Os limites estruturais do Acordo de Paris (2015) sobre mudança climática e as perspectivas de uma coalizão para à descarbonização profunda da economia global[1]

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Abstract

The Paris Agreement represents progress in general normative goals in the climate regime, but it is deficient in the correspondent means of implementation: countries INDC's are voluntary and most of them unsatisfactory; financial transfers from developed to poor countries are very low; quantitative global goals for 2050 and global de-carbonization were eliminated from the Agreement and nothing was stated about the elimination of subsidies to fossil fuels; and, there is no provision for a mandatory taxation on carbon in all countries. The Paris Accord promotes some gradual and limited de-carbonization but it is far away from the urgently needed deep de-carbonization. The formation of a consistent and long-term coalition for deep de-carbonization is urgently needed: it will depend on key players - like USA, China, Japan, Brazil, South Korea, Canada, Australia and Mexico – to converge with the progressive position of European Union (including UK, Norway and Switzerland). It will also depend on the active support of a large number of networks of transnational corporations based in low carbon technologies and energy.

Introduction

In the present decade, a series of broad movements - in both physical and social terms - has led to the consolidation of climate change as a key civilizational driver of our time. Civilizational macro-drivers can be defined as the deepest trends of the relation between mankind and the biosphere: population dynamics, human settlements around the planet, increase in work productivity, growing consumption of Earth resources and technological development are examples of these long term trends. Bearing this in mind, the imbalance of the climate system is a position equivalent to other fundamental processes of our current civilizational process: globalization and democracy. On the one hand, the scientific community has gathered enough evidence to state that the phenomenon of an anthropic destabilization of the climate system is a near-consensus idea and the pace of the process is faster than previously reported (IPCC 2014). On the other hand, the increasing number of extreme weather events has contributed to consolidate the perception that we are no longer faced with a theoretical speculation distant in time, but that there is an urgent and tangible reality in front of our eyes. Such consequences have repeatedly been the subject of various researches in the most diverse fields of human knowledge (Biermann 2012).

As a consequence, many social processes - and the fields of science, which study them - have had their dynamics altered: Economy, Politics, Security and Defense to name just a few. In International Relations, this double challenge could be explained as follows: in empirical terms, climate change imposes a deepening of cooperation levels on the international community, considering the global common character of the atmosphere; as to International Relations as a discipline, climate change demands from the scientific community a conceptual review of the categories designed to approach the development of global climate governance, in a context of systemic change. The framework related to this double challenge is the migration of the climate issue to the core of international politics, which means that the patterns of cooperation and conflict that define this very sphere of social interaction will be more and more influenced by the characteristics of the responses to the climate challenge.

The continuing key role of the climate crisis for human future is related to the concept of planetary boundaries. In the natural sciences community, it is more and more consensual that increasingly anthropic pressure on the Earth system could lead to an abrupt change of global environment (ROCKSTROM *et al*, 2009). Being the leading drivers of global systemic change, human actions threaten to destabilize critical biophysical systems, having detrimental or even catastrophic consequences to mankind's well being. For the last 11.000 years around, Earth has been operating within the stable domain of the Holocene, where certain bio-geo-chemical and atmospheric parameters have stayed within a relatively narrow range. However, since the industrial revolution at the end of the eighteen-century and

particularly since the great acceleration from 1950, our actions have been effectively pushing a series of key processes of the Earth system out of the stable variation range. This shift signals the transition from the Holocene to the Anthropocene, which comprehends two processes: the anthropic factor as the leading driver of systemic climate change, and the deviation - which has profound potential consequences - from the stable patterns of the Holocene (Crutzen & Stoermer 2000; Zalasiewicz 2010).

Within this framework, the scientific community has advanced in the identification of nine planetary boundaries within which humankind could safely operate. Transgressing these boundaries implies entering a risk zone of systemic environmental disruption. The notion of planetary boundaries rises as a new way to deal with sustainability, not in an isolated and localized form factor (sector analysis of growth limits and mitigation of negative externalities) as in the traditional environmental approach, but in a systemic, global fashion.

The nine planetary boundaries are: climate change; ocean acidification; stratospheric ozone depletion; Nitrogen and Phosphorus cycles; freshwater use; change in land use; rate of biodiversity loss; chemical pollution; and atmospheric aerosol loading. The first seven can be quantified and three out of the nine planetary boundaries have already been crossed: climate change, rate of biodiversity loss and the nitrogen cycle.

