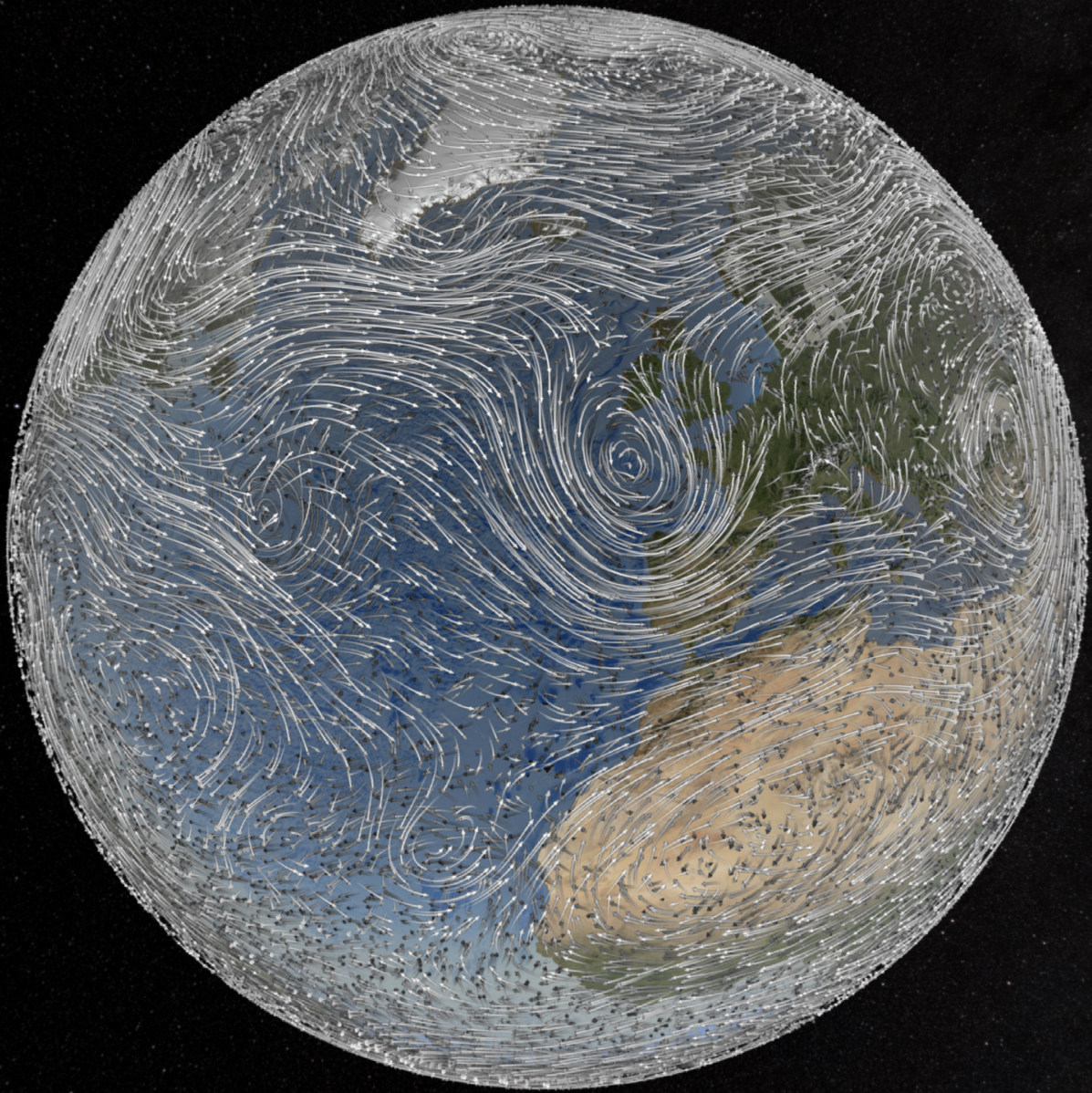


Why we need
to **Recognize**
a **Stable Climate**
as a
Common
Heritage?

Base Document

The Task Force of Climate as a Common Heritage of Humankind

Our Common Home is a Stable Climate



Climate Heritage of Humankind

The Task Force of Climate as a Common Heritage of Humankind

Coordination:



Institutional support:



Members:

ACP -Associação Comercial do Porto
Águas do Algarve
Águas do Tejo Atlântico
APIP – Associação Portuguesa da Indústria do Plástico
BMW Portugal
CES – Conselho Económico e Social
CNADS – Comissão Nacional do Ambiente e Desenvolvimento Sustentável
DECO – Associação Portuguesa de Defesa do Consumidor
EPAL – Águas Lisboa e Vale do Tejo
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ICNF – Instituto de Conservação da Natureza e das Florestas
REN – Redes Energéticas Nacionais
Telles de Abreu Associados
Turismo de Portugal
UCCLA – União das Cidades Capitais de Língua Portuguesa
ZERO – Associação Sistema Terrestre Sustentável

Stable Climate: A Common Heritage of Humankind

After an initial impulse from Common Home of Humankind, a Recommendation from CNADS (National Commission for the Environment and the Sustainable Development), a petition that gathered more than 260 Portuguese academics, and a public petition with thousands of signatures, on November 5th, 2021, the Portuguese Parliament approved the **Climate Law**, which defined in its article 15th paragraph f), the diplomatic objective of **recognition of the Stable Climate as a Common Heritage of Humankind by the United Nations**.

This goal made Portugal a pioneer in the worldwide discussion on the legal status of climate - “**What is Climate from a Legal standpoint?**”. This is a still unanswered question that continues to conditioning climate negotiations and their results (or the lack of them). The undefined legal status of the Common Good Stable Climate, also means that the most basic structural condition for any human action to be possible - the existence of an adequate legal environment - is not yet present in the strategy to fight climate change.

After the 2021 report of the International Law Commission (ILC) stated that: “The atmosphere and the airspace are two different concepts, that must be distinguished”, a path was opened to autonomize the functional dimension of the Earth System in relation to the static territorial element of sovereignty, it is possible to answer this question, which we can say is an existential question. The current inability to legally portray the functional dynamics of the planet was at the origin of the rejection of Malta's proposal of 09/1988, to recognize the Stable Climate as a Common Heritage of Humankind. The solution of 12/1988 was to address the problem - Climate Change is a Common Concern of Humankind - which is still the legal framework of Paris Agreement. This option limited the strategy of action to an attempt to mitigate the problem - avoid/reduce/neutralize emissions - omitting the vital need to promote the valuation, preservation and enhancement of the ecological services that ensure the provision and maintenance of a stable climate. By addressing only the problem, the good Climate has been left with undefined ownership. By not belonging to anyone, the “tragedy of commons” on a global scale has happened. Because the good Stable Climate is not legally recognized, it is impossible to internalize benefits that ecosystems perform on behalf of Climate, because they disappear into a global legal void. Today there is no system of incentives for performing negative emissions, nor is it possible to build an economy that actively maintains and/or restores Climate. The Intergovernmental Panel on Climate Change (IPCC) assumes that only through huge CO₂ removals from the atmosphere can the goals of the Paris Agreement be achieved. “Common Concern” has not only been ineffective in the past, as it is inappropriate for our future.

Restoring the proper functioning of the Earth System, that corresponds to a Stable Climate, implies recognizing a common good that belongs to all - a Common Heritage of Humankind - to which congruent rules should be applied between appropriation and provision of this good (currently, not existing in the Paris Agreement), but which are structural to be possible the successful management of any common good.

Since everything, but really everything in our society is based on a Stable Climate, and the Planet Earth without a well-functioning Earth System (corresponding to a Stable Climate) does not serve as **our Common Home**, the goal of the Task Force for the Recognition of Climate as a Common Heritage of Humankind, is to launch a global discussion around the lack of a legal status for Climate, or the current option to consider climate change as a concern.

This report is an invitation to reflection and discussion.

The Task Force of Climate as a Common Heritage of Humankind

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October 2022

ABSTRACT

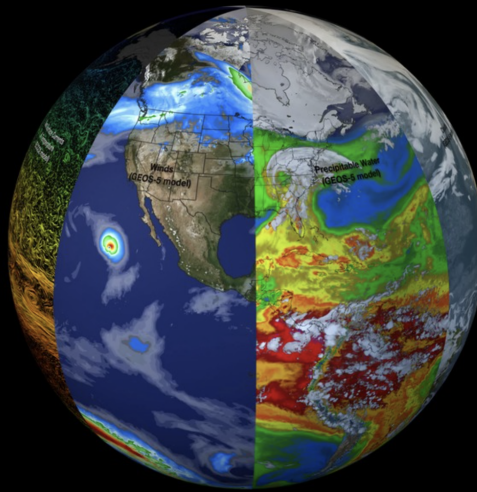
When, in the last report of the International Law Commission (ILC-UN), was stated: "The atmosphere and airspace are two different concepts, which must be distinguished(...)", a pathway was open to autonomize the "functional" dimension of the Earth System from the "static" territorial element of sovereignty. This evolution makes it possible to answer: "**What is Climate from a legal perspective?**".

The current inability to legally portray the functional dynamics of the planet was in the origin of the non-recognition of the good Stable Climate as a Common Heritage of Humankind, opting to address **the problem** - climate change are a Common Concern of Humankind. This option limited the action strategy to avoid/mitigate/neutralize emissions, preventing internalization of benefits that ecosystems perform in the good Stable Climate, because they disappear into a global legal void. Thus, is impossible to build an economy capable to actively care/restore/regenerate the Climate. Today, there is no system that compensates making negative emissions.

Being a "problem", the good Climate has an undefined ownership. As it belongs to no one, the tragedy of the commons on a global scale happened. Recovering implies recognizing a heritage that belongs to all, congruent rules between appropriation and provision, non-existent in Paris Agreement.

KEYWORDS

Climate Common Concern; Climate Common Heritage; Legal Innovation; Static Sovereignty vs functional Earth System; Intangible Natural Heritage; Portuguese Climate Law



Earth System – A System of systems

1 - A Problem of theorizing the dynamics of the Earth System

When in the 1980s the problem of climate change entered the United Nations (UN) agenda, the international community was faced with a crucial question: **"What is Climate from a legal point of view?"** It was then realized how difficult it was to view in the international legal context the finite good - Stable Climate - that until then was considered to be infinite. Climate, and in particular the global average surface temperature, is a property emerging from the dynamics of the Earth System, which affects the entire planet¹. This functional system exists inside and outside all sovereignties, and it is impossible to divide it, even in a purely abstract way. Climate's dynamic/functional characteristic creates an "inextricable link between the activities of States on national territory and their effects on the Climate (...) a situation without precedent in international law"². After more than 40 years, this question still remains unanswered, since our planet's "functional" dimension (whose most visible expression is the Climate) is an intangible reality that exists de facto in the natural world and is the support of life as a whole and the basis for the functioning of human societies.

The current exclusively territorial, one-dimensional, and hyper-simplified legal vision that considers the planet to be only a geographical territory of 510 million square kilometres divided up among States, in which the common goods are only the left over territories from these divisions, such as the open sea, the seabed, the polar regions, celestial space, etc., leaves out the natural processes, functions, or the whole system outside the legal object, addressing only territories or certain specific problems.

