in particular). The country is still battling with poisoning, mostly concerning birds of prey (historically seen as competitors by hunters) rather than large carnivores (which, unlike in Slovenia or Italy are still in low numbers).³⁰⁷ Austria has also been considered one of the destinations for illegal timber from Romania and Eastern Europe in general; a 2015 investigation by the Environmental Investigation Agency (EIA) exposed the role of the timber company Holzindustrie Schweighofer (now known as HS Timber),³⁰⁸ which was investigated by the Romanian police in 2018. Nevertheless, the Environmental Crime Unit under-

lines the difficulty in exposing the link between these companies' activities and the illegal origin of timber. Generally speaking, Austria shows one of the greatest rates of cooperation with other countries: Hungary (on waste shipments and the poisoning of birds of prey), Slovakia, Czechia (waste), Germany (shipment of end-of-life vehicles directed to Nigeria) and Italy (waste directed to the former East Germany).

Despite a traditionally quite restrictive access to justice in Austria, cooperation between LEAs and NGOs (and other players) is generally solid, particularly after the 2018 Aarhus-Beteiligungsgesetz (Aarhus Participation Act), which aims to improve access to justice in environmental matters for environmental NGOs and individuals in the areas of waste, water and air quality. The Environmental Crime Unit reports particularly positive cooperation with WWF and Birdlife.

New technologies are not particularly applied in Austria; drones benefit from a favourable and very light legislation and are commonly used in police operations (particularly for joint border monitoring between Austria and Slovenia³⁰⁹), but have not been applied in the field of environmental crime so far. The city of Vienna also launched the app Sag's Wien to let citizens file complaints,³¹⁰ which has also been used for environmental purposes.³¹¹

BELGIUM

Main environmental crimes	Waste trafficking, wildlife trafficking, illegal logging and timber trade
Specialised enforcement authority	Yes. Federal Unit Public Health and Environmental Crime (FUPHEC)
Specialised judiciary	No specialised courts, but specialised magistrates in almost all districts
Publicly available data and statistics	Partial. Flanders yes, Wallonia and Brussels partial
Cross-border crimes	Very relevant. Waste, timber and wildlife trafficking
Technologies	Relevant, especially regarding drones, GPS, isotope analysis, DNA analysis
Cooperation between LEAs and NGOs (and other players)	Yes. For expert information on technical areas and trainings

In Belgium environmental crimes are mainly the responsibility of the three regions (Flanders, Wallonia and Brussels), while a few matters are managed at the federal level. This structure leads to fragmentation and lack of cooperation, especially due to the different languages used in the regions. To overcome this obstacle a “Joint Ministerial Conference for Environment” has been established, while a dedicated central unit within the Belgian federal judicial police has been created (FUPHEC).

Cross-border environmental crime represents one of the main concerns in Belgium. In particular, illegal waste trafficking has been identified as one of the most relevant crimes and the port of Antwerp as a critical hub. International organisations such as WWF are also raising the issue of wildlife trafficking,³¹² especially trade of CITES-listed timber species through the port of Antwerp.³¹³ However, due to lack of focus on these issues by port authorities this trend is not currently reflected

in the data. To address the situation, in 2019 a new team working on timber and CITES species was established within the investigation unit in Antwerp and the FUPHEC is strengthening action in the same areas.

According to the FUPHEC, in Belgium there is “a clear match between organised crime and environmental crime” and “environmental crimes equal financial crimes”.³¹⁴ The central unit will increasingly focus on these interlinkages, which are observed in particular in waste crimes (e.g., Fipronil case). According to recent WWF studies, the country also plays a central role in EU wildlife cybercrime,³¹⁵ in particular sales of bird and reptile protected species.³¹⁶ Close cooperation between a new wildlife/CITES team and the existing cybercrime team will be established by the FUPHEC, while the Belgian Customs has already implemented solid collaboration between these two areas.

Technologies are also used to fight environmental crimes in Belgium. Drones

are employed but the legal framework could be improved to allow for advanced kinds of operation. The use of large military drones is currently under study, for example to be employed against illegal disposal of oil in Northern Belgium. GPS proved to be critical in waste crimes but its use is largely limited to investigative units, as enforcement authorities need specific authorisation by the public prosecutor, which represents a significant obstacle.³¹⁷ Belgium is also looking into the use of isotope analysis for wildlife and CITES crimes, while the use of DNA analysis to determine the origin of frozen eel meat imports is being studied.³¹⁸

A key obstacle in the Belgian structure to fight environmental crimes is the low exchange of information domestically, caused by legislation preventing police information from being shared with customs and other competent authorities. This is particularly problematic for environmental crimes linked to other penal infringements, as the link between crimes can be missed. Other key obstacles are identified in the judiciary system and resource limitations. Personnel and financial constraints reportedly impact operations in ports and were a key factor in the insufficient implementation of the Timber Regulation. Insufficient capacity to tackle environmental crimes in the penal way also resulted in lack of engagement and commitment of police chiefs, while the excessive duration to reach the conclusion of a case represents the main judicial barrier. For action against cross-border crimes in Belgium, Brexit will increasingly represent an issue. Cooperation

between Belgian and UK Customs will be hampered by the removal of its legal basis, while at the police level, without the UK participation in Eurojust and Europol, significant difficulties will arise due to very different police and judicial systems in the two countries.

BULGARIA

Main environmental crimes	Waste trafficking, illegal logging and timber trade, air and water pollution
Specialised enforcement authority	No
Specialised judiciary	No
Publicly available data and statistics	No, but permits are available on a geoportal
Cross-border crimes	Relevant, particularly waste trafficking (as recipient country) and illegal logging (as origin)
Technologies	Very limited
Cooperation between LEAs and NGOs (and other players)	Relevant, particularly thanks to the involvement of some organisations

A country significantly hit by a number of environmental crimes, Bulgaria has however benefitted from the full reception of EU laws. However, the lack of implementation and widespread corruption, particularly on the administrative and local levels, hamper much needed progress on action against envicrime. The ongoing cooperation with other member states, particularly Italy, has managed to improve the situation on some critical, cross-border issues, particularly waste trafficking.

Action against envicrime in Bulgaria is mostly led by the General Directorate of the National Police and by 28 Regional Directorates of the Police. Their activity is complemented on the administrative side by the 16 Regional Inspectorates of Environment and Water (RIEWs), part of the homonymous Ministry of Environment and Water, the four basin directorates (Danube River, Black Sea, East Aegean and West Aegean), the three national park directorates (Rila, Pirin and Central Balkan)

and the customs administration (waste and CITES Regulation). The reference law is the Environmental Protection Act,³¹⁹ emanated in 2002 and then amended several times, most recently in June 2020.

Bulgaria is facing a number of different environmental crimes, mostly due to widespread corruption, lack of implementation and/or enforcement of regulations, the low population density and the abundance of some natural resources (particularly timber).

Waste trafficking is a well-known issue, also thanks to the significant media attention it gained after the arrest of Deputy Environment Minister Krassimir Zhivkov in May 2020 in relation to illegal imports of hazardous waste from other European countries (mostly Italy and the UK).³²⁰ The issue has also been at the centre of other operations, such as Operation DEMETER VI.

Air and water pollution are also a common environmental offence in Bulga-

ria, as well as water mismanagement. RIEW data show water and air pollution as the most relevant offences, with a declining trend on convictions – yet with a stable, if not rising, pollution trend. In December 2020, the European Commission indeed finally brought Bulgaria to court for breaching air pollution limits,³²¹ after several warnings in previous years. Additionally, following a serious water shortage around the town of Pernik, in January 2020 Environment Minister Neno Dimov was arrested for corruption and for the related acts which led to the crisis.³²²

Illegal logging is also another key issue in the country; WWF Bulgaria estimates one third of total timber production to be of illegal origin,³²³ for a total of 2.5 million cubic metres sourced also from old growth and primary forests.

Finally, several CITES violations have been recorded by the Customs Police, mostly concerning animals arriving through the border with Turkey and destined to other EU member states, but also concerning caviar labelling.³²⁴ Organised crime is reported to have been involved in most 2020 cases of waste trafficking,³²⁵ particularly the Italian Ndrangheta. This has been linked to both document fraud and corruption.

The obstacles preventing effective action are considerable; while corruption was central to the high-level cases of Zhivkov and Dimov, the issue is widespread across all levels of environmental law enforcement – Transparency International indeed ranks Bulgaria as the most corrupt country in the

European Union.³²⁶ The General Directorate of the National Police also complains about unclear boundaries between administrative and criminal law concerning environmental regulations – i.e., the lack of objective criteria to understand when an offense falls under one or the other – as well as a lack of training (the country has only one police officer fully specialised on environmental matters as well as one in each Regional Directorate of the Ministry of the Interior and the Metropolitan Police, and no prosecutors nor judges). The National Police General Directorate has however recently supported a parliamentary proposal to the Ministry of the Interior for the creation of a specialised unit. The issue of training has however been recently addressed thanks to a series of projects (such as project 812108-1//16.04.2019 of the National Police General Directorate) which led to the training of almost three hundred officers from different agencies on environmental matters in recent years. The use of new technologies is still very limited in the country; standard drones have been acquired, especially by RIEW Units, but the General Directorate of the National Police reports an insufficient level of usage.

Cooperation with other countries is common and sometimes successful. The General Directorate of the National Police confirmed continued and fruitful cooperation with Romania, particularly on the topic of waste. Other instances are Italy (waste), Austria (focusing on the Danube) and Turkey (ozone-depleting substances, with limited success).³²⁷ Environmental NGOs

are active in the country and sometimes cooperate with police forces; WWF Bulgaria is in particular in charge of the SWiPE project on improving wildlife prosecution in Europe as well as the EAST project on training judges and prosecutors on EU legislation regarding wildlife crime, and has launched the Forest Guide Mobile Application for Foresters to help them identify forests with high conservation value.

CROATIA

Main environmental crimes	Waste trafficking, illegal hunting, construction violations
Specialised enforcement authority	No
Specialised judiciary	No
Publicly available data and statistics	Partially
Cross-border crimes	Very relevant, but participation in EU cooperation is quite low and cooperation attempts with Africa and Turkey unsuccessful
Technologies	Relevant, particularly drones, satellite imageries, DNA analysis
Cooperation between LEAs and NGOs (and other players)	Relevant regarding NGOs for wildlife

Increasingly involved in the EU-wide waste trafficking, Croatia has placed more focus on environmental crimes in recent years, but adequate identification of relevant trends and effective action is still missing, especially because of lack of specialisation within relevant bodies.

In Croatia, the National Police is the main law enforcement agency working on environmental crimes, flanked by customs authorities for cross-borders offences. Within the police there are no dedicated units for environmental crime, but there are some specialised officers both at the national level and at the regional level (only in the biggest five out of 20 districts) who work on environmental crimes among other duties. In this police structure, environmental crimes fall within the scope of Homicide Department under the General Crime Service (along with blood and sexual crimes, and crimes against general safety). On the administrative side, the environmental protection branch of the State Inspector-

ate is responsible for all environmental inspections, and reportedly plays a major role in supporting the police in the first detection of crimes.

As other Central and Eastern European countries, Croatia is severely hit by illegal waste trafficking. It is mainly a transit country for waste produced in Western Europe and exported to countries such as Romania and Bulgaria. However, it is also increasingly a country of destination, in particular for waste coming from Italy, Germany and Austria. One of the main issues in this area is reportedly the difficult identification of forged documents indicating illicit waste as legal imports (wrong European Waste Codes).³²⁸ In the past five years, the growing issue of waste was one of the main factors leading to an initial increase in the prioritisation of environmental crimes in the country.

Historically, the most common crimes in Croatia were related to wildlife, mainly illegal hunting, illegal fishing and poaching of birds. As the number of

cases in this area remained low and stable in the past 20 years they have not been prioritised; however it is reportedly very likely that lack of awareness is the main reason keeping the statistics low.³²⁹ Another relevant area of crime in Croatia is illegal construction particularly in coastal areas, a phenomenon that is led both by very ponderous building permissions and by widespread corruption in the sector.³³⁰ Finally, illegal logging for heating is an issue in less densely inhabited areas of the country (close to the border with Bosnia) but the extent of the phenomenon is not clear as it is not considered a priority issue. Nonetheless, a recent EIA investigation showed that Croatia was involved in an illegal timber trafficking between Myanmar and European countries that used a Croatian company as an entry point to smuggle timber in the EU, avoiding EUTR regulations.³³¹

National authorities in Croatia are aware of connections between environmental crimes and organised crime groups, in particular with regard to waste and concerning both national and Italian and Slovenian groups. However, this has not led to concrete cases or convictions, even if currently there are some investigations underway that could lead to important results in this regard.

Concerning obstacles hampering action against environmental crimes, lack of specialised personnel within the Police and State Inspectorate is a key issue. Other critical problems lie in the judicial system. The legal distinction between environmental misdemeanours and crimes is not suffi-

ciently clear and in practice most cases are treated as minor offenses through instant proceedings, generally imposing low fines. Criminal prosecution for environmental offences is quite rare mainly due to absence of specialisation among judges and prosecutors and low prioritisation of these crimes. Nevertheless, recently a better understanding of environmental crimes within the State's Attorney Office is emerging.

The level of prosecution is very low also with regard to white-collar crimes, even though criminal prosecution of legal entities is possible in Croatia. In fact, proving the connection between companies and illegal environmental activities is reportedly very complex, in part because of excessively long criminal proceedings, which are problematic also because they lead companies to continue their operations for years to the detriment of the environment.³³² In relation to this, the country has been recently referred by the European Commission to the Court of Justice due to failure to protect citizens from industrial waste.³³³ With regard to the operational level, a major obstacle is that to access advanced investigative techniques for environmental crimes proof of connection with a criminal organisation is needed. Finally, the collection of data is kept separate and conducted with different methodologies across relevant bodies. This hampers a clear understanding of the main trends in environmental crimes and the consequent appropriate definition of priorities.

To face these challenges, Croatia is undertaking several specialisation ef-

forts, including a LIFE project with joint participation of WWF Adria and the State Attorney's Office aiming at adopting an educational plan for prosecutors, police and environmental inspectors, as well as appointing four specialised contact points in the main cities.³³⁴

CYPRUS

Main environmental crimes	Illegal waste management, wildlife crimes, forest fires
Specialised enforcement authority	No
Specialised judiciary	No
Publicly available data and statistics	No
Cross-border crimes	Limited, cases of export of waste to South East Asia with very difficult cooperation on investigations
Technologies	Generally good level of use
Cooperation between LEAs and NGOs (and other players)	Relevant with NGOs for wildlife, particularly BirdLife and Committee against Bird Slaughter

Cyprus faces internal waste mismanagement, forest fires ignited to gain more land and wildlife crimes, especially against birds. The very fragmented and articulated institutional architecture to counter environmental crimes significantly hampers action, but decisive changes are underway.

In Cyprus, the Directive 2008/99/EC was transposed into national legislation through the “Protection of the Environment through Criminal Law” of 2012 (Law 22(I)/2012). This is the main piece of legislation concerning environmental crimes and includes 99 different laws and regulations under its scope. Each of the 99 laws falls under the competence of different national authorities, leading to a very articulated and fragmented structure. The Department of Environment under the Ministry of Agriculture, Rural Development and Environment is responsible for most criminal areas ranging from waste shipments to F-gases and illegal trade in fauna and flora. Other competent authorities include the Game and

Fauna Service responsible for illegal hunting and poaching under the Ministry of Interior, the Labour Inspection Department under the Ministry of Labour, Welfare and Social Insurance, responsible for air pollution, and the Department of Fishery and Department of Forestry, under the Ministry of Agriculture, Rural Development and Environment. These departments have administrative, coordination and strategic planning functions with regard to their respective areas of competence. Each department usually also has its own inspectorate with law enforcement functions. To carry out more complex operations they cooperate with the national police, which has a supporting role as it has no internal expertise or specialised units for environmental crimes. Similarly, competent departments cooperate with customs for cross-border operations.

This architecture is reportedly inefficient, even though a good level of cooperation still exists but is informal and based on the personal initiative of of-

ficers.³³⁵ To make the cooperation more structured, recently MoUs have been signed between the main players, namely the Department of Environment, the Police and Customs. Furthermore, in February 2022 the Ministry of Justice and Ministry of Agriculture, Rural Development and Environment announced that a new general directorate for the environment will be created gathering all competent authorities for environmental offences, to be coordinated by the Department of Environment.³³⁶ The new system will aim at harmonising how environmental offences are dealt with, and also coordinating data collection, which currently is done separately by each authority.

On the judicial side, there is a significant issue of lack of personnel and lack of specialisation on environmental crimes both with regard to judges and within the Attorney General office (i.e., public prosecutor for common law systems, such as Cyprus). This has led to most environmental crimes cases being delegated to generally trained private lawyers, a system that the country is trying to change by training specialised personnel within the Attorney General office. In Cyprus there is a tendency to rely primarily on administrative sanctions for environmental crimes. In fact, the vast majority of criminal sanctions are imposed following lack of fulfilment of administrative sanctions (e.g., fines not being paid) and not because of an actual breach of environmental criminal law. Overall, the administrative system is considered more deterrent as adminis-

trative fines are higher than criminal ones, and prison sentences are extremely rare and always suspended. Most commonly, competent inspectorates impose on-the-spot fines which allow quick and effective enforcement, while only in particularly serious cases the competent Ministry in consultation with the Chief Inspector can decide to refer the case to court.

Illegal waste management is currently the main issue in Cyprus and the lack of personnel working on the topic within the Department of Environment is a major issue. Wildlife-related crimes are the second main category, including illegal hunting, poaching and killing, with a particular issue on bird species and on poisoning which is reportedly widespread but difficult to prosecute due to difficult collection of proof. Concerning birds, they are killed for cultural reasons (i.e., food traditions) and in the most serious cases this led to the creation of illegal businesses, which however only operate within borders. To date there is suspicion but no evidence of connection between waste crimes and organised crimes, while the link between environmental and cybercrime is not addressed.³³⁷

New technologies play an important role in fighting environmental crimes due to the lack of human resources. A recent important measure imposed the use 24/7 of GPS on every vehicle transporting waste and the creation of an electronic registry collecting all relevant data. Moreover, DNA analysis is successfully used to tackle wildlife

crimes.³³⁸ Finally, drones are used by the police and now they have been adopted also by inspectors within the Department of Environment, with the aim of having one in each district. Drones are used for waste inspections but also for detecting forest fires which is a critical issue in the country. In Cyprus, forest fires are both climate-led and deliberately set in order to obtain land suitable for construction, which has led to identifying forest protection as a national priority.

CZECHIA

Main environmental crimes	Waste trafficking and wildlife trafficking
Specialised enforcement authority	No
Specialised judiciary	No
Publicly available data and statistics	No
Cross-border crimes	Very relevant, especially concerning wildlife trafficking and waste
Technologies	Very limited
Cooperation between LEAs and NGOs (and other players)	Relevant, especially concerning NGOs focused on wildlife

The adoption of two national strategies for waste and wildlife has promoted sectorial action against environmental crime in Czechia, much needed also because of the geographical position of the country. However, lack of specialisation and of legislative and enforcement tools in other sectors represent major obstacles for enforcement.

Czechia indeed faces a number of environmental issues, equally divided between those of a national and a transnational nature. The country faces illicit management of protected species, animal cruelty, poaching (which is strengthened by the growing numbers of wolves in its territory and competition with farmers), as well as water pollution – the latter at the centre of cases involving high-level politicians between 2019 and 2020.³³⁹ Czechia also faces extensive pollution derived from its industrial heritage (a problem common to many countries in Central and Eastern Europe). In addition to these cases, mostly of domestic competence, the country

has a growing problem of waste trafficking – as both destination and transit country – as well as wildlife trafficking. This offense is relatively new to the country and has involved exotic fauna, often even large mammals as well as trade in ivory and rhino horns.

Action against such offences is taken by the national police, customs, the environmental inspection authority and the veterinary administration, the last two however holding only supervisory and licensing powers (also, customs has only the responsibility for early stages of investigations). While customs has circa 20 members of staff specialised in environmental issues and the national police circa one hundred, this training is generally basic and no dedicated unit exists in either institution.³⁴⁰ The country also has neither specialised courts nor prosecutors.

One of the main obstacles in action against environmental crime has been indeed highlighted by both the national police and customs as the lack of judi-

cial experience and of missing judgments from previous cases (particularly regarding waste), as well as a lack of awareness on the part of prosecutors about the real impact of environmental offences. This also limits access to investigation tools. The often very low penalties on both the administrative and criminal sides are considered another major obstacle, particularly considering complex investigations which took place in previous years but led to none or few convictions – this is the case, for instance, of rhino horn trade investigations. Nevertheless, the existence of a National Strategy for Combatting Waste Crime and a Wildlife National Action Plan has emboldened action on these two issues, particularly by promoting coordination between the use of administrative and criminal penalties, specialisation of LEAs, judges and prosecutors, and overall education on the two topics. The country also aims at building a National Environmental Security Task Force (NEST) Unit as has already taken place in Hungary (see that country fiche for more information). Similarly to other countries (Spain, for instance), Czechia has highlighted the need to establish national recovery centres for the fauna and flora seized during the investigation, as enforcement agencies are still relying on zoos and private centres (still largely insufficient in terms of quantity and quality of services offered).³⁴¹

While cooperation with the private sector is not reported, customs and the national police have started positive collaborations with some NGOs (Alka

Wildlife for lynx protection, Wildlife Justice Commission and ENV for imports of wildlife from Vietnam), despite limited access to justice by the civil society. The country has indeed established positive cooperation with the Southeast Asian country, while it has also worked with several member states, including Slovakia and Hungary (operation JUNGLE) and Italy (on waste trafficking).³⁴²

Drones have been employed on waste issues, but the application of new technologies remains very moderate.

DENMARK

Main environmental crimes	Waste trafficking and wildlife cases
Specialised enforcement authority	No
Specialised judiciary	No
Publicly available data and statistics	No
Cross-border crimes	Relevant
Technologies	Good level of use (inspectorates)
Cooperation between LEAs and NGOs (and other players)	Very relevant between private sector and EPA, especially on waste crimes prevention. Limited with NGOs except for construction projects

A low-criminality and high-compliance domestic situation is leading Denmark to delay the adoption of an adequate strategy on environmental crimes, while its involvement in international waste and wildlife trafficking is becoming more threatening.

In Denmark, the Environmental Protection Agency (EPA) is the main administrative authority supervising compliance with environmental regulations, with competences ranging from waste and water pollution to protection of nature and CITES species. The Danish Nature Agency and Danish Maritime Authority have similar responsibilities concerning forests, coastline and sea areas. The 98 municipalities also have an important role, as a consistent part of EPA competences are delegated to the local level (e.g., waste inspections). Customs mainly supports these authorities through inspections on cross-border activities. In the most serious cases, administrative authorities report offences to the police, which have very li-

imited specialisation on environmental crimes and typically addresses them as economic crimes. Overall, the national police take a secondary role as environmental offences are considered primarily the competence of administrative authorities. The National Police Unit for Animal Welfare and Road Transport of Goods performs functions of training, coordination and international contact point for environmental crimes particularly in the areas of wildlife and waste. Recently, some specialisation was introduced in the area of wildlife crimes with nine dedicated officers and three prosecutors. Apart from this, the judicial sector also does not have specialised personnel.

Denmark is reportedly very well-regulated concerning environmental protection, particularly thanks to a comprehensive risk-based inspection system, a high degree of environmental awareness and a generally high respect for the law. Statistics show a very low total number of cases and, as a result, environmental crimes are not

identified as a main national concern and the country does not have a strategy for combatting environmental crimes.³⁴³ However, available data are limited and poorly structured, preventing an overview of the phenomena at play. Some of the issues currently affecting Denmark include CITES species imported by tourists and minor issues of illegal hunting of deer and birds, as well as minor cases of pollution. There is intelligence about significant involvement of Denmark in the trade in live animals, such as reptiles, but to date only minor offences have been detected, likely because of limited investigations in this area. Similarly, the involvement of Denmark in waste trafficking is expected to become more relevant if addressed more effectively. In fact, despite the rather positive domestic situation, Denmark is exposed to international trafficking, in particular as a transit country for waste shipments. Thus, the lack of focus on environmental crimes is considered increasingly problematic.³⁴⁴

In the country political willingness to upscale environmental protection is strong. However, it is largely considered as a competence of administrative authorities (namely EPA) and government efforts are skewed in this direction, as shown by a recent major financing to intensify inspections (increased by 16 times only for waste).³⁴⁵ Focusing on the criminal side of environmental offences and prioritising the issue within police action are reportedly not identified as a priority politically, likely hampering detection of relevant trends. For instance, envi-

ronmental crimes have never been included among the priority areas in the four-year police strategy. This also has practical repercussions. For example, new technologies are largely used by customs and the EPA for inspections, including for instance sensors to detect sulphur pollution from ships or advanced tracking systems for waste. On the contrary due to the low priority that environmental crimes have within police forces, the use of technologies during investigations is quite limited.

From a legislative perspective, in Denmark there is a clear tendency towards the decriminalisation of environmental offences. The vast majority of cases fall under the so-called “special laws” (i.e., non-criminal laws) which can impose very high fines and imprisonment for up to two years. Criminal liability is reserved for the most serious offences, for which proof of severe economic damage, reiteration or organised crime has to be provided. Criminal proceedings require more complex evidence and typically lead to lower fines and suspended sentences, thus they are rarely undertaken in practice. Nevertheless, advanced investigative tools can only be used by the police if a criminal case is opened, therefore leading to an overall situation where investigations have a very limited scope.

With regard to international cooperation, Denmark actively participates to various initiatives including EMPACT, EnviCrimeNet, Europol, the EU Commission wildlife enforcement group and the Interpol wildlife enforcement group. Within the EU, cooperation is reportedly

focused on wildlife with Nordic countries, which for example led to the Nordic Council of Ministers' joint statement against transnational organised crime in the global fishing industry.³⁴⁶ As awareness about the role of Denmark in international waste trafficking increases, there have been growing attempts to establish cooperation in particular with Africa (Nigeria and Togo) and Asia (Hong Kong, China, Singapore and Malesia) yet these have been unsuccessful so far. Intelligence has shown that trafficking with Africa entails end-of-life vehicles transported mainly from Norway through Denmark and Germany, while illegal shipments of plastics are exported to China, and WEEE stolen from recycling facilities in Denmark is exported to both Africa and Asia.³⁴⁷

ESTONIA

Main environmental crimes	Illegal fishing, wildlife crimes, waste trafficking, illegal logging and timber trade (mostly in the past)
Specialised enforcement authority	Yes. Environmental Board
Specialised judiciary	No
Publicly available data and statistics	Yes. Data can be found in the Statistics Estonia database and in the Ministry of Justice's publication <i>Kuritegevus Eestis (Crime in Estonia)</i> https://www.kriminaalpoliitika.ee/et/node/891
Cross-border crimes	Relevant, particularly concerning the Baltic Sea
Technologies	Very relevant, drones, satellite imagery and online monitoring in particular
Cooperation between LEAs and NGOs (and other players)	Very relevant, coordinated through 3 dedicated Councils (environment, fisheries, natural protection)

New technologies and a dedicated agency support the advancement of fighting environmental crime in Estonia, despite a still-insufficient legislative framework and difficult cooperation with Russia, the country's only extra-EU neighbour.

Environmental offenses are all investigated by the Environmental Board, part of the Ministry of the Environment. According to the Code of Criminal Procedure, pre-trial proceedings are conducted by the Environmental Board in the case of criminal offences concerning the violation of the requirements for the protection and use of the environment and natural resources. The Environmental Board also conducts extrajudicial misdemeanour proceedings, while the District Prosecutor's Office deals with serious environmental offences. The Office of the Prosecutor General is involved in cases of transboundary offences. The country also has an Environmental Agency, focused mostly on monitoring, while the

Environmental Board cooperates closely with other national law enforcement authorities, especially with the Police and Border Guard Board, the Maritime Administration and the Tax and Customs Board.

Estonia's authorities show a greater degree of specialisation in environmental issues compared to other European countries, and a dedicated focus to related issues. This is underlined by the existence of three Councils aimed at promoting cooperation with civil society and research institutions on key environmental topics (environment, fisheries and natural protection, i.e., flora and fauna). However, numerous obstacles undermine effective enforcement action; as environmental crimes are considered second-degree crimes, this impedes ease of access to advanced surveillance tools, while penalties and in particular prison sanctions are generally still low (the maximum prison term is usually five years³⁴⁸). Identification of

the environmental damage is also central to prosecution in the country, but this is particularly hard, also because of high standards in the burden of proof and the lack of adequate case law. The prosecution of companies is also difficult and, as in other countries (for instance Malta), authorities often prefer to try owners or managers as physical persons.

New technologies are largely employed, a direct consequence of the country being one of the most digitised in the world. Drones are routinely used, also in advanced operations (Beyond Visual Line of Sight, construction of 3D models) and using state-of-the-art tools (zoom, thermal cameras, etc.). Satellite imagery is used in a variety of topics, such as deforestation and mining.³⁴⁹ The country also applies the digital surveillance systems used for large fishing boats throughout Europe also to smaller vessels operating in both salt and freshwater. While the Environmental Board has not mentioned specific programmes against cyber environmental crime, it has reported the use of cryptocurrency in many transactions related to environmental offenses.

