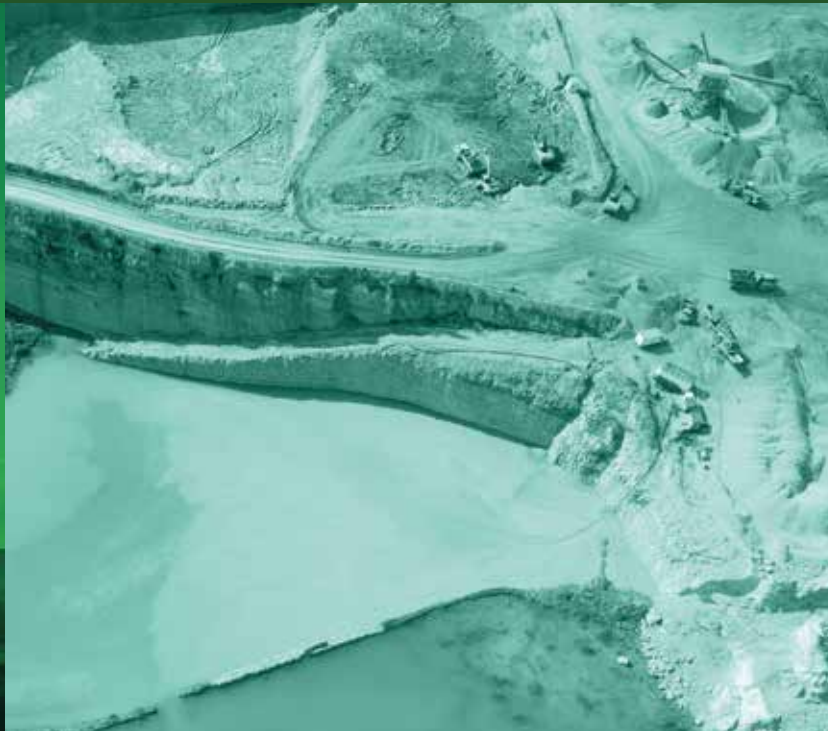




United Nations  
Office on Drugs and Crime

# INTEGRATING CRIMES THAT AFFECT THE ENVIRONMENT IN NATIONAL CLIMATE ACTION





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## Introduction

As pressure grows to respond to the climate crisis, enhanced collaboration from countries is needed to achieve the goals of the Paris Agreement. Climate action from nature, or natural climate solutions, including forests, agriculture, grasslands, and coastal wetlands, has the potential to provide over one third of global reductions of greenhouse gas emissions (GHG), ensure the integrity of ecosystems and ecosystem services and contribute key adaptation benefits.

Ecosystem degradation and biodiversity loss hinder progress towards a sustainable, climate-neutral society, contrary to the objectives of the climate agreements. To achieve the latter, a comprehensive approach to biodiversity that includes a strong justice system response in relation to crimes that affect the environment (CAE), is urgently needed. Lawmakers and law enforcement must

address these crimes promptly to avoid undermining climate resilience efforts. Often linked to transnational criminal organizations, CAE also threaten domestic security and disrupts local livelihoods. The urgency to address CAE has been raised at international environmental fora, the UN General Assembly and UN crime prevention and criminal justice fora. Recent outcomes include: Stockholm+50 discussions including a stronger justice system response to crimes that affect the environment; UNEA-5.2 Ministerial Declaration (2022) commitment to address crimes that have a serious impact on the environment; UN General Assembly resolution 76/185 "Preventing and combating crimes that affect the environment" (2022); Kyoto Protocol on Advancing Crime Prevention, Criminal Justice and the Rule of Law (2021) expressing concern about the negative impact of crimes that affect the environment.







resolution 10/6 “Preventing and combating crimes that affect the environment falling within the scope of the United Nations Convention against Transnational Organized Crime” of the Conference of the parties to the United Nations Convention against Transnational Organized Crime (UNTOC, 2020).

The United Nations Office on Drugs and Crime (UNODC) plays a crucial role in combating CAE, offering a multifaceted approach to prevent and respond to wildlife and forestry crimes, maritime environmental crimes, and crimes in the minerals and waste sectors. To effectively address the climate crisis and CAE, a multidimensional international approach is the key, with individual countries’ efforts being vital. In this regard, the forthcoming Nationally Determined Contributions (NDCs), to be submitted by early 2025 before COP30, will shape future GHG controls. These plans must align with the goal of limiting global warming to 1.5°C above pre-industrial levels. Revising NDCs and including CAE in the discussions offer an opportunity to create clear frameworks that mobilize government and non-state actors for prompt action.