¹WILL STEFFEN AND JAMIE MORGAN, From the Paris Agreement to the Anthropocene and Planetary Boundaries Framework: an interview with Will Steffen, *Globalizations*, ISSN 1474-7731, 2021, pp. 1-13, in <https://doi.org/10.1080/14747731.2021.1940070>.

²SIMON BORG, Climate Change as a Common Concern of Humankind, Twenty Years Later...From UNGA to UNSC, IUCN Academy of Environmental Law "Towards an Integrated Climate Change and Energy Policy in the European Union", University of Malta, 2007, in <http://www.iucnael.org>.

It was this inability to portray the dynamic and functional reality of the planet that led to the non-recognition of the common good "Stable Climate" as a true legal object subject to a legal regime that organizes its use and maintenance, and led to the decision of considering climate change as a problem - a Common Concern of Humankind - that should be avoided/mitigated. Thus, the starting question remains unanswered.

“The atmosphere and airspace are two different concepts, which must be distinguished. (...) The atmosphere as an “envelope of gases” surrounding the Earth, is dynamic and fluctuating, with gases that constantly move without regard to territorial boundaries. The atmosphere is invisible, intangible and indivisible.”

United Nations International Law Commission, 2021

Nevertheless, recently some steps have already been taken towards the recognition of the existence of the functional dimension of our planet - the Earth System - from a legal perspective. The last report of the United Nations International Law Commission (ILC) for the period 2021-2029, in Chapter VI dedicated to the Protection of the Atmosphere, states: “The atmosphere and airspace are two different concepts, which must be distinguished. (...) The atmosphere, as an "envelope of gases" surrounding the Earth, is dynamic and fluctuating, with gases that constantly move without regard to territorial boundaries. The atmosphere is invisible, intangible, and indivisible.”³

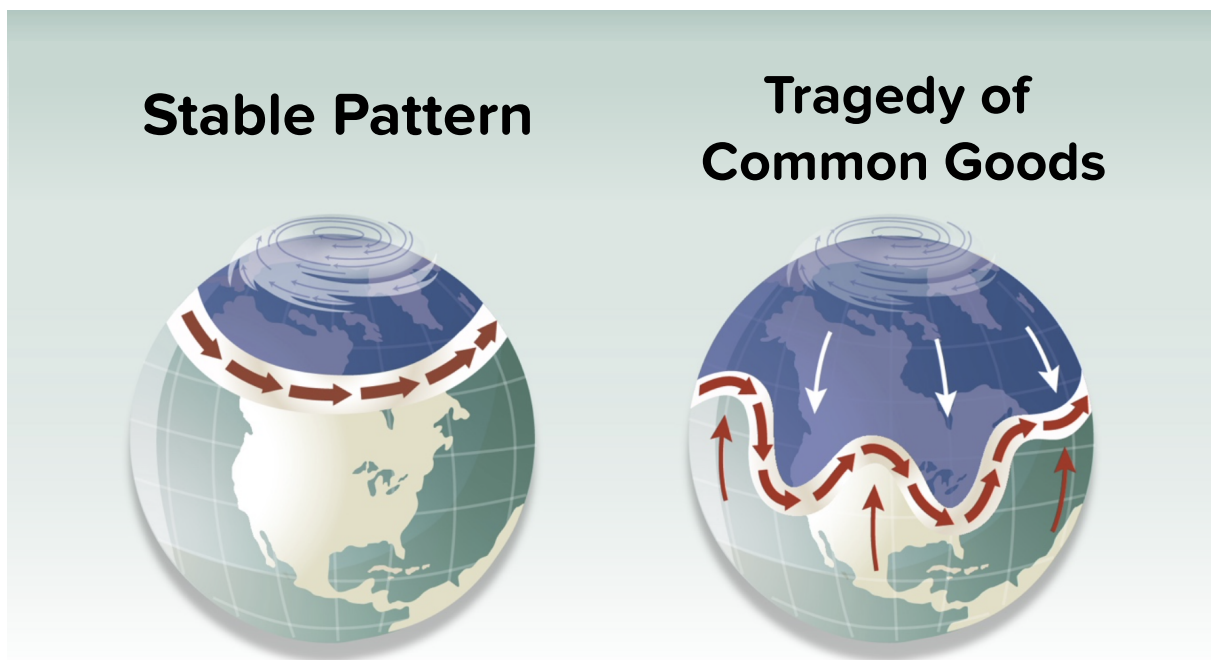
Although this statement is only the confirmation of evidence and a description of natural phenomena now thoroughly described by science, when the ILC makes a clear distinction between the chemical composition of the atmosphere, mostly originating in biochemical processes, and the dynamics of the functioning of the Earth System (in this case, only the atmosphere), in relation to airspaces subject to the jurisdiction of States, this conceptual operation is in itself of the greatest relevance to international law. The truth is that although these two concepts coexist in an overlapping manner, they are in fact two completely distinct concepts. One, associated with airspace, refers to "a static and spatial institution over which the State, within its territory, has complete and exclusive sovereignty. The other, regarding the atmosphere, is considered as a "functional" aspect, which involves the air movement on a large scale, since "atmospheric movement has dynamic and fluctuating characteristics"⁴.

³ A/76/10 Report of the International Law Commission – United Nations, seventy-second session, 26 April - 4 June and 5 July - 6 August 2021, in https://legal.un.org/ilc/reports/2021/english/a_76_10_advance.pdf, pp.29.

⁴ IDEM, pp 17.

This step, taken by the ILC, may be the starting point for an evolution that overcomes the current dysfunctionality between the concepts of static sovereign territory vs functional dynamics of the Earth System.

Although the pathway is open, the gap still remains, since the due legal consequences produced by the verification of these facts have not been established. That is, if this report already recognizes the situation the factu of the atmosphere as an indivisible, intangible, and non-separable good, completely distinct from the concept of airspace, the international community has not yet assumed the next logical corollary: to recognize the existence of a functional dimension - the Earth System - as a common good from a legal perspective, with all the consequences that this entails. Legally, this would imply considering the duty to respect a functional asset that should belong to all, the duty to comply with usage rules and sanction those who harm its functioning state, and the right to be rewarded for the benefits performed on the functioning of that common good - the first basic structural conditions recognized by economic doctrine to allow for a successful management of a common good⁵, and thus avoid the inevitability of the "tragedy of the commons"⁶.



The Common Good Stable Climate corresponds to a given functioning pattern of the whole earth system. Changes in that pattern - Climate Change - are a Tragedy of the Commons on a global scale.

⁵ ELINOR OSTROM ET AL., "Revisiting the Commons: Local Lessons, Global Challenges", Science 284(5412), 1999, pp. 278–282.

⁶ GARRET HARDIN, "The Tragedy of the Commons", Science, 162(3859), 1968, pp. 1243–1248.T

The absence of a legal status concerning this functional, systemic and non-territorial dimension of the planet has definitively marked the strategy to fight climate change. The fact that a common good exists in the natural world, and is not recognized as such within the organization of human societies, is a structural reason for the successive decades of failures of climate negotiations. To adequately portray the facts of ecological dynamics and to overcome the current legal hazy and undefined concepts that fill international environmental law texts implies legally representing this "functional" aspect of the Earth System - whose lack of representation still leads some countries to ask questions with regard to the Commission's statement, such as: "That may be the case... but what is the legal status of the atmosphere? Is it different from the high seas or international waters?"⁷.

The fact that a common good exists in the natural world, and is not recognized as such within the organization of human societies, is a structural reason for the successive failures of decades of climate negotiations.

2 - What Legal Status of Stable Climate?

Despite the uncertainties that the characteristics of the common good Stable Climate raise in legal terms, the vitally essential character that Climate represents for human life gave rise to the Maltese proposal of September 12, 1988, that suggested the recognition of Climate as a "Common Heritage of Humankind"⁸. However, the United Nations General Assembly Resolution of December 6, 1988, opted to consider climate change as a "Common Concern of Humankind"⁹, a concept enshrined at the Earth Summit (Rio, 1992). This remains the legal framework for the 2015 Paris Agreement.

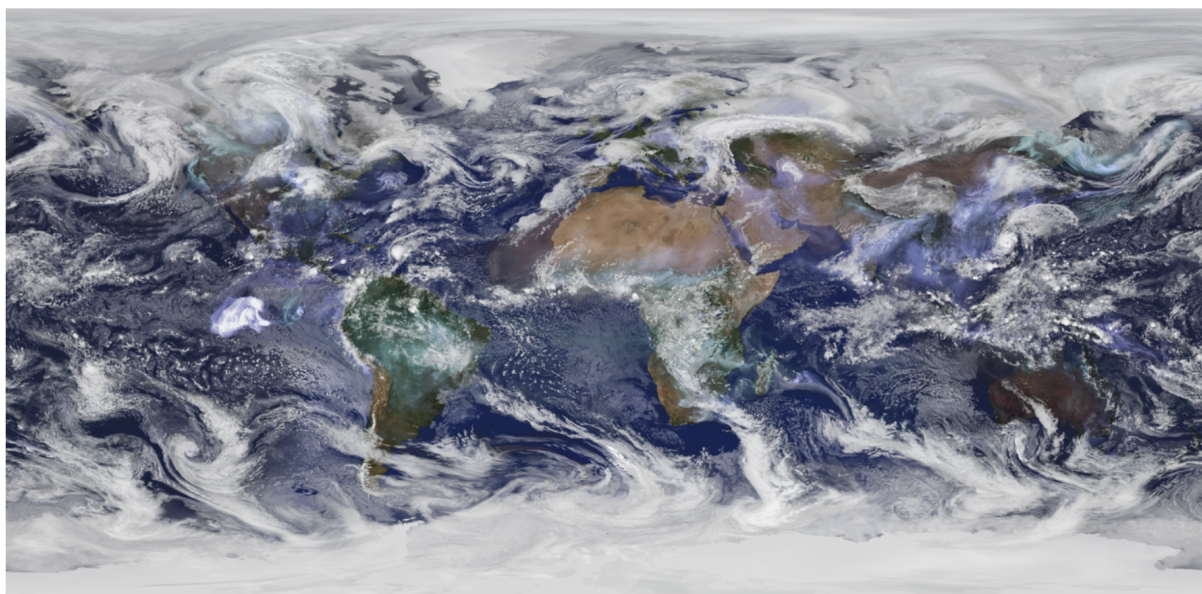
The option for the term "Concern" is a solution derived from the concept of heritage, which, among other reasons, was based on the fact that, at the time, it was technically impossible to apply the status of Common Heritage of Humankind to Climate, since there were no scientific instruments that would allow the delimitation, translation and definition of Stable Climate as a legal object. But perhaps this was not the main reason for taking the option of considering climate change as a Common Concern instead, as an alternative to the stable Climate as a

⁷ A/CN.4/735, United Nations General Assembly, 11-February-2020, Protection of the atmosphere Comments and observations received from Governments and international organizations, pp 20/45.

⁸ A/43/241 UNITED NATIONS GENERAL ASSEMBLY, 12 September, 1988, in <https://digitallibrary.un.org/record/46039>

⁹ A/43/905 UNITED NATIONS GENERAL ASSEMBLY, 30 November 1988.

Common Heritage. The fact that this option bypasses the direct approach of the subversive character of Climate in relation to the static characteristics of the territoriality principle of International Law has been the most determinant factor. The issue was thus "circumvented", but the basic legal problem - static sovereign territory vs. functional dynamics of the Earth System, remains unsolved and this has had tragic consequences for the System, and consequently for territories and society.