Despite the historical importance of forestry-related crimes, the focus has now mostly shifted to offences related to waste, wildlife and illegal fishing. Although the situation has been improving, pollution in the Baltic Sea also remains a problem; in particular, the issue of bunkering and ship-to-ship transfers (and the significant risk of oil spills) has been increasing in the past

years, also because of unclear legislation on the topic.³⁵⁰ The situation is worsened by the impact of Russia's waste from the St. Petersburg's area, and by the lack of cooperation with that country, which exists on paper but is largely considered ineffective by the Environmental Board – no exchange of information, strong complications in prosecuting Russian citizens and low transparency on economic activities by Russian citizens being the most relevant issues. Estonia however shows significant cooperation on the EU side, particularly through the Network for the Implementation and Enforcement of Environmental Law (IMPEL), through Europol, Eurojust and Interpol and with Sweden and Finland.

FINLAND

Main environmental crimes	Illegal waste management and trafficking, wildlife trafficking and illegal hunting
Specialised enforcement authority	No
Specialised judiciary	Specialised prosecutors
Publicly available data and statistics	Partially
Cross-border crimes	Relevant for waste trafficking and to a lesser extent wildlife trafficking
Technologies	Very limited use
Cooperation between LEAs and NGOs (and other players)	Relevant. MoUs with transport companies that get information on waste trafficking. NGO support relevant for illegal hunting and poaching

With a national strategy and an internationally praised prevention-based model, Finland is well positioned in the fight against environmental crimes. Yet lack of resources is likely causing just the tip of the iceberg to emerge in terms of detected cases.

In Finland, the main LEAs involved in the action against environmental crimes are the National Police, customs and Finnish Border Guards. The police have no specialised unit for environmental crimes, but there is one national coordinator in the National Bureau of Investigation. Customs has powers to start investigations of environmental crimes within its competence, such as CITES or waste trafficking.

On the administrative side, supervision and monitoring of compliance for environmental legislation is primarily the duty of the regional Centres for Economic Development, Transport and the Environment (ELY Centre) and municipal environmental authorities. At the

national level, the Finnish Environment Institute and Finnish Safety and Chemicals Agency (TUKES) have also been entrusted with certain supervisory duties. The cooperation between police, customs and the Finnish Environment Institute is reportedly excellent with regular meetings to coordinate action, whereas cooperation between the regional and national level could be improved.³⁵¹ On the judicial side, there are no specialised courts, but there are three specialised prosecutors.

Action against environmental crimes in Finland benefits from a well-designed structure dedicated to monitoring trends and defining an overall strategy. The National Strategy for Preventing Environmental Offences was recently updated for the period 2021–26³⁵² while, since 1997, the “Finnish Monitoring Environmental Crime Monitoring Group” – a working group including all the main relevant national authorities (Ministry of Environment, Justice, LEAs, prosecutors, etc.) – is charged with the monitoring of environmental crime and

development of enforcement action, publishing an important annual report that is publicly available. The Finnish model, which places the focus on environmental crime prevention and on collaborative effort between involved authorities, has been praised as an international best practice.³⁵³

Nevertheless, some significant obstacles still exist in Finland. According to authorities, the main issue in the country is lack of human resources, which hampers a more complete assessment of environmental crimes – likely to be much more than those detected, a fact which is confirmed also by low statistics compared to neighbouring countries. As a measure to address this, the national strategy aims at eliminating the existing legal obstacles that still prevent a full exchange of information between different authorities.³⁵⁴ Other key issues are the low risk of being caught and the mild sentencing practice adopted by courts for criminal cases, which entails that the most common sanction for the impairment of the environment is a day fine or, very rarely, conditional imprisonment.³⁵⁵ Nevertheless, low criminal sanctions are partially balanced by the fact that criminal assets recovery (i.e., confiscation of profits generated by the crime) is a legal obligation and it is systematically enforced. This approach focused on the economic benefits of environmental crimes is reflected also in the institutional structure where, for both the police and customs, environmental crimes are considered part of economic crimes and investigated by economic crime units. Furthermore, in the Finnish legis-

lation administrative penalties do not exist, therefore limiting the tools to deal with environmental crimes to criminal sanctions. To broaden the existing sanctioning toolbox and make it more efficient, the Ministry of Justice has established a working group to propose a wider use of administrative sanctions, including for environmental offences.³⁵⁶

With regard to the types of crime faced by Finland, illegal waste management and trafficking are the most relevant. The latter entails in particular exports of waste through central Europe reaching sub-Saharan Africa and other developing regions, while the former concerns illegal dumping usually related to companies that exceed their permitted waste levels. The second most relevant category concerns wildlife poaching and illegal hunting (namely illegal killing of bears, deer, rare birds and wolves), led also by what was defined by authorities as “the fear of wolves” (i.e., fear of damages to rural properties). To a lesser extent these crimes are also related to cross-border wildlife trade, which also includes trafficking of pets. The assessment of connections between environmental crimes and organised crime in Finland is influenced by a very strict definition of organised crime groups that reportedly makes it quite difficult to prove their involvement. To date there are very few cases of organised environmental crime but this is reportedly likely to change in the future.³⁵⁷

To improve action on environmental crimes, Finland is focusing in particular on strengthening training for all

authorities, as well as on raising awareness on specific issues also through participation in European projects – for instance, the European Crime Prevention Network campaign “It’s a matter of wildlife or death” which aimed at educating customs and police officers on wildlife trafficking. Moreover, Finland is also involved in several EU projects to tackle the low level of use and understanding with regard to technologies in environmental crimes, such as artificial intelligence and satellite images.

FRANCE

Main environmental crimes	Water pollution, wildlife trafficking, poaching, illicit activities on rivers, illicit trade and use of pesticides, irregular waste disposal, massive emissions of pollutants
Specialised enforcement authority	Yes, the OCLAESP https://bit.ly/ambitusfr
Specialised judiciary	Yes, but also every penal court in France is competent on such matters
Publicly available data and statistics	No
Cross-border crimes	Relevant, particularly concerning waste (as origin country) and wildlife trafficking (as recipient country)
Technologies	Very limited use
Cooperation between LEAs and NGOs (and other players)	Limited, mostly in an informal way

Thanks to a growing environmental conscience and the country's aspiration to hold Europe's environmental leadership, France is taking significant steps in the fight against environmental crime, particularly considering its institutional architecture. However, such progress is slowed by legislation still lacking strength and clarity.

France benefits from the consolidated presence of a dedicated institution for the fight against environmental crime, the OCLAESP, composed by staff from the Gendarmerie, police force and technical advisors in environment and health matters, originally designed to deal with asbestos-related issues. Its powers have been significantly strengthened by the 2016 law on biodiversity (LOI n° 2016-1087), giving it access to most advanced investigation tools. The OCLAESP has a central office in Paris, seven local divisions (plus two in September 2022) and relies on a network of circa 579 specially trained experts (Gendarme-

rie, police, customs and prosecutors) across the country, including overseas French territories (French Guyana, la Réunion in the Indian Ocean as well as Tahiti in the Pacific Ocean very soon). In addition to the OCLAESP, the Gendarmerie and the police, also other institutions deal with environmental crimes: other services of the Ministries of Ecology (especially CITES issues) and of Agriculture and Food (particularly concerning the EUTR), decentralised services of the State such as the *Direction départementale des territoires et de la mer* (DDTM, on buildings), the *Direction régionale de l'Environnement, de l'Aménagement et du Logement* (DREAL, on CITES, waste and activities classified as hazardous for the environment) and the *Direction Interrégionale de la Mer Méditerranée* (on maritime issues). Other institutions involved are the national parks, the French Office for Biodiversity and the customs administration. France also benefits from specialised environmental courts, even if in a limited number; as the competency on envi-

ronmental issues is shared with ordinary courts, the country is working on increasing the specialisation of its judiciary in such matters.

Despite such a strong involvement, France is still facing several obstacles in the course of its action. The OCLAESP in particular highlights the need for greater coordination between administrative and judicial authorities and LEAs, often due to difficulties in gathering evidence or building a substantial case for prosecution. This is blamed on insufficient training and specialisation, but also on a general weakness in the legislation, particularly concerning clarity. Indeed, the lack of a clear definition for environmental crime and the frequent overlaps between administrative and criminal competences makes it complicated to understand which offence the agency is facing, if they are actually facing one and on what grounds (in the case, for instance, of surpassing the assigned quotas for fishing or treating hazardous substances requiring specific permits).³⁵⁸ This also undermines coordination between different authorities (particularly with administrative ones), on both the national and the international level – one of the reasons why France has strongly supported the revision of the 2008 Directive and is pushing at the UNODC level to promote the use of international investigations using the UN convention against transnational organised crime.

The country is affected by a number of crimes, often with financial or cyber-crime ramifications, which have a

strong transnational component – this is the case, for instance, of waste trafficking (directed from France towards Southeast Asia, sub-Saharan Africa and Turkey in particular). This is also why the country is involved in a number of collaboration projects with Asian and African countries (although not operational yet, but as trainings), as well as with the Balkans (where, as in the case of Southeast Asia, France is also trying to promote activities in the field and the creation of a network of experts similar to EnviCrimeNet). Cooperation between LEAs and NGOs (and other players) takes place even if mostly through complaints received by local NGOs or as an exchange of information or via the delivery of reports by large organisations at the national or international level.³⁵⁹

Finally, the adoption of new technologies is very limited in France; the use of drones by police forces requires complicated and extensive training which significantly limits their availability, while there has been only a small number of applications of satellite technology. The Gendarmerie Nationale is currently developing several digital solutions (website, dedicated application) allowing the detection and direct reporting of criminal behaviour related to waste or protected species trafficking, as well as the collection of complaints from victims.

GERMANY

Main environmental crimes	Waste and wildlife trafficking, water pollution
Specialised enforcement authority	Partially, several specialised units
Specialised judiciary	Partially, few specialised persecutors
Publicly available data and statistics	Yes
Cross-border crimes	Relevant
Technologies	Satellite images, drones, open source and mass data analysis
Cooperation between LEAs and NGOs (and other players)	Very relevant, especially NGOs for wildlife and private sector on waste and pesticides

The federal structure of Germany has produced a highly complex, yet quite specialised, envicrimes enforcement architecture, which requires enhanced coordination between the federal and Länder level. Several judicial bottlenecks represent the main obstacles to more effective law enforcement, despite a sophisticated environmental criminal law.

Enforcement of administrative and criminal law lies mainly in the German Federal States (Länder), while the Federal government is responsible for some specific violations. The State Police Services of the German Länder are responsible for criminal environmental offences and are equipped with specialised units, while each Land has administrative authorities responsible for monitoring and administrative law enforcement. At the national level, the Federal Police is responsible mainly for liaising with Interpol and Europol, cooperation with administrative and judiciary bodies and providing training to the States' Police forces. Customs

authorities are involved in criminal proceedings involving cross-border trafficking, with specific competences for wildlife and CITES crimes and waste crimes. Finally, the Federal Environment Agency is the competent national body for environmental administrative offences.

The cooperation between authorities working on envicrimes at the Federal and Länder level is satisfactory but still presents some issues. For instance, certain environmental protection data are collected only at the Länder level, resulting in a proliferation of databases where information remains buried at the local level hampering coordinated action.³⁶⁰ In addition, the high number of authorities and their different structures in each Land make it difficult for the Federal Police to coordinate them and provide specialised trainings, which makes uniform implementation of environmental laws very difficult to achieve.

Up until the 1980s, the main environmental crimes in Germany were cases

of water pollution. Today, the mismanagement of hazardous waste is the most significant issue, followed by offences under the Animal Protection Act and water pollution, which still remains relevant.³⁶¹ Pesticides trafficking appears to be an emerging trend that is requiring stronger cooperation with China and India, adding to a well-established worldwide cooperation system.

Germany has a sophisticated set of rules on environmental crimes – and they are classified as “primary criminal law” within the Criminal Code which indicates that environmental offences are considered serious criminal wrongdoings. The Code also establishes that criminal environmental law is accessory to administrative law, a principle that ensures that nobody can be punished for something which was legal according to administrative law. As a result, criminal law depends on the enforcement of administrative law and whether an offence can be prosecuted largely depends on the decision of administrative authorities.

Reportedly, the country has a highly dense and complex body of environmental administrative law. According to the Federal Police, the fact that the enforcement of criminal law depends on this complex system is a significant obstacle. Another obstacle within the judiciary sector is the limited specialisation of prosecutor’s offices, which have dedicated departments only in the main cities. With a complex legal system and lack of specialisation, often prosecutors do not charge criminal offences and hand the cases back to ad-

ministrative authorities. However, it should be highlighted that administrative sanctions in some areas, such as CITES, are much harsher than criminal ones. Due to this combination of factors, criminal law tends to be considered not necessarily the right means to ensure effective prosecution.

According to German law, legal entities cannot be prosecuted, which can represent a major obstacle when companies are the perpetrators of environmental offences. Therefore, the introduction of the legal possibility to enforce asset recovery against companies in 2017 was a significant step forward.³⁶² The link between environmental crimes and economic crimes is well understood and collaboration between relevant enforcement units is fruitful. Similarly, the connections between envicrimes and cybercrime are increasingly addressed. Specialised trainings have been provided to investigators and a new unit was established in the most affected sector, the trafficking of pesticides and protected species.

Contrary to the majority of EU member states, German statistics do not reflect the presence of organised crime groups in environmental crimes. Nevertheless, the Federal Police has confirmed that organised crime is observed in environmental crime cases and this is a very serious phenomenon if we consider the assets gained by the perpetrators. The lack of representation in national statistics is explained by the absence of a definition for “organised crime” in German law, which has led to the use of a working defini-

tion that is quite narrow. In addition, the only two existing legal provisions on organised crime (§ 129 Criminal Code) present some shortcomings that make it difficult to legally link organised crime to environmental crimes.³⁶³ Another example of a still partially inadequate approach to deal with environmental crimes as serious and complex crimes, is the labelling of “minor category” offences in the context of investigations, which prevents the use of key tools such as bugging – unless the environmental offence is associated with external aggravating elements.

GREECE

Main environmental crimes	Waste mistreatment and trafficking, hazardous waste, non-compliant company activities concerning waste
Specialised enforcement authority	Yes. The Hellenic Environmental Inspectorate
Specialised judiciary	No
Publicly available data and statistics	Partially
Cross-border crimes	Very relevant
Technologies	Relevant for drones and satellite imagery
Cooperation between LEAs and NGOs (and other players)	Relevant with NGOs especially on detection of issues such as contamination from sewage and illegal landfills (mainly ECO-CITY)

Despite a good level of LEA specialisation, enforcement action in the most critical environmental crime area—waste crimes—is severely hampered by the lack of formal cooperation between enforcement authorities, the lack of a national database and national strategy. To address these issues, the country is undertaking a critical LIFE project. At the same time, authorities are increasingly interested in new technologies and are taking steps for broader adoption.

The Hellenic Environmental Inspectorate is the main body enforcing environmental legislation in Greece. It is part of the Environment and Energy Ministry and divided into two territorial jurisdictions, the Northern and Southern. Regional and decentralised authorities also have specialised inspections units on specific environmental areas. The Inspectorate deals with administrative proceedings but acts also on a mandate from the public prosecutor to carry out preliminary investigations for suspected crimes. Within the

Ministry there are also specialised departments, responsible for instance for illegal transboundary movement of waste or wildlife trafficking. The Inspectorate collaborates closely with the Environmental Police Department, Coastal Guard Marine Environment Protection Directorate, as well as the Special Secretariat for Financial and Economic Crime Unit (SDOE) subsumed to the Ministry of Finance for relevant crimes.

Recent reports raised concerns over the dependence of the Environmental Inspectorate on the political leadership of the Ministry.³⁶⁴ However, the Inspectorate claims that taking commands directly from the Minister is an operational advantage that avoids going through the complex administrative hierarchy and administrative burden. Following the economic crisis in Greece, the Inspectorate has become severely understaffed. Significant action is ongoing in this regard, so far increasing capacity to 26 inspectors (compared to 16 in 2017).³⁶⁵

The lack of coordination between enforcement authorities and the lack of an integrated information system on environmental crimes are major issues in the country. Currently, environmental inspectors, other LEAs, public prosecutors and courts keep their own separate data, which makes it very difficult to identify general trends in environmental crimes. Despite the lack of a formal cooperation system, the informal coordination between authorities working on environmental crimes is reportedly very good.³⁶⁶ A further issue is the lack of a national strategy on environmental crimes.

To overcome these problems in the main area of concern for the country – waste crimes – the Ministry of the Environment is bringing together, through a LIFE project called LIFE PROWHIBIT,³⁶⁷ all stakeholders including LEAs, public administration, NGOs and the private sector to build a national strategy and a national online data platform on waste environmental crimes.

In the judiciary system there are no specialised courts or judges for environmental crimes but there are two specialised prosecutors in Athens and Thessaloniki. The mentioned LIFE project is also addressing this aspect by providing specialised trainings to judges and prosecutors.

As mentioned, waste crimes are the main issue in Greece. Mismanagement of hazardous waste is a longstanding problem, while recent trends highlight an increase in illegal landfill, transboundary trafficking and non-compliant companies' activities. In addition,

an increase in illegal shipments has been observed. A trend highlighted both by the Environmental Inspectorate and an EU project report concerns waste trafficking between Greece and Africa,³⁶⁸ confirmed for instance by two recent cases of hazardous waste export from Greece to Liberia. Greece is also considered one of the major ports of entry in Europe for HFC refrigerants,³⁶⁹ which in a recent case arrived in Athens from China.

According to the Environmental Inspectorate, there are possible connections between environmental and organised crime in Greece, namely in waste trafficking. The connection with financial crimes is also clear and the informal collaboration with the SDOE has been positive. By contrast, despite EU data showing that in fields such as the illegal trafficking of HFCs web-based platforms play an important role, there are no reported experiences of collaboration with cybercrime units.³⁷⁰

Technologies are increasingly recognised as key tools in the fight against environmental crimes. Following a positive experience using satellite data provided by Frontex, the Environmental Inspectorate runs a pilot project with the SatCen Institute to study how satellite images can support investigations, reducing costs and making better use of scarce human resources.³⁷¹ They aim at proposing to the Ministry to provide them with the legislative tools to use satellite images legitimately, which would reportedly be a radical transformation for their activities. Following a recent Presidential Decree³⁷² that

allows the Hellenic Police to broadly use drones, the Inspectorate has also decided to acquire its first two unmanned aerial vehicles (or drones) through the LIFE PROWhIBIT project, to be used especially for the increasing issue of illegal landfills. The Coast Guard is already using both satellite images and drones, mainly to detect oil spills. Their data show that the introduction of satellite detection has played a key deterrent effect reducing marine pollution from ships.

HUNGARY

Main environmental crimes	Wildlife crime, destruction of nature, waste trafficking and illegal disposal
Specialised enforcement authority	Yes (a small central unit and a specialised member of staff in each station)
Specialised judiciary	No
Publicly available data and statistics	Yes, available on the Hungarian Police website (https://bsr.bm.hu)
Cross-border crimes	Relevant, particularly trophy hunting outside the country and waste trafficking
Technologies	Very limited use, with the small exception of drones used by police forces on some occasions
Cooperation between LEAs and NGOs (and other players)	Relevant, particularly on bird protection

A country active in the fight against environmental crime thanks to an advanced legislative framework, Hungary's action is however limited by insufficient institutional coordination and a limited application of new technologies. Recent changes, such as the creation of the National Environmental Security Task Force (NEST) could however improve the situation already in the short term.

Despite having no single definition for environmental crime, the country's 2011 Constitution contains numerous references to environmental protection, translated into the 2012 amendments to the Criminal Code, which thus covers an ample variety of offences and fully implements the 2008 Directive. Hungarian police forces also show a relevant level of specialisation, having a small central unit dedicated to environmental crimes (counting 16 people) and a police officer trained on the topic in each police station (who is in charge of investigating most such crimes).³⁷³ Other authorities involved on the na-

tional level are the Ministry of Agriculture (on food chain security, CITES management, waste management and fishing and hunting), the national park Directorates, customs, various government offices (the Inspectorates on the national level in the field of waste management, wildlife and food chain security), the national Directorate for disaster management (on the control of dangerous materials transported) and the national transport authority.

While this system is theoretically solid, as reported by the National Bureau of Investigation, it suffers from lack of coordination between the regional and the federal level and, particularly, from lack of capacity and training, particularly on the local and lower level of the hierarchy.³⁷⁴ This could also increase the impact of corruption – an issue affecting Hungary as a whole and with some reflections on environmental offences as well. The country also has no specialised courts, on either the criminal or the administrative side; generally speaking, the preference for the

prosecution of environmental crimes is on criminal law, since administrative penalties are usually applied for minor offences. This however complicates the prosecution of companies, considering that, in the country, criminal law only applies to physical people. Cooperation among the different players is however expected to improve thanks to the establishment in 2020 of the NEST Task Force involving the police, customs, prosecutors, environmental and other specialised agencies, on both the national and international levels.

Hungary faces a number of offences related mostly to waste, being both a transit and a destination country for hazardous waste coming from Italy (and sometimes destined to Slovakia and Ukraine), to wildlife crime (poisoning of birds of prey by hunters, farmers and pigeon breeders) and destruction of nature. Considering the latter, the destruction of the floodplain habitat and of the ancient poplars at Tiszaug in 2020 is conspicuous, perpetrated by a sub-contractor of the Bács-Kiskun County Government Office,³⁷⁵ which has only been fined an impressively low amount of circa 525 euro for the act. Hungary also faces troubles concerning the so-called “industrial heritage” of the country, i.e., major heavy industries run by entrepreneurs connected to the former political leadership and which still significantly pollute the environment (mostly related to waste issues) thanks to the political influence of their owners.

The use of new technologies in the country is limited; after the 2020 Drone Act the use of unmanned vehicles has

been partially simplified, but it remains very restricted not only for private users, but also for administrative authorities. The government has also launched the app “Wasteradar” to detect the illegal disposal of waste,³⁷⁶ with still limited success.

Cooperation is significant with both EU and non-EU countries, particularly Austria, Slovakia, France, Italy, Spain, Serbia, Moldova and Kyrgyzstan, the latter part of a successful case on the poaching of Marco Polo sheep by Hungarian trophy hunters.

IRELAND

Main environmental crimes	Illegal waste management, waste trafficking, fishery crimes
Specialised enforcement authority	Yes
Specialised judiciary	One unit in the Office of the Director of Public Prosecutions, no specialised judges and courts
Publicly available data and statistics	Partially
Cross-border crimes	Relevant
Technologies	Limited, with some use of drones for surveillance and apps for reporting
Cooperation between LEAs and NGOs (and other players)	Very relevant with private sector especially on waste, relevant with NGOs active on awareness raising and issue of proceedings for environmental non-compliance

With specialised enforcement and regulatory bodies and several best practices ranging from prevention initiatives to cooperation with the private sector, Ireland has a quite advanced system to fight environmental crimes, yet room for improvement remains.

In Ireland, significant responsibilities for environmental protection are vested in the Environmental Protection Agency (EPA) and the 31 local authorities. The EPA has licensing and regulatory functions as well as enforcement powers, carried out through its Office of Environmental Enforcement responsible for prosecution concerning breaches of licences. Local authorities also deal with environmental regulation and can prosecute minor breaches of environmental legislation. The An Garda Síochána (National Police) has no specialised staff on environmental crimes but it supports investigations of specialised competent authorities (i.e., EPA, local authorities and others according to sectors) in the most serious cases.

Ireland has a particularly well-structured framework to tackle waste crimes, one of the leading environmental crimes in the country. It has established the Waste Enforcement Regional Lead Authorities responsible for setting priorities and coordinating waste enforcement actions within regions, whose work is supported at the central level by the National Waste Enforcement Steering Committee (NWESC). In addition, the National Transfrontier Waste Shipment Office (NTFSO) is responsible for the administration and enforcement of cross-border shipments of waste. Other similar sector-specific authorities are present also in other areas (e.g., Regional Fishery Boards or Local Authority Waters and Communities Offices). In light of this articulated institutional framework, the country has established the Network for Ireland's Environmental Compliance and Enforcement (NIECE) to support environmental protection enforcement through better engagement and collaboration among relevant authorities.

Cooperation between law enforcement authorities is reportedly successful and the multi-agency approach adopted by Ireland is regarded as an example of best practice.³⁷⁷ Similarly, Ireland has established excellent prevention and awareness programmes targeted at both civil society and industries, such as the Producer Responsibility Initiatives.³⁷⁸ In addition, very good cooperation has been established with the private sector in particular handling waste and hazardous waste materials, through the Industry Contact Group that provides strategic and practical support to LEAs and regulators working closely with the NWESC.³⁷⁹ This cooperation is particularly important given the relevance of waste crimes perpetrated by companies in the country. For instance, in recent years the NTFSO has tackled cases concerning large-scale illegal dumping sites in Northern Ireland containing waste originating in the Republic of Ireland, and these activities were linked to a number of companies and organised crime. Furthermore, NGOs are also active and influential in the area of environmental crimes, carrying out activities including raising awareness and issuing legal proceedings for alleged non-compliance with environmental legislation. Their participation is also encouraged in the NIECE, alongside private sector participation. Some of the most relevant organisations in Ireland include Friends of the Irish Environment, Bird Watch Ireland, Irish Peatland Conservation Council and National Trust for Ireland (An Taisce).³⁸⁰ Finally, Ireland is also increasing its use of technologies to tackle environmental

crimes – for instance, through the adoption of drones for surveillance and several apps and web-based systems operated by public bodies to ease reporting of environmental offences, such as the app “See it? Say it!” to report for instance waste and pollution issues.³⁸¹

Despite these good practices in addressing the fight against environmental crimes in Ireland, there is room for improvement. In particular, the NTFSO could strengthen cooperation with An Garda Síochána as well as customs, both of which collect valuable data on cross-border illicit waste activities. Furthermore, cooperation between LEAs and the judiciary is particularly poor and the lack of specialisation and training on environmental crimes for prosecutors and judges is a significant issue. Similarly, the lack of specialisation among Garda officers should be addressed. In addition, human resources capacity within specialised bodies is not always sufficient (namely in NTFSO and EPA) and statistics on investigations, prosecution and convictions should be better compiled overcoming fragmentation among authorities. With regard to the judicial aspects, in Ireland “serious crime” in the context of environmental crime is not clearly defined, leading to different interpretations by authorities and prosecutors and hindering systematic prosecution of the most serious cases. Furthermore, Ireland could increase its engagement with EU cooperation initiatives on environmental crimes, strengthening participation in Europol and Eurojust and participating more actively in important networks

such as EnviCrimeNet. With regard to cooperation at the international level, Ireland has attempted with limited success to establish contact with final destination countries of illegal exports of waste, in particular waste electrical and electronic equipment and end-of-life vehicles directed mainly to West African countries.³⁸²

ITALY

Main environmental crimes	Waste trafficking, poaching, illegal fishing, air, water and land pollution
Specialised enforcement authority	Yes
Specialised judiciary	No
Publicly available data and statistics	Available upon request
Cross-border crimes	Very relevant, particularly waste (as a destination and origin country)
Technologies	Very relevant, particularly on AI, data analysis and satellite imagery
Cooperation between LEAs and NGOs (and other players)	Relevant with NGOs, particularly on waste and wildlife

A country with a varied geography and economy, Italy faces a number of different environmental offences across its territory. Thanks to a more than 30 years' dedicated focus on the topic, Italian LEAs benefit from a consolidated enforcement structure, a positive legislative framework and a remarkable familiarity with technologies. Still, low specialisation among the judiciary, the involvement of OCGs at different levels and the significant size of environmental crimes represent major obstacles to effective action.

Italy has a long history of a dedicated enforcement focus on environmental matters: its Corpo Forestale dello Stato (CFS) was created in 1822 in the Regno di Sardegna (the state triggering Italy's unification) with environmental competences. In modern times, the environmental unit of the Carabinieri, the Nucleo Tutela Ambientale, started its activities in 1986. Currently, the CFS has been absorbed into the Carabinieri, which now has a centralised unit for

environmental (and also food-related) crimes, the Comando unità forestali, ambientali e agroalimentari (CUFA). Within this, the former CFS has local competencies, as well as a responsibility over CITES, wildlife and some international collaborations. The original environmental unit of the Carabinieri has instead regional and national competencies over a variety of matters, while waste and international relations are coordinated by the Central Command of the agency. The national police, the coastal guard, the financial police (Guardia di Finanza) and other local and national agencies also have limited environmental competencies.

The legislative architecture on environmental matters in Italy is quite strong when compared to other European countries. It includes a 2006 environmental code, the Law decree No. 152 of 3 April 2006 (Testo unico in materia ambientale), and a 2015 law, Law No. 68 of 22 May 2015, which introduced a dedicated definition for crimes against the environment. The latter has de-

defined a few, very broad cases of environmental offences, such as “environmental pollution” or “environmental disaster”, providing LEAs with a wide coverage for their action, yet still falling short of offering a complete and full definition of *envicrime*.