Parties should specifically consider opportunities to increase their climate ambition through natural climate solutions, including CAE by updating or adding detailed targets, policies and measures, or improving the information used in their NDC.

Parties may integrate existing efforts related to natural climate solutions from other national commitments. These commitments on conservation, biodiversity, sustainable development, restoration, and more may be used to strengthen the information provided in the NDC.

This paper provides practical guidance to Parties for

incorporating responses to CAE into NDCs to enhance climate goals. It aims to provide measures and considerations for integrating justice responses into the climate agenda, for more comprehensive, impactful, and sustainable solutions.

## The Nexus Between CAE and Climate Change

Safeguarding natural ecosystems and their capacity to absorb and store GHG is crucial for addressing climate change. Article 5.1 of the Paris Agreement urges Parties to preserve and enhance these GHG sinks and reservoirs. Article 7 emphasizes the protection of these systems to boost resilience against climate change impacts. UNODC recognizes the significant role of CAE in exacerbating climate change. From illegal deforestation and ecosystem degradation, to pollution crimes, minerals and waste trafficking, CAE require comprehensive global actions to address both immediate and long-term impacts. In addition, CAE have broad, cascading effects, leading to further offences and amplifying their impact on society and the environment. These crimes contribute to more frequent and severe extreme weather events, deteriorating health conditions, and increasing food and land insecurity while driving climate-induced mobility and aggravating human trafficking, migrant smuggling, human-wildlife conflict, and piracy.

Moreover, reference to CAE is often overlooked in the climate agenda and the criminal justice system, as it is generally perceived as less significant than other criminal activities. This is likely because most activities contributing to climate change are considered lawful behaviour. As a result, the predominant approach on both the international and national level has been to

rely on incentives rather than enforcement. Further, in cases concerning climate-related matters presented in courts, the predominant approach involves operating civil and administrative litigation instead of criminal law, underscoring the urgent need for comprehensive strategies to combat CAE and mitigate their far-reaching consequences.

The following examples illustrate how CAE impacts the environment and global climate change, underscoring the importance of addressing these crimes in discussions on biodiversity, climate change and circular economy.

## Examples of CAE and their impact on climate change

### *Forestry crimes and wildlife trafficking*

Forests are essential for carbon sequestration, absorbing approximately 2.6 billion tonnes of CO<sub>2</sub> each year. However, their ability to perform this critical function is severely compromised by unsustainable harvesting and deforestation. Of the 23% of global emissions attributed to land use change and agriculture, more than half are due to forest degradation. Alarming, in 2020, an estimated 12.2 million hectares of tree cover were lost in the tropics, marking a 12% increase from the previous year, and underscoring the accelerating rate of forest destruction. The primary drivers of this deforestation are agricultural expansion for crops like palm oil and soybeans, accounting for nearly 50% of global deforestation, followed by livestock grazing, which contributes to 38.5%. The combined effects of deforestation and rising temperatures are already causing some forests, such as the Amazon, to become net emitters of carbon rather than sinks. This shift is particularly concerning because once temperatures reach a critical threshold, forests may undergo an

uncontrolled dieback process, leading to widespread deterioration of tree health.

Efforts to halt deforestation by 2030 face significant challenges, particularly due to illegal activities that often accompany legal logging operations. Some countries have introduced measures to combat deforestation linked to agricultural production. For example, France's Duty of Vigilance Law holds companies accountable for deforestation-related crimes, and the upcoming EU Regulation on deforestation-free supply chains aims to prevent goods linked to deforestation from entering EU markets. Illegal logging not only leads to biodiversity loss and increased GHG emissions but also fuels conflicts over land and resources, disempowers Indigenous People and Local Communities (IPLC), and perpetuates human rights abuses and corruption.

Wildlife trafficking presents a similarly grave threat. As a specialized form of organised crime, wildlife trafficking undermines biodiversity protection and poses severe risks to the overall health of ecosystems, including critical carbon sinks.


Furthermore, associated crimes such as document fraud, corruption, and illegal mining, though outside the immediate scope of forestry and wildlife discussions, play a significant role in facilitating forest loss and species trafficking. Tackling these crimes is essential to improving natural resource governance and reducing the overall crime rate in the forestry sector. An integrated and comprehensive approach is crucial to preserving forests' carbon sequestration capacity and protecting global biodiversity.