Stable circulation pattern within the limits of natural variability that was observed after the last glaciation (Holocene Period), and which resulted in a rich functional biodiversity.

The term Common Concern is still today considered a vague¹⁰ and undefined concept, which from its origin raises concreteness problems. As early as 1991, Mostafa Tolba, one of the personalities who contributed the most to its formulation stated: "It is very important that the concept of the Common Concern of Humankind be further elaborated to make its content and scope understandable and clear; it is also important to see how this concept can be interpreted in terms of the rights and obligations of States in the process of its implementation"¹¹.

Thirty years after the formulation of the project to define the "Common Concern of Humankind", claims continue to be made about the need for its evolution towards defining rights and obligations: "Although its contours have, so far, remained vague and indeterminate, we suggest that a future principle may emerge in a process of claims and responses (...)"¹².

¹⁰ Z. AHMAD, "The Prospects of Common Concern of Humankind in International Law", T. Cottier (Ed.), *The Prospects of Common Concern of Humankind in International Law* (pp. I-II), Cambridge: Cambridge University Press, 2021.

¹¹ MOSTAFA K. TOLBA, "The Implications of the "Common Concern of Mankind" Concept in Global Environmental Issues", *Revista IIDH*, 13, 1991, in: <http://www.juridicas.unam.mx/publica/librev/rev/iidh/cont/13/doc/doc27.pdf>, pp. 237–246.

¹² ZAKER AHMAD, "The Prospects of Common Concern of Humankind in International Law", T. Cottier (Ed.), *The Prospects of Common Concern of Humankind in International Law* (pp. I-II), Cambridge: Cambridge University Press, 2021.

“The term Common Concern is still today considered, a vague and undefined concept, which from its origin raises problems of concreteness” Z. Ahmad, 2021

This fact was determinant for the ILC itself to refuse to use the concept: "Although several treaties and some literature show support for the concept of "Common Concern of Humankind", the Commission decided not to adopt this language for the problem characterization, since the legal consequences of the concept of Common Concern of Humankind remain unclear at the current stage of development of international law related to the atmosphere."¹³

As the structural legal issue that it is, the choice to consider "climate change as a Common Concern of Humanity" and not "Stable Climate as a Common Heritage of Humankind" has negative systemic cascading effects, some of which we highlight below.

a) Climate Change as a Common Concern of Humankind

"A Common Concern of Humankind remains a vague political formula, which could be used to legitimize the lack of concrete actions simply by declaring an environmental concern"¹⁴. This warning from 1990, already after this option had been approved¹⁵, was made during a meeting of legal experts, held around this concept and which definitively marked its path to the present day.

As the very semantics of the word indicates, concern (preoccupation) results from a feeling of responsibility, an idea of anticipation (pre-occupation) in relation to something that may cause us suffering and which motivates us to have behaviours that avoid the danger. From a legal point of view, in the case of Climate Change, the practical effects of a "Common Concern of Humankind"¹⁶ implies a commitment of self-restraint of the amount of greenhouse gas emissions by States, in which each one commits to make efforts to **reduce** these emissions, trying to **avoid, mitigate or neutralize damages**, with the aim of limiting the temperature increase well below 2°C¹⁷, and that can be summarized in these two statements:

¹³ A/73/10 ILC REPORT - Chapter VI Protection of Atmosphere, p.164.

¹⁴ MOSTAFA K.TOLBA, "Implications of the "Common Concern of Mankind" Concept in Global Environmental Issues", Notes from the executive Director of UNEP to the Group of Legal Experts Meeting, Malta, Revista IIDH. Vol 13, December 13-15, 1990.

¹⁵ A/43/905 UNITED NATIONS GENERAL ASSEMBLY, 30 November 1988.

¹⁶ For a more in-depth study of the issues, characteristics and content of the concept of Common Concern of Humanity with regard to Climate, see:

MAGALHÃES P. 2021. Common Interest, Concern or Heritage? The "commons" as a structural support for an Earth System Law. Earth system law: standing on the precipice of the Anthropocene. Routledge, and also:

MAGALHÃES P., 2020 - Climate as a Concern or a Heritage? Addressing the legal structural roots of climate emergency - https://cije.up.pt/client/files/0000000001/6-artigo-paulo-magalhaes_1592.pdf.

¹⁷ PARIS AGREEMENT, COP21, 2015, in <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

- Common concerns do not define to specific rules or obligations (neither of result, nor of conduct), but rather establish a general basis for cooperation (in its own right, or even by mandate) so that the concerned community can act to address the concern.¹⁸
- "The concern" element presupposes nothing more than that the States are objectively invited towards joint and concerted actions".¹⁹

The current option is not to recognize the existence of the good, but rather to recognize the existence of the problem, and, therefore the current strategy is an agreement to mitigate this problem, and not the recognition of the good Stable Climate as a legal object. Consequently, it does not establish its own legal regime, which is necessary to institutionalize the management of this common good.

Today's strategy for action is in line with the "legal revolution" that the 21st principle of the 1972 Stockholm Declaration ²⁰ represented for International Law at the time. This principle proclaimed that: "States shall ensure that activities under their jurisdiction or control do not cause damage to the environment of other States or of areas beyond national jurisdiction," and reappeared as Principle 2^o in the Rio Declaration, adopted at the 1992 Earth Summit. Probably the most significant principle of both Declarations is the "**no-harm**" rule²¹, now widely recognized as a principle of customary international law by which a State has a duty to prevent environmental harm to other States. The problem is that, in practice, the no-harm rule, not only fails to include the global commons, but confines the strategy for action to damage control, hiding the need to care, manage and restore - that is, to positively and actively ensure the provision of the global commons. The exclusively "negative" approach of avoidance or mitigation remains the cornerstone of all climate action policy, and is in the percussive line of the very concept of Common Concern and the strategy of the current Paris Agreement.

The "Concern" option limited the action strategy to avoid/mitigate/neutralize emissions, preventing the internalization of benefits that ecosystems perform in the good Stable Climate, by the fact that they disappear into a global legal void.

¹⁸ D. SHELTON, "Common Concern of Humanity", Environmental Policy and Law, 39/2, p. 3, 2009.

¹⁹ IDEM 25.

²⁰ STOCKHOLM DECLARATION, 1972, in

<https://wedocs.unep.org/bitstream/handle/20.500.11822/29567/ELGP1StockD.pdf>

²¹ KLAUS BOSSELMANN, "Where is "Earth" 50 Years after Stockholm?", 2021, in

<https://www.pathway2022declaration.org/article/where-is-earth-50-years-after-stockholm/>.

If this strategy could make some sense thirty years ago, when the effects of human activities on Climate were still shrouded in substantial uncertainties, today, with this problem being an emergency and with the awareness that only through a large-scale cleanup of the atmosphere (removal of CO₂) we can achieve Paris goals and avoid catastrophic climate change, the current model of approach to the problem, without recognizing the existence of a common good that must be managed, restored and maintained, was demonstrated to be clearly insufficient.

This impossibility of acting positively in the restoration of the common good of the avoided damages/no-harm rule approach happens because it is impossible to define the rights and respective duties that have been claimed since the Common Concern conception. As Pham King Hang²² explains, what is most relevant is not the subject/object relationship, but rather the relationship between individuals that results from that relationship with the object. That is, the structure of relationships that emerges around the forms of use or the ownership regime that is exercised over a given good. As in the case of Climate, the object is not even recognized and belongs to no one, the structure of relationships that results from the shared use of this resource - the common good Stable Climate - is not only, not recognized, but it is not subject to a legal regime.

The absence of a legal framework that frames the activity of restoration and maintenance of the common good Climate, results in the impossibility of defining the rights and respective duties regarding the use/preservation of this good, which have been demanded since the conception of the Common Concern of Humankind.

While it is true that there is already a voluntary system with the goal of controlling damage, as part of the content of COP's negotiations, Kyoto's protocol and Paris Agreement, the creation of a system to ensure the provision of a stable global public good Stable Climate is still missing. In this sense, neither the duties that should emerge from the use/depreciation of the common good Climate - nor the rights that should result from the provision of a Stable Climate, are recognized. This is also a structural problem, as the only object from which these rights and obligations could emerge - the Stable Climate - does not exist from a legal standpoint.

²² PHAM HANG, "Essays on Game Theory and Natural Resource Management", PhD thesis, Tilburg University, 2003.



b) A "Concern" does not clear the atmosphere

The goal of voluntarily creating limits for emissions and control systems, omits the vital need to create incentives for provision of the common good Stable Climate, and all the "restoration" dynamics that could emerge from this. "Currently, there are no economic mechanisms designed to pay for negative emissions"²³, and CO₂ removals are still seen as a future activity²⁴. The construction of a climate policy capable of making viable the cleaning of what belongs to everyone - removing CO₂ from the atmosphere/negative emissions - will also be crucial to overcome the current paradigm that only tries to avoid emissions, without, however, changing the concept of value that is at the base of the emissions. If we recognize the true wealth creation for societies that the provision of a Stable Climate represents, this evolution in the concept of value will have positive cascading effects on the current logic of emissions production and reduction.

In the current model, because the objective of the common concern is exclusively to mitigate emissions, the wealth creation recognized by society is in the reduction and/or neutralization of emissions and not in the recognition of the value arising from the provision of the global public good Stable Climate

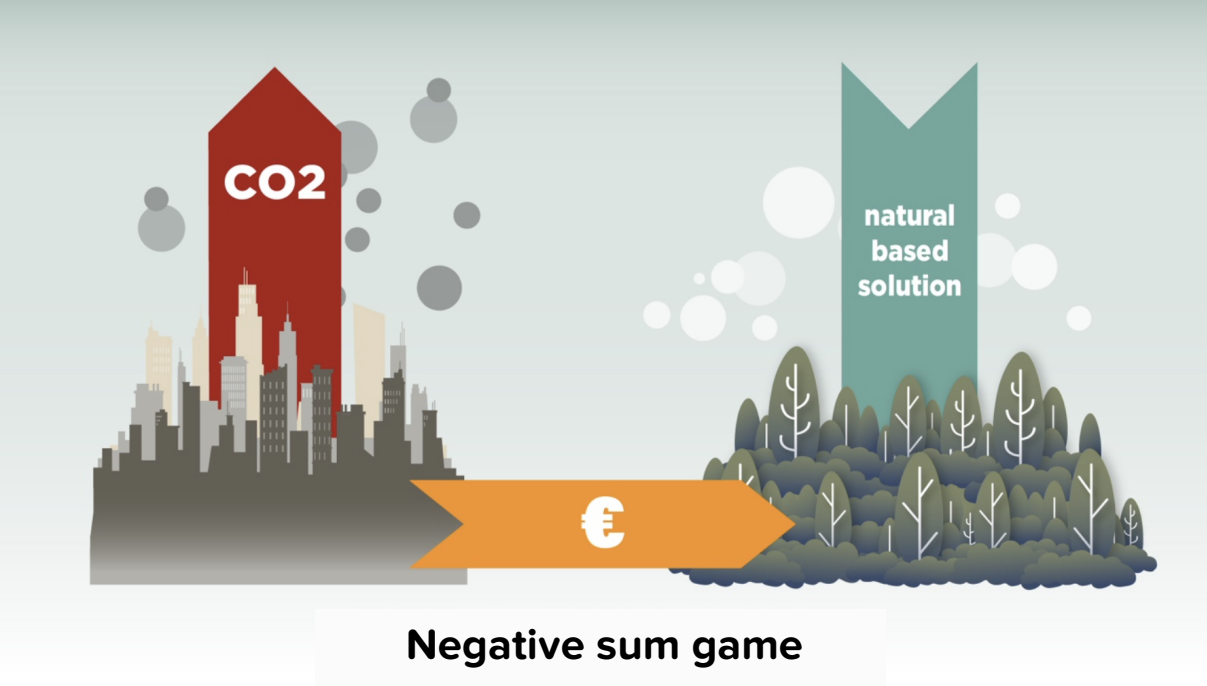
Limiting the action strategy to an attempt to avoid, mitigate or neutralize, is clearly insufficient. To confine the action strategy to an attempt to avoid, mitigate or neutralise is clearly insufficient today. Only by removing CO₂ from the atmosphere is it possible today to avoid catastrophic climate change.