Environmental crimes in Italy have an extensive impact and a varied nature, related to the complex economic and physical geography of the country, some also with historical roots in its industrial heritage. Industrial areas such as those around the cities of Taranto and Brescia have been pollution hotspots for decades, alongside part of the decaying refinery system of the country. The Istituto Superiore per la Protezione e la Ricerca Ambientale, the national research centre for environmental protection and research, has also identified 42 “Siti di Interesse Nazionale”, areas which will require extensive decontamination.³⁸³ The Carabinieri were also recently involved in an extensive investigation on PFAS chemical pollution in the Veneto region; 15 people were taken to court in 2021 and the investigation is still ongoing.³⁸⁴ Waste has also been a key issue; Italy has been recognised as one of the key origin countries for flows destined to Eastern Europe, Africa (particularly concerning exhausted solar panels, as investigated by the Carabinieri) and Asia (mostly plastic waste).³⁸⁵ The country has also faced issues with illegal disposal within its territory; the “Terra dei Fuochi” case (“land of fires”) refers to special and toxic waste buried in the Campania region and sometimes burned, a situation which gained widespread attention in

the 2000s but which has likely existed since at least the 1980s. Poaching is also relevant, Italy being one of the worst countries in terms of numbers of illegal killing of birds in Europe (roughly 6 million a year³⁸⁶); the situation is concentrated in seven “black spots” across the country. Illegal fishing is also an issue, particularly because of the use of illegal nets in delicate areas such as the Adriatic Sea.

Due to the strong presence of a number of consolidated OCGs, such as the well-known Camorra and Ndragheta, the role of these organisations is strong in several environmental crimes, particularly waste. The main issue is the involvement of affiliates in local and regional administrations (and sometimes even higher levels), rigging tenders and contracts for, for instance, waste disposal or the construction of infrastructures (overlooking minimum environmental requirements). While the Carabinieri still highlight the need for greater penalties on key offences, such as waste trafficking, the low specialisation of the judiciary, difficulties in accessing investigative techniques and low environmental awareness, particularly on the local level, are key obstacles.

Italy is however well equipped to face all these issues. In addition to applying a hybrid administrative/penal law mix of measures, it is relatively easy to prosecute legal persons, thanks to the Law 231/2001 on corporate responsibility. The use of technologies is also extensive: the Carabinieri have a dedicated centre for data analysis (Centro

Elaborazione Dati), extensively using AI, large databases and satellite imagery analysis. Ground-penetrating radar, laser scans and magnetometers are routinely applied, as well as drones – although the agency has to resort to external services, the law in Italy for the use of unmanned aerial vehicles being one of the most restrictive in Europe.³⁸⁷ Collaborations are finally ample: Italy is part of all international networks, frequently collaborates with institutions such as Interpol and is part of several EU projects, such as OPFA waste. While the country has frequent partnerships with Spain, France and Eastern Europe, the role of civil society is also particularly important – particularly the work of LIPU (poaching, mostly birds), Legambiente (OCGs, waste and land use in particular) and WWF Italy (habitat destruction and biodiversity).

LATVIA

Main environmental crimes	Waste trafficking, illegal wildlife trafficking, poaching and illegal logging and timber trade
Specialised enforcement authority	No
Specialised judiciary	No
Publicly available data and statistics	No
Cross-border crimes	N/A
Technologies	N/A
Cooperation between LEAs and NGOs (and other players)	N/A

In Latvia the State Police conducts investigations on all criminal cases against the environment. While there is no evidence that it is the solely responsible unit for environmental crimes, a report from ENPRO³⁸⁸ noted that a group of specialists was set up within the Latvian police to focus on these offences in 2009.

Even though there is not a prosecution office for environmental crimes, a series of cases ranging from air, earth and sea pollution to unauthorised hazardous waste disposal are under the responsibility of a specialised multi-branch prosecution office created in 2009. All other offences against the environment are covered by district Prosecution Offices. Lastly, regional institutions such as the State Environment Service, the State Forest and Hunting Inspectorate, the State Forest Service and local police oversee administrative offences.

The Latvian legislation classifies acts against the environment either as

criminal or administrative offences. Offences within the former category are defined in chapter 11 of the Criminal Law. The code covers a wide spectrum of environmental crimes such as pollution, forest fires, acts against plants and animals and several others. Other offences against the environment are regulated by the Latvian Administrative Offences Code.

The country is affected by different crimes against the environment; the main offences are illegal dumping of waste, illegal logging, illegal wildlife trading, illegal hunting and fishing and the illegal trade of waste. The latter mainly sees Latvia as a destination country for waste coming from several European nations. In a recent case of June 2021, 180 tonnes of waste illegally imported from the United Kingdom were returned to the country of origin. The main obstacles to investigating environmental crimes mainly relate to complicated exchange of information between criminal and administrative bodies. Furthermore, legal

difficulties include complexity in defining substantial damage against the environment, especially in cases of air pollution, and arduous procedures to prosecute legal entities.

Latvia is part of several international networks fighting against environmental crimes; it is a member of the EnviCrimeNet, ENPRO, the Association of European Network of Prosecutors for the Environment (ENPE) and IMPEL.

LITHUANIA

Main environmental crimes	Poaching, air, water and land pollution, wildlife trafficking
Specialised enforcement authority	No
Specialised judiciary	No
Publicly available data and statistics	No
Cross-border crimes	N/A
Technologies	N/A
Cooperation between LEAs and NGOs (and other players)	N/A

Despite an abundant classification of environmental crimes as either administrative or criminal offences, Lithuania has no single definition of environmental crime. While the country faces a limited number of cases, blurred legal definitions, lack of specialisation and poor crime reporting hinder Lithuania's ability to prosecute offences against the environment.

In Lithuania different authorities deal with environmental crimes depending on the legal status of the crime in question. According to article 165 of the Code of Criminal Procedure, the police is the body in charge of pre-trial investigation in all cases classifiable as crimes or criminal offences (the distinction between the two being the extent of damage to the environment). In these cases, Regional Prosecutors' offices normally conduct the prosecution. While some regional police districts have introduced specialised units focusing on environmental crimes, that is not the case everywhere as under-

lined in a report by ENPRO. On the other hand, in line with article 259(1) of the Code of Administrative Offences, Regional Environmental Agencies are entitled to investigate environmental offences defined in the same Code, as well as offences included in other environmental acts, leaving aside crimes and criminal offences. In fact, according to article 165 of the Code of Criminal Procedure, Departments of Regional Environmental Agencies are not authorised to conduct pre-trial criminal investigations. While it is common for these bodies to initiate investigations on environmental offences, considering that the legal status of the offence is at first often not clear, Regional Environmental Agencies must transmit the case to either the police or prosecution services.

Environmental crimes and criminal offences, the latter being less severe than crimes, are defined in Section XXVIII of the Lithuanian Penal Code. The code regulates several environmental offences, from pollution to

waste issues, illegal poaching and fishing as well as illegal wildlife trade; besides that, some cases are classified as both crimes and criminal offences. Administrative offences are regulated by several different acts, including but not limited to: the Environment Act, the Wood Act, the Hunting Act, the Water Act and the Act of Waste Recycling. However, the main law governing administrative offences against the environment is the Lithuanian Code of Administrative Offence, which provides several infringements on protection of the environment and natural resources. While similar to the provisions of the Penal Code, the main difference between the two laws lies in the seriousness of the damage to the environment.

Lithuania has seen in the past years a series of pollution scandals related to companies illegally polluting Baltic waters. In a recent case that happened in 2020, paper manufacturing company Grigeo Klaipėda was found guilty of releasing wastewater into the Curonian Lagoon, next to the UNESCO site of Curonian Spit.³⁸⁹ Besides that, illegal fishing activities, especially related to Baltic salmon, take place in the country, as well as wildlife trade in endangered species with Lithuania being both source and transit country. Illegal logging activities have been detected, and Lithuania has seen cases of poaching of wolves and, in one case involving also some politicians, a bison. Lastly, cases of illegal refrigerant trade have been detected in the country.

The main obstacles in tackling environmental crimes in Lithuania include

both legislative and operational issues. On one hand, an often blurred classification of actions against the environment as either criminal or administrative offences complicates prosecution, often resulting in opting for administrative procedures. On the other hand, a lack of crime reporting from both environmental protection institutions and the general public, a lack of supervision over environmental law enforcement as well as the absence of specialisation within Public Prosecutor offices, all hinder action against environmental crimes.

Despite not taking part in either the European Multidisciplinary Platform Against Criminal Threats (EMPACT) or EnviCrimeNet, Lithuania conducts international cooperation on environmental crime issues through ENPRO and ENPE.

LUXEMBOURG

Main environmental crimes	Illegal waste disposal, illegal fishing
Specialised enforcement authority	No
Specialised judiciary	No
Publicly available data and statistics	No
Cross-border crimes	N/A
Technologies	N/A
Cooperation between LEAs and NGOs (and other players)	N/A

Luxembourg has limited environmental crime cases but a relatively articulated legislative structure on the matter.

In Luxembourg different authorities are responsible for environmental offences, with no centralised unit. Administrative and criminal law tools are used in roughly the same share. Criminal offences against the environment fall under the competence of the Public Prosecutor's Office. Investigative Judges also have authority on these cases and might be supported by the Grand-Ducal Police throughout investigations. Administrative offences are split among several laws, and the Grand Ducal Police is responsible for cases included within the Nature Protection Law. Other administrative agencies involved are the Nature and Forestry Administration, the Water Management Administration, the Environment Administration and the Customs and Excise Administration.

Aside from the Criminal Code, there are a few other laws regulating envi-

ronmental offences. These include the Nature Protection Law, the Water Law and the Packaging Law. These regulations define administrative offences against the environment.

Due to its limited size, Luxembourg is only partially affected by environmental crimes. The main offence in the country concerns the illegal disposal of waste, in some cases over the border within France, and illegal fishing activities. At the same time, one of the main difficulties identified in prosecuting environmental crimes concerns the legislation's ambiguity on the liability of legal persons.

Luxembourg engages in several international efforts fighting environmental crimes. In particular, the country is a member of the North Sea Network of Investigators and Prosecutors, Envi-CrimeNet, ENPE and IMPEL.

MALTA

Main environmental crimes	Poaching, illegal fishing, waste trafficking, illegal ship dismantling
Specialised enforcement authority	No
Specialised judiciary	No
Publicly available data and statistics	No
Cross-border crimes	Limited, but relevant for illegal fishing and illegal ship dismantling
Technologies	Limited
Cooperation between LEAs and NGOs (and other players)	Relevant with NGOs, particularly on bird poaching

Despite a limited impact of environmental crimes, especially when compared to other member states, Malta is affected by a number of such offences, particularly concerning poaching and fish farming. While still facing several obstacles to action against envicrime, such as lack of consistent fines and judiciary bottlenecks, the country is however slowly advancing in the sector from a legislative and a technological point of view.

Action against environmental crime in Malta is led by the Malta Police Force which, under the Administrative Law Enforcement Section, has been largely working on enforcing hunting and trapping regulations,³⁹⁰ as well as animal welfare laws and the protection of Natura 2000 and other environmentally relevant sites. The Malta Police Force also supports the Planning Authority, the Fisheries Department, the Agriculture Department, the Cleansing Department and the Malta Competition and Consumer Affairs Authority on issues related, for instance, to pesticide control

and implementation of the Aquaculture Strategy for 2014–50.³⁹¹ Malta also has an Environment and Resources Authority, which launched a Compliance and Enforcement Unit in 2017³⁹² (Compliance and Enforcement Directorate since 2018) addressing issues related to conformity to conditions imposed by permits delivered by the Authority, on matters ranging from construction to waste disposal and fish farming.

Environmental regulations mostly fall under the Environment Protection Act³⁹³ and the Development Planning Act,³⁹⁴ which both originated in 2016 and represented a major breakthrough in the sector. In 2018, the Maltese government also proposed amendments to include environmental protection in the country's Constitution,³⁹⁵ starting public consultations in 2019.³⁹⁶ Despite pressure from civil society, at the time of writing these proposals have not yet been finalised.

The Malta Police Force lament the lack of specialised personnel but also of

staff in general, due to a generational turnover and the weak appeal of police work to new generations. Punishments for environmental crimes are still low, with a maximum of three years' imprisonment and fines not exceeding 250,000 euro or, in some cases, 2,500,000. In the past two decades, Malta has strongly focused on administrative sanctions, instead of criminal proceedings, aiming at speeding up enforcement action (especially concerning the building sector). However, as only one administrative judge is specialised on environmental issues, this bottleneck has caused significant delays in the enforcement of environmental laws in past years.

Illegal hunting is among the most significant environmental offences in Malta, the country being a hotspot for migratory species between Europe and Africa. This issue also has an external dimension, as several Maltese hunters have been reported (and sometimes convicted) for killing species protected by CITES in countries with laxer environmental regulations or enforcement – Egypt in particular, followed by Sudan, Bulgaria and Romania. In 2019, 700 carcasses were seized by the Malta Police Force under CITES regulations;³⁹⁷ yet, prosecution remains difficult, as these killings take place in apparently legal “hunting tours”, organised by both local and Maltese guides.

Tuna fish farms have been the object of investigations in past years. In particular, criminal proceedings were opened in 2020 against the biggest tuna ranchers in the country,³⁹⁸ Fish & Fish

Ltd, Emma Navigation Ltd, Malta Mariculture and AJD Tuna. Offences mostly concern the violation of allocated quotas – a concern for which the European Commission itself issued a letter of formal notice in 2020 – and the pollution of waters surrounding the farms.³⁹⁹

The building sector has received remarkable criticisms for dubious permits over the latest construction boom,⁴⁰⁰ but this has not translated yet into any significant investigation. During the workshop, the Malta Police Force also indicated waste trafficking as another key issue – particularly on ships directed to Africa – as well as illegal ship dismantling.

The Malta Police Force reports positive cooperation with other member states, particularly Italy, Spain and, in one instance, Romania, but largely unsuccessful attempts with some African countries, particularly Egypt. Malta has also cooperated with Interpol, particularly concerning a 2017 seizure of illegal waste.⁴⁰¹ While collaboration with the private sector on environmental crimes is almost non-existent, the Malta Police Force has reported a positive and continued work with NGOs in several sectors, particularly during the hunting season.

Malta's adoption of new technologies in action against environmental crime has been limited. Drones have been sometimes used, but only in support of the Environment and Resources Authority and using standard cameras. However, a geoportal was launched in 2020 to map environmental permits

and compliance orders emanated by the Authority,⁴⁰² also involving cases concerning fish farms. Data and information on environmental crimes are not publicly available in Malta, but are provided when requested by other police forces or journalists.

NETHERLANDS

Main environmental crimes	Waste trafficking, air, water and land pollution, mismanagement of sustainable products
Specialised enforcement authority	Yes, police and inspectorate units
Specialised judiciary	Specialised prosecutors
Publicly available data and statistics	Yes
Cross-border crimes	Relevant
Technologies	Relevant
Cooperation between LEAs and NGOs (and other players)	Limited with the private sector, working towards stronger cooperation with NGOs on wildlife trafficking

With a well-structured and highly specialised institutional architecture and several documents defining the national strategy, priorities and enforcement approach towards environmental crimes, the Netherlands is a frontrunner in the field – yet some challenges remain.

In the Netherlands, the main bodies involved in the fight against environmental crime are: the Human Environment and Transport Inspectorate (ILT) and its Intelligence and Investigation Service; the Food and Consumer Product Safety Authority (NVWA) and its Intelligence and Investigation Service, the National Environmental Crimes Chamber, the national police and customs authorities. The ILT and NVWA carry out inspections and other administrative duties, respectively in the broad areas of waste and pollution (ILT) and wildlife and nature (NVWA). Both bodies include an investigation service that carries out investigations for environmental criminal cases, in some instances in cooperation with the police.

The police have specialised units on environmental crimes at both the national and the regional level. Customs cooperates with the ILT and NVWA on cross-border inspections and can submit a criminal report to the prosecutor or request the support of the ILT/NVWA investigative units or the police for the most complex cases. At the regional level there are also 29 environmental services with mainly administrative duties. Concerning the judicial side, there is a specialised prosecutor's office (the National Public Prosecutor's Office for Serious Fraud, Environmental Crime and Asset Confiscation) but no specialised courts.

In addition, there are two chambers devoted to planning activities that include representatives from the main bodies. The Strategic Environmental Chamber sets the priority topics for investigations, while the National Environmental Chamber meets every three weeks to decide which environmental crime cases will be investigated further and defines allocation of capacity among

the competent bodies.⁴⁰³ There is also a National Enforcement Strategy, currently under revision, which provides guidance on the appropriate enforcement interventions as well as on prevention. One of the main aspects addressed by the strategy is the interaction between administrative and criminal law, providing clarification on which approach should be used according to specific cases. The general logic applied is that administrative enforcement is used for prevention and focuses on reparation of the damage, while criminal law is used to punish the most serious misconduct. According to national authorities the use of the two sanctioning systems is well balanced but sanctions overall remain low.

This advanced and well-structured system reflects the high priority that the fight against environmental crimes has in the Netherlands. Nevertheless, some obstacles remain. One of the main issues lies in the duplication of competences between the investigation units of the ILT and NVWA and the police. Furthermore, collaboration and exchange of information between different bodies should be strengthened, particularly between the national and the regional level, while capacity should be increased, and the level of expertise could be further improved. In particular, capacity should be strengthened at the prosecutors and courts level as delays can be up to six years, severely damaging enforcement and the work carried out during investigations. These obstacles have also been mentioned in reports of government-installed commissions which investigated the Dutch

system. A programme is now being set up to implement the recommendations from these reports.⁴⁰⁴

With regard to the main offences faced by the country, national authorities have highlighted waste trafficking and mismanagement, pollution of soil, illicit processing of fertilisers/manure and illegal use of pesticides, trafficking of endangered species, illicit oil blending and biodiesel composition, illicit greenhouse gases and F-gases emissions.⁴⁰⁵ Interestingly, in the Netherlands the rise of new environmental crimes as a consequence of the use of new sustainable products is reportedly very clear (i.e., biofuels). The interlinkages between environmental crimes and financial crime, organised crime and cybercrime are also a priority, thus experts are present within investigation units and there is good cooperation between ILT, NVWA, customs and police to tackle these issues. In particular, cooperation with financial crime experts is deemed essential as eliminating the profits of criminal activities is a core pursued strategy. With regard to organised crime, many cases of organised environmental crime are observed also thanks to a quite broad definition of organised crime, unlike in other member states struggling to tackle this connection in practice due to a narrower definition. Finally, the country has also a quite advanced use of technologies to counter environmental crimes, including the use of artificial intelligence for predictive models (including open-source intelligence), UV lights for soil contamination, GPS trackers, drones and satellite images.⁴⁰⁶

Concerning cooperation with other countries, the Netherlands has MoU with several non-EU countries, including with the UK and Ghana mainly on waste trafficking and with China on new areas such as eco-design. The country also participates in many networks with a leading position, including in IMPEL and in Interpol (in the period 2009–17 two Dutch police officers were seconded as liaison officers to Interpol to work on environmental crime and particularly on pollution crime) and contributing to the establishment of EnviCrimeNet.

POLAND

Main environmental crimes	Wildlife trafficking, poaching, illegal logging and timber trade, waste trafficking
Specialised enforcement authority	Yes. The Chief Inspectorate of Environmental Protection and coordinators under the Economic Crime Departments (Police)
Specialised judiciary	No
Publicly available data and statistics	Partially
Cross-border crimes	Very relevant. Good cooperation with Europol, Interpol, Frontex
Technologies	Relevant, especially for drones and satellite imagery
Cooperation between LEAs and NGOs (and other players)	Relevant with NGOs providing expert information and training to LEAs especially in the area of wildlife

At the centre of the EU illegal waste trafficking and Centre-Eastern EU trade of protected species, Poland has so far focused mainly on waste crimes, obtaining initial results. Ineffective prosecution of envicrimes remains a major issue, caused by a rigid sanctioning system on paper which, in practice, leads to frequent dismissals of cases or inadequate sanctions.

In Poland, the Chief Inspectorate of Environmental Protection (GIOŚ) is the main specialised authority responsible for the enforcement of environmental regulations and for the coordination of the 16 corresponding Regional Inspectorates. In 2019 the Inspectorate established a new department and a new team dedicated to combating environmental crime. Other administrative authorities with environmental protection competences are the GDOŚ – General Director of Environmental Protection and the GIORIN – Chief Inspector of Plant and Seed Protection. On the law enforcement side, the Economic Crime Department of the National Police hosts

the national coordinator for environmental crimes, who harmonises the operational activities of the 16 Regional Police Economic Crime Departments. In each of these regional departments there are specialised units, such as for waste trafficking and CITES.

Waste dumping and trafficking, often involving hazardous components, are the environmental crimes with the highest number of recorded violations. Several recent cases shed light on the heavy involvement of organised crime in these activities, the so-called “Polish Junk Mafia”,⁴⁰⁷ as well as their prominent international dimension. Poland is a main receiving country for European waste, in particular from the UK, Czech Republic, Germany and Italy. According to the World Bank, the country was one of the most impacted by the Chinese import ban on waste. Notably, Poland became the second largest recipient of UK waste in the EU after the ban introduction.⁴⁰⁸ Following this, the issue of toxic fires from illegal landfills became a key concern,⁴⁰⁹ lead-

ing the government to amend the Waste Act to introduce more stringent import restrictions and more advanced tools for enforcement. The results were better detection rates and a significant reduction of fires. The National Police has also included combatting environmental and waste crime as a priority in the Police Chief's Activity Plan for 2021–23.⁴¹⁰

However, illegal imports still cross Poland borders, often mislabelled as authorised recycling materials, and the country faces widespread illegal waste management internally. In particular, police authorities link illegal waste dumping to the very high disposal costs in the country. Given the serious situation, Polish authorities claim that the EU should impose stricter internal waste management for member states and ban the transboundary transport of waste without the consent of all countries involved.⁴¹¹

Cross-border trade of illegal pesticides is another central issue in Poland.⁴¹² Neighbouring countries like Ukraine and Russia are also involved, but cooperation with the first is very good while with Russia it is very difficult. Moreover, recent reports indicate that Poland is a hub for illegal online trade of protected flora and fauna in Central and Eastern Europe.⁴¹³ Despite this, wildlife crimes have not been a priority for Polish authorities.⁴¹⁴ The capacity to tackle these crimes is limited, data are insufficient and often wildlife cases are dismissed during the investigation phase. According to the Economic Crime Department, this is going to change as they have

identified CITES crimes as a special focus area for the next four years, alongside waste crimes.

The effective prosecution of environmental crimes is a major issue and barriers in the judicial system are in part responsible. The Polish penal law treats broad categories of environmental wrongdoings as serious criminal acts; for instance this is the case for all CITES infringements. This overly rigid system leads to early dismissals or low sanctions to avoid congestion of criminal cases in courts. Moreover, Polish courts assume that environmental crimes must entail a destruction severe enough to make restoration impossible.⁴¹⁵ LEAs are given great discretion in evaluation of the significance of the damage and, therefore, in determining whether the offence can be classified as a crime. Data show that LEAs often fail to refer environmental offences to judicial authorities and show a tendency to decriminalise environmental offences in favour of administrative liability,⁴¹⁶ which is in LEAs' best interest as it does not require proving the offender's guilt.⁴¹⁷

Another factor towards inadequate prosecution is that LEAs reportedly experience difficulties in dealing with environmental crimes due to their complexity.⁴¹⁸ They indicate as an obstacle the high cost and long waiting time to obtain an expert opinion, such as hazardous waste laboratory testing or international legal assistance.

To address issues within the justice system, Poland has taken several steps.

The National Prosecutor's Office developed a methodology for conducting pre-trial proceedings on environmental crimes and guidelines for cooperation with all relevant institutions, appointing also environmental crime coordinators in all regional and district offices. In addition, new provisions were introduced for the participation of the Inspectorate of Environmental Protection in criminal proceedings.⁴¹⁹

Furthermore, an agreement between the Inspectorate of Environmental Protection and the Higher School of Justice was signed to increase cooperation and to launch a new postgraduate course in "Ecocriminology".⁴²⁰ In addition, a LIFE project was designed to increase knowledge and improve cooperation between judicial and enforcement authorities.⁴²¹ In 2022, an online platform was launched to share data among all relevant institutions and exchange good practices, in particular in the area of waste crimes.⁴²²

Poland also participates in several international initiatives, such as the LIFE SWIPE project for Wildlife Crime Prosecution in Europe⁴²³ and the DEMETER operation against transboundary illegal waste.⁴²⁴ In addition, NGOs play a major role in the fight against wildlife crime in Poland, providing specialised training to the relevant authorities as well as public information campaigns.

PORTUGAL

Main environmental crimes	Arson, illegal fishing and hunting, waste trafficking, air, water and land pollution
Specialised enforcement authority	Yes
Specialised judiciary	No
Publicly available data and statistics	Yes, incorporated in the yearly RASI report https://www.portugal.gov.pt/pt/gc22/comunicacao/documento?i=relatorio-anual-de-seguranca-interna-2021
Cross-border crimes	Limited, mostly with Spain
Technologies	Relevant, particularly drone and satellite imagery
Cooperation between LEAs and NGOs (and other players)	Relevant with NGOs on several issues (including poaching)

Influenced by the country's geographical position, environmental offenses in Portugal are marked by the worrying increase in forest fires and its trade with Spain. A centralised unit and access to technologies empower the country's enforcement, although many obstacles remain, particularly because of an insufficient legislative framework and unspecialised judiciary.

Since 2001, Portugal has established a centralised unit for fighting environmental crimes, the *Serviço de Proteção da Natureza e do Ambiente* (Nature and Environment Directorate, SEPNA), part of the Guarda Nacional Republicana (GNR). This has also absorbed the Portuguese Forest Service in 2006 (similarly to what happened to the Italian Corpo Forestale and the Carabinieri). A number of other authorities work on the issue, such as the BRIPA, a civilian police also focused on urban areas, the IGAMAOT, i.e., the Environmental Inspectorate of the Environmental Min-

istry, the judicial police and the maritime police, among others. Monitoring is delivered by the Portuguese Special Service for the Environment. SEPNA has competences over national coordination, counts around 1,100 officers and is routinely trained on environmental offences (circa two or three times a year). Recently, civilians have been trained to enter the service and support the activities of the officers.

The legislative framework has addressed environmental issues through the 2014 Environmental Framework Law (Lei n. 19/2014) and a series of amendments to the Criminal Code (mostly triggered by the 2008 Directive), yet many issues remain. SEPNA highlights the low penalties for some of the most important crimes, particularly for arsonists, and strong difficulties in prosecuting companies – this is almost impossible for environmental offenses and individuals must be brought to court, which is often extremely complicated, particularly for

high-level positions. Generally speaking, SEPNA also complains about the low rate of convictions (forest fires, but also pollution) and a lack of understanding of environmental issues on the part of judges, which in turn translates into the inability to access advanced investigation techniques – for instance, most environmental cases do not allow the use of wiretapping. Sharing information is sometimes an issue between different agencies, even if recently the country has been developing a newly designed architecture for this, run by the Internal Security Service.

While the country is affected by waste issues as are many others, and is also an origin country for electronic waste destined to the Sahel, forest fires have been a growing problem: heat waves and aridity caused by climate change and native climate conditions have been recently exacerbated by the work of arsonists (a significant percentage moved by economic interests), representing now roughly 65 per cent of all environmental crimes.⁴²⁵ Soil and water pollution from agricultural activities is also an issue, as well as illegal fishing and hunting; while roughly 80 per cent of these offenses are minor, there are more serious cases concerning protected species (birds, Iberian lynx and wolves), particularly concerning glass eels⁴²⁶ – Portugal is one of the countries involved in the international illegal traffic of the species, destined to Asia.

Technology has a growing role. Satellite images have been extensively used on forest fires and can be used as evidence in court with relative ease (un-

like in other European countries⁴²⁷). Drones have also been widely employed, both on forest fires and in other cases, particularly water pollution, employing both normal and advanced cameras, such as thermal ones.

Cooperation between LEAs and NGOs (and other players) is relevant (particularly with the Portuguese Society for the Study of Birds, the National Protection League and the WWF) and civil society can also participate in investigations. Portugal is also active concerning international collaborations. On the European side, this is mostly done with and through Spain for geographical reasons; Portugal is however involved on environmental matters with Portuguese-speaking countries, such as Angola, Mozambique and Brazil, Portugal being one of the main entry points for wildlife and timber trade from the latter. The country is also part of a variety of networks, including extra-European ones, such as EL PAcCTO.

ROMANIA

Main environmental crimes	Illegal logging and timber trade, waste trafficking, air, water and land pollution, illegal fishing
Specialised enforcement authority	No
Specialised judiciary	No
Publicly available data and statistics	No, but environmental statistics are collected
Cross-border crimes	Very relevant, particularly on timber and waste trafficking
Technologies	Limited, yet with some interesting applications in the forestry sector
Cooperation between LEAs and NGOs (and other players)	Relevant with NGOs, none with private sector

Home to some of the most precious ecosystems in Europe, Romania faces several obstacles in its action against environmental crimes, particularly corruption and the lack of a consistent legislative framework throughout sectors. The growing efforts and legislative advancements in the forest sector, as well as plans for the creation of a centralised unit could however lead the way for a rapid improvement.

