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Academic Foresights

Climate Change Regime Complex

How do you analyze the present situation of the climate change regime complex?

Climate change is one of the most pressing international issues at hand. After 30 years of international debates it is now appearing clearly to scientific experts that climate change is already happening and is likely to disrupt the planet if not mitigated. In the wake of the announcement by the US President Donald Trump that the United States would not ratify the 2015 Paris Agreement this contribution aims at investigating what this decision means for climate change.

The consequences of Trump's decision actually depend on the current architecture of global climate change governance. Traditionally, international issues have been negotiated in the context of unique international regimes defined as "implicit or explicit principles, norms, rules and decision-making procedures around which actors' expectations converge in a given area of international relations" (Krasner 1982: 185). International regimes are most of the time embedded in international institutions. In the case of climate change, the corresponding international regime was assimilated to one core unique treaty: the United Nations Framework Convention on Climate Change (UNFCCC).

Yet, with the proliferation of international institutions and the growing international interest for climate change, the initial unique regime on climate change has become what is now known as a regime complex, at the crossroads of several and diverse international regimes. Regime complexes are indeed "network(s) of three or more international regimes that relate to a common subject matter; exhibit overlapping membership; and generate substantive, normative, or operative interactions recognized as potentially problematic whether or not they are managed effectively" (Orsini, Morin and Young, 2013: 27). They are becoming commonplace in international politics.

Different types of institutions constitute the climate change regime complex (Keohane and Victor 2010): multilateral negotiations fora, like the UNFCCC, but also international scientific platforms like the International Panel for Climate Change, clubs like the G20, bilateral initiatives like the EU-China partnership, etc. Yet this description in terms of institutions is relevant as long as one recognises that these institutions are actually embedded in different international regimes.

Traditionally the climate issue is first embedded in the broader environmental regime. Climate change is a major ecological crisis and has been initially framed around the problem of the rising temperatures' impact on our ecosystems, being terrestrial or oceanic. Progressively, like other environmental issues, climate change has involved a

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second regime: the development regime. Among others, developing countries share less historical responsibility with regards to CO2 emissions but need CO2 producing industrial activities to develop. This has created a major discussion among Annex I countries recognised as industrialised and developed and non Annex I countries.

Progressively, issues of technology transfer came along with the development regime, bringing, as a third regime, the intellectual property rights regime in the equation, with regards to protected clean technologies for instance or technologies for adaptation.

The financial regime also entered the climate talks. The initial reluctance of states to adopt binding regulatory instruments led to the development of market-based mechanisms like the EU ETS system. Finance for adaptation also became increasingly important.

While the list of regimes concerned with climate change is likely to increase with time (see below) these four are the current core regimes that interact regarding climate change negotiations. While they are well integrated (with numerous interactions), it does not mean that they are synergistic. Actually, they often produce conflictive norms, rules and principles that are constantly adjusted during tensed discussions. But what is sure is that from a unique international regime context, climate change global governance has evolved towards a regime complex situation.

In your opinion, how will the situation likely evolve over the next five years?

One general trend that is already sensitive is the progressive inclusion of new regimes in the climate change regime complex according to a phenomena known as the “climatisation” of world politics (Aykut, Foyer and Morena 2017). This is the case of the human rights regime with growing claims that human rights should be respected also for future generations that are likely to suffer most from climate change. Another human rights dimension concerns the status of indigenous and local communities and their associated traditional knowledge. The newly created UN Platform for Indigenous and Local Community Climate Action is illustrative of this shift towards the recognition of traditional knowledge as a rich pool of resources for climate change adaptation.

The security regime, with issues of climate refugees and environmental conflicts has also always been present to a certain extend. While the urgency of these climate crises is increasingly sensitive, the sovereignty of states has always been a strong barrier against any clear international action in the framework of this regime.

Finally the energy regime is progressively entering the climate change regime complex. It is now clear that mitigation efforts entail a radical energy transition, even an energy revolution, to pass from fossil-fuel-based societies to renewable-energy-based ones. International organisations like the International Energy Agency are progressively climate bandwagoning, meaning they are joining the climate train by increasing the awareness of their member states towards environmental concerns. But the link between energy sources and climate change is far from being clear. Numerous debates animate the field with controversies such as the classification of nuclear power as a green energy or not, considering its level of greenhouse gases emissions; or the label of biofuels as

renewable energy sources considering their numerous environmental externalities including land use change, greenhouse gases emissions and the absence of incentives to change the current transportation and industrial system. But the highest debate where the energy regime and the climate change regime enter in conflict concerns fossil fuels subsidies. This issue indeed touches upon a very strong contradiction in most developed countries' international policies: on the one hand, they commit themselves to implement the objectives of the Paris agreement which entails an energy transition; on the other hand, they spend annually more than 5 trillion dollars (6.5% of global GDP in average) in fossil fuels subsidies that maintain dirty energy cheap while diverting funds that could be invested in the energy transition. Two elements of this conflict are telling: (i) the relation is so tense that the conflict is currently taking place mostly outside the energy and the climate regimes; (ii) while the World Trade Organisation is currently analysing disputes raised against renewable energy subsidies and more precisely biofuels subsidies, no cases of disputes regarding fossil fuel subsidies have been registered so far.