²³ ENERGY & CLIMATE INTELLIGENCE UNIT, "Negative Emissions: Why, What, How?", 2018.

²⁴ STEVE ZWICK, Article 6 and its Glasgow Rulebook: the Basics, Ecosystem Marketplace, 2021.

This happens because the environmental services that make this provision spread throughout the Earth System, in this global intangible good that is a Stable Climate, in a global scale legal vacuum, making these benefits "external" to the social system, the so-called positive "externalities" to the economy. Although "external" in relation to the concepts of sovereignty and economic value, these processes are vital to the adequate functioning of the Earth System, and therefore assume an existential character for humankind.

Because making Climate benefits is an "externality", the only way to get financial credits is through avoided or neutralized emissions, by selling carbon credits that have not been used, but no one is compensated for removing excess CO₂ from the atmosphere in the interest of all humanity (negative emissions). Perversely, to have "value", there must be emissions from those who need to pay to neutralize their emissions, or have to buy the credits in order to emit. The result is a negative or neutral sum game, and this has been a decisive factor in the results obtained until this date in fighting climate change.

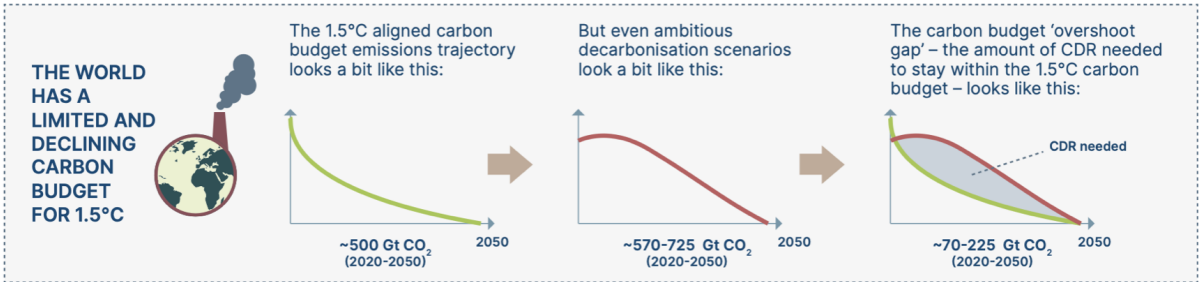


In this sense, the still prevailing concept of Common Concern prevents us from doing what is now considered essential to be able to meet the goals of Paris Agreement and avoid catastrophic climate change - restoring terrestrial and marine ecosystems on a large scale, removing CO₂ and cleaning the atmosphere²⁵, as already recognized in the latest IPCC reports. Because the benefits are not internalized and globally disappear in the legal void resulting from the non-recognition of the common good, these positive externalities remain invisible to nations economies and thus, remain outside the wealth production chain and any decision-making by governments.

Natural processes, which are the support of life and of all wealth production, must not be "external" to society.

With Common Concern, the natural processes that support life and all wealth production are invisible to the economy. In such a way, that even current projections of the total amounts of CO₂ that will be possible to remove from the atmosphere - CDR - Carbon Dioxid Removals - through different solutions (nature based solutions, nature restoration, DACCS, Biochar, BECCS...) are seen as a respite from the emission reductions that are needed and not to clean up the liabilities. Even so, these projections around estimates of the CDR's needed to avoid going over 1.5°C, always omit how these plans can be applied on the ground, to be able to perform the recovery of all those natural areas, and the implementation of other CO₂ removal techniques.

CDR is needed in addition to deep and rapid decarbonisation²⁶



²⁵ ENERGY TRANSITIONS COMMISSION 2022: Mind the Gap: How Carbon Dioxide Removals Must Complement Deep Decarbonisation to Keep 1.5°C Alive, 2022, in <https://www.energy-transitions.org/publications/mind-the-gap-cdr/>.

²⁶ IPCC, Summary for Policymakers, Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 2021, pp. 3–32, in 10.1017/9781009157896.001.

²⁷ ENERGY TRANSITIONS COMMISSION 2022: Mind the Gap: How Carbon Dioxide Removals Must Complement Deep Decarbonisation to Keep 1.5°C Alive.

3 - A Legal Imperative for Innovation

There is a long history of conflicts between the international legal-political regulation, based on an exclusively territorial vision of the planet still resulting from the Westphalia Treaty on 1648, and an Earth System, global, uno, indivisible and highly interconnected. Initially local in character, these conflicts resulted from the confrontation between the global circulation of water and the atmosphere, or migratory species vs. the static character of sovereignty. With climate change this conflict has reached a systemic character due to human interference in global biogeophysical cycles. Regardless of the scale, the dysfunctionality resulting from the exclusively territorial view of international law to explain, represent and harmonize the global interdependencies arising from the global functioning of the Earth System, was the backdrop of the failure of Environmental Law. "Fifty years after Stockholm, it is obvious that international environmental law has failed"²⁸.

"Fifty years after Stockholm, it is obvious that international environmental law has failed." Klaus Bosselmann

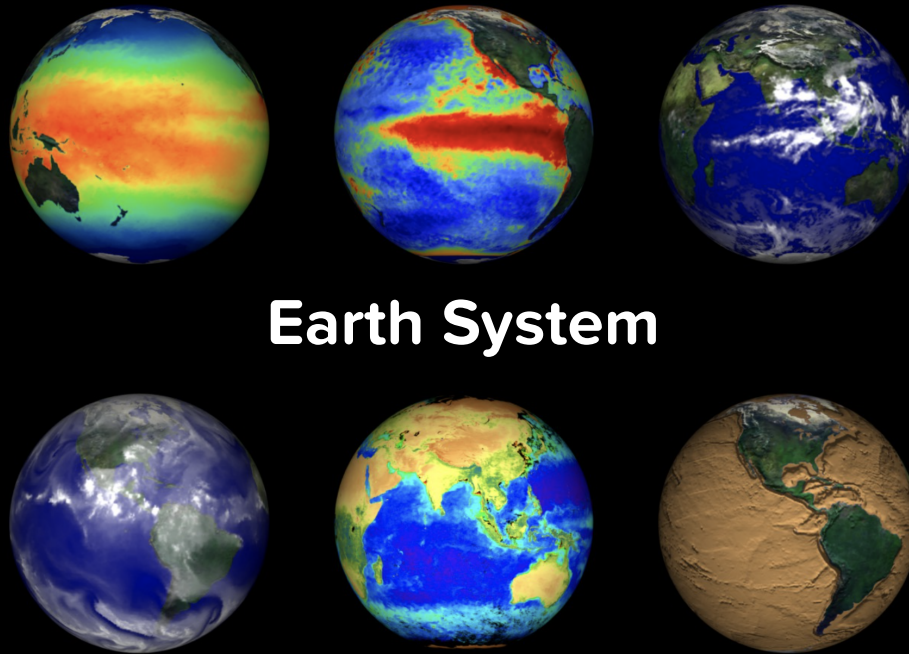
But if this "functional" reality has already been identified in the atmosphere by the ILC, as indicated above, its origin, constraints, interactions and consequences are still outside this analysis and the atmosphere itself is not an element that can be separated from the system. However, the ILC, right in the preamble, noted that "observing the close interaction between the atmosphere and the oceans", oceans which in turn are determinants to Climate, with the United Nations General Assembly itself having already recognized "the effect of climate change on the oceans and stressed the importance of increasing scientific understanding of the oceans-atmosphere interface."²⁹.

Separating oceans from the atmosphere and biodiversity is something that exists only in human minds and representations, as the way to make possible the verbalization and organization of narratives that try to explain a single deeply interconnected reality, where emergent phenomena cannot be explained, neither by simple division, nor by sum parts. In recent years, Earth System sciences have represented a significant paradigm shift, an authentic scientific revolution in Kuhn's language³⁰, because they have revealed a new way of conceiving and thinking about the Earth.

²⁸ KLAUS BOSSELMANN, "Where is "Earth" 50 Years after Stockholm?", 2021, in <https://www.pathway2022declaration.org/article/where-is-earth-50-years-after-stockholm/>.

²⁹ GENERAL ASSEMBLY RESOLUTION 71/257 of 23 December 2016 on oceans and the law of the sea, paras. 185–196 and 279.

³⁰ THOMAS S. KUHN, *The structure of Scientific Revolutions*, 1962.



Earth System

The Earth System Sciences represents an integrative meta-science of the entire planet as an interconnected, complex, and ever-evolving system, far beyond a mere collection of isolated ecosystems or global processes. In this sense, only by approaching the System as a whole, and not the atmospheric or oceanic circulation separately, and how these are influenced and influence biodiversity, can we portray the facts more accurately. This paradigm shift is already recognized in several official United Nations documents: "The proliferation of multilateral environmental agreements and the resulting separate and distinct mandates ignore the unity, interconnectedness and interdependence of the Earth's ecosystem"³¹.

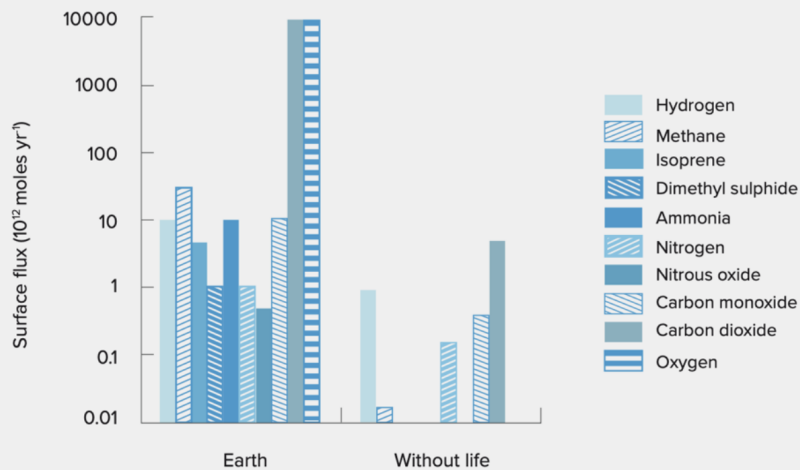
Separating the oceans from the atmosphere and biodiversity, is something that exists only in human mental representations.