### *Maritime environmental crimes*

Oceans have the highest capacity for carbon sequestration, absorbing a third of anthropogenic CO<sub>2</sub> and storing it on the seabed for extended periods.







In addition to sequestering carbon, oceans absorb 90% of the heat generated by global warming and produce 50% of the world's oxygen. This carbon sequestration primarily occurs through the dissolution of atmospheric CO<sub>2</sub> in water and photosynthesis by aquatic plants. However, the ocean's capacity to absorb CO<sub>2</sub> is limited by factors such as temperature and pressure, and continued absorption relies on the removal of carbon from the water, facilitated by photosynthesis or the deposition of dead organisms on the ocean floor. Disruptions to marine ecosystems significantly impair the oceans' ability to regulate the climate. Rising temperatures and increased ocean acidity, compounded by marine pollution, severely affect marine life. Although the UN Convention on the Law of the Sea (UNCLOS) requires states to control marine pollution, enforcement is often inadequate. However, efforts are increasing, with more regulations and penalties being introduced to address runoff waste. Bilge water dumping, a common illegal practice, further pollutes the oceans. Ships often bypass the Oily Water Separator (OWS) system, dumping untreated bilge water and disrupting marine life. While enforcement has improved in some regions, consistent application of higher penalties is needed to deter this practice.

Finally, crimes in the fisheries sector and illegal, unreported, and unregulated (IUU) fishing deplete fish stocks and threaten biodiversity and livelihoods, particularly in Marine Protected Areas (MPAs). Given that the majority of marine life is near the surface of the ocean and near the shores, safeguarding MPAs is critical for maintaining biodiversity, boosting fishery yields, and safeguarding blue carbon sinks. Covering 7% of the ocean as of 2021, MPAs require robust enforcement to prevent illegal activities and ensure the sustainability of marine ecosystems and the food web that supports marine life. Addressing these issues holistically is essential for preserving the oceans' carbon sequestration capacity and overall health.

### *Crimes in the minerals sector*

Crimes in the minerals sector are varied and can occur along the entire minerals value chain. Ranging from the illegal prospecting and extraction of minerals and crimes associated with these processes, to illegal trade and associated illicit financial flows, the minerals sector is often undermined by serious environmental and socio-economic harms. High profits with low risk of arrest and prosecution have made the minerals sector an attractive sector for organized criminal groups to exploit and the race for critical materials required for the green energy transition further fuels a surge in crime. Wind turbines, solar panels, batteries for electric vehicles, electrolyzers and more require minerals like lithium, nickel, cobalt, copper, and rare earth elements, with demand for these minerals continuing to increase dramatically. Weak governance and enforcement combined with a lack in transparency and due diligence leads to an environment that is easily exploited by organized criminal groups, resulting in illegal mining, severe human rights abuses, especially against IPLC, forced labor and child labor, deforestation, environmental degradation and pollution, tax evasion, money-laundering, corruption, fraud and trafficking of other illegal commodities. These crimes can occur in any setting, ranging from informal artisanal mining settings to legally sanctioned large-scale operations by transnational corporations. Addressing crimes in the minerals sector is essential to advance our work towards stability, security, development, good governance, and the rule of law.

### *Crimes in the waste sector*

A crucial recommendation from the 2021 UNFCCC NDC Synthesis Report for enhancing mitigation efforts is adopting a circular economy, which includes waste reduction and recycling.

Waste management is a significant component of many national





climate strategies since the waste sector accounts for 10% of global greenhouse gas (GHG) emissions. Worryingly, one-third of the world's waste is improperly managed, with open dumping prevalent in some low-income countries, reaching up to 93%.

The continuous export of waste from the Global North to the Global South perpetuates a linear economy model and undermines the circular economy. This practice results in severe environmental and health impacts in recipient countries and increases global GHG emissions.

Illegally exported waste often ends up in unregulated landfills or is openly burned, leading to significant methane emissions, which contribute about 3% of global GHG emissions. Open burning also releases substantial amounts of black carbon and Persistent Organic Pollutants, posing serious health risks.

Plastic waste trafficking is also a growing issue, with global plastic production quadrupling over the past thirty years. The plastic recycling market was valued at \$36.4 billion in 2022 and is expected to

reach \$47.3 billion by 2026. However, not all plastic waste can be recycled, necessitating the sorting of 'clean' plastic waste. The Basel Convention, reinforced by the 2019 Plastic Waste Amendments, requires proper protocols for plastic waste trading. Nevertheless, illicit practices like mixing clean and unclean plastics or mislabelling origins continue.

