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Will the Paris agreement save the world?

An analysis and critique of the governance roadmap set out in
COP 21.

Oslo Academy of Global Governance working paper 2016.1

Edited by Harold Wilhite and Arve Hansen



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Harold Wilhite and Arve Hansen

Oslo, 28. April 2016

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Part I: Introduction

1. Introduction and Background

Harold Wilhite and Arve Hansen

Centre for Development and the Environment, University of Oslo

This Oslo Academy of Global Governance working paper is the product of a workshop conducted at the University of Oslo on February 15 and 16, 2016, the purpose of which was to analyze and critique the outcome of the 21st annual Conference of Parties (COP 21), the theory of change behind it and the COP process in general. The Oslo Academy of Global Governance, hosted by the Centre for Environment and Development, is the University of Oslo's spearhead in developing knowledge for global governance in a rapidly changing world. Through encouraging research and knowledge dissemination it seeks to contribute to the academic as well as public debate on key global challenges. It aims to promote and facilitate innovative, empirically-based insights into global efforts on key topics including climate change, energy, poverty reduction, food production and global health.

The workshop on which this volume is based involved presentations by researchers working at the cutting edge of climate governance issues, as well as group and plenary discussions. The central question addressed was: what will be needed from both research and policy in order to govern a low carbon transformation? The workshop involved a discussion of the goals and strategies resulting from COP 21, but also a discussion of the efficacy and realism of top down governance alone to transform political economies and societal uses of energy and emissions of carbon. Other central questions addressed in the presentations and papers included in this volume are: Which forms for governance are needed to change societal practices in a low energy, low carbon direction and how can more robust change be governed at different geopolitical levels and in ways that account for differing geographical/developmental contexts?

The rationale for this workshop and this working paper is that there is no more urgent challenge on the global governance agenda than the societal transformation to low carbon. The global climate is being severely perturbed by the emissions of climate gases from human activities and the changes are happening more rapidly than even the most progressive climate models have predicted. There is an urgent need for action to reduce climate gas emissions and do it quickly. At COP21, 196 countries agreed to aim for limiting global warming at “well below” two degrees, with a specific reference to a 1.5

degree target. This international consensus on reducing climate emissions is positive and long overdue. However, there are many questions about the way forward to achieve emissions reductions. First, the pre-conference national pledges for climate action are predicated on a goal of 2 degree warming and while the agreement includes a commitment to update pledges and make them more progressive, the text is vague on the overall ambition and it does not specify a date for the peaking of emissions. Second, no concrete measures or specific deadlines have been agreed upon to meet the 1.5C aspiration. The agreement specifies only that reductions should lead towards “greenhouse gas emissions neutrality” in the “second half of the century”. This vague wording means that there is lots of latitude for weakening the agreement in the ratification processes by national governments, particularly the climate skeptical US Congress. Third, there is an underlying assumption that growth in CO2 emissions will ‘decouple’ from economic growth in the future and that a significant decline in emissions is possible in a global growth economy. The evidence for this claim is highly doubtful. Finally, it is less and less clear that even a rise of 1.5C will be sufficient to avoid catastrophic climate change. The 1C temperature rise over pre-industrial levels that we have seen so far has triggered a whole range of effects including the melting of Arctic ice and glaciers worldwide, significant sea-level rise, droughts, and flooding. These effects are likely to get much worse with even modest future increases.

The organization of the volume

The papers in this volume address these and other questions raised by this unprecedented urgency for rapid, globally coordinated action on reducing climate emissions. The first two papers offer systemic critiques of COP21, although in quite different ways. In the first paper, Arne Johan Vetlesen discusses the fundamental anthropocentric ontology of capitalism and considers how anthropocentrism, as a practice, has been acted upon to bring forth the Anthropocene. Vetlesen argues that if we continue along the path where only humans are accorded intrinsic worth, we are bound to destroy everything on which we depend to survive on earth. This perspective was obviously far from the negotiation table in Paris. The same can be said about the topic of the next paper which questions the feasibility of achieving low carbon within a growth paradigm. Harold Wilhite discusses how—despite all efforts made over the past 30 years—OECD countries have only been able to stabilize, not decrease, energy consumption. This relates to the growth imperative of capitalism and to the fact that energy and carbon saved through technological progress, for example through energy efficiency, is used to fuel continued economic growth and higher levels of consumption. Wilhite argues that since many ‘emerging economies’ are growing and significantly increasing their demand for energy, the task of deeply reducing

global carbon emissions will not be achievable as long as the paradigm of perpetual growth is not questioned.