The goal of this paper is to discuss in both conceptual and empirical terms the structure of global climate governance and the assessment of the Paris Conference and its aftermath. In this structure, a specific kind of agent is prominent in shaping *climate social outcome* – the climate powers. These great state actors emerge as leading agents in this specific area of governance while the formal international regime - the UNFCCC - loses partially its relevance in driving the global transition towards a low carbon economy in this context of altered dynamics.

The notion of major power that is used here entails the capacity of societies, or in more specific terms, the convergence of the state, the market and civil society. It is not restricted to the idea of state power of the realist theory of international relations, described as a rational actor where internal social and economic dynamics are not relevant. This discussion is theoretically framed accordingly to a definition of an international system under conservative hegemony, which is open to change and uncertain. Conservative here reflects the inaptitude of current structures of global governance for responding to the problems of interdependence, among which is - and above all - climate change (Viola, Franchini & Ribeiro 2012)

There were abundant in the media in December 2015 and January 2016 very positive evaluations on the Paris Agreement that, in general, reflect the vision of governments, negotiators, politicians and NGOs involved in the process. However, both on the preliminary period, as during

and after the historic agreement there were predominantly critical voices coming from the scientific community. What is the reason of this mismatch? Depends on the focus of analysis. According to this paper there are three levels of analysis about the Paris Agreement: first, the relationship of the United Nations multilateral agreement with the deep international system; second, the dynamics of the diplomatic agreement; and third, the significance of the Agreement with regard to the necessary transition to a low carbon economy.

Climate Powers

In the first level, the key is to recognize that multilateral agreements are just a small part of the international system, whose main driver is the predominant national interest in the main powers of the system, its recent trajectory of emissions and foreseeable future emissions. Under this aspect, the human and technological capacity to decarbonize the world economy depends on seventeen countries (responsible for over 80% of global carbon emissions). In a first order of magnitude are the great powers, the central powers in the carbon cycle - USA, China, the European Union and India - and, in a second order of magnitude: Russia, Japan, South Korea, Indonesia, Australia, Turkey, Saudi Arabia, Iran, Nigeria, South Africa, Brazil, Mexico and Canada (Viola & Hochstetler 2015). The USA, China, India, Russia and Saudi Arabia are by far the main producers of fossil fuels (summed coal, oil and gas) that are still increasing despite all the progress of renewable energies. For example, in the period 2012-2015 there was a dramatic decline in the consumption of coal in USA, but this was partially compensated with the increase in the exportation of coal and the production of shale gas and shale oil. It is important to remark that the greater part of these seventeen powers has very slow de-carbonization dynamics and even some of them continuous strongly expanding the consumption of fossil fuels. Most of them continuous subsidizing fossil fuels, even if in smaller intensity than in the previous decade.

The global governance structure can be divided into areas, each with its particular logic, agents and interaction dynamics. Climate governance has different levels in its structure - actors spread in a two-dimension scheme - from local to global, from public to private. This architecture features a specific agent that has the capacity to influence the *climate social outcome* in a decisive manner. This agent is called climate power.

The concept of climate powers comprehends a combination of several dimensions of power. The first two dimensions have been widely contemplated in IR tradition: military capacity and economic power. The third dimension - *climate power* - is more innovative and closely related to the climate issue - and also less discussed. Climate power resides in: volume and trajectory of greenhouse gases (GHG) in the atmosphere; human and technological capital to generate a considerable impact on the transition to a low-carbon economy; and the relation between resources and energy culture - also called energy behavior (Viola, Franchini & Ribeiro, 2013)

It is important to stress the strong level of inter-relation among the economic, military and climatic dimensions - each one affects the content and evolution of the other dimensions. The concept of climate power does not exclude non-material power factors, like influence and prestige. In specific terms, the level of climate commitment can be a great factor of ascendency over global climate dynamics. Based on these criteria, it can be identified two major categories of climate powers:

Great powers: United States (16% of global carbon emissions), China (28% of global carbon emissions), the European Union (including UK, Norway and Switzerland, 11% of global carbon emissions) and India (8% of global carbon emissions). Altogether, they account for more than 60% of world GDP and global carbon emissions. Great climate powers share three important characteristics: first, they all have a high proportion of global GHG emission (at least 8%) and GDP; second, they have relevant human and technological capital for the de-carbonization of the economy (in a very differentiated way: very high USA and EU, high China and medium India); and lastly, they have the power to veto any effective international global agreement.

