

# **THE CARBON CODE: TRADING, TRACKING AND TRANSFORMING EMISSIONS**



**DAY 3**



LICERIA & CO.

# TOPICS TO BE COVERED TODAY



**PARIS AGREEMENT**



**KYOTO PROTOCOL**



**UNFCCC**

**& THEIR RELATION TO CARBON CREDITS**

The global response to climate change has been shaped by a series of major international agreements under the umbrella of the United Nations. These include the UNFCCC (1992), the Kyoto Protocol (1997), and the Paris Agreement (2015). Each of these frameworks progressively built the foundation for what we now understand as carbon markets. From the legally binding emission limits of the Kyoto era to the flexible, nationally determined contributions under the Paris Agreement, these treaties have significantly influenced the development of both compliance and voluntary carbon credit mechanisms. This session explores how these agreements are interlinked and how they gave rise to the system of carbon trading, offsets, and credits that are central to modern climate policy and corporate sustainability strategies.



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# THE UNFCCC - ORIGINS AND OBJECTIVES

The United Nations Framework Convention on Climate Change (UNFCCC) was adopted at the 1992 Earth Summit in Rio de Janeiro. It serves as the foundational global treaty aimed at addressing climate change. Its core objective is to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. While it does not set binding emission targets, the UNFCCC establishes a framework for negotiating specific international treaties—called protocols or agreements—that may set such limits. It also requires member countries (now nearly universal at 197 parties) to report on their emissions and mitigation efforts, thereby ensuring transparency and a shared platform for climate cooperation.





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## KEY FUNCTIONS

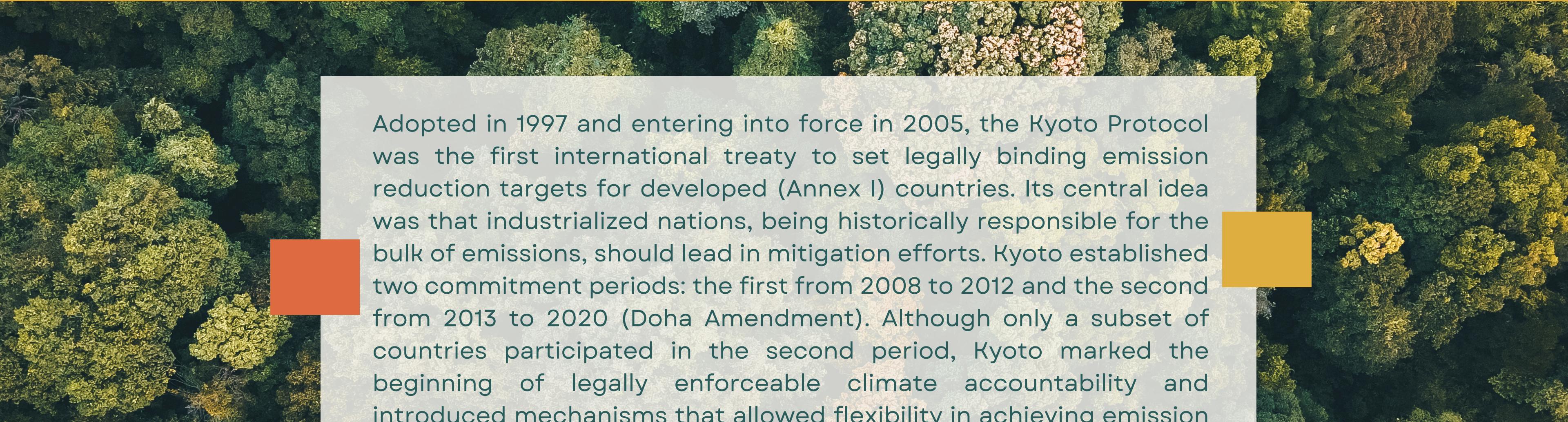
The UNFCCC is primarily responsible for convening annual Conferences of the Parties (COPs), where countries negotiate updates and additions to the international climate framework. It manages national reporting through GHG inventories and provides capacity building, especially for developing countries. Financial mechanisms such as the Green Climate Fund and Adaptation Fund are administered under its purview to support mitigation and adaptation projects in vulnerable nations. Furthermore, the UNFCCC has guided the development of market and non-market mechanisms for emissions reductions, including the Kyoto Protocol's CDM and the Paris Agreement's Article 6. These activities make the UNFCCC the backbone of global climate governance.