A new principle of International Law is already emerging³². Addressing this unity and the interconnections is not only an enormous challenge for the natural sciences, but it will be above all for Law, Political Science, and Economics. In short, it is an exceptional governance challenge. As Gomes Canotilho teaches us, "as all knowledge obeys to mechanisms of permanent changing and learning, decisions on innovative issues also move away from stable and definitive administrative models, to adapt with flexibility and dynamism to the challenges brought by the instability of knowledge"³³.

³¹ A773/419 - Gaps in international Environmental law and environment-related instruments: towards a global pacy for the environment, 30 November 2018, in https://www.commonhomeofhumanity.org/_files/ugd/deeae3_0054f53a156a46989d5b84bb50ca5eb9.pdf.

³² PAULO MAGALHÃES, W. STEFFEN, A. BARREIRA, K. MEYER, J. MANUEL VIEGAS, K. BOSSELMANN, ET AL., "Integrity and Unity of the Earth System – A new principal of International Law", 2019, in https://wedocs.unep.org/bitstream/handle/20.500.11822/27974/IIDMACHH_proposal.pdf?sequence=1&isAllow

³³ JOSÉ JOAQUIM GOMES CANOTILHO, "A crise do direito e o direito da crise", Boletim da Faculdade de Direito da Universidade de Coimbra, Coimbra, v. LXXXVIII. t. II, 2012. p. 1073 e ss.r



Life played a key role in shaping the planet as well as being shaped by it. Gas flows exchanged on the Earth's surface today and in a lifeless Earth scenario - the profound effect of life -Tim Lenton

The inability of legal constructs to evolve and adapt to the growing knowledge about the functioning of the Earth System, is at the origin of an action that tries to adapt, without however, changing structurally to have the slightest chance to succeed, and to integrate and cooperate with the functioning of the system on which it depends. The truth is that “in response to climate and environmental urgency, the approach has been one of slowing down, reducing the pace and intensity of the most impactful activities, and strengthening resilience and recovery after the disaster. In essence, the concept of resilience corresponds to a conformation with the inevitability of the trend and the inability to bend it, reducing the ambition to only reduce the slope of the line that draws the future trend.”³⁴ And what is certain is that “incremental improvements to the current socio-economic system, are not sufficient to stabilize the Earth System.”³⁵ “If the moment we live is quantitatively and qualitatively different, more of the same is not the appropriate response. Quantitatively and qualitatively different measures are required. The need to innovate for ecological transition is, therefore, undeniable. We are facing what the Organization for Economic Cooperation and Development (OECD) has already called the “innovation imperative”.^{36,37}

³⁴ ALEXANDRA ARAGÃO, “Densificação jurídica do princípio daecoinovação. A inovação jurídico-ecológica como resposta adequada à emergência climática e ambiental”, 2021.

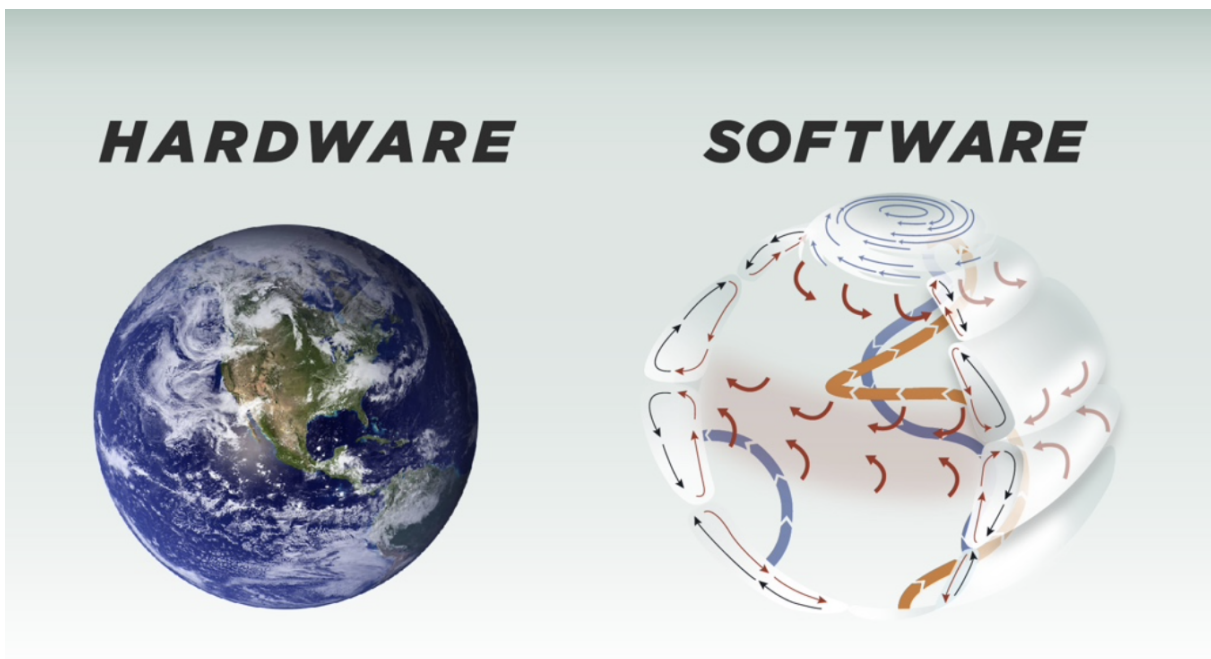
³⁵ WILL STEFFEN ET AL., “Trajectories of the Earth System in the Anthropocene”, Edited by WILLIAM C. CLARK, Cambridge, MA, Harvard University, and approved July 6, 2018 (received for review June 19, 2018).

³⁶ OCDE, The innovation imperative, Contributing to productivity, growth and well-being, Paris: OCDE, 2015, in <http://dx.doi.org/10.1787/9789264239814-en>.

³⁷ ALEXANDRA ARAGÃO, “Densificação jurídica do princípio daecoinovação. A inovação jurídico-ecológica como resposta adequada à emergência climática e ambiental”, in GOMES, ANA CLÁUDIA NASCIMENTO; ALBERGARIA, BRUNO; CANOTILHO, MARIANA RODRIGUES (Coord.). Direito Constitucional: diálogos em homenagem ao 80o aniversário de J. J. GOMES CANOTILHO, Belo Horizonte Forum 2021, ISBN 978-65-5518-191-3.

4 - Stable Climate as a proxy for an Earth System favourable to life

A stable Climate is a visible manifestation of an Earth System in a well-functioning state from the point of view of human interest, which in turn, depends on a functioning and resilient biosphere. This relative stability is based on well-defined patterns of atmospheric and oceanic circulation. “A pattern of stable dynamics of the Earth System's functioning can be understood as the “Software” of the planet.” This “software” is being “attacked”, that is, modified by human activities that by changing the chemical composition of the atmosphere, cause an increase in global temperature, which, among many other consequences, is contributing to the melting of the ocean's ice, which in turn, leads to a decrease in the reflection of solar radiation, which will be absorbed more in the ocean, increasing its temperature and also that of the atmosphere, contributing to a change in the thermodynamic behaviour between the poles and the tropics, leading to the destabilization of atmospheric circulation patterns and the deceleration of ocean circulation.³⁸



The static territorial dimension - Hardware vs Software - Functional dynamics of the Earth System

³⁸ PAULO MAGALHÃES E WILL STEFFEN, “Why we need a critical legal innovation to save our climate”, 2021, in <https://www.commonhomeofhumanity.org/climate>”.

All this results in climate change with cascading effects on all natural systems and, consequently, on all social constructions. This cascade of interdependent effects, interconnections, and feedbacks makes the mental operations of separating the atmosphere, oceans, and biodiversity, a dangerous and dysfunctional exercise. However, this does not prevent these mental divisions from being necessary to organize human thought and action. The problem is not the abstract operations of territorial (borders) or sectorial (oceans, biodiversity or atmosphere) division, but the absence of a framework capable of representing and integrating the global dynamics, and in this way give meaning to territorial or sectorial actions. For all intents and purposes, what is missing is a new concept capable of giving representation to the interconnections - to the global and deeply interdependent functioning of an indivisible Earth System.

The fact that a stable Climate corresponds to a certain pattern of functioning of the whole Earth System and that this pattern is an emergent phenomenon of this dynamic and represents a well functioning state of this system, turns the Stable Climate into a proxy³⁹ of the whole system (including the atmosphere, oceans and biodiversity, etc...). The fact that Climate is an “intangible natural resource, which crosses and goes beyond the national territories of States”⁴⁰, is highly challenging for one of the fundamental pillars of International Law - the territoriality principle.

A Stable Climate is a visible manifestation of an Earth System in a well-functioning state from the point of view of human interest, which, in turn, depends on a functioning and resilient biosphere.

We know today that it is possible to perform an operation of abstract legal division of the geographic space of the oceans by creating borders and different maritime zones, or by dividing the atmosphere into different airspaces through legal abstractions, which are absolutely valid and necessary for the organization of human communities; however, we must also be aware that a similar operation of legal division, even in a purely abstract way, cannot be performed at the level of the biogeochemical composition of the atmosphere, the oceans, or the Climate, since the fluids that compose them circulate all over the planet, although subject to depreciation, cannot be appropriated or divided. Representing these two deeply connected and mutually influencing, yet distinct realities, the territory - where legal abstractions of division are possible - and the Earth's functioning system - where no legal abstraction of division is possible, in a new concept that represents the Functional System as a single whole, capable of adequately reflecting the facts, is the challenge that the ILC launches us in its latest report.

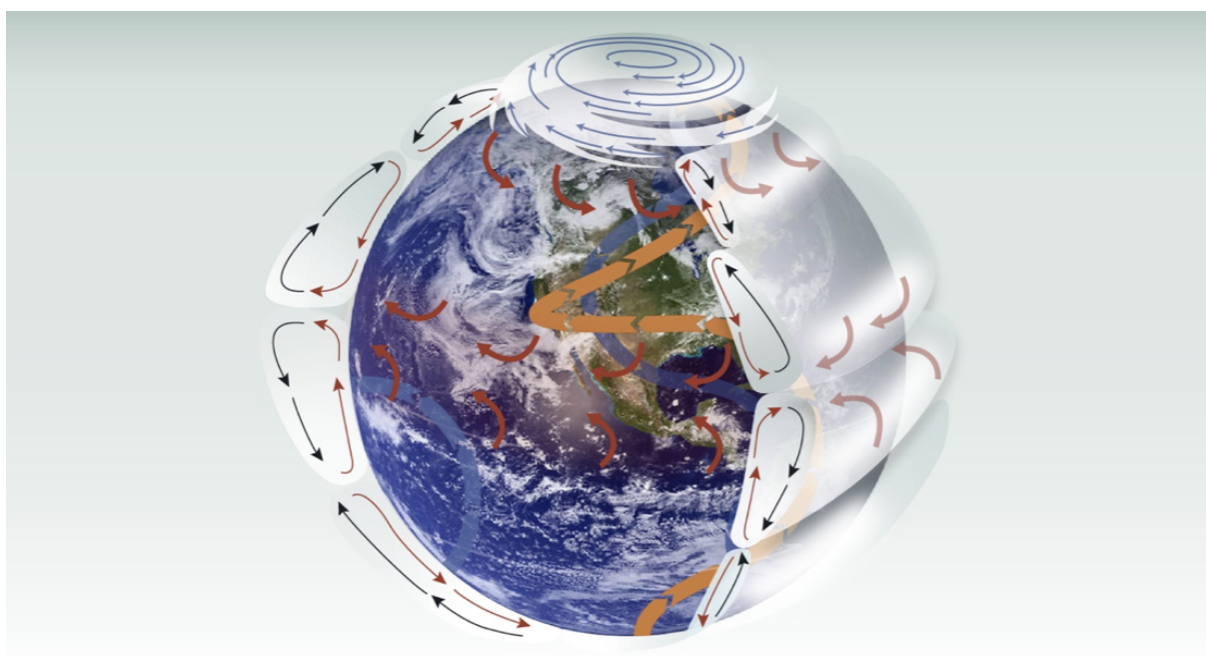
³⁹ In computing language, the Proxy is a server that acts as an intermediary and representative of the internet network, and that facilitates access to it and all its services.