The next two papers analyze the policies of climate change in some of the world's largest carbon emitters. Taoyuan Wei considers the evolution of Chinese climate politics and how climate change has emerged to be treated as a national priority in China. Wei shows how China's COP21 targets are quite conservative, particularly if considered in the larger picture of China's planned economic transition away from its role as the factory of the world and towards a service and consumption-driven economy. In the subsequent paper, Guri Bang argues that the fact that all major emitters were at the table in Paris should be considered a significant breakthrough relative to previous COP negotiations. Nonetheless, an important point in her analysis is that domestic energy reserves and domestic politics in the US, India and China are limiting these countries' commitments to engage in climate cuts, and reminds us that although the Agreement gives some reason for optimism, the performances of the big emitters so far do not.

Asbjørn Torvanger discusses the Achilles heel of the Paris agreement: countries' willingness and ability to implement and strengthen their climate policy. He argues that transparency will be central to further progress and develops a suggestion for a core reporting format for the Intended Nationally Determined Contributions (INDCs) aimed at increasing the probability that climate targets be implemented. In the following paper, Asuncion Lera St.Clair and Kjersti Aalbu adopt an optimistic perspective on the climate governance shifts embedded in the Agreement. They locate four transformative governance shifts; shifting of responsibility towards subnational and non-state actors; recognition of the importance of adaptation to climate change, placing it on par with mitigation; the explicit mention of the need to develop measures for transparency and accountability; and, special attention given to those most vulnerable to climate change. All of these, they argue, demand that climate governance be deeply integrated in broad policy arenas.

The next two papers return to an analysis of systemic flaws in the COP process. Eduardo Viola considers the Paris Agreement as a step forward in terms of normative goals but criticizes the aim to get every country on board as a prerequisite for implementation. He calls for a long-term coalition for deep de-carbonization among the large emitters, and discusses what it would take to get such a coalition in place. Astrid Stensrud discusses how the Agreement fails to tackle global inequalities, and argues that inequalities increase due to neoliberal politics of adaptation. Based on the case of the Peruvian Andes, she discusses the multiple challenges faced by people living in climate-sensitive areas, and how their situation is perpetuated by

neoliberal adaptation measures. Based on this discussion she argues that globally coordinated responses to the climate crisis must take alternative forms of environmental governance seriously, and furthermore must be embedded in systemic critique.

The last paper in this volume is the report of the rapporteur of the workshop, by Arve Hansen. He summarizes and discusses the different positions and arguments put forward in the collection of papers, and locates topics of agreement and disagreement.

Part II: Systemic Critique Conspicuously Absent From the Negotiating Table

2. From anthropocentrism to the Anthropocene

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In his book *Panpsychism in the West*, David Skrbina writes:

“The mechanistic worldview is deeply embedded in our collective psyche. For several hundred years the dominant orthodoxy has implicitly assumed that inanimate things are fundamentally devoid of mental qualities. This view has become integrated into our science, our literature, and our arts. Ultimately it has incorporated itself into our deepest social values, and thus become reflected in our collective actions. We treat nature as an impersonal thing or collection of things, without spontaneity, without intrinsic value, without “rights” of any kind. Natural resources, plant and animal species have been exploited for maximal short-term human benefit. Such mindless entities are seen as deserving of no particular respect or moral consideration. They exist to be collected, manipulated, dissected, and remade.” (Skrbina 2005: 265)

In quoting Skrbina’s portrait of the mechanistic world view, I am well aware that its presuppositions – say, in the form of the mind/matter dualism of Descartes – have been subject to massive criticism ever since its inception in the sixteenth century. Nonetheless, my claim here is that despite attempts within both philosophy and the natural sciences to show the notion of nature as “an impersonal thing or collection of things” as simply untrue to the facts, as a society we continue to this very day to exploit natural resources, plants, and animal species without rights of any kind. By restricting the capacities for mind and soul, intelligence and reason, spontaneity and purpose to human beings, the mechanistic world view has corroborated anthropocentrism – literally, human-centeredness – in all key domains in modern Western society. Anthropocentrism is not merely descriptive; it is normative in postulating that human beings are superior to all other beings, species, and forms of life on Earth, thus meriting higher status – higher moral standing – than everything non-human. A particularly influential version of the argument for human exclusivism and supremacy is propagated in the philosophy of Immanuel Kant, where human beings are

considered the only beings (entities) possessing intrinsic worth (“Würde”) and so entitled to being treated never merely as means but always also as ends-in-themselves, that is, as inviolable.