Romania's environmental enforcement lies mostly in the hands of the national police, its General Inspectorate being in charge of coordination with local branches and the different projects dedicated to individual issues. The environmental national guard and the national agency for fishing and aquaculture are the two main agencies supporting the police's work in the environmental sector. Although a centralised unit for environmental crimes has not yet been established in the police, in March 2022 the Romanian Ministry of the Interior officially expressed the in-

attention to create a Directorate for Environmental Crimes Investigations, with the prerogative of dealing with forestry, fishing and other environmental crimes. Specialisation among the police force on environmental matters is still very limited and not done in a structured way. Similarly, there are no programmes for the specialisation of judges and prosecutors, whose involvement in environmental issues is done mostly on a personal basis.

The legislative framework is indeed quite scattered and varied. The forestry sector has received renewed attention by the 2015 update of the 2008 Forest Code (Law 46/2008), which led to a significant number of inspections and fines issued in subsequent years: in 2021, according to the Romanian police 39,853 inspections have been done, leading to 11,671 penal files initiated and more than 3 million euro in fines.⁴²⁸ Other areas, however, have not received equal attention, with unclear or insufficient legislation. Generally speaking, fines and sanctions are considered in-

adequate throughout sectors and the conviction level is very low.

Romania has been known in the past few years for the thorny issue of illegal logging: home to some of the last primeval forests of Europe, the country has been suffering from intense deforestation in areas of immense biodiversity value, with some 20 million cubic metres of illegal timber exploited between 2013 and 2018, according to Greenpeace.⁴²⁹ The situation has been aggravated by the violence perpetrated by the local groups behind the illegal logging operations, which led to the murder of six officers in recent years, and by the involvement of large European companies, such as the Austrian HS Timber, de facto receiving a large part of the illegal timber (the rest destined towards Asian markets). Controlling the issue has been complicated for the Romanian police because of difficulties in distinguishing legal from illegal timber (also due to lack of specialisation of officers) and because of corruption – an endemic problem for the whole police force, representing a major obstacle also to environmental action. Romania however also suffers from illegal waste disposal, being one of the receiving countries of waste from Central and Western member states, as well as some non-European countries, and from pollution arising from the several industries in the country.

Technology is helping the Romanian police fight some of these issues. The use of the Sumal 2.0 application is now required for all forest operators, who must upload all required documenta-

tions, alongside photos of the logged areas, which are then checked and validated by central offices.⁴³⁰ This reduces the burden on officers and the need for specialisation by local police forces. Other technologies, such as satellite imagery and drones, are still very limited; while the former has been tested and then abandoned on forest offences, the latter are not used because of obstacles in the formation of pilots and in obtaining authorisations and budget to acquire the drones themselves. Collaborations in the country are another key element for progress on action against environmental crime; Romania is working with NGOs, such as the WWF, and companies, such as Vodafone, on forest crimes, exchanging advanced tools, such as networked audio sensors, night vision cameras and long-range binoculars. It also collaborates with several European countries on topics such as illegal fishing, concerning both the illegal export of Romanian species (sturgeon) and the illegal import of others (Italian catfish from the Po river). Romania is also part of most of the international networks, such as the Jaguar Network and EnviCrimeNet.

SLOVAKIA

Main environmental crimes	Illegal logging and timber trade, waste and wildlife trafficking
Specialised enforcement authority	Specialised unit within the police
Specialised judiciary	No
Publicly available data and statistics	No
Cross-border crimes	Very relevant, for illegal logging, waste and wildlife trafficking. Difficult cooperation with non-EU countries (e.g., Ukraine)
Technologies	Very relevant, especially concerning satellites images, drones, DNA analysis
Cooperation between LEAs and NGOs (and other players)	Relevant with wildlife NGOs and with hunting and fishing associations especially on poaching. Resistance to cooperation with the police from the private sector (for instance companies in the waste sector)

Severely hit by timber-related crimes as well as international waste and wildlife trafficking, all interlinked with widespread domestic corruption, Slovakia is undertaking an important restructuring of its police forces to have more specialised resources working on environmental crimes.

In Slovakia, action against environmental crime is led by the Department of Hazardous Materials Detection and Environmental Crime at the Presidium of the Police Corps of the Ministry of Interior, with one national and eight regional units with specialised officers. The police are flanked on the administrative side by the Slovak Environmental Inspectorate and 72 Environmental Care Departments which have supervision functions and can impose administrative fines. On the judiciary side, the Office of the General Prosecutor has specialists in environmental crimes in each division.

With regard to the most relevant crimes Slovakia is facing, almost 50 per cent involve timber theft and illegal logging, around 30 per cent poaching and crimes against protected species and 17 per cent waste crimes.⁴³¹ Timber-related crimes in the country are deeply intertwined with corruption and organised crime, referring in this case to activities perpetrated by companies rather than mafia-like groups. Different types of timber crimes are observed. They include mainly activities perpetrated by companies for profit, the cutting of trees along roads and rivers for practical reasons, and the cutting of trees by vulnerable populations for heating. The first type is the most serious as it is leading to large-scale destruction of protected forests. It is perpetrated through various mechanisms; the most common include declaring a lower volume of trees taking advantage of weak volume calculation systems, as well as the abusive use of sanitary cuttings, the latter addressed

through a recent law which however only covers national parks.⁴³² The state enterprise Forest of the Slovak Republic, main owner of the country's forests, is reportedly corrupt and the main perpetrator of these crimes, making profits by declaring lower quality classes of wood to then sell it as first quality timber.⁴³³ Biomass companies are also involved, as they declare that biomass is obtained through cleaning of the countryside, while they cut trees to sell them as biomass to energy companies.

Nevertheless, despite knowledge of organised structure tied to companies in the most serious cases, proving their involvement requires specific investigative techniques and longer investigations that regional police are reluctant to undertake, while prosecutors tend to avoid using organised crime procedures on timber businesses.⁴³⁴ However, a positive recent development has been highlighted concerning white-collar crimes. Following some key court judgments based on a law on the responsibility of legal persons (Act. no. 96/2016 Coll.), it is now possible to conduct investigations against all companies and prosecute them even without a specific individual identified as perpetrator.⁴³⁵

Concerning other crimes, Slovakia is a country of destination for waste coming for instance from Italy, Poland and the Czech Republic, and it is involved in various wildlife trafficking streams where a strong role of cyber systems has been observed. Namely, it is a country of origin (e.g., for rare

birds and butterflies), it plays the role of middle-man to sell goods across the EU, and it also serves as country of destination (e.g. for rare parrots from the Amazon forest, monkeys and snakes). For both waste and wildlife trafficking the police have gathered abundant intelligence about the involvement of organised crime but there are no official investigations underway.

Corruption is also mentioned as a key issue present in all main sectors of environmental crime, led also by the fact that officials (e.g., forest staff and inspectors) have often very low salaries exposing them to corruption. Several other obstacles hampering more effective action against environmental crimes have also been identified. In particular, lack of specialisation among all actors from prosecutors to LEAs leads to lack of knowledge in technical areas (e.g., identification of protected species), in environmental law and in investigation procedures which, in turn, leads to difficulties in gathering evidence and dismissed cases or low fines. In addition, scattered data collection and lack of institutional cooperation contribute to a situation of low prosecution. Finally, even though Slovakia does not use a common law system, precedents are fundamental in its legal system, thus lack of previous cases prevents judges from applying available sentences. In addition, different districts use different classifications of crimes. For instance, the wildlife trade in parrots is not considered illegal in all districts and, similarly, a blurred definition of illegal logging has led to different legislative interpreta-

tions. To address the specialisation and coordination aspects, Slovakia is currently undertaking a reorganisation of the police which will lead to the creation of one national unit for environmental crimes with offices in all regions, an operation that will benefit from significant EU funding.⁴³⁶

SLOVENIA

Main environmental crimes	Waste and wildlife trafficking, waste trafficking, air, water and land pollution
Specialised enforcement authority	No
Specialised judiciary	No
Publicly available data and statistics	Partially, each authority collects its own data separately
Cross-border crimes	Very relevant
Technologies	Drones, satellite images, OSINT
Cooperation between LEAs and NGOs (and other players)	Relevant with private sector on crime prevention, with concerns for new restrictions on NGOs' participation in legal proceedings on construction

A transit country affected by waste and wildlife trafficking, Slovenia also deals with complex cases of environmental crimes perpetrated by major companies within its borders. As a small country, good cooperation among relevant authorities facilitates action, but the lack of specialised LEAs and judiciary represents major obstacles.

The Slovenian Police is a relatively small police force and the only body in charge of law enforcement for environmental crimes. It counts 12 specialised officers, one envicrimes coordinator for each region and one at the national level within the Criminal Police Directorates. However, there is no specialised investigation unit, and this is reportedly the major obstacle to action against environmental crimes. The Police cooperate with the Environment and Spatial Planning Inspectorate, the financial administration and customs, which are responsible for environmental misdemeanours.

According to the national coordinator on environmental crimes, cross-border

waste crimes are the main issue in the country and there is a strong link with organised crime and cybercrime. As a small country, informal cooperation is good among relevant authorities and units in these complex cases. Slovenian LEAs recently took part in the operation Green Tuscany led by Italian authorities and supported by Europol,⁴³⁷ which dismantled a large OCG trafficking plastic waste from Italy to China through Slovenia, revealing also links with the Italian Camorra.

Given the relevance of cross-border envicrimes in Slovenia, cooperation with third countries is essential and has been very successful with EU countries such as Italy, Austria, Croatia and Hungary. Nevertheless, with non-EU countries cooperation was more problematic, namely with Bosnia and Serbia for waste-related crimes. In these countries envicrimes are reportedly not a high-priority issue and only minor investigations were carried out, using inadequate practices. Alongside waste trafficking, smuggling of protected

species has been a leading issue requiring transboundary cooperation. Slovenia has historically been a transit country for bird smugglers. However, recently the NGO Birdlife Slovenia (DOPPS) published data⁴³⁸ highlighting a significant issue of bird poaching, revealing that Slovenia is also a country of origin in these illicit activities.

The major issues hampering action against environmental crimes in Slovenia are the lack of training of all participants in the pre-trial phase and the lack of specialisation of judges and prosecutors. Only 40 per cent of reported criminal offences against the environment are investigated by the police and also prosecution rates are low compared to other crimes. Frequently judges are not fully aware of the risks and significance of environmental crimes and the imposed sanctions are very low. In particular, punishing legal entities is problematic. The low sanctions are paid by companies without any difficulty and the frequent conditional sentences also have a very limited deterrent effect.

Recent cases involving companies have been salient in the country. The UK company Ascent Resources sued Slovenia⁴³⁹ for requiring an environmental impact assessment of its fracking activities that could threaten critical groundwater sources. Slovenia has not yet banned fracking like other EU countries and is still part of the controversial Energy Charter Treaty, which gives investors the right to challenge governments for enforcing environmental protection laws. The Lafarge Cement

Trbovlje case involved burning of waste in cement production causing severe pollution.⁴⁴⁰ The legal action to revoke the permit to the company was very lengthy and for this reason the European Commission took Slovenia to court. Similarly, the EC sued Slovenia for not addressing the pollution caused by illegal landfills containing hazardous waste,⁴⁴¹ including waste produced by the chemical and metallurgical company Cinkarna since the 1800s, highlighting also the issue of management of historical waste in the country.

In order to strengthen action against environmental crimes, in the past four years the police have received a special budget for training and equipment in this field. Between 2021 and 2026 it should amount to 700,000 euro and then increase to 1 million euro. Moreover, Slovenia is currently working to revise both the definition of environmental crimes and the associated sanctions.⁴⁴² The aim is to broaden the definition to include more environmental offences as crimes. For example, the import of illegal pesticides will be defined as a crime, aligning Slovenia with other EU countries, and allowing the use of more effective investigation techniques and sanctions.

Slovenia also participates in several international initiatives, in particular to strengthen action against waste trafficking. It is an active participant in the WasteForce project and the LIFE SWEAP project. Recently, it also participated in the joint RETROVIRUS operation,⁴⁴³ coordinated by Europol, to prevent illegal management of sanitary

waste used to tackle the COVID-19 pandemic. The COVID crisis also led to a new envicrime trend in Slovenia. Reportedly, to boost recovery, the Environment Ministry eased the legislation for construction,⁴⁴⁴ while restricting rules on the participation of NGOs in construction legal proceedings. This is raising significant concerns over the environmental impacts that new developments could cause.

SPAIN

Main environmental crimes	Arson, water fraud, poaching, waste trafficking
Specialised enforcement authority	Yes (SEPRONA, part of the Guardia Civil)
Specialised judiciary	Yes (nationally and locally)
Publicly available data and statistics	Yes, available at https://www.ine.es/jaxiT3/Tabla.htm?t=25997
Cross-border crimes	Partially relevant (mostly waste trafficking)
Technologies	Very relevant – it is one of the most advanced countries, ranging from specialised drones to DNA scanners and satellite imagery analyses
Cooperation between LEAs and NGOs (and other players)	Relevant, especially with NGOs

The existence of a solid definition, the use of some of the most advanced technologies and the role of one of the largest agencies dedicated to the fight against environmental crime make Spain one of the most advanced member states in the sector. The country still battles obstacles such as lack of coordination among institutions and between the regional and national level, and will require greater specialisation of its judiciary, but prospects look positive.

Spain is one of the few European countries with a precise definition for environmental crime, detailed in Art. 325 of the Penal Code. Articles from 325 to 331 all deal with environmental offences, Art. 327 specifically indicating aggravated types of environmental offences. While this definition offers solid ground for investigations, the country also has one of the largest and most structured agencies for environmental cases, the *Servicio de Protección de la Naturaleza* (SEPRONA) unit of the *Guardia Civil*. SEPRONA's activities

started in 1986 and the unit now counts circa 1,800 fully trained agents, with officers and sub-units also specialised in specific offences, such as forest fires or water theft. Other agencies and institutions are involved in the environmental sector, such as the *Ministerio de Agricultura, Pesca y Alimentación*, although to a limited extent (the National Police has only four agents specialised in environmental offences). A specialised Prosecutor's Office for the Environment and Urban Planning exists at the central level, as well as specialised prosecutors throughout the country.

Spain also uses some of the most advanced investigation techniques in Europe. The use of drones is common throughout all units, many of them already adopting specific investigation tools (multispectral and thermal camera, gas absorption pumps to take samples from chimneys).⁴⁴⁵ SEPRONA is also developing a so-called VTOOL drone, with more autonomy and able to use a variety of instruments. In addition to more traditional instruments,

such as mobile tracking devices, technological solutions also include *Evo-transpiration*, i.e., the satellite analysis of low-frequency infrared waves to analyse the amount of chlorophyll emitted by plants, to help detect fraud in water abstraction through the analysis of their stage of development.⁴⁴⁶ SEPRONA has also produced a smartphone magnifier working as a DNA scanner for timber, which is able to detect its origin and will be used in partnership with Brazilian authorities.⁴⁴⁷

Such assets are key to fight a number of offences throughout the state's territory, some of them specific to Spain. While the country records waste trafficking and hunting and fishing offences as among the most common, it also fights a growing number of forest fires, driven by the reconversion of land for forestry or pasture, as well as water theft and fraud – this happening also in areas ravaged by the impact of climate change (Castilla-La Mancha, Andalusia) and in fragile natural areas (Doñana natural park). The September 2021 ban on wolf hunting is also likely to trigger a spike in poaching because of competition with farmers.

Despite its advancement, Spain's action suffers from a number of significant obstacles. SEPRONA reports lack of coordination between the regional and the national level, particularly on information sharing (on, for instance, waste or pet trafficking across the country) among different authorities.⁴⁴⁸ SEPRONA also laments low judicial support, due to lack of awareness by judges or the objective difficulty in

proving the real damage inflicted on the environment by the offence (which sometimes it is also even difficult to classify as a crime⁴⁴⁹). The unit also highlights the inadequacy of penalties, on both the administrative and the penal side (which are both used in environmental cases in Spain). The case of glass eels is exemplary; recent investigations highlighted the involvement of organised crime groups (as in other parts of Europe) and significant damage to a critically endangered species, yet successful investigations only led to a single arrest.⁴⁵⁰

The country is finally active in international cooperation, despite a relatively minor involvement in transnational offences compared to other European countries. Spain has had a number of successful collaborations with Europol (for instance *Operación SOKATRA*, involving several EU, Asian and African countries,⁴⁵¹ and *Operación AMONIO*, also with Germany and Italy), with the Jaguar Network and with several Latin American countries.

SWEDEN

Main environmental crimes	Waste crime, air and water pollution
Specialised enforcement authority	Partially. Swedish Police Authority/National Operations Department: One intelligence unit on waste & Species protection/CITES, one investigation unit on species protection/CITES and one development/education unit. Swedish Police Authority/Regional level: Seven environmental crime investigation units. The Prosecution Authority has a specialised National Unit for environment and working environment cases
Specialised judiciary	Yes, but only for the administrative side
Publicly available data and statistics	Not consolidated, but available for waste- and CITES-related crimes
Cross-border crimes	Relevant, particularly CITES related offenses and waste trafficking
Technologies	Relevant, including use of drones, ground radars for landfills and fishing tools
Cooperation between LEAs and NGOs (and other players)	Limited, but relevant for wildlife with some NGOs (WWF, Swedish Botanical Society, etc.)

The relatively recent accession of Sweden to the EU (1995) led to a consolidation of the environmental laws and further promoted an already consistent regulatory system on environmental matters. While this promotes significant control on the topic by administrative entities, the absence of key issues in the Environmental Code alongside a still limited focus on the part of law enforcement authorities and criminal courts reduces the effectiveness of Swedish action in the environmental sector.

The Swedish Environmental Code indeed is among the most complete in the EU and provides substantial supervising power to the country's Environmental Protection Agency on a number of key topics, such as forestry, buildings and land use, harmful substances, species protection, CITES issues and

water and air pollution. Fines are also robust and the use of corporate fines is common and considered a strong deterrent. However, the Environmental Code does not cover a number of key issues, such as fisheries, poaching (except protected birds) and timber trafficking, which are thus left to other pieces of legislation, which according to some institutions lack the strength and accuracy of the Code.

Indeed, among the major obstacles to action against environmental crime the Swedish Police Authority highlighted the lack of clarity and precision in regulations and trouble in the interpretation of laws (also partially because of lack of a consolidated praxis on a number of topics).⁴⁵³ Similarly, the country has courts specialised on environmental issues dealing with licences and administrative issues,

but environmental criminal cases are taken by ordinary courts.

The Swedish Police Authority's main responsibility in preventing and combating environmental crimes is to carry out criminal investigations. At the regional level, there are seven investigation units specialised in environmental crime. The national level of the police has no specialised investigation unit on waste crime, only on wildlife crime. The national level of the police has three main responsibilities relating to waste and wildlife crime: i) strategic matters, such as development of the police's working methods, manuals and assessing training needs, ii) the coordination of intelligence activities against organised waste and wildlife crime and iii) forensic work at the National Forensic Centre. The national intelligence team on waste crime has expanded in recent years. The Swedish Police Authority is also responsible to assist the supervisory authorities if they need help to access for instance a property or building, or to open a container in order to inspect its content. Sweden has two National Cooperation Groups for concerned authorities, one for cross-border waste crimes and one for wildlife crime (species protection and CITES).

The National Environmental Crime Council is a newly established council that has the following tasks: In order to prevent violations of the Environmental Code and to effectively deal with such crimes, the County Administrative Board shall work for cooperation between the Swedish Police Authority, the Public Prosecutors Office, the

specialised National Prosecutors Unit and the authorities responsible for supervision in accordance with the Environmental Code at the local and regional level. Local and regional cooperation must be coordinated with cooperation of authorities at the national level. Swedish customs performs mainly risk-based inspections on transboundary shipments of waste and CITES, but it can also inspect shipments of other kinds of goods that could harm the environment. Swedish customs also investigates suspected cases concerning smuggling.

Swedish authorities are in close cooperation on environmental crimes, concerning both inspections and crime investigations.

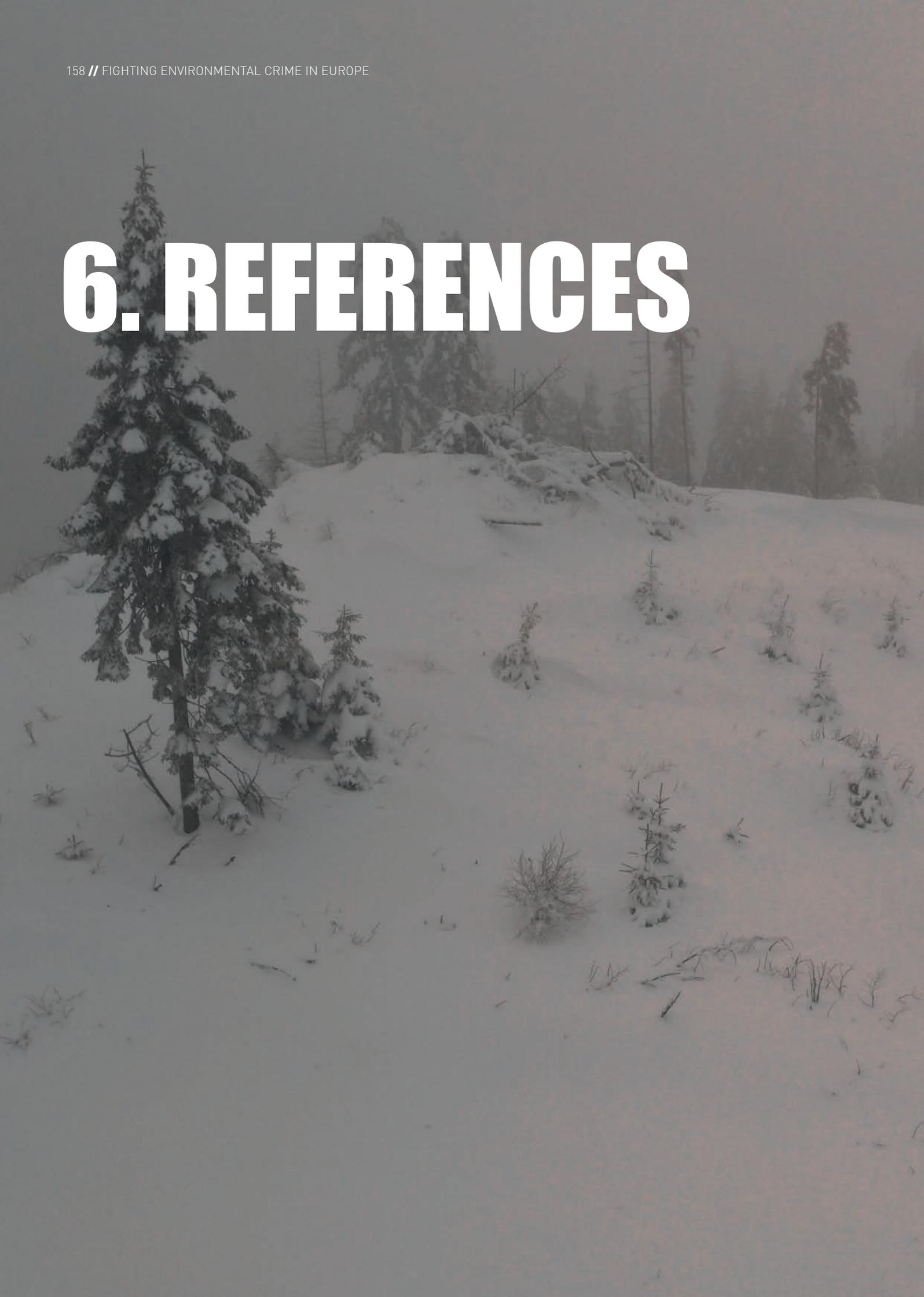
The country faces many of the offences other member states are dealing with, such as illegal waste management, wildlife crime, CITES issues, trade in harmful substances, air and water pollution, as well as habitat destruction – Sweden holds some of the few remaining primaeval forests in Europe, together with Finland, Bulgaria, Romania and Poland. However, the clear-cutting of these goes often unreported, because of lack of adequate mapping on their location.⁴⁵⁴ Generally speaking, felling of trees has usually been preceded by a notification or application for a permit, and is thus known by the Swedish Forest Agency. The majority of areas that are cut have thus duly notified and applied for a permit, but the Swedish Forest Agency discovers a number each year (e.g., through change analysed via satellite images)

that have been cut without notification or application being made. Sweden has also faced trouble with pollution in the Baltic Sea, similarly to other neighbouring countries, even if the situation has been improving in recent years.

Thanks also to the digital advancement of the country, the use of new technologies in the sector is advanced. The Swedish Police Authority has recently adopted the use of drones, and employs other tools specific to certain offences, such as ground radar to detect illegal landfills and instruments for eel detection (used by coast guards), as well as satellite imagery.

Collaboration with other countries in the EU takes place mostly between prosecutors or between LEAs through specific networks of which Sweden is part, such as Eurojust, Europol, IMPEL, EnviCrimeNet, EMPACT, ENPE and EMPRO, the latter involving all Baltic states (including Russia). Police cooperation between LEAs and NGOs (and other players) and the private sector has been reported as virtually non-existent by workshop participants.

6. REFERENCES



6.1 WORKSHOPS AND QUESTIONNAIRE

Findings from Ambitus workshops and questionnaires

The wording “findings from Ambitus workshops and questionnaires” refers to conclusions based on the information gathered from all the workshops and the answered questionnaires conducted in the context of the Ambitus research.