⁴⁰ SIMONE. BORG, Climate Change as a Common Concern of Humankind, Twenty Years Later...From UNGA to UNSC, IUCN Academy of Environmental Law, “Towards an Integrated Climate Change and Energy Policy in the European Union”, University of Malta, 2007, in <http://www.iucnael.org>.

5 - Stable Climate, an intangible good?

As ILC recognizes, the atmosphere has “physical and functional components”⁴¹, that is, a chemical composition and a circulation pattern. And this functioning pattern - the software - is truly intangible.

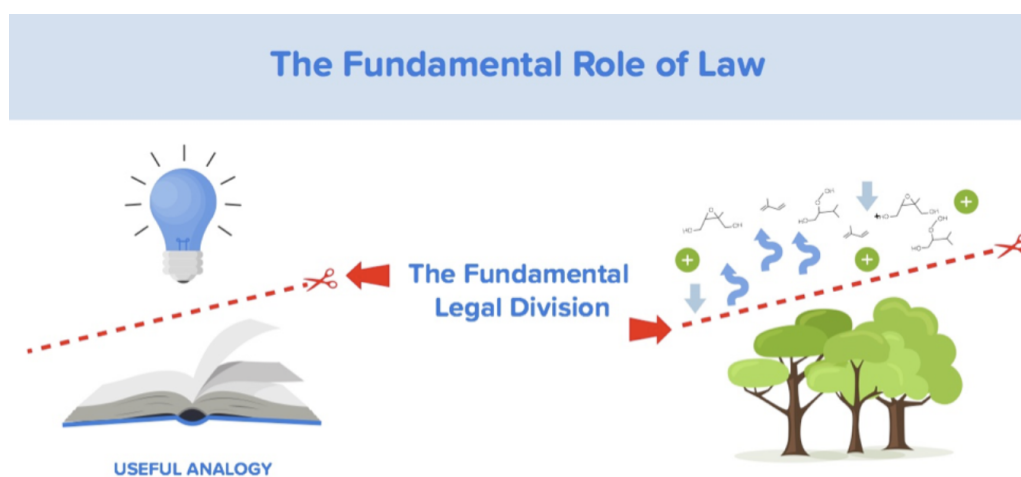
“When we refer to the relatively stable pattern of the dynamics of the Earth System, which corresponds to a Stable Climate, we are not referring to ”matter” or the physical planet, but to the way how matter and energy move and circulate around the planet. Matter is always in transformation through chemical reactions and physical processes - and, in the long run, through biological evolution. But the patterns and rates of these changes and their interactions that form higher-order structures, such as ecosystems, follow well-defined patterns of organization and stability. At the planetary scale, the ways in which matter and energy move around the planet, creating various patterns of atmospheric and oceanic circulation, follow the laws of thermodynamics and result in a Stable Climate. A stable global Climate is something that can only be legally classified as an intangible natural asset”⁴². Because this vital good for humanity is a way of functioning, a pattern of atmospheric and oceanic circulation, this emerging phenomenon that manifests itself through an appropriate mode of functioning is an intangible good. And there are already several references⁴³ in doctrine and in official documents, which recognize Climate as an intangible good.



Because we are not referring to "matter" or the physical planet, but to the way matter and energy move and circulate around the planet - that form of circulation is intangible.

⁴¹ A/73/10 ILC REPORT - Chapter VI, Protection of Atmosphere, p.179.

Human societies have a long history of recognizing intangible assets, as is the case of intellectual property protection, in its two aspects (copyright and related rights, and industrial property), and it was this legal evolution that created the necessary structural conditions and allow for the development of the society of knowledge and technological innovation. But the recognition of intangible assets did not stop with the innovations and intellectual creations that are born from the human spirit, but have already extended to intangible natural phenomena, such as the geostationary orbit or radio-magnetic frequencies, in the scope of Space Law. However, “international law itself was (and to some extent, still is) 'ill-equipped' to address activities, public or private, that negatively affect an intangible natural resource that extends within and beyond the national territories of states”⁴⁴. If it is already recognized that Climate is a result of a certain modus operandi of the Earth System, and that is an intangible asset, if Law since the early 18th century⁴⁵ recognizes the existence of intangible assets, and if this recognition is no longer exclusive to human creations and has already extended to natural phenomena whose use had to be regulated, why can we not innovate legally and recognize also from a legal point of view the most valuable asset of our planet - the life support system - a functioning pattern of the Earth System, to which corresponds a relatively Stable Climate?



The Earth System's Way of Functioning - A New Intangible Legal Object

Because the recognition and valuation of intangible assets determines the way we manage tangible assets, recognizing the existence of a global intangible legal good may not only be determinant in overcoming the problem that results from the incompatibility between global ecological dynamics and the static/territorial approach to sovereignty, but may also make visible in the economy the vital value of the services that tangible ecological infrastructures produce in the intangible functioning of the Earth System.

⁴⁴ SIMON BORG, Climate Change as a Common Concern of Humankind, Twenty Years Later...From UNGA to UNSC, IUCN Academy of Environmental Law “Towards an Integrated Climate Change and Energy Policy in the European Union”, University of Malta, 2007, in <http://www.iucnael.org>.

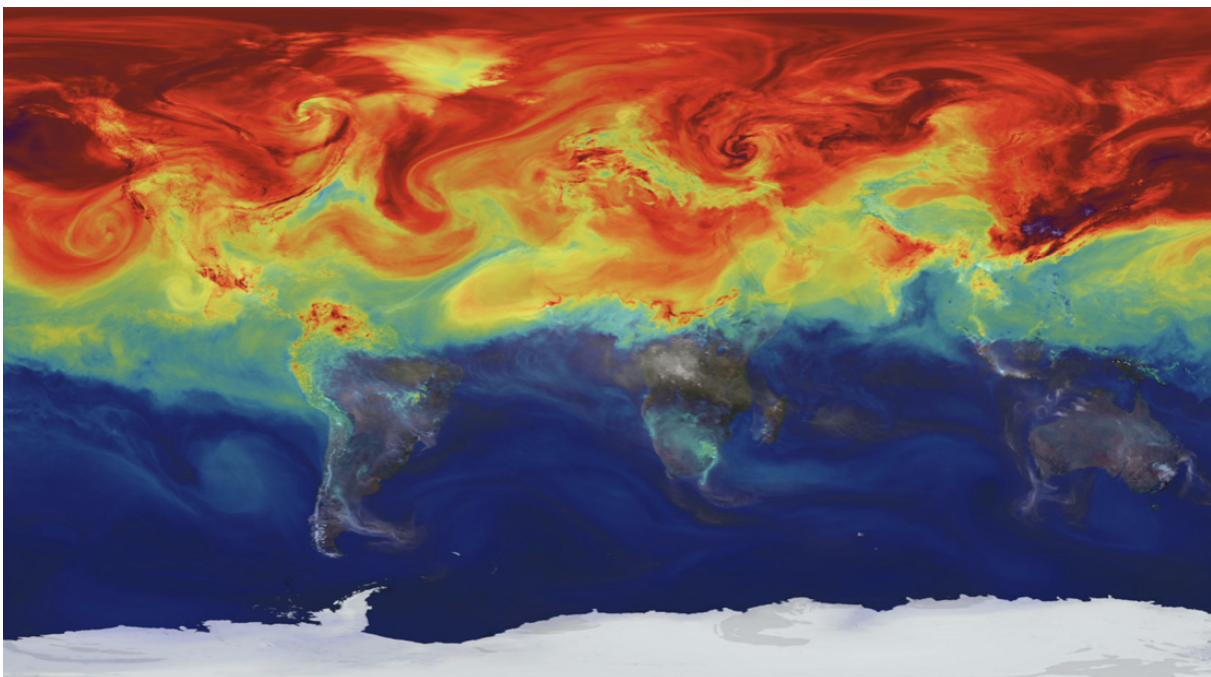
⁴⁵ Promulgada durante o reinado da Rainha Ana de Inglaterra, entre 1709 a 1710, entrou em vigor em 10 de abril de 1710. The Statue of Anne ou Copyright Act, concedeu aos editores de livros proteção legal por 14 anos com o início após a publicação. Também concedeu 21 anos de proteção para qualquer livro já impresso.

6 – A Legal Conceptualization of Climate

a) The Tragedy of a Common Good on a Global Scale

Climate change is often described as a “tragedy of the commons on a global scale”⁴⁶. According to classical economic doctrine, the fatality of the tragedy in the management of commons is associated with the fact that the benefits resulting from the use/appropriation of an asset/resource are readily accessible to all on a free access basis, a situation that is often also associated with uncertainty about the ownership of the asset - the “insufficient delimitation of property rights resulting in over-exploitation of natural resources.”⁴⁷. Beyond the propensity for misuse/appropriation of a good/resource, the vagueness surrounding the ownership of the good, results in another consequence with greater relevance: the impossibility of a collective/governmental solution that can actively ensure the maintenance and provision of the common good over time.

Currently, the common concern about climate change focuses on the causes and consequences of the problem itself, without recognizing or defining the common good - Stable Climate - nor defining to whom it belongs. The “concern element carries with it no meaning of ownership, but relates to the causes as well as the responses to the common concern”⁴⁸ to mitigate the problem, that is, acting only as an attempt to control the good's use to avoid damage.



Carbon dioxide levels in the Northern Hemisphere increase during winter, reaching its peak in spring.

⁴⁶ SHAHZAD ANSARI, F. WIJEB AND B. GRAY, Constructing a Climate Change Logic: An Institution a Perspective on “Tragedy of the Commons” Organization Science, Vol.24, No.4 July-August 2013.

⁴⁷ Garett Hardin, “The Tragedy of the Commons”, Science, 1968, 162(3859), pp. 1243–1248.

⁴⁸ WERNER SCHOLTZ, “Human Rights and Climate Change: Extending the Extraterritorial Dimension Via Common Concern” – Chapter 7, The Common Interest in International Law, Wolfgang Benedek, Koen De Feyter, Matthias C. Kettemann and Christina Voigt (Eds) Intersentia, Cambridge, 2014.

On the other hand, the concept of heritage focuses on the exploitation/management of a resource that has the meaning of shared heritage, a common heritage that belongs to all humanity. "The concept of the Common Heritage of Humankind generally applies to geographic areas or resources, while the concept of the common concern of humanity applies to specific issues."⁴⁹.