In what follows I will not dwell upon anthropocentrism taken as a philosophical notion. Rather, I shall be concerned with anthropocentrism as a *practice*, meaning as acted upon individually and collectively. The practices to which anthropocentrism gives rise, and which it helps legitimate, span the entire range and variety of institutions characteristic of modern society – initially, Western society, today increasingly global society. Whether you focus on the institutions of economy, of politics, of education, of health, or of law, they will all be either exclusively or primarily preoccupied with *human* agents and addressees, with what is considered, and legally upheld as, the interests and needs of humans. That this is so, and that it is rightly so, is deeply entrenched in our culture, in our mentality and in the ways in which children are socialized; being a member of this society means that in the course of childhood the anthropocentric point of view, or world-view if you like, is internalized so as to be second nature: always and everywhere presupposed, taken for granted and acted upon and never seriously questioned. Anthropocentrism is one of the most deep-seated and pervasive features of modern culture and of ourselves as both products and reproducers of that culture.

I now turn to the notion of the *Anthropocene*. The term was coined as recently as 2002 by the Dutch chemist Paul Crutzen. In a short essay, “Geology of Mankind”, published in *Nature*, Crutzen wrote: “It seems appropriate to assign the term “Anthropocene” to the present, in many ways human-dominated, geological epoch.” According to Crutzen, planet Earth is leaving the geological epoch called the Holocene due to the fact that the influence of humanity upon the global environment now outweighs the impact of the most powerful natural forces on the functioning of the Earth system. Among the many geologic-scale changes we humans have effected, Crutzen cites the following:

- Human activity has transformed between a third and a half of the land surface of the planet.
- Most of the world’s major rivers have been dammed or diverted.
- Fertilizer plants produce more nitrogen than is fixed naturally by all terrestrial ecosystems.
- Fisheries remove more than a third of the primary production of the ocean’s coastal waters.
- Humans use more than half of the world’s readily accessible fresh water runoff. (See Crutzen 2002: 23; Kolbert 2014: 108).

Since Crutzen's list was drawn up in 2002, let me add the following two recent findings:

- Earth Overshoot Day 2014: 19 august. In less than eight months, humanity exhausts Earth's budget for the year. Every eight months we demand more renewable resources than the planet can provide for an entire year. In short, we over-utilize and over-exploit nature's riches – resources, stocks - to such an extent that they are increasingly unable to reproduce and replenish. Human-caused overshoot produces degradation, depletion and extinction.
- As documented by WWF in September 2014, the number of wild animals on Earth has halved in the last forty years. Creatures across land, rivers, and the seas are being decimated as humans kill them for food in unsustainable numbers, while polluting or destroying their habitats (see Vetlesen 2015: 18).

It seems fitting that scholars from the natural sciences are at the forefront of these developments, being the first scientists to observe the shift from the Holocene to the Anthropocene in its empirical reality, and therefore better placed than other scientists to predict that as a consequence of anthropogenic factors – such as the emission of carbon dioxide owing to fossil fuel combustion and deforestation – the global climate will “depart significantly from natural behavior for many millennia to come”, to quote Crutzen's essay (2002: 23).

However, part of my argument here is that not only my own discipline, philosophy, but the social sciences in general, and sociology in particular, are ill-equipped to supplement the restricted perspective of the natural scientists when it comes to help us as a society to grasp the kinds of problems that the advent of the Anthropocene will pose for us – economically, culturally, politically, legally, and psychologically.