Country 1: Austria

Workshop and questionnaire provided by:

- Federal Criminal Intelligence Agency - Environmental Crime Unit
- Federal Ministry of the Environment
- Federal Ministry of Justice - Special Unit for Envicrime
- Border Control Service

Country 2: Belgium

Workshop and questionnaire provided by:

- Federal Judicial Police - Federal Unit Public Health and Environmental crime (FUPHEC)
- Belgian customs
- Flemish Environmental Inspection

Country 3: Bulgaria

Workshop and questionnaire provided by:

- National Police - Economic Crime Department

Country 4: Cyprus

Workshop and questionnaire provided by:

- District Attorney’s Office
- Department of Environment - Ministry of Agriculture, Rural Development and Environment
- Game and Fauna Service - Ministry of Interior
- National Police – Crime investigation Department

Country 5: Croatia

Workshop and questionnaire provided by:

- National Police – General Crime Service

Country 6: Czechia

Workshop and questionnaire provided by:

- General Directorate of Customs – Investigation Section – CITES and Environmental Matters

Questionnaire filled in by:

- Police Presidium of the Czech Republic - Economic Crime Department

Country 7: Denmark

Workshop and questionnaire provided by:

- National Police - Unit for Animal Welfare and Road Transport

Country 8: Estonia

Workshop and questionnaire provided by:

- Estonia Environmental Board

Country 9: Finland

Workshop and questionnaire provided by:

- Finnish Customs
- National Police – National Bureau of Investigation

Country 10: France

Workshop conducted with:

- Gendarmerie - OCLAESP
- École nationale de la magistrature (ENM)

Questionnaire filled in by:

- French Agency for Biodiversity
- Gendarmerie - OCLAESP

Country 11: Germany

Workshop and questionnaire provided by:

- Waterways Police - Maritime Safety and Security Center
- German Federal Agency for Nature Conservation
- Customs Investigation Service
- Environmental Ministry North Rhine-Westphalia and Police North Rhine-Westphalia
- Federal Criminal Police – Office Environmental and Consumer Protection Crime

Country 12: Greece

Workshop conducted with:

- Coastal Guard Marine Environment Protection Directorate
- Hellenic Police – Environmental Protection Department
- Environmental Inspectorate of Southern Greece – Ministry of Environment and Energy

Questionnaire filled in by:

- Coastal Guard Marine Environment Protection Directorate
- Hellenic Police Headquarters / Financial Police Division / Information Management & Strategic Planning Department
- Environmental Inspectorate of Southern Greece – Ministry of Environment and Energy
- Hellenic Ministry of Rural Development and Food, Directorate of Plant Produce Protection

Country 13: Hungary

Workshop and questionnaire provided by:

- National Bureau of Investigation – Environmental Crime Unit
- Government of the Pecs County
- Customs administration - International Operations
- CITES management authority - Ministry of Agriculture of Hungary
- Traffic

Country 14: Italy

Workshop and questionnaire provided by:

- Arma dei Carabinieri

Country 15: Malta

Workshop and questionnaire provided by:

- Malta Police Force
- Environment and Resources Authority

Country 16: Netherlands

Workshop conducted with:

- Investigation and Intelligence Service – Human Environment and Transport Inspectorate (ILT-IOD)

Questionnaire filled in by:

- National Police Netherlands

Country 17: Poland

Workshop and questionnaire provided by:

- Criminal Bureau of the National Police - Economic Crime Department

Country 18: Portugal

Workshop and questionnaire provided by:

- Guarda Nacional Republicana (GNR) - Nature and Environment Directorate (SEPNA)

Country 19: Romania

Workshop and questionnaire provided by:

- General Inspectorate of the Romanian Police - Public Order Directorate

Country 20: Slovakia

Workshop and questionnaire provided by:

- Presidium of the Police Force - Criminal Police Bureau - Department of Hazardous Materials Detection and Environmental Crime

Country 21: Slovenia

Workshop and questionnaire provided by:

- National Police - General Police Directorate - Criminal Police Directorate

Country 22: Spain

Workshop and questionnaire provided by:

- Guardia Civil - Servicio de Protección de la Naturaleza (SEPRONA)

Country 23: Sweden

Workshop and questionnaire provided by:

- National Police
- Swedish Customs
- National Public Prosecution Department - National Unit for Environment and Working Environment Cases

6.2 DESK RESEARCH

Kate Abnett, "EU Takes Bulgaria, Greece to Court over Toxic Air", in *Reuters*, 3 December 2020, <https://reut.rs/3g3HQtT>

Monique Agius, "Updated: Over 700 Protected Dead Birds Seized; 7 Arrested", in *Newsbook*, 23 August 2019, <https://newsbook.com.mt/en/?p=357104>

Valia Ahchieva, "The Investigative Story that Brought Down a Minister in Bulgaria", in *Euractiv*, 15 January 2020, <https://www.euractiv.com/?p=1418729>

Elizabeth Claire Alberts, "Stolen from the Wild, Rare Reptiles and Amphibians Are Freely Traded in EU", in *Mongabay*, 14 September 2020, <https://news.mongabay.com/?p=234827>

Ziva Alif, "Political Attack on Slovene Environmental NGOs", in *European Wilderness Society website*, <https://wilderness-society.org/?p=58971>

Austrian Federal Ministry of the Interior, *Sicherheitsbericht 2019. Kriminalität - Vorbeugung und Bekämpfung* [Security Report 2019. Crime - Prevention and Control], Vienna, 2020, <https://www.bmi.gv.at/508/start.aspx>

Catherine Bearder, "How Environmental Crime Became an EU Security Priority for 2018-21", in *Euractiv*, 17 October 2017, <https://www.euractiv.com/?p=1183886>

Floriana Bianco, Annalisa Lucifora and Grazia Maria Vagliasindi, *Fighting Environmental Crime in France: A Country Report*, Study in the framework of the EFFACE research project, February 2015, <https://efface.eu/node/836>

Ralph Bodle and Stephan Sina, "The German Federal Constitutional Court's Decision on the Climate Change Act", in *Ecologic Institute Policy Briefs*, 10 May 2021, <https://www.ecologic.eu/18104>

Victor Paul Borg, "Investigations into Tuna Smuggling Centred on Malta Stall as EU Commission Escalates Legal Action", in *Journalism Plus*, 1 March 2022, <https://victorborg.com/?p=5870>

Rudi Bressa, "Until the Last Tiger Roars", in *Oxpeckers*, 10 March 2021, <https://oxpeckers.org/?p=8786>; and findings from Ambitus workshops and questionnaires

Anne-Laure Brochet et al., "Preliminary Assessment of the Scope and Scale of Illegal Killing and Taking of Birds in the Mediterranean", in *Bird Conservation International*, Vol. 26, No. 1 (March 2016), p. 1-28, <https://doi.org/10.1017/S0959270915000416>

Bulgaria's Ministry of Environment and Water website: *Legislation - Environmental Protection Act*, <https://www.moew.government.bg/en/environmental-protection-act-7628>

Stephen Burgen, "Spanish Farmers Deeply Split as Ban on Hunting Wolves Is Extended", in *The Guardian*, 6 March 2021, <https://www.theguardian.com/p/gjef>

Maeve Campbell, "What Is Environmental Crime and Should You Report It?", in *Euronews*, 23 November 2020, <https://www.euronews.com/green/2020/02/18/what-is-environmental-crime-and-should-you-report-it>

Wen-His Cheng and Chung-Shin Yuan, "Using a Micro Sampler on a Drone to Extract Organic Vapors—A Case Study of Monitoring Industrial Pollution", in *Aerosol and Air Quality Research*, Vol. 21, No. 2 (February 2021), Article 200359, <https://doi.org/10.4209/aaqr.2020.06.0359>

Council of the European Union, *Evaluation Report on the Eighth Round of Mutual Evaluations "The Practical Implementation and Operation of European Policies on Preventing and Combating Environmental Crime" – Report on Finland*, 21 September 2018, <https://data.consilium.europa.eu/doc/document/ST-8430-2018-REV-1/en/pdf>

Council of the European Union, *Evaluation Report on the Eighth Round of Mutual Evaluations "The Practical Implementation and Operation of European Policies on Preventing and Combating Environmental Crime" – Report on Denmark*, 26 September 2018, <https://data.consilium.europa.eu/doc/document/ST-11621-2018-REV-1/en/pdf>

- Council of the European Union, *Evaluation Report on the Eighth Round of Mutual Evaluations "The Practical Implementation and Operation of European Policies on Preventing and Combating Environmental Crime" - Report on Denmark*, 26 September 2018, <https://data.consilium.europa.eu/doc/document/ST-11621-2018-REV-1/en/pdf>
- Council of the European Union, *Evaluation Report on the Eighth Round of Mutual Evaluations "The Practical Implementation and Operation of European Policies on Preventing and Combating Environmental Crime" - Report on Ireland*, 31 May 2018, <https://data.consilium.europa.eu/doc/document/ST-7139-2018-REV-1-DCL-1/en/pdf>
- Council of the European Union, *Fight against Organised Crime: Council Sets Out 10 Priorities for the Next 4 Years*, 26 May 2021, <https://europa.eu/!dd89dk>
- Council of the European Union, *Final Report on the Eighth Round of Evaluation on Environmental Crime*, 15 November 2019, <https://data.consilium.europa.eu/doc/document/ST-14065-2019-INIT/en/pdf>
- Council of the European Union, *Renewed EU Strategy for Sustainable Development (10917/06)*, 26 June 2006, <http://register.consilium.europa.eu/pdf/en/06/st10/st10917.en06.pdf>
- Court of Justice of the European Union, "Poland Must Immediately Cease Lignite Extraction Activities in the Turów Mine", in *CJEU Press Releases*, No. 8921 [21 May 2021], <https://curia.europa.eu/jcms/upload/docs/application/pdf/2021-05/cp210089en.pdf>
- Staffan Dahllöf et al., "The Perfect Crime? Pesticides - Low Risk, Minimal Sanctions", in *EUobserver*, 3 June 2020, <https://euobserver.com/environment/148489>
- Giacomo D'Alisa et al., *Victims in the "Land of Fires": Case Study on the Consequences of Buried and Burnt Waste in Campania, Italy*, EFFACE project, January 2015, <https://efface.eu/node/828>
- Julia Dauksza, "The Wasteland on Fire", in *VSquare*, 12 August 2020, <https://vsquare.org/?p=3870>
- Stefano Deliperi, "Portoscuso, meglio un cancro che un disoccupato in casa", in *Il manifesto sardo*, 16 December 2019, <https://www.manifestosardo.org/?p=30278>
- James Duffy et al., "Drone Technologies for Conservation", in *WWF Conservation Technology Series*, No. 5 (2020), https://space-science.wwf.de/drones/WWF_CT_Drones_2020_web.pdf
- Rosaleen Duffy, *EU Trade Policy and Wildlife Trade*, Brussels, European Parliament, December 2016, [https://www.europarl.europa.eu/thinktank/en/document.html?reference=EXPO_STU\(2016\)578025](https://www.europarl.europa.eu/thinktank/en/document.html?reference=EXPO_STU(2016)578025)
- Allison Dunne and Daan Bijwaard, *The Perceptions of Young Europeans on the Interlinkages between Climate Change and Migration. Pan-European Survey - Main Multi-Country Report*, Ipsos Belgium, 2021, <https://climateofchange.info/ipsosmainreport.pdf>
- Environmental Investigation Agency (EIA), *The Croatian Connection Exposed*, 28 May 2020, <https://eia-international.org/?p=34902>
- Environmental Investigation Agency (EIA), *EIA Report Shows Holzindustrie Schweighofer's Illegal Activities, WWF Submits EUTR Complaint*, 21 October 2015, <https://eia-global.org/press-releases/eia-report-shows-holzindustrie-schweighofers-illegal-activities-wwf-submits>
- Environmental Investigation Agency (EIA), *Japanese Buyers Fueling Illegal Logging in Romania's Last Ancient Forests*, 22 June 2016, <https://eia-global.org/press-releases/japanese-buyers-fueling-illegal-logging-in-romania-s-last-ancient-forests>
- Environmental Investigation Agency (EIA), *Taxing Questions. Evidence of Tax Evasion in Teak Exports from Myanmar*, March 2021, <https://eia-international.org/?p=37149>
- Eurisy, *Müllweg! DE - The German Solution to Fight Illegal Waste Dumping*, 2019, <https://www.eurisy.eu/?p=1689>
- Eurogroup for Animals, *The Unregulated Exotic Pet Trade in the EU: A Threat to Health and Biodiversity*, 6 May 2021, <https://www.eurogroupforanimals.org/node/3939>

Europe Latin America Programme of Assistance against Transnational Organised Crime (EL PAcCTO), *The Jaguar Network, a Working Tool for Latin America*, 17 April 2020, <https://www.elpaccto.eu/en/?p=1920>

EL PAcCTO, *Operation Spencer against International Reptile Trafficking*, 17 November 2020, <https://www.elpaccto.eu/en/?p=2765>

European Anti-Fraud Office, *Fraud against the Environment: OLAF and Spanish Authorities Bust Traffic in Illicit F-Gases*, 15 July 2021, <https://europa.eu/!KjmbG9>

European Commission, *Chemicals Strategy for Sustainability. Towards a Toxic-Free Environment* (COM/2020/667), 14 October 2020, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52020DC0667>

European Commission, *Environment: European Commission Takes Slovenia to Court for Pollution Problems from Waste Disposal*, 23 January 2014, https://ec.europa.eu/commission/presscorner/detail/en/IP_14_51

European Commission, *The Environmental Implementation Review 2019. Country Report Austria* (SWD/2019/139/2), 31 July 2019, [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019SC0139R\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019SC0139R(01))

European Commission, *The Environmental Implementation Review 2019. Country Report Poland* (SWD/2019/128/2), 31 July 2019, [https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52019SC0128R\(01\)](https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52019SC0128R(01))

European Commission, *The EU Approach against Wildlife Trafficking* (COM/2014/64), 7 February 2014, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52014DC0064>

European Commission, *EU Biodiversity Strategy for 2030. Bringing Nature Back into Our Lives* (COM/2020/380), 20 May 2020, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52020DC0380>

European Commission, *The European Green Deal* (COM/2019/640), 11 December 2019, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019DC0640>

European Commission, *European Green Deal: Commission Proposes Transformation of EU Economy and Society to Meet Climate Ambitions*, 14 July 2021, https://ec.europa.eu/commission/presscorner/detail/en/IP_21_3541

European Commission, *Evaluation of the Directive 2008/99/EC of 19 November 2008 on the Protection of the Environment through Criminal Law* (SWD/2020/259), 28 October 2020, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52020SC0259>

European Commission, *Industrial Waste: Commission Refers Croatia to Court over Its Failure to Protect Citizens from Industrial Waste in Biljane Donje Landfill*, 8 March 2018, https://ec.europa.eu/commission/presscorner/detail/en/IP_18_1448

European Commission, *A New Circular Economy Action Plan for a Cleaner and More Competitive Europe* (COM/2020/98), 11 March 2020, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52020DC0098>

European Commission, *New EU Forest Strategy for 2030* (COM/2021/572), 16 July 2021, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52021DC0572>

European Commission, *Pathway to a Healthy Planet for All. EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil'* (COM/2021/400), 12 May 2021, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52021DC0400>

European Commission, *Proposal for a Directive Amending Directive 2003/87/EC Establishing a System for Greenhouse Gas Emission Allowance Trading within the Union, Decision (EU) 2015/1814 Concerning the Establishment and Operation of a Market Stability Reserve for the Union Greenhouse Gas Emission Trading Scheme and Regulation (EU) 2015/757* (COM/2021/551), 14 July 2021, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52021PC0551>

European Commission, *Proposal for a Directive on the Protection of the Environment through Criminal Law and Replacing Directive 2008/99/EC* (COM/2021/851), 15 December 2021, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52021PC0851>

- European Commission, *Proposal for a Regulation on Fluorinated Greenhouse Gases, Amending Directive (EU) 2019/1937 and Repealing Regulation (EU) No 517/2014* (COM/2022/150), 5 April 2022, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52022PC0150>
- European Commission, *Proposal for a Regulation on Shipments of Waste and Amending Regulations (EU) No 1257/2013 and (EU) No 2020/1056* (COM/2021/709), 17 November 2021, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0709>
- European Commission, *Proposal for a Regulation on the Making Available on the Union Market as Well as Export from the Union of Certain Commodities and Products Associated with Deforestation and Forest Degradation and Repealing Regulation (EU) No 995/2010* (COM/2021/706), 17 November 2021, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52021PC0706>
- European Commission, "Satellite Images as Evidence in Court: Legal Obstacles to Their Use in Environmental Investigations", in *Sciences for Environment Policy*, July 2016, https://ec.europa.eu/environment/integration/research/newsalert/pdf/satellites_as_evidence_in_court_legal_obstacles_to_their_use_56si8_en.pdf
- European Commission, *A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development* (COM/2001/264), 15 May 2001, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52001DC0264>
- European Commission Directorate-General for Environment, *Fitness Check of the Forest Law Enforcement, Governance and Trade (FLEGT) and the EU Timber Regulations*, 19 January 2021, <https://op.europa.eu/s/v4hM>
- European Construction Sector Observatory, *Policy Measure Fact Sheet. Croatia. ePermit (eDozvola)*, January 2018, https://ec.europa.eu/growth/document/download/39c16d28-2f91-4cfb-a911-611bacbd3f32_en
- European Environmental Bureau, *Crime and Punishment*, Brussels, March 2020, <https://eeb.org/?p=101230>
- European Parliament and Council of the European Union, *Directive 2008/99/EC of 19 November 2008 on the Protection of the Environment through Criminal Law*, <http://data.europa.eu/eli/dir/2008/99/oj>
- European Parliament and Council of the European Union, *Directive (EU) 2018/2001 of 11 December 2018 on the Promotion of the Use of Energy from Renewable Sources*, <http://data.europa.eu/eli/dir/2018/2001/oj>
- European Parliament and Council of the European Union, *Regulation (EU) No 517/2014 of 16 April 2014 on Fluorinated Greenhouse Gases and Repealing Regulation (EC) No 842/2006*, <http://data.europa.eu/eli/reg/2014/517/oj>
- European Parliament and Council of the European Union, *Regulation (EU) 2019/1896 of 13 November 2019 on the European Border and Coast Guard and Repealing Regulations (EU) No 1052/2013 and (EU) 2016/1624*, <http://data.europa.eu/eli/reg/2019/1896/oj>
- European Union Agency for Criminal Justice Cooperation (Eurojust), *Report on Eurojust's Casework on Environmental Crime*, January 2021, <https://www.eurojust.europa.eu/node/2518>
- Eurojust, *Strategic Project on Environment Crime*, November 2014, <https://www.eurojust.europa.eu/document/strategic-project-environment-crime>
- European Union Aviation Safety Agency (EASA), *Easy Access Rules for Unmanned Aircraft Systems*, September 2021, <https://www.easa.europa.eu/node/110912>
- Europol, *2 500 Tonnes of Waste Trafficked from the Canary Islands to Africa*, 29 June 2020, <https://www.europol.europa.eu/node/4160>
- Europol, *Carbon Credit Fraud Causes More Than 5 Billion Euros Damage for European Taxpayer*, 9 December 2009, <https://www.europol.europa.eu/node/439>
- Europol, *COVID-19 Waste Crime: Europe-Wide Operation to Tackle Unlawful Sanitary Waste Disposal*, 30 November 2020, <https://www.europol.europa.eu/node/4434>
- Europol, *Eels Shipped by Air Found in Operation Lake-V*, 4 June 2021, <https://www.europol.europa.eu/node/4748>

Europol, *European Union Serious and Organised Crime Threat Assessment (SOCTA) 2021. A Corrupting Influence: The Infiltration and Undermining of Europe's Economy and Society by Organised Crime*, Luxembourg, Publications Office of the European Union, 2021, <https://www.europol.europa.eu/node/4666>

Europol, *Good Catch in Joint Actions Targeting Illegal Fishing*, 26 July 2021, <https://www.europol.europa.eu/node/4840>

Europol, *How a Company Earned Up to €1 Million Illegally Trading Ten Tons of Ozone-Depleting Substances*, 5 April 2019, <https://www.europol.europa.eu/node/3358>

Europol, *The Most Recent Fishing Season Sees 108 Smugglers Arrested and Over 2 Tonnes of Glass Eels Seized in Europe*, 4 June 2020, <https://www.europol.europa.eu/node/4116>

Europol, *Trash Worth Millions of Euros*, 18 September 2019, <https://www.europol.europa.eu/node/3654>

Michele Faure, "The Development of Environmental Criminal Law in the EU and Its Member States", in *Review of European Community and International Environmental Law*, Vol. 26, No. 2 (July 2017), p. 139-146

Fern, *Flegt 'Fitness Check': Abandoning Flegt Licenses Would Harm Forest Governance and the Legal Timber Trade*, 8 April 2021, <https://www.fern.org/publications-insight/flegt-fitness-check-abandoning-flegt-licenses-would-harm-forest-governance-and-the-legal-timber-trade-2320>

Bertie Ferns, Brian Campbell and Diogo Veríssimo, "Emerging Contradictions in the Enforcement of Bird Hunting Regulations in Malta", in *Conservation Science and Practice*, Vol. 4, No. 4 (April 2022), Article e12655, <https://doi.org/10.1111/csp2.12655>

Financial Action Task Force (FATF), *Money Laundering from Environmental Crime*, July 2021, <https://www.fatf-gafi.org/publications/methodsandtrends/documents/money-laundering-from-environmental-crime.html>

Finnish Environmental Crime Monitoring Group, *Environmental Crime Report 2019*, 26 July 2019, <https://poliisi.fi/documents/25235045/28576016/Environmental-crime-report-2019.pdf>

Finnish Government, *Environmental Crimes Are on the Rise*, 12 July 2021, <https://valtioneuvosto.fi/en/-/25235045/environmental-crimes-are-on-the-rise>

Friends of the Earth Europe, "Ascent Resources vs. Slovenia: Protecting Groundwater from Fracking", in *ISDS Platform*, May 2021, <https://www.isds.bilaterals.org/?ascent-resources-vs-slovenia-needs>

Layli Foroudi, "Malta's Tax Incentive Lead to Building Boom", in *Financial Times*, 19 July 2019, <https://www.ft.com/content/c82afcac-a24e-11e9-974c-ad1c6ab5efd1>

Valérie Gauriat, "Romania's Virgin Forests Ravaged by 'Wood Mafia'", in *Euronews*, 20 March 2020, <https://www.euronews.com/my-europe/2020/03/13/romania-s-virgin-forests-ravaged-by-wood-mafia>

Christiane Gerstetter et al., *Environmental Crime and the EU. Synthesis of the Research Project "European Union Action to Fight Environmental Crime"*, Berlin, Ecologic Institute, March 2016, <https://www.ecologic.eu/13614>

Jaan Ginter, "Criminal Liability of Legal Persons in Estonia", in *Juridica International*, Vol. 16 (2009), p. 151-156, https://www.juridicainternational.eu/article_full.php?uri=2009_XVI_151_criminal-liability-of-legal-persons-in-estonia

Sean Goulding Carroll, "EU incapable of detecting fraud in biofuel imports, complaint says", in *Euractiv*, 14 December 2021, <https://www.euractiv.com/section/biofuels/news/eu-incapable-of-detecting-fraud-in-biofuel-imports-complainant-says/>

Greece, *Presidential Decree No. 98 Issue A '165: Organization and Structure of the Unmanned Aircraft Service* [in Greek], 25 October 2019, <https://www.kodiko.gr/nomothesia/document/570607/p.d.-98-2019>

Argent Green, ClientEarth and EuroNatur, *Investigation into Habitat Degradation in Făgăraș, Domogled, Maramureș and Frumoasa Natura 2000 Sites*, February 2022, https://www.saveparadiseforests.eu/wp-content/uploads/2022/02/Investigation-into-habitat-degradation-in-Natura-2000-sites_Feb-2022.pdf

- Greenpeace, *Illegal Logging in Romania's Forests 2018 Report*, 2019, <https://www.greenpeace.org/romania/comunicat-presa/2337>
- Gruppo d'Intervento Giuridico onlus, *Situazione ambientale e sanitaria di Portoscuso: ognuno si assuma le proprie responsabilità fino in fondo*, 30 June 2017, <https://wp.me/p1y3lX-4At>
- Guardia Civil, *La Guardia Civil desarticula dos grupos criminales que traficaban con especies protegidas*, 12 November 2020, <https://www.guardiacivil.es/en/prensa/noticias/7658.html>
- Matthew Hall and Tanya Wyatt, *Environmental Prosecution Report. Tackling Environmental Crime in Europe*, Bristol, Environment Agency, March 2017, https://www.environmentalprosecutors.eu/sites/default/files/document/Cap%20and%20Gap%20report_FINAL_Print.pdf
- Mark Hallam, "Italian Mafia Sees German Justice System as 'a Joke'", in *Deutsche Welle*, 15 October 2020, <https://p.dw.com/p/3jyGC>
- Jo Harper, "Poland's Waste Disposal a Burning Issue", in *Obserwator Finansowy*, 30 September 2019, <https://www.obserwatorfinansowy.pl/?p=1475966>
- Virgilio Hermoso et al. "The EU Biodiversity Strategy for 2030: Opportunities and Challenges on the Path towards Biodiversity Recovery", in *Environmental Science & Policy*, Vol. 127 (January 2022), p. 263-271, <https://doi.org/10.1016/j.envsci.2021.10.028>
- Intelligence Project on Environmental Crime (IPEC), *Report on Environmental Crime in Europe*, 20 February 2015, <https://www.europol.europa.eu/node/203>
- Interpol, *Hazardous Materials Seized in Largest Global Operation against Illegal Waste*, 8 August 2017, <https://www.interpol.int/en/News-and-Events/News/2017/Hazardous-materials-seized-in-largest-global-operation-against-illegal-waste>
- Interpol, *INTERPOL Marks a Decade of Tackling Serious Organized Environmental Crime*, 23 November 2020, <https://www.interpol.int/en/News-and-Events/News/2020/INTERPOL-marks-a-decade-of-tackling-serious-organized-environmental-crime>
- Interpol, *Operation 30 Days of Action. Key Operational Findings*, 2018, <https://www.interpol.int/content/download/5165/file/Operation%2030%20Days%20of%20Action%20Key%20Findings.pdf>
- Interpol and UN Environment Programme (UNEP), *Strategic Report: Environment, Peace and Security – A Convergence of Threats*, December 2016, <https://wedocs.unep.org/20.500.11822/17008>
- Roberto Iriondo, "Machine Learning (ML) vs. Artificial Intelligence (AI): Crucial Differences", in *Towards AI*, 15 October 2018, <https://towardsai.net/p/machine-learning/differences-between-ai-and-machine-learning-1255b182fc6>
- Italy, *Decreto legislativo 3 aprile 2006, n. 152: Norme in materia ambientale*, 2006, <https://www.normattiva.it/uri-res/N2Ls?urn:nir:stato:decreto.legislativo:2006-04-03;152>
- Alain Karsenty and Nicolas Picard, "Imported Deforestation: How Europe Contributes to Tree Loss Worldwide, and What We Can Do About It", in *The Conversation*, 28 October 2021, <https://theconversation.com/imported-deforestation-how-europe-contributes-to-tree-loss-worldwide-and-what-we-can-do-about-it-169708>
- Laurence Lee, "Romania Government Accused of Allowing Illegal Logging in Forests", in *Al Jazeera*, 1 February 2019, <https://aje.io/6v4e6>
- Duncan Liefferink and Mikael Skou Andersen, "Strategies of the 'Green' Member States in EU Environmental Policy-Making", in *Journal of European Public Policy*, Vol. 5, No. 2 (June 1998), p. 254-270
- Vittorio Malagutti, "Waste Trafficking: A Dirty Italian Affair Poisons the Balkans", in *Worldcrunch*, 23 March 2021, <http://dlvr.it/RwBr1K>
- Malta's Ministry for Sustainable Development, Environment and Climate Change, *Aquaculture Strategy for the Maltese Islands. Towards Sustainability 2014-2025*, June 2014, <https://sustainabledevelopment.gov.mt/wp-content/uploads/2021/10/Aquaculture-strategy-2014-25.pdf>

Karen McVeigh, "Revealed: 97% of UK Marine Protected Areas Subject to Bottom-Trawling", in *The Guardian*, 9 October 2020, <https://www.theguardian.com/https://www.theguardian.com/p/f34ed>

Markus Melin, Aurélie C. Shapiro and Paul Glover-Kapfer, "LiDAR for Ecology and Conservation", in *WWF Conservation Technology Series*, No. 3 (2017), <http://dx.doi.org/10.13140/RG.2.2.22352.76801>

Milieu Consulting SRL, Ramboll and Gopa Luxembourg, *Study to Supply the Impact Assessment of the Directive 2008/99/EC on the Protection of the Environment through Criminal Law. Final Report*, 20 December 2021, https://ec.europa.eu/info/sites/default/files/study_final_report_en.pdf

Robert Muller and Anna Koper, "Czech, Polish Leaders Reach Deal to End Turow Mine Dispute", in *Reuters*, 3 February 2022, <https://www.reuters.com/article/us-czech-poland-turow-idAFKBN2K81JZ>

Louisa Musing et al., "Wildlife Trade in Belgium. An Analysis of CITES Trade and Seizure Data", in *TRAFFIC Reports*, October 2018, <https://www.traffic.org/publications/reports/belgium-wildlife-trade-hub>

Martin Nesbit et al., *Development of an Assessment Framework on Environmental Governance in the EU Member States. Final Report*, Luxembourg, Publications Office of the European Union, May 2019, <https://op.europa.eu/s/v4zV>

Arthur Neslen, "Poland Violated EU Laws by Logging in Białowieża Forest, Court Rules", in *The Guardian*, 17 April 2018, <https://www.theguardian.com/p/8efqa>

Network of Prosecutors on Environmental Crime (ENPRO), *Manual on Prosecuting Environmental Crime in the Baltic Sea Region*, 2021, <https://helcom.fi/wp-content/uploads/2021/03/ENPRO-Manual-2020.pdf>

Nordic Council, *Nordic Minister Statement on Transnational Organized Fisheries Crime*, 28 June 2017, <https://www.norden.org/en/node/4813>

Miroslav Nožina, "The Czech Rhino Connection: A Case Study of Vietnamese Wildlife Trafficking Networks' Operations Across Central Europe", in *European Journal on Criminal Policy and Research*, Vol. 27, No. 2 (June 2021), p. 265-283

Rachel Nuwer, "Global Cactus Traffickers Are Cleaning Out the Deserts", in *The New York Times*, 20 May 2021, <https://www.nytimes.com/2021/05/20/science/cactus-trafficking-chile.html>

Willow Outhwaite, "Addressing Corruption in CITES Documentation Processes", in *TRAFFIC Topic Briefs*, March 2020, <https://www.traffic.org/publications/reports/new-study-lifts-the-lid-on-addressing-corruption-in-cites-documentation-processes>

Yannick Pace, "Government Presents Motion to Entrench Constitutional Protection of Environment", in *Malta Today*, 12 March 2018, https://www.maltatoday.com.mt/environment/environment/85183/jose_herrera_presents_amendment_for_constitutional_protection_of_the_environment_

Kamila Paquel, "Wildlife Crime in Poland", in *European Parliament In-Depth Analysis*, April 2016, [https://www.europarl.europa.eu/thinktank/en/document/IPOL_IDA\(2016\)578960](https://www.europarl.europa.eu/thinktank/en/document/IPOL_IDA(2016)578960)

Nathalie Pettorelli et al., "Satellite Remote Sensing for Conservation", in *WWF Conservation Technology Series*, No. 4 (2018), <http://dx.doi.org/10.13140/RG.2.2.25962.41926>

Giuseppe Pietrobelli, "Pfas, i nuovi sospetti degli investigatori su Miteni e controlli di Arpav in un rapporto consegnato alla procura di Vicenza", in *Il Fatto Quotidiano*, 27 January 2022, <https://www.ilfattoquotidiano.it/2022/01/27/pfas-i-nuovi-sospetti-degli-investigatori-su-miteni-e-controlli-di-arpav-in-un-rapporto-consegnato-alla-procura-di-vicenza/6468302>

Anna Pinggen, "Commission Presents 2021-2025 EU Strategy to Tackle Organised Crime", in *eucriim News*, 1 June 2021, <https://eucriim.eu/news/commission-presents-2021-2025-eu-strategy-to-tackle-organised-crime>