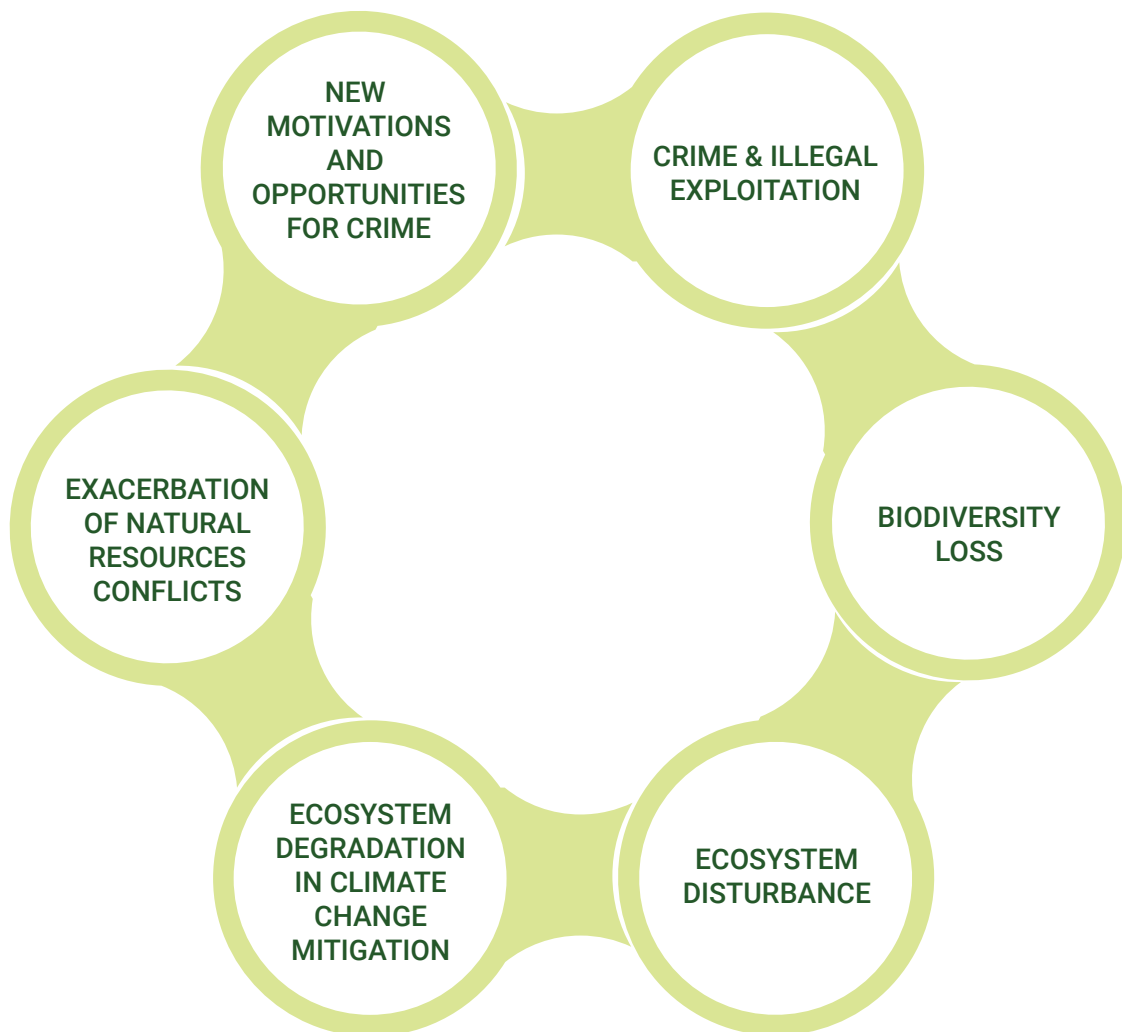
Trafficking of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HFCs) also causes significant environmental threats. These synthetic gases, primarily used for cooling, have a much higher global warming potential than CO<sub>2</sub> and damage the ozone layer. CFCs were banned by the Montreal Protocol in 1989 and phased out by 2010. HFCs, initially considered safer, were later found to be potent GHG and were banned under the Kigali Protocol. Combating waste trafficking and related practices like open dumping and burning is essential for reducing waste generation, promoting sound waste management and enabling a circular economy transition while mitigating the impact of the waste sector on climate change.