Middle powers: Russia, Japan, Indonesia, South Korea, Brazil, Turkey, Mexico, Saudi Arabia, Canada, South Africa, Iran, Australia and Nigeria. This category has relatively limited importance in terms of global emissions share and participation in the world economy while acting on their own; they lack the ability to veto a global international agreement. However, their behavior affects climate governance, since they have great influence over other civilizational macro-drives, such as population growth and commodities consumption and can tamper with or boost the trajectory of global de-carbonization.

In terms of climate commitment, the leading state actors of global climate governance could be classified as follows below. This evaluation of policies considers the domestic and international positions of each country on the climate issue and analyses the tendency of influx of policies regarding the conjuncture.

Conservative Powers: India, Russia, Canada (until October 2015), Turkey, Saudi Arabia, Iran and Nigeria.

Moderate Conservative Powers: USA, China, Brazil, Japan, South Korea, South Africa, Mexico, Australia, Indonesia and Canada (since November 2015).

Reformist Powers: The European Union (consistent reformist Germany, Scandinavia, The Netherlands, Belgium, France, United Kingdom, Switzerland and Portugal and poorly reformist the rest).

Two main drivers shape global climate governance: climate power and climate commitment. Climate power refers to the level of influence of certain

agents over the climate social outcome at systemic level. Climate commitment analyses how the logic of governance in this field is defined by the interaction among forces that understand the climate problem as a civilizational crisis - reformist - and forces that resist the profound transformations necessary to stabilize the climate system - conservative. In this dynamics, the conservative forces are predominant and this accounts for the reason why the international system is under a conservative hegemony: the system's evident incapacity to develop an adequate response to the major challenges of our time, such as global financial crises and, climate change which are deeply demanding problems that require considerable governance capacity.

The structure of climate governance is extremely complex and comprehends diverse dimensions - economic, environmental and security - and several actors - public and private, local and global (Keohane & Victor 2011). Yet, there is a type of agent – a state actor - whose concentrated capacities can exert high influence on climate social outcome: the climate powers. Focusing with priority on the formal climate regime - UNFCCC - results in relatively fruitless attempts to evaluate the future of global climate politics, it is more convenient to adopt an approach based on the real behavior (not the rhetoric) of these specific state actors.

As stated before, all climate powers (excepting the EU) are not reformist. The fact that the U.S, China and Japan are moderate conservative is central to this analysis. The American society is deeply divided, and has hinders so far a consistent pro-global governance policy, even considering a major progress made during the second Obama administration confronting the Republican Party dominated Congress. The Republican presidential candidate in 2016, Donald Trump is a skeptical of anthropogenic climate change. China is changing but the pace has not been fast enough and the 2015 macroeconomic mistakes and the uncertainties about the capacity of its leadership of managing economic transition are not favorable. Japan has had retrogression in its climate policy after the Fukushima nuclear disaster and the coming back to power of the Liberal-Conservative Party. The only great power committed to consistent global climate governance - the EU - is going through a process of economic and political crisis that compromises its ability to lead global de-carbonization.

Structural limits of the Paris Agreement and Potential Deep De-carbonization coalition

Compared to previous treaties in the regime, the agreement represented some improvement with climate change mitigation. The Convention, signed in Rio in 1992, was a programmatic compromise of members to mitigate climate change – it did state the concern of members with the issue and their promise to tackle it, but it did not translated the measures that would be taken to do it, except for a general and diffuse statement that Annex 1 countries should reduce emission in 10% in 2000 in comparison with 1990. The Kyoto Protocol, signed in 1997 and in force

between 2005 and 2012 for the first period, was the first agreement to impose compulsory Greenhouse Gases (GHG) emission reduction targets on developed countries and the so called countries in transition from central planning. Yet it suffered several setbacks: the United States did not ratify it, arguing it would lead to unfair competition with emerging economies, especially China, in global markets; several members did not comply with the settled targets, and no sanction was imposed on them; Japan, Canada and Russia did not sign the Doha Amendment, which extended the Protocol to a second commitment period, between 2013 and 2019

At diplomatic level, the agreement was a success: an extraordinary bridge among different (and often mutually antagonistic) national interests, led by the competent French and European diplomacies, with the systematic support of very influential global leaders: Fabius, Kerry, Hollande, Obama, Ban Ki Mon and Merkel. The Agreement has changed the limit of relatively "safe" increase in the Earth's average temperature from 2°C to near 1.5°C, something which seemed unimaginable at the beginning of the Conference. Diplomats were able to work through major and confrontational standings among countries through the production of a masterpiece of consensus in wording. But there is a profound disjunction between some ambitious goal of the Agreement and the generic and diffuse paths that are formulated to achieve it.