- Ben Piven, "Climate Concerns to Crime: Bitcoin's Dark Side Draws Scrutiny", in *Al Jazeera*, 17 March 2021, <https://aje.io/dfnm9>
- Polish General Directorate for Environmental Protection, *Body of Case Law Pertaining to the Nature Conservation Law*, May 2020, <https://projekty.gdos.gov.pl/you-have-right-the-body-of-case-law-pertaining-to-the-nature-conservation-law>
- Aline Robert, "Multi-billion EU Carbon Market Fraud Operated from Poland", in *Euractiv*, 18 July 2016, <https://www.euractiv.com/?p=1021808>
- Ieva Rucevska et al., *Waste Crime – Waste Risks. Gaps in Meeting the Global Waste Challenge, A UNEP Rapid Response Assessment*, Nairobi/Arendal, UNEP/GRID, 2015, <https://wedocs.unep.org/20.500.11822/9648>
- Alan Roberts, Mark Thuillier and Chris Stynes, "Environmental Law and Practice in Ireland: Overview", in *Thomson Reuters Practical Law*, last updated 1 November 2021, https://uk.practicallaw.thomsonreuters.com/4-503-2701?transitionType=Default&contextData=%28sc.Default%29#co_anchor_a187514
- Kurt Sansone, "Malta Fishing Director Suspended over Tuna Bribery Allegations, Issues Denial", in *Malta Today*, 14 February 2019, https://www.maltatoday.com.mt/news/national/92931/malta_fishing_director_requeste_d_payment_from_spanish_tuna_rancher_p_hone_intercepts_show
- Save Paradise Forest, *Data Kept Secret from Romanian Forest Inventory Reveals a Catastrophic Level of Illegal Logging*, 29 November 2018, <https://www.saveparadiseforests.eu/?p=3555>
- Gabriel Schembri, "European Commission Raps Malta for Failing to Comply with Fishing Regulations", in *The Shift*, 16 May 2020, <https://theshiftnews.com/?p=32852>
- Ashley Seager, "European Taxpayers Lose €5bn in Carbon Trading Fraud", in *The Guardian*, 14 December 2009, <https://www.theguardian.com/p/2dv42>
- Stephan Sina, "Fighting Environmental Crime in Germany: A Country Report. Study in the Framework of the EFFACE Research Project", in Ecologic Institute, December 2014, https://efface.eu/sites/default/files/EFFACE_Fighting%20Environmental%20Crime%20in%20Germany_0.pdf
- Slovenia Ministry of the Interior, *Minister Hojs at Šentilj Border Crossing: Provision of Citizens' Safety Largely Depends on Modern Technologies*, 13 October 2020, <https://www.gov.si/en/news/2020-10-13-minister-hojs-at-sentilj-border-crossing-provision-of-citizens-safety-largely-depends-on-modern-technologies>
- Denis Solodov and Elżbieta Zębek, "Environmental Criminal Enforcement in Poland and Russia: Meeting Current Challenges", in *Utrecht Law Review*, Vol. 16, No. 1 (2020), p. 140-150, <http://doi.org/10.36633/ulr.532>
- Roselina Stoeva, *SWiPE – Overview of the Project*, presentation at the Inception Workshop, 14-15 October 2020, https://www.eufje.org/images/docPDF/SWiPE_Project_Overview_19102020.pdf
- Sara Stopponi, "20.000 leghe sotto i piedi: l'INGV alla ricerca dei rifiuti interrati", in *Newsletter INGV*, Vol. 13, No. 5 (September 2019), <https://www.ingv.it/it/newsletter-ingv-n-5-settembre-2019-anno-xiii/20-000-leghe-sotto-i-piedi-l-ingv-alla-ricerca-dei-rifiuti-interrati>
- Swedish Environmental Protection Agency, *Sveriges arter och naturtyper i EU:s art-och habitatdirektiv* [Sweden's Species and Habitats in the EU's Species and Habitat Directive], 2020, <https://www.naturvardsverket.se/om-oss/publikationer/6900/sveriges-arter-och-naturtyper-i-eus-art-och-habitatdirektiv>
- Felipe Thomaz, *Illicit Wildlife Markets and the Dark Web. A Scenario of the Changing Dynamics*, Geneva, Global Initiative against Transnational Organized Crime, November 2018, <https://globalinitiative.net/?p=26685>

Núria Torres Rosell and Maria Marquès Banqué, *Study on the Implementation of Directive 2008/99/EC on the Protection of the Environment through Criminal Law*, SEO/BirdLife/European Network against Environmental Crime (ENEC), May 2016, https://www.eufje.org/images/docPDF/Study-on-the-implementation-of-Directive-2008_99_ENEC_SEO_BirdLife_May2016.pdf

United Nations, *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, adopted on 22 March 1989, <http://www.basel.int/TheConvention/Overview/TextoftheConvention/tabid/1275>

United Nations Office on Drugs and Crime (UNODC), *World Wildlife Crime Report. Trafficking in Protected Species*, New York, United Nations, 2020, <https://www.unodc.org/unodc/en/data-and-analysis/wildlife.html>

US Congress, *Unmanned Aerial Vehicles and the National Airspace System*, Hearing before the Subcommittee on Aviation, 29 March 2006, <https://www.govinfo.gov/app/details/CHRG-109hhrg28275>

Annika van Roon et al., "Live Exotic Animals Legally and Illegally Imported via the Main Dutch Airport and Considerations for Public Health", in *PLoS ONE*, Vol. 14, No. 7 (24 July 2019), Article e0220122, <https://doi.org/10.1371/journal.pone.0220122>

Annamaria Villafra, "I reati ambientali", in *Studio Cataldi*, 4 April 2018, <https://www.studiocataldi.it/articoli/29860-i-reati-ambientali.asp>

Shaun Walker, "Violence Escalates as Romania Cracks Down on Illegal Timber Trade", in *The Guardian*, 8 January 2020, <https://www.theguardian.com/p/cqkv7>

WasteForce, *Waste Crime Alert*, No. 2 (31 May 2019), <https://www.wasteforceproject.eu/wp-content/uploads/2019/06/WasteForce-Waste-Crime-Alert-2.pdf>

WasteForce, *Waste Crime Alert*, No. 4 (30 November 2019), <https://www.wasteforceproject.eu/wp-content/uploads/2020/02/WasteForce-Waste-Crime-Alert-4.pdf>

WasteForce, *Waste Crime Alert*, No. 5 (28 February 2020), https://www.wasteforceproject.eu/wp-content/uploads/2020/03/WCA_5.pdf

WasteForce, *Waste Crime Alert*, No. 6 (31 May 2020), https://www.wasteforceproject.eu/wp-content/uploads/2020/06/WCA_6.pdf

WasteForce, *WasteForce Crime Alert Overview. January 2018-January 2020*, 31 January 2020, https://www.wasteforceproject.eu/wp-content/uploads/2020/06/WCA_overview.pdf

Marcus Westberg, "'Forests Are Not Renewable': The Felling of Sweden's Ancient Trees", in *The Guardian*, 16 April 2021, <https://www.theguardian.com/environment/gallery/2021/apr/16/forests-felling-swedens-ancient-trees-biodiversity-sami-environment>

World Customs Organisation (WCO), *Operation DEMETER VI Thwarts Transboundary Shipments of Illegal Waste and Ozone Depleting Substances*, 29 October 2020, <http://www.wcoomd.org/en/media/newsroom/2020/october/operation-demeter-vi-thwarts-transboundary-shipments-of-illegal-waste-and-ozone-depleting-substances.aspx>

World Custom Organization (WCO) Secretariat, "Illegal Waste Trafficking: More Data Is Key to Getting a Better Grip on This Trade", in *WCO News*, No. 88 (February 2019), p. 76-78, <https://mag.wcoomd.org/?p=6177>

WWF, *80 Tons of Illegal Bluefin Tuna Pose a Threat to Sustainable Fisheries and Human Health*, 17 October 2018, https://wwf.panda.org/wwf_news/?336793

WWF, *100-Year-Old Hungarian Forest at Tiszaug Falls Victim to Illegal Clear-Cutting, Again*, 4 September 2020, https://wwf.panda.org/wwf_news/?733071

WWF, *Engaging the Public in the Fight against Illegal Logging*, 13 November 2019, https://wwf.panda.org/wwf_news/?355571

WWF, *Environmental Law in Greece. English Summary of the 14th Annual Law Review*, 2018, <https://www.wwf.gr/images/pdfs/WWF%20Annual%20environmental%20law%20review2018-ENG%20Summary.pdf>

- WWF, *EU Consumption Responsible for 16% of Tropical Deforestation Linked to International Trade - New Report*, 14 April 2021, <https://www.wwf.eu/?2831941>
- WWF, *Illegal Logging in Romania Turns Violent: Second Forest Ranger in a Month Murdered*, 22 October 2019, https://wwf.panda.org/wwf_news/?354714
- WWF, *Offline and in the Wild: A Progress Report of the Coalition to End Wildlife Trafficking Online*, February 2020, <https://www.worldwildlife.org/publications/offline-and-in-the-wild-a-progress-report-of-the-coalition-to-end-wildlife-trafficking-online>
- WWF, *Raid on Schweighofer: WWF Calls for Comprehensive and Rapid Clarification*, 5 June 2018, https://wwf.panda.org/wwf_news/?328910
- WWF, *Wildlife Trafficking Found Online in EU - Reports*, 2 July 2020, <https://www.wwf.eu/?364590>
- WWF, *WWF's Cooperation with Interpol to Prevent Forest Crime in Central and Eastern Europe featured on ARTE TV*, 7 February 2020, https://wwf.panda.org/wwf_news/?359251
- WWF et al., *EU Wildlife Cybercrime Project. Disrupting and Dismantling Wildlife Cybercriminals and Their Networks in the European Union*, 2019, <https://cites.org/sites/default/files/l/EU%20WWF%20PROJECT%20-%20Wildlife%20Cybercrime%20project%20factsheet.pdf>
- WWF Italia, *WWF Italia e Huawei presentano i primi riscontri del progetto "Guardiani della Natura"*, 17 November 2021, <https://www.wwf.it/?p=41930>
- Matthew Xuereb, "EU Starts Legal Action against Malta over Bluefin Tuna Irregularities", in *Times of Malta*, 15 May 2020, <https://timesofmalta.com/articles/view/eu-starts-legal-action-against-malta-over-blue-fin-tuna-irregularities.792323>
- Peter Yeung, "The Toxic Effects of Electronic Waste in Accra, Ghana", in *Bloomberg*, 29 May 2019, <https://www.bloomberg.com/news/articles/2019-05-29/the-rich-world-s-electronic-waste-dumped-in-ghana>
- Tjaša Zagoršek, *Poročilo o nezakonitem lovu in ubijanju ptic v Sloveniji za obdobje 2000-2019* [Report on Illegal Hunting and Killing of Birds in Slovenia for the Period 2000-2019], Ljubljana, DOPPS-Birdlife Slovenia, 2020, https://www.ptice.si/wp-content/uploads/2020/08/Porocilo-o-nezakonitem-lovu-in-ubijanju-ptic-v-Sloveniji_2020.pdf
- Tweede Kamer Der Staten Generaal, *Outline interbestuurlijk programma versterking VTH-stelsel*, 2022, <https://www.tweedekamer.nl/kamerstukken/detail?id=2022D14263&did=2022D14263>
- Zero Waste Europe, *Burning Waste in Cement Kilns: The Case of Lafarge Trbovlje. Case Study*, August 2018, <https://zerowasteurope.eu/?p=101165>

ANNEX



Annex 1

QUESTIONNAIRE MEMBER STATES

Purpose of this evaluation

The following questionnaire aims at obtaining a full picture of the action against environmental crimes in your country, with specific reference to the institutional architecture, the main issues, the relevant tools and measures, and the state of European and international collaboration in the sector.

The questionnaire is produced as part of Ambitus, a project funded by the European Commission and aimed at boosting in the long term the operational activities of the law enforcement authorities in their combat against environmental crime. Further information about the project and the partners involved is provided below.

Unlike other evaluations, Ambitus's perspective is a first of its kind; it aims at opening up information on action against environmental crime to a broader, EU-wide audience. Thus, it builds on the work and experience of other valuable exercises, such as the recent General Evaluation (GENVAL) by the Council of the European Union, but aims at providing a broader vision on different sectors and on intra-European cooperation. The questionnaire has been designed by the think tank Istituto Affari Internazionali (IAI) with support from other partners in the Ambitus project to have a less sectorial approach to the analysis.

The answers you will kindly provide will be part of a publicly available report, published by the end of 2021, which will aim at detailing the state of environ-

mental crime action in the EU and the actors involved. It will collate the answers given by law enforcement authorities of the EU-27, Europol, Eurojust, Interpol and a selection of European NGOs. The report will then offer an overall analysis of the state of environmental crime in the EU, and a comparison between action and challenges in the different member states. A preliminary report will be finalised by May 2021.

GUIDELINES

When filling out the questionnaire kindly follow the guidelines below. Please do not hesitate to contact IAI or the *Office central de lutte contre les atteintes à l'environnement et à la santé publique* (OCLAESP) [this is incorrect in pdf] via email or to set up a call, should you need any kind of information or clarification on the questionnaire, this evaluation or the Ambitus project.

- Please answer in English.
- Please note that the answers will be published in a publicly available report, with only the strictly needed editing done on it. Please provide answers in a readable format. Please note that, if required, we can proofread the text and that, in case of editing or other changes, we will send you back the text for approval before publication.
- Please provide answers to all questions, without leaving any blanks. When the question is not answerable, please state the relevant reasons.
- Please do not answer “yes” or “no”. Each answer should be no less than

50 to 100 words.

- Please provide answers in one or more paragraphs, written in a fluid style. Please avoid using bullet points unless necessary.
- Please include relevant examples, data, legislative instruments, detailing your answer as much as possible.

Contact

Lorenzo Colantoni, Researcher at the Energy, Climate and Resources Programme at the Istituto Affari Internazionali (IAI) l.colantoni@iai.it

ABOUT AMBITUS

The Ambitus project aims thus at boosting the operational activities of law enforcement authorities in their combat against environmental crime in the long term while:

- Deepening the analysis of the environmental crime phenomenon, offering a more accurate knowledge of, for instance, threats and trends, areas and flows, criminal networks and links;
- Developing further cooperation by gathering knowledge, standardising and improving practices and procedures, and establishing more efficient networking mechanisms among member states and with non-EU partners;
- Implementing or supporting operational actions based on intelligence-led investigations and tools while focusing on specific locations, clusters and organised criminal groups (OCGs).

Ambitus plans to produce detailed reports, summary records & decisions, dedicated tools & training programmes, as well as tailored communication items.

Partners

- Ministère de l'Intérieur (France)
- Istituto Affari Internazionali (Italy)
- Keszenleti Rendorseg (Hungary)
- Prezidium Policajneho Zboru Sr (Slovakia)
- Ecole Nationale de la Magistrature (France)

QUESTIONNAIRE

Information about the respondents

Please provide us with the following information:

- **Name of the organisation.** Please understand that the answers to the questionnaire will be published as provided by the organisation you are representing.
- **Member state where you are based.**
- **Your name and role within the organisation.** Please note that this information will not be publicly shared.
- **Role of your organisation in the action against environmental crimes on the national and EU level.**
- **Date of compilation.**

Overview

1. According to your legislation, what is the definition of “environmental crime”? Please also specify:

- If there is a single definition shared by the different institutions involved.
- If you ever made a proposal for an EU definition of environmental crime, and if so, what it was.
- If you have definitions for specific kinds of environmental crimes, such as waste crime or illegal logging, and for which ones.

2. Can you please highlight the illicit activities that have historically hit your country the most?

Please also specify:

- Can you please highlight the illicit activities that are now the most relevant?
- Can you please highlight trends you observed for the period 2015-2019?

Please indicate statistics such as number of cases, extent of illegal activities, maximum illegal profit recorded, the amount of sanctions and other similar data.

3. Do you compile statistics for environmental crimes in your country? Please also specify:

- Who is in charge of this action.
- How the statistics are compiled/categorised.
- If they are accessible and, if so, please provide the data for the period 2015–2019.

4. Do you compile annual reports on environmental crimes in general, and/or specific topics? Please provide us with the link or scans of these reports if available.

5. Have you encountered relevant links between environmental crimes and the following issues, and can you provide examples?

- Organised crime.
- Corruption.
- Cybercrime.
- Financial crime.
- Other offences (please specify).

Institutional architecture

6. What is your relevant national legislation regarding offences within your definition of environmental crime? Please also specify:

- The title and provision for each legislative instrument concerning each crime.
- The range of possible administrative sanctions and criminal punishments.

7. What are the agencies and bodies entrusted with action against environmental crime in your country? Please indicate:

- The name of the institution(s).
- Its/their role.
- Its/their powers.
- Its/their number of employees fully or partially specialised on environmental crime.
- The specific units involved and whether they are part of law enforcement authorities, the judiciary or other entities (please specify which ones).

8. Is action against environmental crime led only on a national level, or are there also regional competencies?

Please also specify:

- The division of powers between national and regional authorities, the hierarchy and the possible overlaps.
- The crimes where this cooperation takes place more often.
- The issues and clashes you have witnessed in the interaction between the national and regional level and between national administrations.

9. Do you have human resources specialised for action against environmental crime?

Please also specify:

- How many of them are fully specialised;
- How many are partially specialised and if they have any specialised training or education on environmental crime;

- If it is possible to have estimate of the national budget dedicated to action against environmental crime and if you believe such an endowment is adequate for the task.

Law enforcement authorities

10. What are the main obstacles you experience in action and investigation against environmental crime?

11. What are the main investigative techniques and tools you use against environmental crimes?

Please also specify:

- What are the main issues you have faced in their application and which tools are specific to your country.
- Which tools you believe are or can be applied in the EU as a whole.

12. What is the status of your cooperation with other domestic institutions and/or investigative units, such as those addressing cyber and financial crime?

Please also specify:

- The frequency of such collaborations.
- Examples and/or the most relevant sectors of collaboration.
- If you have access to common databases.
- What are the main obstacles to this kind of cooperation.

13. Have you worked with NGOs on environmental crimes?

Please specify:

- If you cooperated with national and/or international NGOs.
- The sectors of cooperation.

- If this kind of collaboration has changed in the past ten years (increased, decreased, change of focus, etc.).

14. Have you worked with the private sector on environmental crimes?

Please specify:

- If the private sector is involved on an occasional or steady basis through, for instance, partnerships or initiatives.
- If the private sector is obliged by law to cooperate, to what extent and in which sectors.
- What have been the most fruitful sectors of cooperation, and the major obstacles.

Judiciary

15. Which courts are in charge of dealing with environmental crimes, such as waste trafficking and wildlife species trafficking, in your country?

Please also indicate:

- Whether there are there specialised courts.
- If there is a specialised court, if this court is known or easily actioned among judiciary members.
- What is the distinction between criminal and administrative sanctioning on environmental crimes.

16. What are the main obstacles you face in prosecuting domestic and cross-border environmental crimes?

Please specify:

- The type of environmental crime that has been the most difficult to address.
- The actors that have been the most difficult to prosecute. Can you

please develop the different kind of sanctions that can be imposed in criminal versus administrative courts? Do certain actors benefit from criminal immunity?

- Who is in charge for environment restoration and what is the process applied to safeguard the environment from further degradation during the investigation and the proceedings?

Cross-border crimes

17. What are your national legislation provisions for environmental crimes committed partially or entirely outside the territory of your country?

Please highlight the elements needed for the crime to be prosecuted by your law enforcement authorities despite its extra-territoriality (e.g., the involvement of nationals from your country).

18. Which are the member states your country has cooperated with the most? Which are the sectors of most frequent collaboration?

Please specify:

- Which kinds of tools and platforms you have been using.
- If you have set up or used specific channels for information exchange.
- If there are specific EU tools, databases or platforms you have been using, and in which sectors you have employed them the most.

19. Have you been cooperating with extra-EU countries on cross-border environmental crimes? Which are the countries you

cooperated with and the sectors of most frequent collaboration?

Please specify:

- How this kind of cooperation is activated and on the basis of what elements (i.e., relevant expertise, impact of the crime on multiple countries, involvement of citizens of different nationalities).
- Which kinds of tools and platforms you have been using.
- If you have set up or used specific channels for information exchange.

20. Have you worked with either Europol, Eurojust or Interpol on environmental crimes?

Please specify the institution and the sectors you have been cooperating with the most.

Annex 2

QUESTIONNAIRE INTERNATIONAL ORGANISATIONS

Purpose of this evaluation

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ABOUT AMBITUS

Environmental crime has a major impact on the European economy, society and ecosystems but, due to the broad range of criminal activities it covers, the strong involvement of organised crime and its often transnational nature, traditional methods used by national law enforcement actors have often proved limited, if not ineffective. Efforts must be scaled up, and new approaches and collaborations delivered.

The Ambitus project aims thus at boosting the operational activities of law enforcement authorities in their combat against environmental crime in the long term while:

- Deepening the analysis of the environmental crime phenomenon, offering a more accurate knowledge of, for instance, threats and trends, areas and flows, criminal networks and links;

- Developing further cooperation by gathering knowledge, standardising and improving practices and procedures, and establishing more efficient networking mechanisms among member states and with non-EU partners;
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Information about the respondents

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- **Member state where you are based.**
- **Your name and role within the organisation.** Please note that this information will not be publicly shared.
- **Role of your organisation in the action against environmental crimes on the national and EU level.**
- **Date of compilation.**

Overview

1. According to your legislation, what is the definition of “environmental crime”?

Please also specify:

- If you ever made a proposal for an EU definition of environmental crime, and if so, what it was.
- If you have definitions for specific kinds of environmental crimes, such as waste crime or illegal logging, and for which ones.

2. Can you please highlight the illicit activities that you have encountered the most in the course of your activities? Please also specify:

- Can you please highlight the illicit activities that you believe are now the most relevant in the EU?
- Can you please highlight trends you observed for the period 2015-2019? Please indicate statistics such as number of cases, extent of illegal

activities, maximum illegal profit recorded, the amount of sanctions and other similar data, if you have them available.

3. What do you believe is the role of cross-border crime in the current spike of offenses against the environment? What do you believe could be an approach the EU could apply to fight this aspect of environmental crime?

4. Do you compile any kind of statistics for environmental crimes? Please also specify:

- Who is in charge of this action.
- How the statistics are compiled/categorised.
- If they are accessible and, if so, please provide the data for the period 2015–2019.

5. Do you compile annual reports on environmental crimes in general, and/or specific topics? Please provide us with the link or scans of the reports, if available.

6. Have you encountered relevant links between environmental crimes and the following issues, and can you provide examples?

- Organised crime.
- Corruption.
- Cybercrime.
- Financial crime.
- Other offences (please specify).

Institutional architecture

7. When did your organisation start working specifically on environmental crimes?

Please also specify:

- What is your mandate, and if it has evolved over time.
- What the specific competencies and/or crimes you focus on.

8. Are there specific projects regarding environmental crimes your organisation is currently or has been involved in on the European or international level?

9. What are the units dealing with environmental crimes in your organisation? Is there a specific unit, or are competencies divided among several units?

10. Do you have human resources specialised for action against environmental crime?

Please also specify:

- How many of them are fully specialised.
- How many are partially specialised and if they have any specialised training or education on environmental crime.
- If it is possible to have an estimate of your budget dedicated to action against environmental crime, what is the source of the budget and do you believe such an endowment is adequate for the task?

Obstacles and cooperation in action against environmental crime

11. What are the main obstacles you experience generally in action and more specifically in investigation (if this is the case for your organisation) against environmental crime?

12. In case you are directly involved in investigations, what are the main investigative techniques and tools you use against environmental crimes? Please also specify:

- What are the main issues you have faced in their application and which tools are specific to your organisation.
- What sources you use the most.
- Which tools you believe are or can be applied in the EU as a whole.

13. What is the status of your cooperation with institutions and/or investigative units in member states? Please also specify:

- The frequency of such collaborations and the countries you cooperate with the most.
- Examples and/or the most relevant sectors of collaboration.
- If you have access to common databases.
- What are the main obstacles to this kind of cooperation.

14. Have you worked with NGOs on environmental crimes?

Please specify:

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15. Have you worked with the private sector on environmental crimes?

Please specify:

- If the private sector is involved on an occasional or steady basis through, for

instance, partnerships or initiatives.

- If the private sector is obliged by law to cooperate, to what extent and in which sectors.
- What have been the most fruitful sectors of cooperation, and the major obstacles.

16. Have you worked on environmental crimes with other European institutions, such as Frontex, Europol, Eurojust or Interpol? Please also specify:

- The sectors you have been cooperating in the most.
- If you designed and delivered any project with any of these organisations.
- The tools and/or platforms you use in the course of such cooperation.



Oil platforms waiting to be dismantled in the Moray Firth, Scotland



Notes

1. For more information please refer to the website of the Ambitus project: <https://en.ambituseuropa.com>
2. The project refers to "Europe" as the EU-27 unless specified otherwise.
3. Available at: <https://www.iai.it/en/node/12268>
4. A detailed list is available in the References section of this report.
5. Interpol, *INTERPOL Marks a Decade of Tackling Serious Organized Environmental Crime*, 23 November 2020, <https://www.interpol.int/en/News-and-Events/News/2020/INTERPOL-marks-a-decade-of-tackling-serious-organized-environmental-crime>.
6. Findings from Ambitus workshops and questionnaires.
7. Findings from Ambitus workshops and questionnaires.
8. European Parliament and Council of the European Union, *Directive 2008/99/EC of 19 November 2008 on the Protection of the Environment through Criminal Law*, <http://data.europa.eu/eli/dir/2008/99/oj>
9. European Commission website: *Combatting Environmental Crimes*, <https://ec.europa.eu/environment/legal/crime>
10. European Parliament and Council of the European Union, *Directive 2008/99/EC of 19 November 2008*, *cit.*
11. *Ibid.*
12. Floriana Bianco, Annalisa Lucifora and Grazia Maria Vagliasindi, *Fighting Environmental Crime in France: A Country Report*, Study in the framework of the EFFACE research project, February 2015, <https://efface.eu/node/836>
13. Italy, *Decreto legislativo 3 aprile 2006, n. 152: Norme in materia ambientale*, 2006, <https://www.normattiva.it/uri-res/N2Ls?urn:nir:stato:decreto.legislativo:2006-04-03;152>
14. Annamaria Villafrate, "I reati ambientali", in *Studio Cataldi*, 4 April 2018, <https://www.studiocataldi.it/articoli/29860-i-reati-ambientali.asp>
15. Interpol and UN Environment Programme (UNEP), *Strategic Report: Environment, Peace and Security – A Convergence of Threats*, December 2016, <https://wedocs.unep.org/20.500.11822/17008>
16. Findings from Ambitus workshops and questionnaires.
17. Austrian Federal Ministry of the Interior, *Sicherheitsbericht 2019. Kriminalität – Vorbeugung und Bekämpfung* [Security Report 2019. Crime – Prevention and Control], Vienna, 2020, <https://www.bmi.gv.at/508/start.aspx>
18. Spanish National Statistics Institute, *Offences According to Type*, <https://www.ine.es/jaxiT3/Tabla.htm?t=25997&L=1>
19. As discussed in section 2.2, such differences are common among countries across the EU.
20. EFFACE stands for "European Union Action to Fight Environmental Crime", a 40-month EU-funded research project ended in March 2016.
21. Christiane Gerstetter et al., *Environmental Crime and the EU. Synthesis of the Research Project "European Union Action to Fight Environmental Crime"*, Berlin, Ecologic Institute, March 2016, p. 13-14, <https://www.ecologic.eu/13614>
22. Council of the European Union, *Final Report on the Eighth Round of Evaluation on Environmental Crime*, 15 November 2019, <https://data.consilium.europa.eu/doc/document/ST-14065-2019-INIT/en/pdf>
23. European Commission, *Proposal for a Directive on the Protection of the Environment through Criminal Law and Replacing Directive 2008/99/EC* [COM/2021/851], 15 December 2021, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52021PC0851>
24. Interpol, *INTERPOL Marks a Decade of Tackling Serious Organized Environmental Crime*, *cit.*
25. Findings from Ambitus workshops and questionnaires.
26. Aline Robert, "Multi-billion EU Carbon Market Fraud Operated from Poland", in *Euractiv*, 18 July 2016, <https://www.euractiv.com/?p=1021808>
27. Findings from Ambitus workshops and questionnaires.
28. Intelligence Project on Environmental Crime (IPEC), *Report on Environmental Crime in Europe*, 20 February 2015, p. 1, <https://www.europol.europa.eu/node/203>
29. Gerstetter et al., *Environmental Crime and the EU*, *cit.*, p. 9
30. Findings from Ambitus workshops and questionnaires.
31. *Ibid.*
32. United Nations, *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, adopted on 22 March 1989, <http://www.basel.int/TheConvention/Overview/TextoftheConvention/tabid/1275>; and findings from Ambitus workshops and questionnaires
33. European Commission, *Proposal for a Regulation on Shipments of Waste and amending Regulations (EU) No 1257/2013 and (EU) No 2020/1056 (COM/2021/709)*, 17 November 2021, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0709>
34. By the Basel Action Network.
35. European Environmental Bureau, *Crime and Punishment*, Brussels, March 2020, p. 5, <https://eeb.org/?p=101230>; and findings from Ambitus workshops and questionnaires
36. Ieva Rucevska et al., *Waste Crime – Waste Risks. Gaps in Meeting the Global Waste Challenge, A UNEP Rapid Response Assessment*, Nairobi/Arendal, UNEP/GRID, 2015, <https://wedocs.unep.org/20.500.11822/9648>
37. Peter Yeung, "The Toxic Effects of Electronic Waste in Accra, Ghana", in *Bloomberg*, 29 May 2019,