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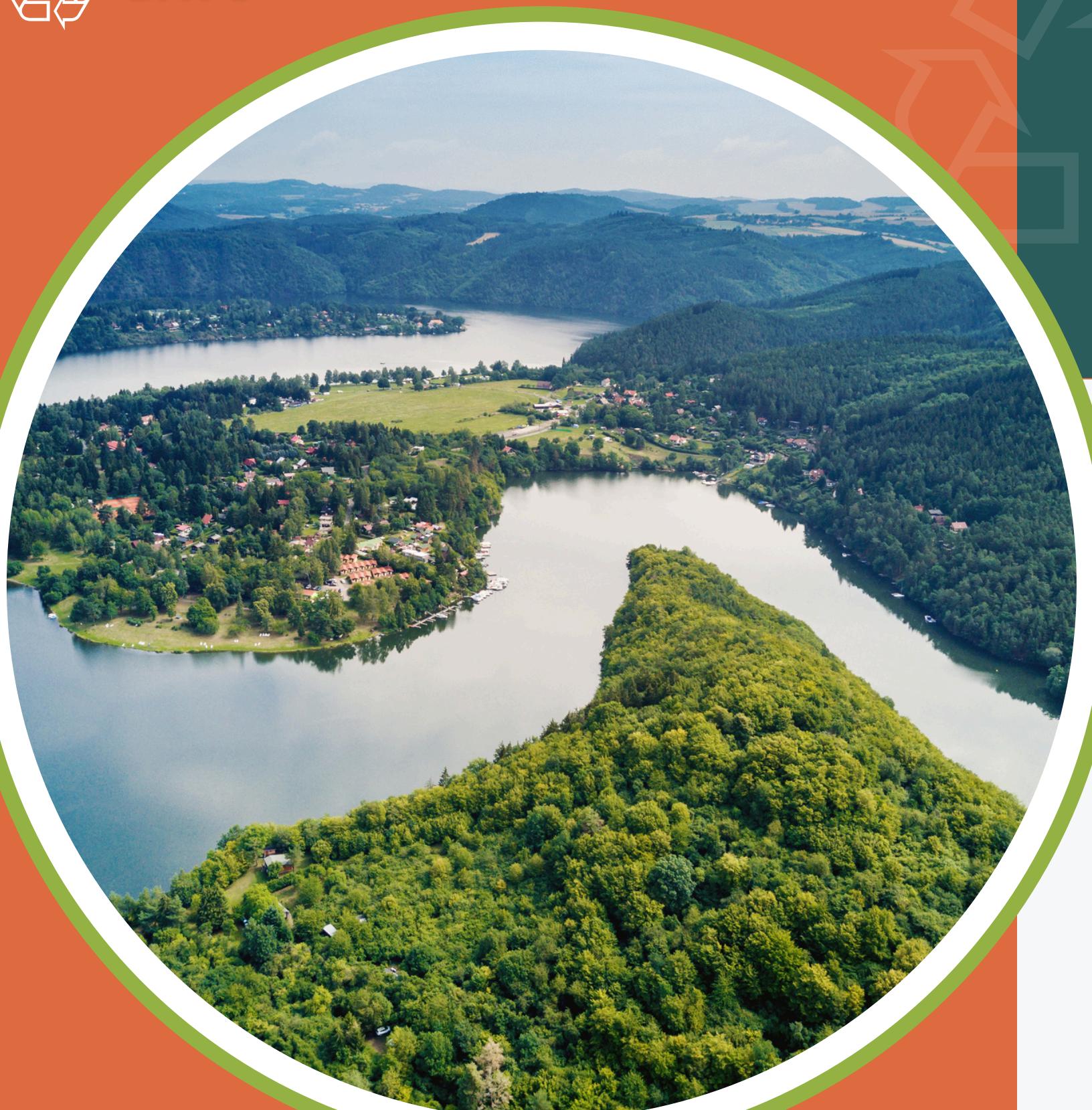
# THE KYOTO PROTOCOL – A LANDMARK IN CLIMATE POLICY



Adopted in 1997 and entering into force in 2005, the Kyoto Protocol was the first international treaty to set legally binding emission reduction targets for developed (Annex I) countries. Its central idea was that industrialized nations, being historically responsible for the bulk of emissions, should lead in mitigation efforts. Kyoto established two commitment periods: the first from 2008 to 2012 and the second from 2013 to 2020 (Doha Amendment). Although only a subset of countries participated in the second period, Kyoto marked the beginning of legally enforceable climate accountability and introduced mechanisms that allowed flexibility in achieving emission targets—laying the groundwork for modern carbon credit systems.



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# KYOTO'S CARBON MARKET MECHANISMS

The Kyoto Protocol introduced three innovative market mechanisms to make emission reductions more cost-effective:

1. Clean Development Mechanism (CDM) – Allowed developed countries to invest in emission-reduction projects in developing countries and receive Certified Emission Reductions (CERs).
2. Joint Implementation (JI) – Enabled collaboration between industrialized countries on emissions-reduction projects.
3. International Emissions Trading (ET) – Let countries with surplus emission units trade them with others exceeding their targets.