# CAE AND CLIMATE CHANGE: A DESTRUCTIVE CYCLE



## What are NDCs?

NDCs are the main vehicle created under the Paris Agreement for countries to define national goals, policies and finance strategies to contribute to global climate efforts, regularly updated over five-year intervals.

NDCs primarily cover national mitigation targets, but many countries chose to include adaptation, resilience and financial priorities, and to use their NDCs to define their climate change policy commitments more broadly.

The first intended NDCs were submitted in 2015; now, all Parties are preparing updates to their NDCs by early 2025. NDCs should be informed by the science and the Global Stocktake outcome, in light of different national circumstances and foster investment and support.

## The importance of taking CAE into consideration for strengthening NDCs

Through the integration of an effective response to CAE within the NDCs framework, countries can significantly enhance their ability to attain their climate objectives and address the underlying and less evident causes of environmental degradation. The adequate enforcement of environmental regulations, underpinned by a robust framework tackling CAE, will facilitate adherence to international commitments, strengthen the collaborative endeavours to mitigate global warming and safeguard vulnerable ecosystems and most affected communities.

Moreover, addressing the CAE-climate nexus from countries and non-state actors strengthens ecosystem resilience by curbing activities that harm crucial carbon sinks and disrupt ecological balance. Tackling CAE can also yield significant economic advantages by mitigating the costs associated with ecosystem degradation. Similarly, effective regulation promotes green economic opportunities and sustainable practices while safeguarding ecosystems and enforcing environmental laws. Therefore, adopting CAE-driven approaches helps countries promote social and environmental justice while protecting the rights of IPLCs who depend on these resources.

## Examples of integrating measures and strategies to combat CAE in natural climate solutions

Integrating measures to combat CAE into natural climate solutions involves a combination of monitoring, enforcement, community involvement, and sustainable practices.

### 1. Enhanced Monitoring and Surveillance

- Using satellite imagery and unmanned aerial vehicles (UAVs) to monitor deforestation, illegal

logging, mining activities, and other CAE in real-time.

- Utilizing AI and machine learning algorithms to analyze data from various sources to detect and predict CAE.

### 2. Legal and Regulatory Frameworks

- Implementing and enforcing stricter environmental laws and regulations to deter illegal activities.
- Designating and managing protected areas such as national parks and reserves to prevent exploitation and degradation of ecosystems.
- Promoting and enforcing certification schemes for sustainable forestry, fishing, and agricultural practices to ensure compliance with environmental standards.

### 3. Community Engagement and Empowerment

- Involving local communities in monitoring and reporting CAE. Training and equipping them with the necessary tools and knowledge.
- Providing sustainable livelihood options to communities to reduce dependence on activities that lead to environmental degradation, such as illegal logging or poaching.
- Raising awareness and educating communities about the importance of conservation and the impacts of CAE.

### 4. Strengthening Enforcement and Penalties

- Deploying more rangers, patrol units and law enforcement agencies to vulnerable areas to deter and apprehend offenders.
- Enhancing collaboration between various government agencies, law enforcement, and international bodies to tackle transboundary CAE.
- Imposing heavy fines, sanctions, and imprisonment for those found guilty of committing CAE.

### 5. International Cooperation and Agreements

- Participating in international agreements and initiatives aimed at combating CAE, such as the Convention on International Trade in Endangered Species (CITES) and the UNTOC.
- Strengthening regional cooperation by collaborating with neighbouring countries to address transboundary CAE and share best practices and resources.

### 6. Corporate Responsibility

- Encouraging businesses to adopt Corporate Social Responsibility practices that prioritize environmental conservation and ethical sourcing of materials. Ensuring companies have sustainable and traceable supply chains to prevent illegal resource extraction and promote responsible consumption.
- Ensuring the liability of legal persons for CAE through stricter compliance, due diligence, and enforcement measures.

By integrating these measures into natural climate solutions, countries can enhance the effectiveness of climate mitigation and adaptation efforts while simultaneously addressing the root causes and impacts of CAE.