- <https://www.bloomberg.com/news/articles/2019-05-29/the-rich-world-s-electronic-waste-dumped-in-ghana>
- 38.** Gerstetter et al., *Environmental Crime and the EU*, cit., p. 9
- 39.** Giacomo D'Alisa et al., *Victims in the "Land of Fires": Case Study on the Consequences of Buried and Burnt Waste in Campania, Italy*, EFFACE project, January 2015, <https://efface.eu/node/828>
- 40.** Country 3, Country 19.
- 41.** Rosaleen Duffy, *EU Trade Policy and Wildlife Trade*, Brussels, European Parliament, December 2016, [https://www.europarl.europa.eu/thinktank/en/document.html?reference=EXPO_STU\(2016\)578025](https://www.europarl.europa.eu/thinktank/en/document.html?reference=EXPO_STU(2016)578025)
- 42.** Findings from Ambitus workshops and questionnaires.
- 43.** Findings from Ambitus workshops and questionnaires.
- 44.** European Commission, *The EU Approach against Wildlife Trafficking* (COM/2014/64), 7 February 2014, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52014DC0064>
- 45.** Elizabeth Claire Alberts, "Stolen from the Wild, Rare Reptiles and Amphibians Are Freely Traded in EU", in *Mongabay*, 14 September 2020, <https://news.mongabay.com/?p=234827>
- 46.** Findings from Ambitus workshops and questionnaires.
- 47.** Rudi Bressa, "Until the Last Tiger Roars", in *Oxpeckers*, 10 March 2021, <https://oxpeckers.org/?p=8786>; and findings from Ambitus workshops and questionnaires
- 48.** Rachel Nuwer, "Global Cactus Traffickers Are Cleaning Out the Deserts", in *The New York Times*, 20 May 2021, <https://www.nytimes.com/2021/05/20/science/cactus-trafficking-chile.html>
- 49.** Annika van Roon et al., "Live Exotic Animals Legally and Illegally Imported via the Main Dutch Airport and Considerations for Public Health", in *PLoS ONE*, Vol. 14, No. 7 (24 July 2019), Article e0220122, <https://doi.org/10.1371/journal.pone.0220122>
- 50.** Eurogroup for Animals, *The Unregulated Exotic Pet Trade in the EU: A Threat to Health and Biodiversity*, 6 May 2021, <https://www.eurogroupforanimals.org/node/3939>
- 51.** Country 22.
- 52.** Eurogroup for Animals, *The Unregulated Exotic Pet Trade in the EU*, cit.
- 53.** United Nations Office on Drugs and Crime (UNODC), *World Wildlife Crime Report. Trafficking in Protected Species*, New York, United Nations, 2020, p. 93-105, <https://www.unodc.org/unodc/en/data-and-analysis/wildlife.html>
- 54.** Ibid.
- 55.** Europol, *The Most Recent Fishing Season Sees 108 Smugglers Arrested and Over 2 Tonnes of Glass Eels Seized in Europe*, 4 June 2020, <https://www.europol.europa.eu/node/4116>
- 56.** Karen McVeigh, "Revealed: 97% of UK Marine Protected Areas Subject to Bottom-Trawling", in *The Guardian*, 9 October 2020, <https://www.theguardian.com/https://www.theguardian.com/p/f/34ed>
- 57.** WWF, *80 Tons of Illegal Bluefin Tuna Pose a Threat to Sustainable Fisheries and Human Health*, 17 October 2018, https://www.panda.org/wwf_new/s/?336793
- 58.** Stephen Burgen, "Spanish Farmers Deeply Split as Ban on Hunting Wolves Is Extended", in *The Guardian*, 6 March 2021, <https://www.theguardian.com/p/gjef>
- 59.** IPEC, *Report on Environmental Crime in Europe*, cit., p. 8
- 60.** Project PREPAIR website: <https://www.liferepair.eu/?lang=en>
- 61.** Robert Muller and Anna Koper, "Czech, Polish Leaders Reach Deal to End Turow Mine Dispute", in *Reuters*, 3 February 2022, <https://www.reuters.com/article/us-czech-poland-turow-idAFKBN2K81JZ>
- 62.** Court of Justice of the European Union, "Poland Must Immediately Cease Lignite Extraction Activities in the Turów Mine", in *CJEU Press Releases*, No. 8921 [21 May 2021], <https://curia.europa.eu/jcms/upload/docs/application/pdf/2021-05/cp210089en.pdf>
- 63.** European Environment Agency website: *Air Pollution*, <https://www.eea.europa.eu/themes/air>
- 64.** Europol, *How a Company Earned Up to €1 Million Illegally Trading Ten Tons of Ozone-Depleting Substances*, 5 April 2019, <https://www.europol.europa.eu/node/3358>
- 65.** European Commission website: *Fluorinated Greenhouse Gases*, <https://europa.eu/!qrYdkD>
- 66.** Country 16.
- 67.** European Commission, *Proposal for a Directive on the Protection of the Environment through Criminal Law and replacing Directive 2008/99/EC*, cit.
- 68.** WWF, *EU Consumption Responsible for 16% of Tropical Deforestation Linked to International Trade – New Report*, 14 April 2021, <https://www.wwf.eu/?2831941>
- 69.** European Commission Directorate-General for Environment, *Fitness Check of the Forest Law Enforcement, Governance and Trade (FLEGT) and the EU Timber Regulations*, 19 January 2021, [https://op.europa.eu/s/v4hM; Fern, Flegt 'Fitness Check': Abandoning Flegt Licenses Would Harm Forest Governance and the Legal Timber Trade, 8 April 2021, <https://www.fern.org/publications-insight/flegt-fitness-check-abandoning-flegt-licenses-would-harm-forest-governance-and-the-legal-timber-trade-2320>](https://op.europa.eu/s/v4hM;Fern,Flegt'FitnessCheck':AbandoningFlegtLicensesWouldHarmForestGovernanceandtheLegalTimberTrade,8April2021,https://www.fern.org/publications-insight/flegt-fitness-check-abandoning-flegt-licenses-would-harm-forest-governance-and-the-legal-timber-trade-2320)
- 70.** Alain Karsenty and Nicolas Picard, "Imported Deforestation: How Europe Contributes to Tree Loss Worldwide, and What We Can Do About It", in *The Conversation*, 28 October 2021, <https://theconversation.com/imported-deforestation-how-europe-contributes-to-tree-loss-worldwide-and-what-we-can-do-about-it-169708>
- 71.** European Commission, *Proposal for a Regulation on the Making Available on the Union Market as Well as Export from the Union of Certain Commodities and Products Associated with Deforestation and Forest Degradation and Repealing Regulation (EU) No 995/2010* (COM/2021/706), 17 November 2021, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52021PC0706>
- 72.** Save Paradise Forest, *Data Kept Secret from Romanian Forest Inventory Reveals a Catastrophic Level of Illegal Logging*, 29 November 2018, <https://www.saveparadiseforest.se/?p=3555>
- 73.** WWF, *Illegal Logging in Romania Turns Violent: Second Forest Ranger in a Month Murdered*, 22 October 2019, https://www.panda.org/wwf_new/s/?354714
- 74.** Arthur Neslen, "Poland Violated EU Laws by Logging in Białowieża Forest, Court Rules", in *The Guardian*, 17 April 2018, <https://www.theguardian.com/p/8efqa>
- 75.** "Białowieża Forest: Poland Broke EU Law by Logging", in *BBC News*, 17 April 2018, <https://www.bbc.co.uk/news/world-europe-43795166>
- 76.** "Polish Environmentalists Protest as Logging Resumes in Białowieża Forest", in *Green News*, 13 October 2021, <https://www.euronews.com/green/2021/10/13/polish-environmentalists-protest-as-logging-resumes-in-bialowieza-forest>
- 77.** Swedish Environmental Protection Agency, *Sveriges arter och naturtyper i EU:s art- och habitatdirektiv* [Sweden's Species and Habitats in the EU's Species and Habitat Directive], 2020, <https://www.naturvardsverket.se/om-oss/publikationer/6900/sveriges-arter-och-naturtyper-i-eus-art-och-habitatdirektiv>

- 78.** Country 23.
- 79.** European Commission, *Chemicals Strategy for Sustainability. Towards a Toxic-Free Environment* (COM/2020/667), 14 October 2020, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52020DC0667>
- 80.** *Ibid.*
- 81.** Country 22.
- 82.** Europol, *Carbon Credit Fraud Causes More Than 5 Billion Euros Damage for European Taxpayer*, 9 December 2009, <https://www.europol.europa.eu/node/439>
- 83.** European Commission, *Proposal for a Directive Amending Directive 2003/87/EC Establishing a System for Greenhouse Gas Emission Allowance Trading within the Union, Decision (EU) 2015/1814 Concerning the Establishment and Operation of a Market Stability Reserve for the Union Greenhouse Gas Emission Trading Scheme and Regulation (EU) 2015/757* (COM/2021/551), 14 July 2021, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52021PC0551>
- 84.** Michele Faure, "The Development of Environmental Criminal Law in the EU and Its Member States", in *Review of European Community and International Environmental Law*, Vol. 26, No. 2 (July 2017), p. 139-146
- 85.** European Parliament and Council of the European Union, *Directive 2008/99/EC of 19 November 2008*, *cit.*, p. 28-37
- 86.** European Commission, *EU Biodiversity Strategy for 2030. Bringing Nature Back into Our Lives* (COM/2020/380), 20 May 2020, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52020DC0380>
- 87.** European Commission, *New EU Forest Strategy for 2030* (COM/2021/572), 16 July 2021, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52021DC0572>
- 88.** European Commission, *Chemicals Strategy for Sustainability Towards a Toxic-Free Environment*, *cit.*
- 89.** European Parliament and Council of the European Union, *Directive (EU) 2018/2001 of 11 December 2018 on the Promotion of the Use of Energy from Renewable Sources*, <http://data.europa.eu/eli/dir/2018/2001/oj>
- 90.** European Commission, *A New Circular Economy Action Plan for a Cleaner and More Competitive Europe* (COM/2020/98), 11 March 2020, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52020DC0098>
- 91.** European Parliament and Council of the European Union, *Regulation (EU) No 517/2014 of 16 April 2014 on Fluorinated Greenhouse Gases and Repealing Regulation (EC) No 842/2006*, <http://data.europa.eu/eli/reg/2014/517/oj>
- 92.** European Network of Prosecutors for the Environment (ENPE) website: <https://www.environmentalprosecutors.eu>
- 93.** European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) website: <https://www.impel.eu>
- 94.** European Union Forum of Judges for the Environment (EUFJE) website: <https://www.eufje.org>
- 95.** EnviCrimeNet website: <https://www.envicrime.net>
- 96.** European Commission, *Evaluation of the Directive 2008/99/EC of 19 November 2008 on the Protection of the Environment through Criminal Law* (SWD/2020/259), 28 October 2020, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52020SC0259>
- 97.** Country 12, Country 13.
- 98.** Country 17, Country 5.
- 99.** Country 11.
- 100.** Findings from Ambitus workshops and questionnaires.
- 101.** Findings from Ambitus workshops and questionnaires.
- 102.** Country 21.
- 103.** Country 12.
- 104.** Country 2, Country 11.
- 105.** Findings from Ambitus workshops and questionnaires.
- 106.** European Commission, *Evaluation of the Directive 2008/99/EC*, *cit.*
- 107.** Findings from Ambitus workshops and questionnaires.
- 108.** Denis Solodov and Elżbieta Zębek, "Environmental Criminal Enforcement in Poland and Russia: Meeting Current Challenges", in *Utrecht Law Review*, Vol. 16, No. 1 (2020), p. 140-150, <http://doi.org/10.36633/ulr.532>
- 109.** Country 11.
- 110.** Country 7.
- 111.** Country 9.
- 112.** Country 11; Denis Solodov and Elżbieta Zębek, "Environmental Criminal Enforcement in Poland and Russia", *cit.*
- 113.** Country 10, Country 9.
- 114.** Findings from Ambitus workshops and questionnaires.
- 115.** Country 11, Country 21.
- 116.** Country 21.
- 117.** Country 2.
- 118.** European Commission, *The Environmental Implementation Review 2019. Country Report Poland* (SWD/2019/128/2), 31 July 2019, [https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52019SC0128R\(01\)](https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52019SC0128R(01))
- 119.** Stopwastecrime website, LIFE PROHIBIT, <https://stopwastecrime.gr/en/>
- 120.** CITES website: *What Is CITES?*, <https://cites.org/eng/disc/what.php>
- 121.** United Nations, *Basel Convention*, *cit.*
- 122.** International Maritime Organization (IMO) website: *History of MARPOL*, <https://www.imo.org/en/KnowledgeCentre/ConferencesMeetings/Pages/Marpol.aspx>
- 123.** United Nations Office on Drugs and Crime (UNODC) website: <https://www.unodc.org>
- 124.** United Nations Interregional Crime and Justice Research Institute (UNICRI) website: <https://unicri.it>
- 125.** United Nations Economic Commission for Europe (UNECE) website: <https://unece.org>
- 126.** United Nations Environment Programme (UNEP) website: <https://www.unep.org>
- 127.** Interpol website: <https://www.interpol.int>
- 128.** World Customs Organization (WCO) website: <http://www.wcoomd.org>
- 129.** Financial Action Task Force (FATF) website: <https://www.fatf-gafi.org>
- 130.** Europol website: <https://www.europol.europa.eu>
- 131.** Europol website: *Secure Information Exchange Network Application (SIENA)*, last updated on 26 November 2021, <https://www.europol.europa.eu/node/19>
- 132.** Europol website: *Serious and Organised Crime Threat Assessment (SOCTA)*, last updated on 14 December 2021, <https://www.europol.europa.eu/node/1594>
- 133.** European Union Agency for Criminal Justice Cooperation (Eurojust) website: <https://www.eurojust.europa.eu>
- 134.** Frontex website: <https://frontex.europa.eu>
- 135.** European Anti-Fraud Office (OLAF) website: https://ec.europa.eu/anti-fraud/index_en
- 136.** IMPEL website: <https://www.impel.eu>
- 137.** EnviCrimeNet website: <https://www.envicrime.net>
- 138.** ENPE website: *Statutes*, <https://www.environmentalprosecutors.eu/statutes>
- 139.** EUFJE website: *Members*, https://www.eufje.org/index.php?option=com_content&view=article&id=43&Itemid=232
- 140.** EU-TWIX database website: <https://www.eu-twix.org>
- 141.** Europol, *Trash Worth Millions of Euros*, 18 September 2019, <https://www.europol.europa.eu/node/3654>
- 142.** Europol, *COVID-19 Waste Crime: Europe-Wide Operation to Tackle Unlawful Sanitary Waste Disposal*, 30 November 2020, <https://www.europol.europa.eu/node/4434>
- 143.** WCO website: *Environment Programme*, <http://www.wcoomd.org/Topics/Enforcement%20and%20Compliance/Activities%20and%20Programmes/Environment%20Pro>

gramme

- 144.** WasteForce project website: <https://www.wasteorceproject.eu>
- 145.** Shipment of Waste Enforcement Actions Project (SWEAP) website: <https://www.sweap.eu>
- 146.** Successful Wildlife Crime Prosecution in Europe (SWiPE) website: <https://stopwildlifecrime.eu>
- 147.** SWEAP website: *About SWEAP*, <https://www.sweap.eu/about-sweap>
- 148.** Operational Facility Fighting Illicit Waste Trafficking (OPFA) website: <https://opfawaste-project.eu>
- 149.** SwiPE website: *About the Project*, <https://stopwildlifecrime.eu/?p=1946>
- 150.** Interpol, *Operation 30 Days of Action. Key Operational Findings*, 2018, p. 2, <https://www.interpol.int/content/download/5165/file/Operation%2030%20Days%20of%20Action%20Key%20Findings.pdf>
- 151.** Europol, *2,500 Tonnes of Waste Trafficked from the Canary Islands to Africa*, 29 June 2020, <https://www.europol.europa.eu/node/4160>
- 152.** Country 14.
- 153.** Gerstetter et al., *Environmental Crime and the EU*, cit., p. 16-18
- 154.** Country 15.
- 155.** Europol, *European Union Serious and Organised Crime Threat Assessment (SOCTA) 2021. A Corrupting Influence: The Infiltration and Undermining of Europe's Economy and Society by Organised Crime*, Luxembourg, Publications Office of the European Union, 2021, <https://www.europol.europa.eu/node/4666>
- 156.** World Custom Organization (WCO) Secretariat, "Illegal Waste Trafficking: More Data Is Key to Getting a Better Grip on This Trade", in *WCO News*, No. 88 (February 2019), p. 76-78, <https://mag.wcoomd.org/?p=6177>
- 157.** Europol, *European Union Serious and Organised Crime*

Threat Assessment (SOCTA) 2021, cit., p. 54

- 158.** European Commission website: *The EU Approach to Combat Wildlife Trafficking*, https://ec.europa.eu/environment/cites/traf_steps_en.htm
- 159.** Environmental Investigation Agency (EIA), *Japanese Buyers Fueling Illegal Logging in Romania's Last Ancient Forests*, 22 June 2016, <https://eia-global.org/press-releases/japanese-buyers-fueling-illegal-logging-in-romania-s-last-ancient-forests>
- 160.** Environmental Investigation Agency (EIA), *The Croatian Connection Exposed*, 28 May 2020, <https://eia-international.org/?p=34902>
- 161.** European Anti-Fraud Office, *Fraud against the Environment: OLAF and Spanish Authorities Bust Traffic in Illicit F-Gases*, 15 July 2021, <https://europa.eu/!KjmbG9>
- 162.** Europe Latin America Programme of Assistance against Transnational Organised Crime (EL PACCTO), *Operation Spencer against International Reptile Trafficking*, 17 November 2020, <https://www.elpaccto.eu/en/?p=2765>
- 163.** Findings from Ambitus workshops and questionnaires.
- 164.** Country 7, Country 9, Country 15.
- 165.** Country 8, Country 17, Country 21.
- 166.** Country 11.
- 167.** Network of Prosecutors on Environmental Crime (ENPRO), *Manual on Prosecuting Environmental Crime in the Baltic Sea Region*, 2021, <https://helcom.fi/wp-content/uploads/2021/03/ENPRO-Manual-2020.pdf>
- 168.** EL PACCTO, *The Jaguar Network, a Working Tool for Latin America*, 17 April 2020, <https://www.elpaccto.eu/en/?p=1920>
- 169.** EL PACCTO website: *What Is EL PACCTO?*, <https://www.elpaccto.eu/en/?p=6>
- 170.** Ralph Bodle and Stephan Sina, "The German Federal Constitutional Court's Decision on the Climate Change Act", in

Ecologic Institute Policy Briefs, 10 May 2021,

- <https://www.ecologic.eu/18104>
- 171.** Country 8.
- 172.** Country 1, Country 6, Country 21.
- 173.** Roselina Stoeva, *SWiPE – Overview of the Project*, presentation at the Inception Workshop, 14-15 October 2020, https://www.eufje.org/images/docPDF/SWiPE_Project_Overview_19102020.pdf
- 174.** Kamila Paquel, "Wildlife Crime in Poland", in *European Parliament In-Depth Analysis*, April 2016, p. 5, [https://www.europarl.europa.eu/thinktank/en/document/IPOL_IDA\(2016\)578960](https://www.europarl.europa.eu/thinktank/en/document/IPOL_IDA(2016)578960)
- 175.** *Ibid.*, p. 17
- 176.** Tjaša Zagoršek, *Poročilo o nezakonitem lovu in ubijanju ptic v Sloveniji za obdobje 2000-2019* [Report on Illegal Hunting and Killing of Birds in Slovenia for the Period 2000-2019], Ljubljana, DOPPS-Birdlife Slovenia, 2020, https://www.ptice.si/wp-content/uploads/2020/08/Porocilo-o-nezakonitem-lovu-in-ubijanju-ptic-v-Sloveniji_2020.pdf
- 177.** Catherine Bearder, "How Environmental Crime Became an EU Security Priority for 2018-21", in *Euractiv*, 17 October 2017, <https://www.euractiv.com/?p=183886>; Anna Pinggen, "Commission Presents 2021-2025 EU Strategy to Tackle Organised Crime", in *eucriim News*, 1 June 2021, <https://eucriim.eu/news/commission-presents-2021-2025-eu-strategy-to-tackle-organised-crime>
- 178.** Policy Navigator website: *Clean Air Act 1956*, <https://navigator.health.org.uk/node/801>
- 179.** Duncan Liefferink and Mikael Skou Andersen, "Strategies of the 'Green' Member States in EU Environmental Policy-Making", in *Journal of European Public Policy*, Vol. 5, No. 2 (June 1998), p. 254-270
- 180.** European Commission, *A Sustainable Europe for a Better*

World: A European Union Strategy for Sustainable

- Development* (COM/2001/264), 15 May 2001, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52001DC0264>
- 181.** Council of the European Union, *Renewed EU Strategy for Sustainable Development* (10917/06), 26 June 2006, <http://register.consilium.europa.eu/pdf/en/06/st10/st10917.en06.pdf>
- 182.** Findings from Ambitus workshops and questionnaires.
- 183.** Allison Dunne and Daan Bijwaard, *The Perceptions of Young Europeans on the Interlinkages between Climate Change and Migration. Pan-European Survey – Main Multi-Country Report*, Ipsos Belgium, 2021, <https://climateofchange.info/ipsosmainreport.pdf>
- 184.** Stefano Deliperi, "Portoscuso, meglio un cancro che un disoccupato in casa", in *Il manifesto sardo*, 16 December 2019, <https://www.manifestosardo.org/?p=30278>
- 185.** Argent Green, ClientEarth and EuroNatur, *Investigation into Habitat Degradation in Făgăraș, Domogled, Maramureș and Frumoasa Natura 2000 Sites*, February 2022, https://www.saveparadiseforest.eu/wp-content/uploads/2022/02/Investigation-into-habitat-degradation-in-Natura-2000-sites_Feb-2022.pdf
- 186.** Greenpeace, *Illegal Logging in Romania's Forests 2018 Report*, 2019, <https://www.greenpeace.org/romania/comunicat-presa/2337>
- 187.** WWF, *Raid on Schweighofer: WWF Calls for Comprehensive and Rapid Clarification*, 5 June 2018, https://wwf.panda.org/wwf_news/?328910
- 188.** Gruppo d'Intervento Giuridico onlus, *Situazione ambientale e sanitaria di Portoscuso: ognuno si assuma le proprie responsabilità fino in fondo*, 30 June 2017, <https://wp.me/p1y3lX-4At>
- 189.** Laurence Lee, "Romania

- Government Accused of Allowing Illegal Logging in Forests”, in *Al Jazeera*, 1 February 2019, <https://aje.io/6v4e6>; Shaun Walker, “Violence Escalates as Romania Cracks Down on Illegal Timber Trade”, in *The Guardian*, 8 January 2020, <https://www.theguardian.com/p/cqkv7>
- 190.** Bertie Ferns, Brian Campbell and Diogo Veríssimo, “Emerging Contradictions in the Enforcement of Bird Hunting Regulations in Malta”, in *Conservation Science and Practice*, Vol. 4, No. 4 (April 2022), e12655, <https://doi.org/10.1111/csp2.12655>
- 191.** Court of Justice of the European Union, “Poland Must Immediately Cease Lignite Extraction Activities in the Turów Mine”, *cit.*
- 192.** European Environmental Bureau, *Crime and Punishment*, Brussels, *cit.*, p. 16.
- 193.** Victor Paul Borg, “Investigations into Tuna Smuggling Centred on Malta Stall as EU Commission Escalates Legal Action”, in *Journalism Plus*, 1 March 2022, <https://victorborg.com/?p=5870>
- 194.** Kurt Sansone, “Malta Fishing Director Suspended over Tuna Bribery Allegations, Issues Denial”, in *MaltaToday*, 14 February 2019, https://www.maltatoday.com.mt/news/national/92931/malta_fishing_director_requested_payment_from_spanish_tuna_rancher_phone_intercepts_show
- 195.** Matthew Xuereb, “EU Starts Legal Action against Malta over Bluefin Tuna Irregularities”, in *Times of Malta*, 15 May 2020, <https://timesofmalta.com/articles/view/eu-starts-legal-action-against-malta-over-bluefin-tuna-irregularities.792323>
- 196.** Country 9, Country 8.
- 197.** Country 15, Country 14.
- 198.** Vittorio Malagutti, “Waste Trafficking: A Dirty Italian Affair Poisons the Balkans”, in *Worldcrunch*, 23 March 2021, <http://dvr.it/RwBr1K>
- 199.** Matthew Hall and Tanya Wyatt, *Environmental Prosecution Report. Tackling Environmental Crime in Europe*, Bristol, Environment Agency, March 2017, https://www.environmentalprosecutors.eu/sites/default/files/document/Cap%20and%20Gap%20report_FINAL_Print.pdf
- 200.** WWF, *100-Year-Old Hungarian Forest at Tiszaug Falls Victim to Illegal Clear-Cutting, Again*, 4 September 2020, https://wwf.panda.org/wwf_news/?733071
- 201.** Miroslav Nožina, “The Czech Rhino Connection: A Case Study of Vietnamese Wildlife Trafficking Networks’ Operations Across Central Europe”, in *European Journal on Criminal Policy and Research*, Vol. 27, No. 2 (June 2021), p. 265-283
- 202.** Council of the European Union, *Final Report on the Eighth Round of Evaluation on Environmental Crime*, *cit.*, p. 14
- 203.** *Ibid.*
- 204.** European Parliament and Council of the European Union, *Directive 2008/99/EC of 19 November 2008*, *cit.*, article 5
- 205.** Núria Torres Rosell and Maria Marquès Banqué, *Study on the Implementation of Directive 2008/99/EC on the Protection of the Environment through Criminal Law*, SEO/BirdLife/European Network against Environmental Crime (ENEC), May 2016, https://www.eufje.org/images/documentPDF/Study-onthe-implementation-of-Directive-2008_99_ENEC_SEO_BirdLife_May2016.pdf
- 206.** Country 14, Country 15, Country 22.
- 207.** Jaan Ginter, “Criminal Liability of Legal Persons in Estonia”, in *Juridica International*, Vol. 16 (2009), p. 151-156, https://www.juridicainternational.eu/article_full.php?uri=2009_XVI_151_criminal-liability-of-legal-persons-in-estonia
- 208.** LexPractis website: *Corporate Criminal Law*, <https://www.lexpractis.com/?p=8509>
- 209.** Council of the European Union, *Final Report on the Eighth Round of Evaluation on Environmental Crime*, *cit.*
- 210.** IPEC, *Report on Environmental Crime in Europe*, *cit.*
- 211.** Gerstetter et al., *Environmental Crime and the EU*, *cit.*, p. 36.
- 212.** Findings from Ambitus workshops and questionnaires.
- 213.** Martin Nesbit et al., *Development of an Assessment Framework on Environmental Governance in the EU Member States. Final Report*, Luxembourg, Publications Office of the European Union, May 2019, <https://op.europa.eu/s/v4zV>
- 214.** Hall and Wyatt, *Environmental Prosecution Report. Tackling Environmental Crime in Europe*, *cit.*
- 215.** Eurojust, *Strategic Project on Environment Crime*, November 2014, <https://www.eurojust.europa.eu/document/strategic-project-environment-crime>; Hall and Wyatt, *Environmental Prosecution Report. Tackling Environmental Crime in Europe*, *cit.*
- 216.** *Ibid.*
- 217.** Country 22, Country 19.
- 218.** Country 10.
- 219.** Country 22, Country 19.
- 220.** European Commission website: *Biodiversity Strategy for 2030*, <https://europa.eu/!Hw37Bu>
- 221.** Virgilio Hermoso et al. “The EU Biodiversity Strategy for 2030: Opportunities and Challenges on the Path towards Biodiversity Recovery”, in *Environmental Science & Policy*, Vol. 127 (January 2022), p. 263-271, <https://doi.org/10.1016/j.envsci.2021.10.028>
- 222.** European Commission, *New EU Forest Strategy for 2030*, *cit.*
- 223.** European Commission, *Pathway to a Healthy Planet for All. EU Action Plan: Towards Zero Pollution for Air, Water and Soil* (COM/2021/400), 12 May 2021, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52021DC0400>
- 224.** European Parliament and Council of the European Union, *Directive (EU) 2018/2001 of 11 December 2018*, *cit.*
- 225.** European Commission, *Proposal for a Regulation on Fluorinated Greenhouse Gases, Amending Directive (EU) 2019/1937 and Repealing Regulation (EU) No 517/2014 (COM/2022/150)*, 5 April 2022, <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52022PC0150>
- 226.** European Commission, *European Green Deal: Commission Proposes Transformation of EU Economy and Society to Meet Climate Ambitions*, 14 July 2021, https://ec.europa.eu/commission/presscorner/detail/en/IP_21_3541
- 227.** European Commission website: *Recovery Plan for Europe*, https://ec.europa.eu/info/strategy/recovery-plan-europe_en
- 228.** European Commission, *The European Green Deal (COM/2019/640)*, 11 December 2019, p. 2 and 23, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019DC0640>
- 229.** Council of the European Union, *Fight against Organised Crime: Council Sets Out 10 Priorities for the Next 4 Years*, 26 May 2021, <https://europa.eu/!dd89dk>
- 230.** European Commission, *Evaluation of the Directive 2008/99/EC*, *cit.*
- 231.** European Commission, *Proposal for a Directive on the Protection of the Environment through Criminal Law and replacing Directive 2008/99/EC*, *cit.*
- 232.** While the term can be applied to any unmanned vehicle, here we refer to unmanned aircraft systems (UAS).
- 233.** Sara Stopponi, “20.000 leghe sotto i piedi: l’INGV alla ricerca dei rifiuti interrati”, in *Newsletter INGV*, Vol. 13, No. 5 (September 2019), <https://www.ingv.it/it/newsletter-ingv-n-5-settembre-2019-anno-xiii/20-000-leghe-sotto-i->

piedi-l-ingv-alla-ricerca-dei-rifiuti-interrati

234. *Ibid.*

235. European Union Aviation Safety Agency (EASA), *Easy Access Rules for Unmanned Aircraft Systems*, September 2021, <https://www.easa.europa.eu/no-de/110912>