“How can an asset that belongs to no one be subject to a legal regime?” Alexander Kiss

This whole problem is centred on the option of considering climate change as a “specific issue”, in the interest of humankind to avoid and/or mitigate this problem, because the abusive use of a good that we thought as being unlimited, has given rise to the tragedy of the depletion or deterioration of this good. Or, following another path, consider the good Stable Climate itself, as a natural emergent phenomenon that represents the favourable functional dimension of the entire Earth System, which exists de facto in the natural world. In this sense, this good should be managed as a common good, which implies defining the good, and giving the ownership of that good to someone. As Alexander Kiss teaches us, “how can a good that belongs to no one be subject to a legal regime?”⁵⁰

If preventing climate change is a fundamental common interest of humankind, it must be recognized that "this notion of common interest of humanity is the foundation of the common heritage of humankind, and even, we can say, that this heritage is the materialization of the common interest of humankind, in a given area or for certain resources⁵¹ (...)”. Given that climate change is not just a feeling/concern, like a war that should be avoided or disarmament that should be promoted, but rather an alteration of a certain natural phenomenon - the functioning pattern of the Earth System that corresponds to a stable Climate - it is legitimate to state that the Stable Climate, although being an intangible asset, is the materialization of this concern.

**Climate change is a tragedy of a common good.
Because this good is intangible, indivisible and does not
recognise State borders, not only has the existence of the good
itself not been accepted, but its ownership has also become
undefined. By not belonging to
anyone, all the conditions for a tragedy have been created.**

⁴⁹ CHELSEA BOWLING, E. PIERSON AND S. RATTE, “The Common Concern of Humankind: A Potential Framework for a New Internationally Legally Binding Instrument on the Conservation and Sustainable Use of Marine Biological Diversity in the High Seas”, 2016, in

https://www.un.org/depts/los/biodiversity/prepcom_files/BowlingPiersonandRatte_Common_Concern.pdf.

⁵⁰ ALEXANDER KISS, “La notion de patrimoine commun de l’humanité”, Académie de droit international de La Haye, Recueil des cours, tomo 175, 1982, pp. 103–256.

⁵¹ IDEM pp.226.

The point is that we didn't know it was finite, nor could define it. Today not only it is possible to define it, but we know that since it is not a free and unlimited good, it is necessarily a common good. Basically, we have to accept that climate change is a tragedy of a common good. But because this good is intangible, indivisible, and does not respect state borders, not only has the existence of the good itself not been accepted, but also its inevitable common ownership has not been defined. By not belonging to anyone, the structural conditions are created for the tragedy of the common good to happen. Avoiding the fatality of this tragedy implies creating the structural conditions for the successful management of this common good.

As Ostrom⁵² explains to us, there are three fundamental initial conditions to avoid this fatality: a) define and delimit the Common Good that is at stake, b) define a community willing to act as steward of this user/holder resource, c) build a congruent system between the rules of common good provision and appropriation.⁵³

b) Defining the Common Good: Stable Climate as a Common Heritage of Humankind

The biogeophysical conditions that have allowed this pattern of favourable functioning of the Earth System to emerge over the past 11,700 years, are the result of millions of years of interactions in the history of life on the planet, and are a true heritage to humankind. It was these intangible conditions that allowed the development of civilizations, and therefore have a vital/existential value for humankind. They are a true Grundnorm⁵⁴ on which all other legally protected values depend. In this context, the need to transmit to future generations the biogeophysical conditions that support this favourable mode of functioning of the Earth System, allows us to argue that the specific state of the Earth System corresponding to the geological period of the Holocene, carries the meaning of heritage as something we need to maintain in the interest of all. “Heritage is an idea. It is a philosophical idea, a legal concept, because it is something we need to conserve.”⁵⁵ Today this idea is scientifically definable and measurable. “Recognized the imperative need for an operational right without appeal to indeterminate and diffuse references it is necessary, at the level of its individual ownership, to delimit its object, a task that methodologically is accomplished by importing the pre-legal data provided by the best state of science.”⁵⁶

⁵² ELINOR OSTROM ET AL., “Revisiting the Commons: Local Lessons, Global Challenges”, *Science* 284(5412), 1999, pp. 278–282.

⁵³ A enumeração das regras de Ostrom para uma gestão bem-sucedida de bens comuns, usualmente é seguinte: Limites do bem comum claramente definidos, Equivalência proporcional entre benefícios e custos, Arranjos governativos resultantes da escolha coletiva, Monitorização permanente, Sanções graduadas, Resolução rápida e justa de conflitos, Autonomia local, Governança Policêntrica.

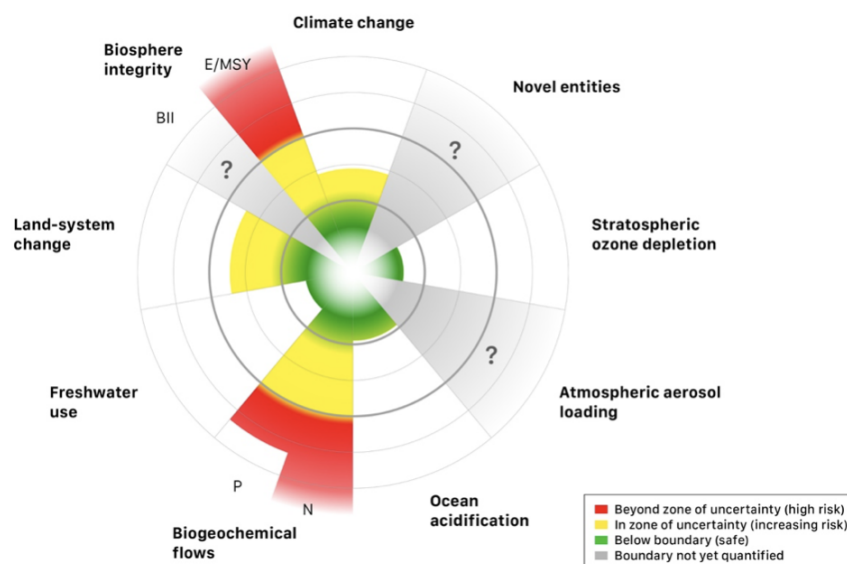
⁵⁴ R. K. RAKHYUN, & K. BOSSELMANN, “International Environmental Law in the Anthropocene: Towards a Purposive System of Multilateral Environmental Agreements”, *Transnational Environmental Law*, 2, 2013, 285–309, in 10.1017/S2047102513000149.

⁵⁵ J. M. SOBRINO, “Património é Uma Ideia (...) Património é Algo que é Necessário Conservar no Interesse de Todos”, *Jornal Quercus*, 50 (Jan-Fev), 2012, 4–5, in <http://www.quercus.pt/images/PDF/QA/QA50.pdf>.

⁵⁶ MARIA REGINA REDINHA, MARIA RAQUEL GUIMARÃES, “Clima estável: a urgência de um direito, a propósito do caso *Milieudéfensie et al. v. Royal Dutch Shell*”, *RED - Revista Eletrónica de Direito*, Outubro 2021 – N° 3, pag.3, (Vol.26), in 10.2480/2182-9845_2021-0003_0001.

Heritage is an idea. It is a philosophical idea, a juridical concept, because it is something we need to preserve. J.M. Sobrino Today this idea is scientifically definable and measurable.

With the growing scientific knowledge about the Earth System and the recent possibility to identify the nine main control variables that determine its state of functioning, through the definition of the so-called Planetary Boundaries (PBs)⁵⁷ - Based on highly interconnected intrinsic characteristics of the system, PBs define a combination of variables, relationships, and parameters that together describe the state of the Earth System, thus enabling an understanding of the role of the interaction between chemical, biological and physical processes in maintaining a favourable state of functioning for humankind (i.e., the Holocene), as well as humankind's role in pushing the System out of this stable and desirable state. These limits are a combination of science-based limits regarding nine fundamental processes (e.g., climate change, ozone depletion, biosphere integrity, ocean acidification) that together describe the intangible functioning of the Earth System and the limits to the degradation of these processes.⁵⁸



The Planetary Boundaries – Rockstrom and Steffen et al. (2015a)

⁵⁷ JOHAN ROCKSTROM ET AL., "A Safe Operating Space for Humanity", Nature, 2009, 461(7263), 472.

⁵⁸ TIM LENTON AND M. VAN OIJEN, "Gaia as a Complex Adaptive System", 357:1421 Philosophical Transactions of the Royal Society B, 2002, p. 683.

In this way the favourable biogeophysical state corresponding to an Earth System in a well functioning state, can be defined quantitatively - the Safe Operating Space for Humankind. Within these limits, the system is resilient - that is, it has the capacity to absorb “shocks”, maintaining its way of functioning.⁵⁹ When these limits are exceeded, the system no longer tends to regain its original “identity”, but tends toward a different configuration.⁶⁰

By defining Humanity's Safe Operating Space, a non-territorial and intangible space, this common interest of humanity was "materialised" in a quantifiable and definable natural resource. The Common Intangible Heritage.

This way, by delimiting this security space, a non-territorial and intangible space, this common interest of humankind was “materialized” in a quantifiable and definable natural resource.

“Since literally everything in our society is based on a Stable Climate”⁶¹, the need for the restoration and maintenance of this common good, is a fundamental structural issue for the organization of human societies and existential for the whole humankind, thus cannot be tackled solely with the current strategy of no-harm/avoided damages.

Going beyond concern and mitigation, and moving towards a strategy of actively cleaning the atmosphere, regenerating the biosphere and reversing the tragedy of the common good, implies defining the common good, assigning its ownership to all humankind and all generations, and creating a governance system capable of developing incentive schemes for the maintenance and restoration of that good.

In this sense, we propose the application of the legal regime of the Common Heritage of Humankind to the Stable Climate, represented by the Safe Operating Space for Humankind, a non-territorial natural reality, intangible, indivisible and materially non-appropriable, but depreciable and limited, and therefore, subject to the tragedy of the commons.

⁵⁹ CARL FOLKE ET AL., “Resilience and Sustainable Development: Building Adaptive Capacity in a World of Transformations”, 2002.

⁶⁰ R. KIM, & K. BOSSELMANN, “Operationalizing Sustainable Development: Ecological Integrity as Grundnorm of International Law – RECIEL – Review of European Community & International Environmental Law. RECIEL 24 (2) 2015 ISSN 2050-0386, 2015, in 10.1111/reel.12109.