Examined under the aspect of the necessary transition to a low carbon economy, that is the vision of the scientific community; the agreement implies a limited progress, inadequate and too late. Humanity has been dealing with the problem of climate change since 1992 and until now the problem has worsened extraordinarily. In spite of the multiple conferences and promises the global carbon emissions have increases extraordinarily at an intense pace. Different than other global problems (protection of human rights, financial regulation, trade liberalization) climate change is a race against the clock. Incremental progress - as has been the pattern in other global problems - is deficient in climate change due to the existence of the limits of the global carbon budget.

The main reasons of the insufficiency of the Paris Agreement are the following:

1- The National Determined Contributions (NDCs) are voluntary and non-compulsory due mainly to the open resistance of countries like the USA, China and India. Nothing will happen if a country doesn't accomplish with its INDC. Not even a moral sanction as happened with Canada during the Kyoto Protocol withdraws in 2011.

2- The sum of the NDCs, in case they were fully implemented - which is unlikely - will increase by approximately 3°C the average temperature of the Earth. It is important to remark that an increase of 3oC on the average will implies an increase of more than 4oC in some terrestrial regions of the Earth, particularly in tropical regions.

3- The concept of de-carbonization was eliminated from the Agreement: most countries surrendering to a powerful coalition of fossil fuels producers and consumers. There is no reference to the end of fossil fuel subsidies, whose sum was equivalent to 600 hundred million dollars a year in 2013 and added the indirect costs was equivalent to 5 trillion (6% of world GDP). The Agreement avoids talking of widespread establishment of national taxes on carbon at growing rate, the only way for a consistent progress toward a low carbon economy.

4- The proposal that was in the first versions for the Accord - to reduce total emissions of greenhouse gases between 70% and 90% until the year 2050 - have been replaced by a diffuse as early as possible.

5- The 100 billion dollars a year for transferring resources from developed countries to poor countries, pledged in Copenhagen in 2009 and minimally implemented, returned to the Agreement, but without be clear the amount of public resources (the only ones who could be truly guaranteed). Also, these 100 billion dollars are insufficient and represent only 0.4% of the GDP of developed countries.

6- The emerging middle-income countries have rejected the compromise of transferring resources to poor countries, with the exception of China. Even Brazil, the only major non-developed country with an NDC defined in absolute terms rejected a commitment for transferring resources to poor countries. It is important to remark that all non-developed countries (except Brazil and Costa Rica) have submitted non precise INDCs - defined in terms of carbon intensity of GDP or in proposed deviation from business as usual curve of emissions (most of the time inflated, supposing higher growth than feasible in GDP). However, it is important to remark that Brazilian NDC was estimated with strong overestimation in the rate of GDP growth in the period 2010-2030 and for that reason the level of ambition is very low.

7- The system defined for monitoring the implementation of NDC's is weak, due to resistance from countries such as China and India who consider such system an intrusion to national sovereignty.

8- The review system of targets, every 5 years starting in 2023, (some wishful thinking authors like to read starting in 2018, but it is very difficult to sustain this interpretation), does not require countries to deepen their goals.

9- The High Ambition Coalition formed during the Conference under the leadership of the Small Islands and the European Union was an important progress, but still the programmatic meaning of the coalition is diffuse and there is a major dissonance between rhetoric and behavior of most key members. Also, the HAC didn't have the capacity of breaking the traditional negotiations blocks.

In summary, the Agreement implies a very slow progress to de-carbonization of the global economy. The companies that invest in productive processes based in low carbon technologies will grow in importance and relative power, but, unfortunately, companies, which continue with carbon-intensive production processes, are not encouraged to be transformed quickly enough. The processes of medium and long term established by the Agreement make highly unlikely to avoid dangerous climate change. This is defined as an increase in average Earth temperature above 2% in relation 1900, in 2015 average temperature was 0.8% above 1900. To avoid it, global emissions would need to reach a peak in 2020 and immediately start their reduction in an accelerated manner. By the logic of the Agreement, the emissions will reach a peak between 2030 and 2040 and their subsequent reduction will be slow.