236. Country 10, Country 22.

237. European Commission, "Satellite Images as Evidence in Court: Legal Obstacles to Their Use in Environmental Investigations", in *Sciences for Environment Policy*, July 2016, https://ec.europa.eu/environment/integration/research/newsalert/pdf/satellites_as_evidence_in_court_legal_obstacles_to_their_use_56si8_en.pdf

238. Country 10, Country 22.

239. Roberto Iriondo, "Machine Learning (ML) vs. Artificial Intelligence (AI): Crucial Differences", in *Towards AI*, 15 October 2018, <https://towardsai.net/p/machine-learning/differences-between-ai-and-machine-learning-1255b182fc6>

240. *Ibid.*

241. Country 14.

242. US Congress, *Unmanned Aerial Vehicles and the National Airspace System*, Hearing before the Subcommittee on Aviation, 29 March 2006, <https://www.govinfo.gov/app/details/CHRG-109hhr28275>

243. DJI website: *Mavic 3 Specs*, <https://www.dji.com/uk/mavic-3/specs>

244. DJI website: *Matrice 30 Series Specs*, <https://www.dji.com/uk/matrice-30/specs>

245. DJI website: *Inspire 2*, <https://www.dji.com/uk/inspire-2/info>

246. James Duffy et al., "Drone Technologies for Conservation", in *WWF Conservation Technology Series*, No. 5 (2020), https://space-science.wwf.de/drones/WWF_C_T_Drones_2020_web.pdf

247. Parrot website: *ANAFI Ai. The 4g Robotic UAV*, <https://www.parrot.com/en/drones/anafi-ai>

248. ANAFI USA, *White Paper*

V1.5.3, 30 April 2021, https://www.parrot.com/assets/s3fs-public/2022-01/white-paper-anafi-usa-v1.5.3_en.pdf

249. Wen-His Cheng and Chung-Shin Yuan, "Using a Micro Sampler on a Drone to Extract Organic Vapors—A Case Study of Monitoring Industrial Pollution", in *Aerosol and Air Quality Research*, Vol. 21, No. 2 (February 2021) Article 200359, <https://doi.org/10.4209/aaqr.2020.06.0359>

250. Italian Civil Aviation Authority (ENAC) website: *Normativa Droni*, <http://www.enac.gov.it/node/31249>

251. Country 14, Country 13.

252. Country 19.

253. Country 22.

254. Eurisy, *Müllweg! DE – The German Solution to Fight Illegal Waste Dumping*, 2019, <https://www.eurisy.eu/?p=1689>

255. Nathalie Pettorelli et al., "Satellite Remote Sensing for Conservation", in *WWF Conservation Technology Series*, No. 4 (2018), <http://dx.doi.org/10.13140/RG.2.2.25962.41926>

256. SEPAL website: <https://sepal.io>

257. WWF Italia, *WWF Italia e Huawei presentano i primi riscontri del progetto "Guardiani della Natura"*, 17 November 2021, <https://www.wwf.it/?p=41930>

258. Vodafone Romania website: *Prima pădure smart [The First Smart Forest]*, <https://www.vodafone.ro/prima-paduresmart>

259. Markus Melin, Aurélie C. Shapiro and Paul Glover-Kapfer, "LiDAR for Ecology and Conservation", in *WWF Conservation Technology Series*, No. 3 (2017), <http://dx.doi.org/10.13140/RG.2.2.22352.76801>

260. Country 22.

261. Milieu Consulting SRL, Ramboll and Gopa Luxembourg, *Study to Supply the Impact Assessment of the Directive 2008/99/EC on the Protection of the Environment through Criminal Law. Final Report*, 20 December 2021,

https://ec.europa.eu/info/sites/default/files/study_final_report_en.pdf

262. Robert, "Multi-billion EU Carbon Market Fraud Operated from Poland", *cit.*

263. European Commission, *Proposal for a Directive Amending Directive 2003/87/EC*, *cit.*

264. Environmental Investigation Agency (EIA), *Taxing Questions. Evidence of Tax Evasion in Teak Exports from Myanmar*, March 2021, <https://eia-international.org/?p=37149>

265. European Parliament and Council of the European Union, *Regulation (EU) No 517/2014 of 16 April 2014*, *cit.*

266. WasteForce, *Waste Crime Alert*, No. 5 (28 February 2020), https://www.wasteforceproject.eu/wp-content/uploads/2020/03/WCA_5.pdf

267. European Anti-Fraud Office, *Fraud against the Environment: OLAF and Spanish Authorities Bust Traffic in Illicit F-Gases*, *cit.*

268. Sean Goulding Carroll, "EU incapable of detecting fraud in biofuel imports, complaint says", in *Euractiv*, 14 December 2021, <https://www.euractiv.com/section/biofuels/news/eu-incapable-of-detecting-fraud-in-biofuel-imports-complainant-says/>

269. Country 11, Country 9, Country 16.

270. Website of the Service de la Politique criminelle: *Criminalité grave contre l'environnement*, http://www.dsb-spc.be/web/index.php?option=com_content&task=view&id=59&lang=french

271. Valérie Gauriat, "Romania's Virgin Forests Ravaged by 'Wood Mafia'", in *Euronews*, 20 March 2020, <https://www.euronews.com/my-europe/2020/03/13/romania-s-virgin-forests-ravaged-by-wood-mafia>

272. Mark Hallam, "Italian Mafia Sees German Justice System as 'a Joke'", in *Deutsche*

Welle, 15 October 2020, <https://p.dw.com/p/3jyGC>

273. Findings from Ambitus workshops and questionnaires.

274. Country 20.

275. Jo Harper, "Poland's Waste Disposal a Burning Issue", in *Obserwator Finansowy*, 30 September 2019, <https://www.obserwatorfinansowy.pl/?p=1475966>

276. WasteForce, *Waste Crime Alert*, No. 2 (31 May 2019), <https://www.wasteforceproject.eu/wp-content/uploads/2019/06/Waste-Force-Waste-Crime-Alert-2.pdf>

277. Country 17.

278. *Ibid.*

279. Europol, *Trash Worth Millions of Euros*, *cit.*; Country 3, Country 5, Country 21.

280. WWF, *WWF's Cooperation with Interpol to Prevent Forest Crime in Central and Eastern Europe featured on ARTE TV*, 7 February 2020, https://wwf.panda.org/wwf_news/?359251

281. Sustainable Eel Group website: <https://www.sustainableeelgroup.org>

282. Europol, *How a Company Earned Up to €1 Million Illegally Trading Ten Tons of Ozone-Depleting Substances*, *cit.*

283. Ashley Seager, "European Taxpayers Lose €5bn in Carbon Trading Fraud", in *The Guardian*, 14 December 2009, <https://www.theguardian.com/p/2dv42>

284. Interpol and UN Environment Programme (UNEP), *Strategic Report: Environment, Peace and Security*, *cit.*

285. Felipe Thomaz, *Illicit Wildlife Markets and the Dark Web. A Scenario of the Changing Dynamics*, Geneva, Global Initiative against Transnational Organized Crime, November 2018, <https://globalinitiative.net/?p=26685>

286. Findings from Ambitus workshops and questionnaires.

287. Country 10, Country 15, Country 11.

288. WWF, *Offline and in the Wild: A Progress Report of the*

- Coalition to End Wildlife Trafficking Online*, February 2020, <https://www.worldwildlife.org/publications/offline-and-in-the-wild-a-progress-report-of-the-coalition-to-end-wildlife-trafficking-online>
- 289.** Country 15, Country 11.
- 290.** *Politico*, "ETS Still Vulnerable to Fraud – Report", 7 August 2013, <https://www.politico.eu/?p=58928>
- 291.** Financial Action Task Force (FATF), *Money Laundering from Environmental Crime*, July 2021, <https://www.fatf-gafi.org/publications/methodsandtrends/documents/money-laundering-from-environmental-crime.html>; Ben Piven, "Climate Concerns to Crime: Bitcoin's Dark Side Draws Scrutiny", in *Al Jazeera*, 17 March 2021, <https://aje.io/dfnm9>
- 292.** Country 8.
- 293.** Paquel, "Wildlife Crime in Poland", *cit.*, p. 17.
- 294.** Country 2.
- 295.** Findings from Ambitus workshops and questionnaires.
- 296.** Country 21, Country 10.
- 297.** WWF et al., *EU Wildlife Cybercrime Project. Disrupting and Dismantling Wildlife Cybercriminals and Their Networks in the European Union*, 2019, <https://cites.org/sites/default/files/1/EU%20WWF%20PROJECT%20-%20Wildlife%20Cybercrime%20project%20factsheet.pdf>
- 298.** Europol, *Cyber Intelligence*, 2021, <https://www.europol.europa.eu/operations-services-and-innovation/services-support/information-exchange/intelligence-analysis/cyber-intelligence>
- 299.** Europol, *European Union Serious and Organised Crime Threat Assessment (SOCTA)*, 2021, <https://www.europol.europa.eu/publication-events/main-reports/european-union-serious-and-organised-crime-threat-assessment-socta-2021>
- 300.** Europol, *Eels Shipped by Air Found in Operation Lake-V*, 2021, <https://www.europol.europa.eu/media-newsroom/news/eels-shipped-air-found-in-operation-lake-v>
- 301.** Europol, *Good Catch in Joint Actions Targeting Illegal Fishing*, 2021, <https://www.europol.europa.eu/media-newsroom/news/good-catch-in-joint-actions-targeting-illegal-fishing>
- 302.** Europol, *2,500 Tonnes of Waste Trafficked from the Canary Islands to Africa*, *cit.*
- 303.** European Union Agency for Criminal Justice Cooperation (Eurojust), *Report on Eurojust's Casework on Environmental Crime*, January 2021, <https://www.eurojust.europa.eu/node/2518>
- 304.** *Ibid.*
- 305.** European Commission, *Regulation (EU) 2019/1896 of the European Parliament and of the Council of 13 November 2019 on the European Border and Coast Guard and repealing Regulations (EU) No 1052/2013 and (EU) 2016/1624*
- 306.** Country 1.
- 307.** *Ibid.*
- 308.** Environmental Investigation Agency (EIA), *EIA Report Shows Holzindustrie Schweighofer's Illegal Activities, WWF Submits EUTR Complaint*, 21 October 2015, <https://eia-global.org/press-releases/eia-report-shows-holzindustrie-schweighofers-illegal-activities-wwf-submits>
- 309.** Slovenia Ministry of the Interior, *Minister Hojs at Šentilj Border Crossing: Provision of Citizens' Safety Largely Depends on Modern Technologies*, 13 October 2020, <https://www.gov.si/en/news/2020-10-13-minister-hojs-at-sentilj-border-crossing-provision-of-citizens-safety-largely-depends-on-modern-technologies>
- 310.** City of Vienna website: *Sag's Wien App*, <https://smartcity.wien.gv.at/en/?p=11412>
- 311.** European Commission, *The Environmental Implementation Review 2019. Country Report Austria* [SWD/2019/139/2], 31 July 2019, [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019SC0139R\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52019SC0139R(01))
- 312.** Louisa Musing et al., "Wildlife Trade in Belgium. An Analysis of CITES Trade and Seizure Data", in *TRAFFIC Reports*, October 2018, <https://www.traffic.org/publications/reports/belgium-wildlife-trade-hub>
- 313.** *Timber Industry News*, "Greenpeace Spots Alleged Illegal Cargo of Precious Tropical Timber in the Port of Antwerp", 23 July 2019, <https://www.timberindustrynews.com/?p=5085>
- 314.** Country 2.
- 315.** WWF, *Wildlife Trafficking Found Online in EU – Reports*, 2 July 2020, <https://www.wwf.eu/?364590>
- 316.** *Ibid.*
- 317.** Country 2.
- 318.** Musing et al., "Wildlife Trade in Belgium", *cit.*, p. 110.
- 319.** Bulgaria's Ministry of Environment and Water website: *Legislation – Environmental Protection Act*, <https://www.moew.government.bg/en/environmental-protection-act-7628>
- 320.** *The Sofia Globe*, "Bulgaria's Deputy Environment Minister Held as Part of Alleged Organised Crime Group", 28 May 2020, <https://sofiaglobe.com/?p=90910>
- 321.** Kate Abnett, "EU Takes Bulgaria, Greece to Court over Toxic Air", in *Reuters*, 3 December 2020, <https://reut.rs/3g3HQdT>
- 322.** Valia Ahchieva, "The Investigative Story That Brought Down a Minister in Bulgaria", in *Euractiv*, 15 January 2020, <https://www.euractiv.com/?p=1418729>
- 323.** WWF, *Engaging the Public in the Fight against Illegal Logging*, 13 November 2019, https://wwf.panda.org/wwf_news/?355571
- 324.** Willow Outhwaite, "Addressing Corruption in CITES Documentation Processes", in *TRAFFIC Topic Briefs*, March 2020, <https://www.traffic.org/publications/reports/new-study-lifts-the-lid-on-addressing-corruption-in-cites-documentation-processes>
- 325.** WasteForce, *Waste Crime Alert*, No. 5 (28 February 2020), *cit.*
- 326.** Transparency International website: *Bulgaria*, <https://www.transparency.org/en/countries/bulgaria>
- 327.** Country 3.
- 328.** Country 5.
- 329.** *Ibid.*
- 330.** European Construction Sector Observatory, *Policy Measure Fact Sheet. Croatia. ePermit (eDozvola)*, January 2018, https://ec.europa.eu/growth/document/download/39c16d28-2f91-4cfb-a911-611bacbd3f32_e
- 331.** EIA, *The Croatian Connection Exposed*, *cit.*
- 332.** Country 5.
- 333.** European Commission, *Industrial Waste: Commission Refers Croatia to Court over Its Failure to Protect Citizens from Industrial Waste in Biljane Donje Landfill*, 8 March 2018, https://ec.europa.eu/commission/presscorner/detail/en/IP_18_1448
- 334.** Country 5.
- 335.** Country 4.
- 336.** *Ibid.*
- 337.** *Ibid.*
- 338.** *Ibid.*
- 339.** Country 6.
- 340.** *Ibid.*
- 341.** *Ibid.*
- 342.** *Ibid.*
- 343.** Council of the European Union, *Evaluation Report on the Eighth Round of Mutual Evaluations "The Practical Implementation and Operation of European Policies on Preventing and Combating Environmental Crime" – Report on Denmark*, 26 September 2018, <https://data.consilium.europa.eu/doc/document/ST-11621-2018-REV-1/en/pdf>
- 344.** Country 7.
- 345.** Country 7.
- 346.** Nordic Council, *Nordic Minister Statement on Transnational Organized*

- Fisheries Crime*, 28 June 2017, <https://www.norden.org/en/nod/e/4813>
- 347.** Country 7.
- 348.** Country 8.
- 349.** *Ibid.*
- 350.** *Ibid.*
- 351.** Country 9.
- 352.** Finnish Ministry of the Environment website: *Environmental Offences*, <https://ym.fi/en/environmental-offences>
- 353.** Finnish Government, *Environmental Crimes Are on the Rise*, 12 July 2021, <https://valtioneuvosto.fi/en/-/25235045/environmental-crimes-are-on-the-rise>
- 354.** Country 9.
- 355.** Finnish Environmental Crime Monitoring Group, *Environmental Crime Report 2019*, 26 July 2019, <https://poliisi.fi/documents/25235045/28576016/Environmental-crime-report-2019.pdf>
- 356.** Council of the European Union, *Evaluation Report on the Eighth Round of Mutual Evaluations "The Practical Implementation and Operation of European Policies on Preventing and Combating Environmental Crime"* – Report on Finland, 21 September 2018, <https://data.consilium.europa.eu/doc/document/ST-8430-2018-REV-1/en/pdf>
- 357.** Country 9.
- 358.** Country 10.
- 359.** *Ibid.*
- 360.** Country 11.
- 361.** *Ibid.*
- 362.** German Environment Agency (UBA) website: *Environmental Administrative Offences and Environmental Crime*, <https://www.umweltbundesamt.de/en/node/79061>
- 363.** Stephan Sina, "Fighting Environmental Crime in Germany: A Country Report. Study in the Framework of the EFFACE Research Project", in *Ecologic Institute*, December 2014, https://efface.eu/sites/default/files/EFFACE_Fighting%20Environmental%20Crime%20in%20Germany_0.pdf
- 364.** WWF, *Environmental Law in Greece. English Summary of the 14th Annual Law Review*, 2018, <https://www.wwf.gr/images/pdfs/WWF%20Annual%20environmental%20law%20review2018-ENG%20Summary.pdf>
- 365.** Country 12.
- 366.** *Ibid.*
- 367.** Stopwastecrime website, *LIFE ProWhIBIT*, <https://stopwastecrime.gr/en/>
- 368.** WasteForce, *Waste Crime Alert*, No. 5 (28 February 2020), *cit.*
- 369.** WasteForce, *WasteForce Crime Alert Overview. January 2018-January 2020*, 31 January 2020, https://www.wasteorceproject.eu/wp-content/uploads/2020/06/WCA_overview.pdf
- 370.** Country 12.
- 371.** Country 12.
- 372.** Greece, *Presidential Decree No. 98 Issue A '165: Organization and Structure of the Unmanned Aircraft Service* [in Greek], 25 October 2019, <https://www.kodiko.gr/nomothesia/document/570607/p.d.-98-2019>
- 373.** Country 13.
- 374.** *Ibid.*
- 375.** WWF, *100-Year-Old Hungarian Forest at Tiszaug Falls Victim to Illegal Clear-Cutting, Again*, *cit.*
- 376.** *Hungarian Insider*, "Mobile App Helps Get Rid of Garbage Dumps", 12 April 2021, <https://hungarianinsider.com/?p=7040>
- 377.** Council of the European Union, *Evaluation Report on the Eighth Round of Mutual Evaluations "The Practical Implementation and Operation of European Policies on Preventing and Combating Environmental Crime"* – Report on Ireland, 31 May 2018, <https://data.consilium.europa.eu/doc/document/ST-7139-2018-REV-1-DCL-1/en/pdf>
- 378.** Ask About Ireland website: *Producer Responsibility Initiatives*, <https://www.askaboutireland.ie/enfo/irelands-environment/waste-management/managing-waste/waste-management-concepts/producer-responsibility-i>
- 379.** Council of the European Union, *Evaluation Report on the Eighth Round of Mutual Evaluations ... – Report on Ireland*, *cit.*
- 380.** Alan Roberts, Mark Thuillier and Chris Stynes, "Environmental Law and Practice in Ireland: Overview", in *Thomson Reuters Practical Law*, last updated 1 November 2021, https://uk.practicallaw.thomsonreuters.com/4-503-2701?transitionType=Default&contextData=%28sc.Default%29#co_anchor_a187514
- 381.** Irish Environmental Protection Agency (EPA) website: *Make an Environmental Complaint*, <https://www.epa.ie/our-services/compliance-enforcement/whats-happening/make-an-environmental-complaint>
- 382.** Council of the European Union, *Evaluation Report on the Eighth Round of Mutual Evaluations ... – Report on Ireland*, *cit.*
- 383.** Italian Institute for Environmental Protection and Research (ISPRA) website: *Contaminated Sites of National Interest (SIN)*, https://www.isprambiente.gov.it/en/activities/soil-and-territory/copy_of_contaminated-sites/contaminated-sites-of-national-interest-sin
- 384.** Giuseppe Pietrobelli, "Pfas, i nuovi sospetti degli investigatori su Miteni e controlli di Arpav in un rapporto consegnato alla procura di Vicenza", in *Il Fatto Quotidiano*, 27 January 2022, <https://www.ilfattoquotidiano.it/2022/01/27/pfas-i-nuovi-sospetti-degli-investigatori-su-miteni-e-controlli-di-arpav-in-un-rapporto-consegnato-alla-procura-di-vicenza/6468302>
- 385.** Country 14.
- 386.** Anne-Laure Brochet et al., "Preliminary Assessment of the Scope and Scale of Illegal Killing and Taking of Birds in the Mediterranean", in *Bird Conservation International*, Vol. 26, No. 1 (March 2016), p. 1-28, <https://doi.org/10.1017/S0959270915000416>
- 387.** Country 14.
- 388.** ENPRO, *Manual on Prosecuting Environmental Crime in the Baltic Sea Region*, *cit.*, p. 14.
- 389.** LRT, "Grigeo Klaipėda's Curonian Lagoon Pollution Case Goes to Court", 3 January 2022, <https://www.lrt.lt/en/news-in-english/19/1577351/grigeo-klaipeda-s-curonian-lagoon-pollution-case-goes-to-court>
- 390.** Malta Police Force website: *Environmental Protection Unit*, <https://pulizija.gov.mt/en/police-force/police-sections/Pages/Administrative-Law-Enforcement.aspx>
- 391.** Malta's Ministry for Sustainable Development, Environment and Climate Change, *Aquaculture Strategy for the Maltese Islands. Towards Sustainability 2014-2025*, June 2014, <https://sustainabledevelopment.gov.mt/wp-content/uploads/2021/10/Aquaculture-strategy-2014-25.pdf>
- 392.** Malta's Environment and Resources Authority (ERA) website: *Information*, <https://era.org.mt/era-topic-categories/information>
- 393.** *Ibid.*
- 394.** *Ibid.*
- 395.** Yannick Pace, "Government Presents Motion to Entrench Constitutional Protection of Environment", in *Malta Today*, 12 March 2018, https://www.maltatoday.com.mt/environment/environment/85183/jose_herrera_presents_ameendment_for_constitutional_protection_of_the_environment
- 396.** Malta's Constitutional Reform website: *The Launch of the Constitutional Reform Website*, <https://riformakostituzzjonali.gov.mt/event/the-launch-of-the-constitutional-reform-website/?lang=en>
- 397.** Monique Agius, "Updated: Over 700 Protected Dead Birds Seized; 7 Arrested", in *Newsbook*, 23 August 2019, <https://newsbook.com.mt/en/?p=357104>

- 398.** *Ibid.*
- 399.** Gabriel Schembri, "European Commission Raps Malta for Failing to Comply with Fishing Regulations", in *The Shift*, 16 May 2020, <https://theshiftnews.com/?p=32852>
- 400.** Layli Foroudi, "Malta's Tax Incentive Lead to Building Boom", in *Financial Times*, 19 July 2019, <https://www.ft.com/content/c82afcac-a24e-11e9-974c-ad1c6ab5efd>
- 401.** Interpol, *Hazardous Materials Seized in Largest Global Operation against Illegal Waste*, 8 August 2017, <https://www.interpol.int/en/News-and-Events/News/2017/Hazardous-materials-seized-in-largest-global-operation-against-illegal-waste>
- 402.** Available here: <https://eraportal.org.mt/meps>
- 403.** Country 16.
- 404.** Tweede Kamer Der Staten Generaal, *Outline interbestuurlijk programma versterking VTH-stelsel*, 2022, <https://www.tweedekamer.nl/kamerstukken/detail?id=2022D14263&did=2022D14263>
- 405.** *Ibid.*
- 406.** *Ibid.*
- 407.** WasteForce, *Waste Crime Alert*, No. 2 [31 May 2019], <https://www.wasteorceproject.eu/wp-content/uploads/2019/06/Waste-Force-Waste-Crime-Alert-2.pdf>
- 408.** Harper, "Poland's Waste Disposal a Burning Issue", *cit.*
- 409.** Julia Dauksza, "The Wasteland on Fire", in *VSquare*, 12 August 2020, <https://vsquare.org/?p=3870>
- 410.** Country 17.
- 411.** Country 17.
- 412.** Staffan Dahllöf et al., "The Perfect Crime? Pesticides – Low Risk, Minimal Sanctions", in *EUobserver*, 3 June 2020, <https://euobserver.com/environment/148489>
- 413.** Paquel, "Wildlife Crime in Poland", *cit.*, p. 5 and 21.
- 414.** *Ibid.*
- 415.** Solodov and Zębek, "Environmental Criminal Enforcement in Poland and Russia", *cit.*
- 416.** Polish General Directorate for Environmental Protection, *Body of Case Law Pertaining to the Nature Conservation Law*, May 2020, <https://projekty.gdos.gov.pl/you-have-right-the-body-of-case-law-pertaining-to-the-nature-conservation-law>
- 417.** *Ibid.*
- 418.** *Ibid.*
- 419.** Country 17.
- 420.** *Ibid.*
- 421.** European Commission, *The Environmental Implementation Review 2019. Country Report Poland* (SWD/2019/128/2), 31 July 2019, [https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52019SC0128R\(01\)](https://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex:52019SC0128R(01))
- 422.** Country 17.
- 423.** WWF website: *Successful Wildlife Crime Prosecution in Europe (LIFE SWiPE)*, https://www.wwfadria.org/what_we_do/all_initiatives/life_swipe
- 424.** World Customs Organisation (WCO), *Operation DEMETER VI Thwarts Transboundary Shipments of Illegal Waste and Ozone Depleting Substances*, 29 October 2020, <http://www.wcoomd.org/en/media/newsroom/2020/october/operation-demeter-vi-thwarts-transboundary-shipments-of-illegal-waste-and-ozone-depleting-substances.aspx>
- 425.** Country 18.
- 426.** *Ibid.*
- 427.** *Ibid.*
- 428.** Country 19.
- 429.** Greenpeace, *Illegal Logging in Romania's Forests 2018 Report*, *cit.*
- 430.** Country 19.
- 431.** Country 20.
- 432.** Amendments of the Act No 543/2002 Coll. on Nature and Landscape Protection ("Act No 543/2002 Coll.") and the Act No 326/2005 Coll. On Forests ("Act No 326/2005 Coll.") that came into force in January 2020. Slovak Republic, *Annual Report for 2020, "Poloniny National Park"*, December 2020, <https://rm.coe.int/49-sr-poloniny-annual-report/1680a144ec>
- 433.** Country 20.
- 434.** *Ibid.*
- 435.** *Ibid.*
- 436.** *Ibid.*
- 437.** WasteForce, *Waste Crime Alert*, No. 4 [30 November 2019], <https://www.wasteorceproject.eu/wp-content/uploads/2020/02/Waste-Force-Waste-Crime-Alert-4.pdf>
- 438.** Zagoršek, *Poročilo o nezakonitem lovu in ubijanju ptic v Sloveniji za obdobje 2000–2019*, *cit.*
- 439.** Friends of the Earth Europe, "Ascent Resources vs. Slovenia: Protecting Groundwater from Fracking", in *ISDS Platform*, May 2021, <https://www.isds.bilaterals.org/?ascent-resources-vs-slovenia-needs>
- 440.** Zero Waste Europe, *Burning Waste in Cement Kilns: The Case of Lafarge Trbovlje. Case Study*, August 2018, <https://zerowasteurope.eu/?p=101165>
- 441.** European Commission, *Environment: European Commission Takes Slovenia to Court for Pollution Problems from Waste Disposal*, 23 January 2014, https://ec.europa.eu/commission/presscorner/detail/en/IP_14_51
- 442.** Country 21.
- 443.** WasteForce, *Waste Crime Alert*, No. 6 [31 May 2020], https://www.wasteorceproject.eu/wp-content/uploads/2020/06/WCA_6.pdf
- 444.** Ziva Alif, "Political Attack on Slovene Environmental NGOs", in *European Wilderness Society website*, <https://wilderness-society.org/?p=58971>
- 445.** Country 22.
- 446.** *Ibid.*
- 447.** *Ibid.*
- 448.** *Ibid.*
- 449.** *Ibid.*
- 450.** *Ibid.*
- 451.** Guardia Civil, *La Guardia Civil desarticula dos grupos criminales que traficaban con especies protegidas*, 12 November 2020, <https://www.guardiacivil.es/en/prensa/noticias/7658.html>
- 452.** *Ibid.*
- 453.** Country 23.
- 454.** Marcus Westberg, "'Forests Are Not Renewable': The Felling of Sweden's Ancient Trees", in *The Guardian*, 16 April 2021, <https://www.theguardian.com/environment/gallery/2021/apr/16/forests-felling-swedens-ancient-trees-biodiversity-sami-environment>