⁶¹ JOHAN ROCKSTROM, 10 Year to Transform the future of the Earth, TED, 2020, in https://www.ted.com/talks/johan_rockstrom_10_years_to_transform_the_future_of_humanity_or_destabilize_the_planet.



c) Heritage - the legal support of a regenerative economy of nature

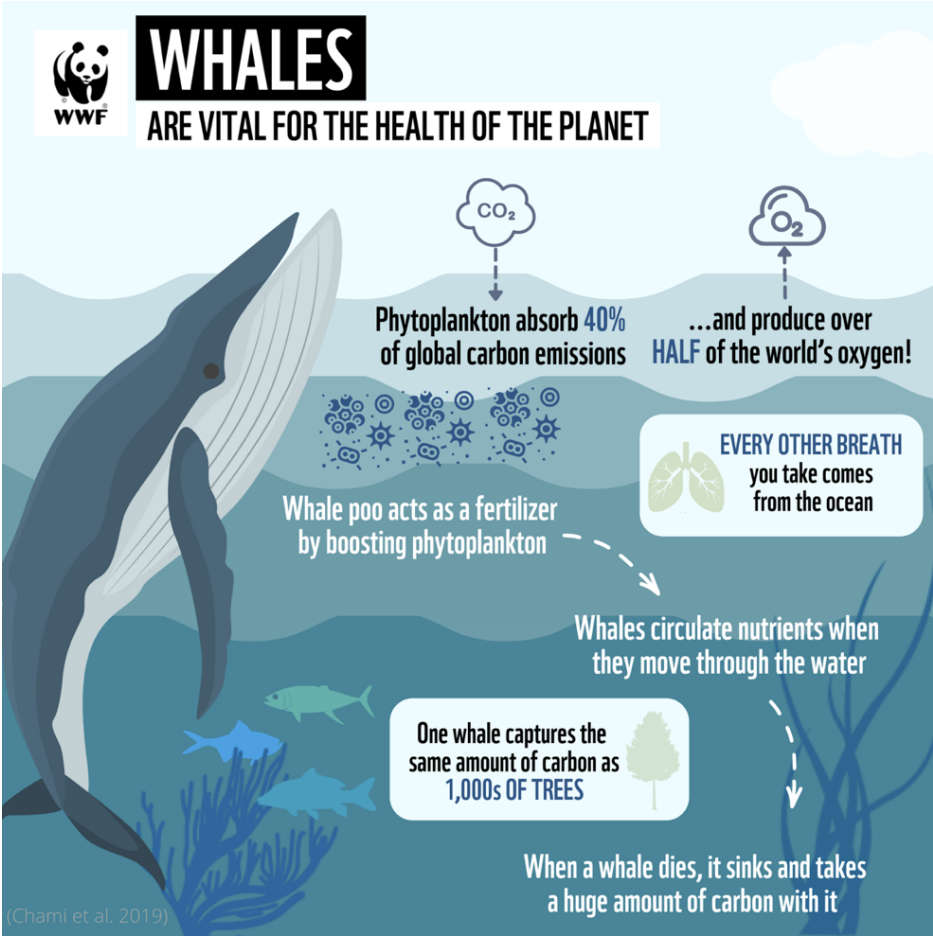
In any case, the unavoidable conceptual challenges that Climate imposes on law and economics, have been, unfortunately, circumvented through the undefined concept such as the "Common Concern of Humankind". The recognition of the existence of a common good without borders was avoided, and by doing that, the current concept of wealth creation was maintained, making it impossible to internalize benefits (positive externalities), that is, to make the consequences of positive actions on the common good fall on those who practice them. The consequences, positive or negative, of individual decisions to make benefits in the common good stable Climate, do not fall on those who made the decision, they are spread over the common good that belongs to no one, and thus, no one is willing to compensate for the benefits in a good that belongs to no one, and therefore, there is no economic rationality for them to be produced.

Since it is impossible that the benefits generated by ecosystems only benefit in the territories that enforce the provision of a stable climate, only through legal support and the creation of a compensation system, is it possible to create an economy capable of restoring and maintaining a stable climate.

Since in a global common good, it is impossible to make the positive consequences fall entirely on those who practice these improvements that are dispersed all over the planet, the only way to internalize the benefits on those who have practiced them, is through the creation of a compensation system. This will ensure the second structural condition identified by Elinor Ostrom for the management of common goods and allow for collective action: the existence of a congruent system between the rules of provision and appropriation of the common good. Currently, neither one of these conditions is present in the Paris Agreement.

That is, those who produce benefits for all do not receive the proper compensation, and therefore, nobody takes care of or is responsible for something that belongs to nobody. Currently, wealth creation emerge from activities that are usually associated with emissions, or in the reduction/neutralization of emissions, but the vital wealth creation that the provision of the common good Stable Climate generates throughout society is not recognized. States and individuals driven by self-interest have no incentive to maintain and restore ecosystems, once the benefits are spread in a common good where no one can be excluded from access to those benefits, and today there is no way to internalize those benefits.

This perpetuates the machine that is set up to destroy the foundations of life, because only through the extraction/destruction of natural resources, wealth creation is recognized in society. Changing this cycle of destruction implies representing/capturing and internalizing the value of intangible services produced by tangible natural infrastructures - in the economy. For example, ecological economists estimate that the ecological services provided by a whale (absorption of CO₂, oxygen production, organic matter, etc.), are valued at about 2 million euros.⁶²



The ecological services of a Whale are today valued at approximately two million euros. Image WWF

⁶² Ralph Chami, et al., Nature's Solution to Climate Change, International Monetary Fund, Finance & Development, 2019, in <https://www.imf.org/en/Publications/fandd/issues/2019/12/natures-solution-to-climate-change-chami>; <https://oceana.org/blog/watch-why-each-whale-worth-more-2-million/>.

If this value is much higher than the value of whale meat, how it will be possible to incorporate this value into the economy, and this way ensure the survival of these animals and the maintenance of the services they provide to the functioning of the entire Earth System? Whose whales migrate throughout the oceans and territorial waters of various countries? Who should receive the value of these vital services and ensure their continued existence and the maintenance of these services? And who refers to whales, refers to forests, mangroves, tundra, wetlands, mountain areas, and all ecosystems whose ecological services always represent a much higher value to humankind, when compared to the value obtained by simply destroying the ecosystem or the species.

Excluding from this analysis the question of the intrinsic value of ecosystems and natural creatures, and focusing only on their functional dimension, with the extensive work already done by ecological economists, the economic value of ecosystem services is already recognized and measurable today. The big question is to find solutions to internalize these benefits, and this involves defining the common good.

Therefore, recognizing Stable Climate as the Common Heritage of humankind, defined as the intangible global common good that exists within and outside of States, is the structural basis for building an economy capable of regenerating the natural processes that support life, and recognizing the value that these services represent to humankind. "It is clear that the restoration of the common good, or the common intangible software of the Earth System, will imply some evolution in the thinking of the common heritage of humankind, but the "diversity of regimes corresponding to the common heritage of humankind and unity of its foundations"⁶³ clearly indicates the possibility of improvement and adaptation. The most important thing is to give visibility to the positive contributions derived from its maintenance, accompanied by incentives, mechanisms and balance sheets of contributions from each of the parties."⁶⁴

States and individuals driven by self-interest have no real incentive to maintain and restore ecosystems since the benefits are dispersed in a global common good, where no one can be excluded from accessing those benefits, and today there is no way to internalise those benefits.

⁶³ Alexander Kiss, "La notion de patrimoine commun de l'humanité", Académie de droit international de La Haye, Recueil des cours, tomo 175, 1982, pp.225.

⁶⁴ P. Magalhães, Common Interest, Concern or Heritage? The "commons" as a structural support for an Earth System Law, Earth system law: standing on the precipice of the Anthropocene, Routledge, 2021, in <https://www.routledge.com/Earth-System-Law-Standing-on-the-Precipice-of-the-Anthropocene/Cadman-Hurlbert-Simonelli/p/book/9781032056241>.

d) The Portuguese Climate Law - Climate Heritage as a goal of Climate Diplomacy

The reopening of the discussion around the legal status of Climate began when the Recommendation for a Climate Law of the Portuguese National Council for Environment and Sustainable Development (CNADS)⁶⁵, stated the following: “In a matter such as Climate, in which the property itself is difficult to define and fit into the existing legal framework, it is essential to resort to the most recent scientific knowledge in order to build definitions that can support the legislative options.” When climate becomes an issue that needs to be addressed, the problem arises of which good is to be restored and conserved, with two distinct approaches emerging: (a) Good that should be the object of restoration and conservation, which implies the concept of Stable Climate - Stable Climate Common Heritage; (b) Damage that should be avoided, which points to Climate Change - Common Concern.

The current need to go beyond emission reductions, through new CO₂ capture technologies and nature-based solutions, and to actively and deliberately restore the Climate, requires a new legislative framework to regulate these activities. Taking into account the technological options that are foreshadowed and the time period that the future Climate Law aims to frame and shape, it is considered essential to mention that the future regulation of these activities should be guaranteed within the international framework“ (...) The restoration of a Stable Climate implies an integrated approach to the Earth System. It is recommended that the Climate Law recognize the functioning pattern of the Earth System which corresponds to a stable climate as a Common Heritage of Humankind as a legal support for the management of this Global Common Good at the international level.” This recommendation was welcomed by the Portuguese Parliament on November 5th, 2021, through the inclusion of the diplomatic goal of recognizing the Stable Climate as a Heritage of Humanity at the United Nations, in Art.15, paragraph f), in the Climate Law. This can also be a contribution of the Portuguese language to a new world order, and start a process of building a common future around the management, restoration of a common heritage that all peoples and generations depend on - the Stable Climate.

A Common Heritage that spans all borders, that belongs to all humankind and all generations, should become the structural basis for building a regenerative economy of nature.

⁶⁵ Conselho Nacional do Ambiente e do Desenvolvimento Sustentável (CNADS), Recomendação sobre uma Lei do Clima, 12 Fevereiro de 2021, in https://www.cnads.pt/images/documentos/2021_recomendacao-leiclima.pdf.

“A consistent proposal would be, perhaps, to bring into the obscure chamber of Law the notion of Stable Climate - manifestation of a stable and definable pattern of functioning of the Climate System, within the limits of natural variability that was observed after the last glaciation (Holocene period), and that resulted in a rich functional biodiversity. A notion that passes the sieve of the strictest legal technique, because, despite its intangibility, it is based on a measurable physicality that gives it an objective determination and a concretizing drive. The Law has, moreover, a secular experience in dealing with intangible assets - *Et quidem naturali jure communia sunt omnium haec: aer, aqua profluens, et mare et per hoc litora maris* (Institutas, II, I, §I) - and is increasingly perfecting a flexible instrument of adaptation (indeterminate concepts, general clauses, “recomendology”, codes of good practices, etc.) to the times of acceleration and fluidification of modernity (Zygmunt Bauman), that, undoubtedly, make it possible the reception of a notion that, although complex, has over others the added advantage of scientific parameterization.”⁶⁶

While all nations recognise that everyone has an interest in preserving the stable climate as the resource for the future, global coordination remains a problem because the common good is not defined. Organising collective action around the restoration and maintenance of a common heritage, can open the door to new international cooperation.

Conclusion

The recognition of a Common Heritage that crosses all borders, that belongs to all humankind and to all generations, should become the structural basis for the construction of a regenerative economy of nature, that is, one that allows the transition from an exclusive logic of no harm rule, to a logic of production of benefits in the common heritage, of cleaning up and ensuring the maintenance of what belongs to all. And this implies the institutionalization of the management of this common good, which also means an evolution of global governance. Without this profound necessary change of perspective in public international law (the recognition that there is a “functional aspect” of the Earth system, which, although overlapping, is distinct from the static concept of territorial sovereignty, and which must, therefore, be autonomized), it will not be possible to find an effective platform for global political and economic cooperation, the only one capable of overcoming the current impasse that seems to be leading the international community towards an irreversible collapse, despite the increasingly painful warning signs. The current model of considering climate change as a common concern (no harm rule) has clearly proven to be insufficient and impeding the construction of a society capable of aiming at sustainability, and of doing what is necessary to avoid climate catastrophe. Climate change is not a concern, but rather a crucial problem of our society, on whose resolution depends the very historical and existential continuity of humankind. Discussing the legal status of our most vital and precious asset is not a matter for tomorrow.

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