# CONSIDERATIONS SPECIFIC TO THE INCLUSION OF TYPES OF CAE IN NDCS

<i>Category</i>	<i>Wildlife trafficking and forestry crimes</i>	<i>Maritime environmental crimes</i>	<i>Crimes in the waste sector</i>	<i>Crimes in the minerals sector</i>
Accurate baseline data and monitoring	<ul style="list-style-type: none"> <li>- Establish baselines for forest cover, carbon stocks, and deforestation.</li> <li>- Use satellite imagery, remote sensing, and surveys.</li> </ul>	<ul style="list-style-type: none"> <li>- Set baselines for marine biodiversity, fish stocks, and pollution.</li> <li>- Monitor using satellites, UAVs, and maritime surveillance.</li> </ul>	<ul style="list-style-type: none"> <li>- Establish baselines for waste generation, management, and illegal dumping.</li> <li>- Monitor with satellite imagery, UAVs, and inspections.</li> </ul>	<ul style="list-style-type: none"> <li>- Set baselines for mining activities, environmental impacts, and illegal mining.</li> <li>- Use satellite imagery, UAVs, and inspections.</li> </ul>
Clear definitions and scope	<ul style="list-style-type: none"> <li>- Clearly define forestry-related crimes (e.g., illegal logging, land grabbing).</li> </ul>	<ul style="list-style-type: none"> <li>- Clearly define ocean-related crimes (e.g., crimes in the fisheries sector, pollution crimes in the marine environment).</li> </ul>	<ul style="list-style-type: none"> <li>- Clearly define waste-related crimes (e.g., unauthorized dumping, waste trafficking).</li> </ul>	<ul style="list-style-type: none"> <li>- Clearly define mining-related crimes (e.g., unauthorized mining, smuggling of critical materials).</li> </ul>
Legal and institutional framework	<ul style="list-style-type: none"> <li>- Align national laws with international standards and ensure they combat illegal activities in the forestry sector.</li> <li>- Build the capacity of institutions responsible for enforcement, including capacity-building for forest rangers, customs officials, and judicial systems.</li> </ul>	<ul style="list-style-type: none"> <li>- Ensure national and international laws address ocean-related crimes effectively.</li> <li>- Enhance the capacity of maritime law enforcement and other relevant agencies through capacity-building and resources.</li> </ul>	<ul style="list-style-type: none"> <li>- Ensure national and international laws effectively address waste-related crimes, including stringent regulations for hazardous waste trafficking, dumping and burning.</li> <li>- Enhance the capacity of waste management and law enforcement agencies, and customs through training and resources.</li> </ul>	<ul style="list-style-type: none"> <li>- Ensure national and international laws effectively address minerals-related crimes, including stringent regulations for critical materials.</li> <li>- Enhance the capacity of regulatory and law enforcement agencies through capacity-building and resources.</li> </ul>
Community involvement and rights	<ul style="list-style-type: none"> <li>- Recognize and protect the rights of IPLCs who depend on forests, ensuring their involvement in decision-making and benefit-sharing.</li> <li>- Support community-based monitoring initiatives, providing training and resources to empower communities to protect their forests.</li> </ul>	<ul style="list-style-type: none"> <li>- Recognize and protect the rights of coastal communities and involve them in marine conservation efforts.</li> <li>- Strengthen human security and resilience against CAE in coastal communities vulnerable to marine biodiversity loss.</li> <li>- Support community initiatives to monitor and report illegal activities.</li> </ul>	<ul style="list-style-type: none"> <li>- Recognize and protect the rights of communities affected by waste crimes, involving them in decision-making and monitoring.</li> <li>- Support community initiatives to monitor and report illegal waste activities.</li> </ul>	<ul style="list-style-type: none"> <li>- Recognize and protect the rights of IPLCs affected by mining activities, involving them in decision-making and monitoring.</li> <li>- Support community initiatives to monitor and report illegal mining activities.</li> </ul>
Intersectoral coordination	<ul style="list-style-type: none"> <li>- Advance coordination between different sectors such as agriculture, mining, and infrastructure development to address the drivers of deforestation and CAE.</li> <li>- Adopt integrated landscape management approaches that balance conservation, sustainable use, and development goals.</li> </ul>	<ul style="list-style-type: none"> <li>- Advance coordination with sectors like shipping, tourism, and fisheries to address the drivers of ocean degradation.</li> <li>- Adopt ecosystem-based management practices that balance conservation, sustainable use, and development.</li> </ul>	<ul style="list-style-type: none"> <li>- Advance coordination with industries, municipalities, and environmental agencies to address waste management comprehensively.</li> <li>- Promote circular economy practices that minimize waste generation and encourage responsible recycling and reuse.</li> </ul>	<ul style="list-style-type: none"> <li>- Advance coordination with agriculture, forestry, and infrastructure sectors to prevent land-use conflicts and ensure sustainable practices.</li> <li>- Partner with mining companies to adopt sustainable practices and ensure supply chain transparency, as well as promote ethical sourcing of critical materials.</li> </ul>