These mechanisms not only reduced compliance costs but also established a global carbon credit economy. The CDM, in particular, was crucial for introducing the concept of project-based offsets and credits that could be verified, traded, and retired.



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# CLEAN DEVELOPMENT MECHANISM (CDM) IN PRACTICE

The CDM became the most widely used of Kyoto's mechanisms. It allowed developed countries to invest in emission-reduction projects in developing nations and receive CERs—each representing one tonne of CO<sub>2</sub> equivalent avoided. These credits could then be applied toward Kyoto targets. Projects ranged from renewable energy installations and methane capture to energy efficiency improvements and reforestation. For example, a wind farm built in India by a European utility could generate CERs that offset emissions from that utility's coal plants in Europe. While the CDM mobilized billions in climate finance, it also raised questions about the integrity of projects, especially regarding "additionality"—whether the emission reductions would have occurred without the CDM.





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# CRITIQUES AND LIMITATIONS OF KYOTO

Despite its pioneering role, the Kyoto Protocol faced several limitations. The United States signed but never ratified the treaty, citing economic concerns and the exemption of major developing countries like China and India. This reduced the treaty's global effectiveness. Many CDM projects were later found to lack real additionality, and some even caused unintended environmental or social harm.

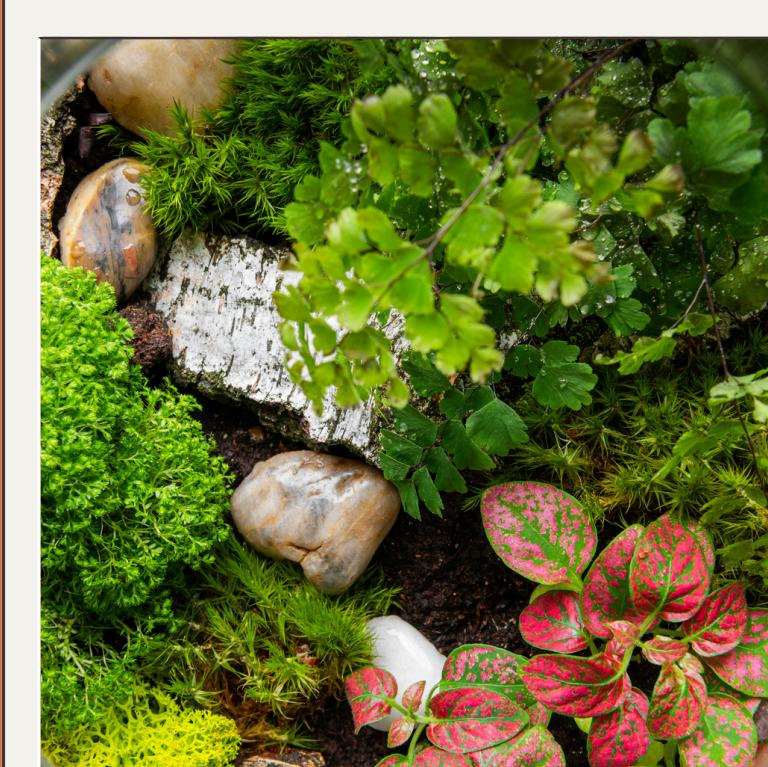
Moreover, the protocol's focus on developed countries meant that emissions from emerging economies continued to rise unchecked. The market mechanisms also became oversaturated with credits, causing prices to crash and undermining long-term credibility. These issues highlighted the need for a more inclusive and dynamic global agreement.





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# THE PARIS AGREEMENT – A GLOBAL TURNAROUND



The Paris Agreement, adopted in 2015 at COP21, marked a major shift in international climate diplomacy. Unlike Kyoto, Paris requires participation from all countries—developed and developing alike. Its central aim is to limit global warming to well below 2°C above pre-industrial levels, with efforts to stay within 1.5°C.

Under the Paris framework, countries submit Nationally Determined Contributions (NDCs) outlining their emission reduction plans. While NDCs are not legally binding in terms of outcomes, countries are required to report progress, undergo reviews, and increase ambition every five years. The Paris Agreement thus relies on transparency, peer pressure, and moral obligation rather than enforceable penalties.





# KEY FEATURES OF THE PARIS AGREEMENT

The Paris Agreement emphasizes:

- Bottom-up approach: Countries define their own targets (NDCs), enabling flexibility and broader participation.
- Transparency and Accountability: Countries must report emissions and progress regularly.
- Climate Finance: Developed nations commit to mobilizing \$100 billion annually for climate action in developing countries.
- Global Stocktake: Every five years, the collective progress is reviewed to enhance global ambition.
- Importantly, Paris created new mechanisms for emissions trading under Article 6, updating and replacing Kyoto's CDM with more robust frameworks to enable both voluntary and compliance carbon markets.