The economic and security dimensions of the international system have a key impact on the climate dimension and it is necessary to promptly take them into account in any credible analysis of the future of climate governance (Dalby 2014). From one side, global economic slowdown, low oil prices and increased geopolitical rivalries undermine global climate governance; and, from the other side, the dramatic growth of low carbon energy systems and extreme weather events enhance the development of global climate governance. Both contradictory forces will be fighting for years and decades to come.

This paper argue that the structural limitations of the Paris agreement only could be overcome by the formation of a deep de-carbonization coalition or club. Depending on the dynamics of the political economy in major powers this coalition could be formed in the future. The base of the club could be the European Union + shifting moderate conservative powers to reformist. This shift could happen depending on significant advances of the reformist forces (corporations, politicians, civil society, public opinion in general) in USA, China, Japan, Brazil, Mexico, South Korea, Canada, Indonesia and South Africa. The continuity of progress in low carbon technologies and the increasing economic and political power of networks of reformist transnational corporations would be crucial for the shifting in moderate conservative powers. If a deep de-carbonization coalition is formed they likely will have the capacity for constraining major conservative powers, like India, Russia and Saudi Arabia.

The dynamics of four powers are key for the formation of a deep de-carbonization coalition: USA, China, EU and Japan. In the US it is key the victory of the Democratic Party in the presidential elections of 2016, but this is not enough, it will be also very important that the Democratic Party regain the majority in the House and the Senate. The first condition has a significant probability by July 2016, but the second condition has low probability by July 2016. Un unlikely victory of the Republican Party in the presidential election

would be a major retrogression in relation to the small progress reached in the Paris Agreement. Actually, it will be catastrophic for global governance in general.

In China there are three favorable trend: the grass root movements against air and water pollution that is synergic with reduction of carbon emissions; the growing force of the low carbon energy sector of the economy (wind, solar and nuclear, smart grid); and, the stated attempt of the ruling elite to move from manufacturing to a service driven economy. On the negative side there are two trends: the recent mistakes and doubts from the ruling elite in the implementation of deep economic reforms needed; and, the extremely assertive military policy in the South and East Chine sea. In an increased geopolitical rivalry situation, de-carbonization will lose importance in relation to defense and conventional national power, the same in the relation between military and civilian elites.

In the European Union there is a major risk of increasing fragmentation derived from the refugee crisis, the exit of United Kingdom, continuous economic stagnation and growing force of nationalist political parties. The reformist position of the European Union over the years have been based in the prevailing of integrative post-sovereign forces from Northern Europe to drive the Union against more nationalist forces located in Southern and Eastern Europe. For a successful global deep de-carbonization coalition is key the continuous leadership of progressive Northern Europe over the Union. Even there is some risk that the exit of UK will imply some undermining of progressive climate policies in the country.

Japan is the first developed country that has gone through a secular economic stagnation (started in 1991) with relative acceptation of its population. Even if was not a deliberate choice; Japan recent experience shows to the world that is possible to enter in secular stagnation (which implies de-growing if compared with the rest of the world) without social contestation. In terms of standing in multilateral negotiations on climate change Japan has suffer a major retrogression in Paris 2015 compared with Kyoto 1997 and Copenhagen 2009. In spite of this, Japan continuous being an example in the world in terms of energy efficiency, predominance of rational public transportation, social equality and low carbon intensiveness of GDP. For that reason Japan could contribute significantly to the research and deployment of low carbon technologies that could have major global impact than the low profile in international negotiations.

In sum, despite the normative participation of almost 200 countries in the climate regime, few countries have the heaviest influence on climate change, so action taken in plurilateral forums or clubs could actually produce better results to climate change mitigation. If climate powers undertake measures to promote energy efficiency and low carbon energy, as well as disincentives to produce and use fossil fuels, climate change will be substantially mitigated. Yet, this real advance in climate change mitigation remains to be seen. In the regime itself, the Paris Agreement did not address several setbacks already present in previous agreements: commitments are voluntary; lack of compliance is still not subject to sanctioning; monitoring is weak; five-year

revisions do not imply deeper commitments. Thus, at best, the Paris Agreement is a sign that the world is starting to understand how complex the necessary change is, and that many more need to be involved if climate change is to be efficiently tackled. This is positive, yes, but a small advance and very far from the panacea for world climate problems.

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