A second general trend is for the regime complex to increasingly rely on non-state actors and transnational networks. Public private partnerships have populated the international scene since 2002. They have been particularly active in the case of climate change with several online platforms of transnational climate initiatives flourishing like the UNFCCC portal on cooperative initiatives, the Climate Initiatives Platform, The Non-State Actor Zone for Climate Action or the Global Aggregator for Climate Action. These partnerships include actors from all governance scales (local, national, federal, regional, bilateral, international, etc.) and from all types (non-governmental organisations, business groups, scientists, indigenous peoples and local communities, municipalities, etc.). They therefore transcend traditional non-state alliances.

If new components continuously add-up to the regime complex on climate change, and a multiplicity of actors' types joins in, the regime complex is likely to evolve towards a complex system. Complex systems are no more linear. They are open systems (exchanging energy and information with their environment) that include multiple elements (called agents or units) of various types that are intricately interconnected with one another with or without a clear hierarchy between them (the world is multiscale and networked). Complex systems are therefore a special type of systems, for which the definition of the corresponding elements and their behavior is particularly difficult to delimit because of the openness, multiplicity, and uneven interactions characteristics. Hospitals' emergency units, terrorist organizations networks or wild bees colonies are typical complex systems. Climate change governance will be very difficult to plan in the future.

What are the structural long-term perspectives?

An additional difficulty to envisage climate change in the long-run is that there is actually no long-term perspective on this topic because the current scenario foresees some strong environmental consequences, and even disasters already in a 10 years perspective. There is an urgent need to act on the short-term for climate change to be

mitigated because the long-term perspective of our survival on this planet is not currently positive, to say the least. For the sake of answering to this question on long-term perspective, I am therefore choosing to imagine how a positive long-term perspective could look like.

Most of the trends identified for the next five years in terms of global governance are also likely to take place on the long-term. With this optimistic postulate in mind, the evolution of the climate change regime complex towards more integration of international issues and actors is likely to mean evolution in terms of governance structures. The two trends identified above (more regimes, more actors) are complementary and are likely structurally to lead to a decentralised governance system based on pragmatism, as an answer to the newly created complex system. Political actors are likely to embrace the topics for which they consider themselves as more specialised and will implement actions that seem to work. It is likely that, through this bottom-up dynamic, some components of the regime complex will gain importance in the future, for instance on the renewable energy topic. Plenty of concrete small projects are also underway in different parts of the globe, for an energy transition to happen (Sovacool, Brown and Valentine, 2016).

Decentralisation, pragmatism and the multiplication of governance scales are likely to produce fractal governance structures whereby the successful governance arrangements at one level are replicated at another level of governance. Fractals are known in natural sciences for being repetitive patterns. Famous examples of fractal structures among the natural world include trees, ferns or romanesco cabbages. Modelled by mathematical sciences, fractal are linked to the theories of chaos and unpredictability, two contexts in which they are likely to appear and that are close to the ones of complex systems. Why is it so? Because fractals have at least three advantages with respect to other structures: (i) fractals make structural development and growth easier because the pattern is already known, meaning creating new parts is easier; (ii) they are more robust because damage on one part of a fractal does not impact the whole structure. What happens is similar to a tree losing one branch and regeneration is easy; (iii) one corollary of these first two points is that organisational change and adaptation is easier for fractals. Fractal structures are particularly resilient and flexible. If pragmatism becomes the rule, the climate change regime complex might take a fractal structure.

If this optimistic scenario happens in practice, this means that the climate change regime complex is probably much more robust than what one would have thought at first sight. The decision by Donald Trump is sad for climate politics but it is also impacting only one small part of climate change global governance. Moreover, it is likely to create counter-reactions in the different parts of the regime complex that one can expect to be stronger than what would have been envisaged without his negative reaction. A few initiatives are already underway as illustrated by the reactions of important business majors who are in any case ready to comply with the Paris agreement even without their government's approval. They have perceived that business interests also exist within an energy transition scenario (Telegraph Reporters and Agence France Presse 2017), already bringing the energy regime back in the discussion. In the environmental part of

the complex, international environmental NGOs have also started to mobilise. One example includes the Trump Forest project with the telling motto “where ignorance grows trees”, meaning that the project will answer to any environment-hostile declarations made by Donald Trump by planting trees to counter the negative effects of Trump’s policies on the environment. In the end, it is therefore not that crucial that the United States is not joining the Paris Agreement, now knowing that the climate change regime complex is much broader than this unique treaty.

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