Article 6 of the Paris Agreement outlines mechanisms for voluntary cooperation among countries in achieving their NDCs:



#### ARTICLE 6.2

Article 6.2 allows countries to trade emissions reductions through Internationally Transferred Mitigation Outcomes (ITMOs).



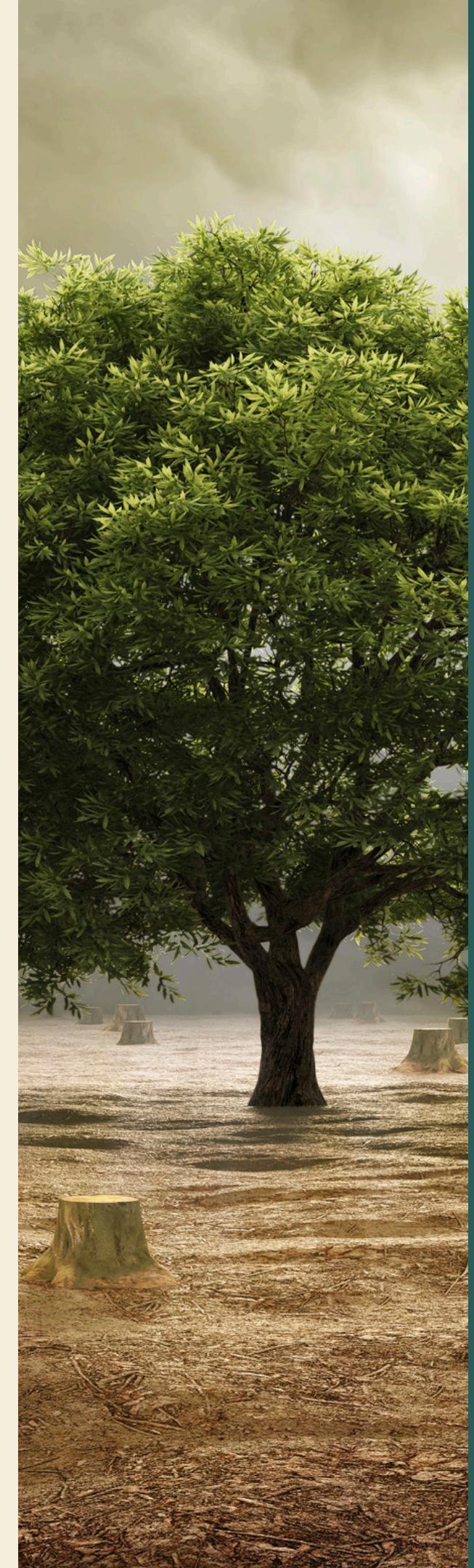
#### ARTICLE 6.4

Article 6.4 establishes a centralized global carbon market mechanism under UNFCCC oversight, similar to CDM but with more stringent rules.



#### ARTICLE 6.8

Article 6.8 provides for non-market approaches like technology sharing or policy alignment.



FUTURE OF CARBON MARKETS IN THE





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# VOLUNTARY VS COMPLIANCE CARBON MARKETS



## COMPLIANCE MARKETS

- Created under Kyoto Protocol; continued under Paris Agreement (Article 6).
- Legally binding for countries or industries to meet emission targets.
- Credits include CER\*'s (Kyoto) and ITMO\*'s (Paris).
- Regulated by the UNFCCC or national laws (e.g., EU ETS, California Cap-and-Trade).



## VOLUNTARY CARBON MARKETS (VCM)

- Operate outside Kyoto/Paris legal obligations but influenced by them.
- Used by companies/individuals to meet self-imposed climate goals.
- Credits issued by private standards (e.g., Verra, Gold Standard).
- Paris Agreement encourages higher integrity but doesn't regulate VCMs directly.



\*CER-CERTIFIED EMISSION REDUCTION, ITMO-INTERNATIONALLY TRANSFERRED MITIGATION OUTCOME

# CONNECTING AGREEMENTS TO CARBON CREDITS



- **UNFCCC** created the framework and established reporting/negotiation mechanisms.
- **Kyoto Protocol** pioneered the first structured carbon market with legally recognized credits (CERs).
- **Paris Agreement** brought all nations into the fold and modernized markets through Article 6.

Carbon credits, whether compliance-based or voluntary, are deeply rooted in these treaties. Understanding their origin helps assess the credibility, structure, and purpose of current carbon finance systems.



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# THANK YOU!

Yes, today was the  
broccoli of this course –  
not fun, but necessary.

Promise dessert is  
coming next week! 🍰📈