Financial resources and incentives	<ul style="list-style-type: none"> <li>- Secure adequate funding for the implementation of measures to combat CAE, including international climate finance, national budgets, and private sector investments.</li> <li>- Create incentives for sustainable forest management practices and for reporting illegal activities, such as payment for ecosystem services (PES) schemes and REDD+ (Reducing Emissions from Deforestation and Forest Degradation) programs.</li> </ul>	<ul style="list-style-type: none"> <li>- Secure adequate funding from international climate finance, national budgets, and private sector investments.</li> <li>- Provide incentives for sustainable fishing practices, pollution control, and reporting illegal activities.</li> </ul>	<ul style="list-style-type: none"> <li>- Secure adequate funding from international climate finance, national budgets, and private sector investments.</li> <li>- Provide incentives for proper waste management practices, recycling, and reporting illegal activities at sea.</li> </ul>	<ul style="list-style-type: none"> <li>- Secure adequate funding from international climate finance, national budgets, and private sector investments.</li> <li>- Provide incentives for sustainable mining practices and reporting illegal activities.</li> </ul>
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International cooperation and support	<ul style="list-style-type: none"> <li>- Align NDC commitments with international agreements and initiatives focused on combating CAE, such as the Convention on Biological Diversity (CBD) and the UNTOC.</li> <li>- Seek technical and financial support from international organizations, donor countries, and NGOs to enhance national capabilities in monitoring, enforcement, and community engagement.</li> </ul>	<ul style="list-style-type: none"> <li>- Align NDC commitments with international treaties and agreements like the United Nations Convention on the Law of the Sea (UNCLOS), the Agreement on Marine Biodiversity Beyond National Jurisdiction (BBNJ) and the CBD.</li> <li>- Seek support from international organizations and donor countries to enhance capabilities.</li> </ul>	<ul style="list-style-type: none"> <li>- Align NDC commitments with international treaties and agreements like the Basel Convention on hazardous waste.</li> <li>- Seek support from international organizations and donor countries to enhance capabilities in waste management.</li> </ul>	<ul style="list-style-type: none"> <li>- Align NDC commitments with international treaties and agreements like the Extractive Industries Transparency Initiative (EITI).</li> <li>- Seek support from international organizations and donor countries to enhance capabilities in sustainable mining practices.</li> </ul>
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Measurable targets and indicators	<ul style="list-style-type: none"> <li>- Develop performance indicators to track progress, such as the number of illegal logging incidents reported and prosecuted, changes in deforestation rates, and improvements in forest carbon stocks.</li> </ul>	<ul style="list-style-type: none"> <li>- Develop indicators to track progress, such as reductions in IUU fishing incidents, levels of marine pollution, and improvements in marine biodiversity.</li> </ul>	<ul style="list-style-type: none"> <li>- Develop indicators to track progress, such as reductions in illegal dumping incidents, number of seizures of illegally traded waste, improvements in waste recycling rates, and proper hazardous waste disposal.</li> </ul>	<ul style="list-style-type: none"> <li>- Develop indicators to track progress, such as reductions in illegal mining incidents, improvements in environmental restoration, and better community outcomes.</li> </ul>
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## Conclusions and recommendations

The incorporation of CAE into climate change strategies is imperative for the attainment of the objectives outlined in the Paris Agreement and advancing global climate action. Raising awareness among stakeholders and integrating considerations of CAE into platforms such as the UNFCCC climate COPs and IPCC assessments can serve to underscore the crucial interconnections between crime and climate impact. By supporting initiatives to

prevent and prosecute such offences, while incorporating climate change factors into criminal justice processes, the resilience of ecosystems can be strengthened, and legal responses enhanced. Furthermore, advocating for interdisciplinary approaches and investing in novel detection technologies can bolster the capacity to effectively address and adjudicate CAE. Regular updates to legislation, coupled with a focus on cross-cutting issues such as impacts on vulnerable populations, gender and human rights, are vital for ensuring that responses to climate-related crimes are both equitable and efficient.



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