Why is it that the social sciences prove themselves largely ill-prepared to help us understand the consequences of the Anthropocene? It is because, to quote Ted Benton, sociologists are “naturephobes”. First, that they are so is in keeping with a deeply entrenched categorical dualism between “society” (or “culture”) on the one hand and “nature” on the other, where each category is considered as internally homogeneous and incommensurable with the other. Second, and as I pointed out above with regard to philosophy, this dualism is no mere conceptual or descriptive matter; it is deeply normative in that it sustains “an implicit or explicit valorization of the human/cultural over the natural” (Benton 2005: 134). Third, the social sciences have tended toward an ambiguous and ambivalent attitude to the natural sciences, veering from the envious and deferential to the subversive and debunking. Fourth, the distinction between nature and discourses about

it has all but evaporated. Following the “linguistic turn” and the predominance of constructionist theories it is no longer not only not fashionable but downright impossible to talk of nature. To qualify as academic, all such talk will have to be about “nature” – always in scare quotes so as to ensure that “nature” is always already mediated, meaning a product of sociocultural practices of representation and interpretation. In other words, we never encounter nature understood as an entity, that is, what it is prior to and independently of the ways in which we, as hermeneutical subjects, encounter it as a hermeneutical object. Instead we symbolically address “nature” as partaking – as do we as subjects, and “nature” as object - in so many discourses of “nature”.

The need to delineate and identify the social/cultural as a distinct and as it were irreducible object-domain is not as such problematic. It becomes problematic, however, to the extent that one holds it possible – indeed, perfectly sensible – to theorize what goes on within the social/cultural domain without taking nature – or “nature” – into account, while at the same time holding that all talk about “nature” must take the role played by social and cultural processes in constituting that very entity into account, lest it be hermeneutically naïve. This asymmetry, according to which impact is a one-way-affair – that of the social/cultural on nature, never the other way around – is sustained by the normative primacy of the one object-domain over the other: Culture connotes subject, activity, signification, meaning, identity, and purpose, whereas nature connotes object, passivity, body, instinct, animal, and law like. Benton observes that this dualism, in the form of opposition, “renders literally unthinkable the complex processes of interaction, interpenetration and mutual constitution which link together the items which are misleadingly dissociated from one another and allocated abstractly to one side or the other of the Nature/Culture great divide” (Benton 2005: 137). He points in particular to those approaches which, under the influence of the linguistic and cultural turns, makes for a constructionism that renders unthinkable the very independent *existence* of non-human beings and their causal powers.

I agree with Benton that any adequate conceptualization of ecological and environmental problems presupposes a minimally realist epistemology and ontology, acknowledging the causal powers possessed and exercised by non-human beings independently of their discursive recognition by human agents. Indeed, “if nature were a discursive, or cultural construct, ecological problems would be an ontological impossibility” (Benton 2005: 146).

In light of the shift from the Holocene to the Anthropocene, it is tempting to say that the issue is not – or no longer – whether or not human agents are prepared to recognize the independent existence of non-humans and the causal powers they exercise. The very *independency* of non-human life

forms, indeed of inanimate as well as organic nature, is at issue with the entry into the Anthropocene. Nature, that is, taken in the wide sense just given, may well possess causal powers all its own and as such distinctly different from the causal powers exercised by humans and in all sorts of human-initiated activities on the Earth. The novelty brought about by (in) the Anthropocene, however, is that we can no longer talk – and act – *as though* those non-human causal powers, mechanisms, and materials are autonomous and so unsusceptible to human activities, since now the latter – the anthropogenic factor – has expanded to such a degree as to impact – modify, alter – the very workings of the former.

To be fair to modern sociology, one could say that in his famous foreword to his instant classic *Risk Society*, authored in the immediate aftermath of the Tchernobyl nuclear plant accident in April 1986, Ulrich Beck noted that nature has changed from being external to being internal to society; from something given and pre-existing to something made, brought forward, and modified by society. The opposition between nature and society, says Beck, is a product of the nineteenth century, suited to the twin purposes of dominating *and* ignoring nature. Owing to the suppression and exploitation of nature by society that took place in the twentieth century, nature passed from being an external to becoming an internal phenomenon. The flip side of the “societization of nature” (“vergesellschafteten Natur”), Beck points out, is the societization of the devastation of nature (“Vergesellschaftung der Naturzerstörungen”) (Beck 1986: 10). As exemplified by the Tchernobyl accident, human-caused spoiling of nature immediately translates into so many social, political, and economic – that is to say, internal as opposed to external – systemic threats, or system-immanent issues, in present-day society.

Beck’s analysis thirty years ago is path-breaking in stressing the ways in which nature and society are now inextricably intertwined: the aforementioned opposition has been replaced by a “Mischverhältnis von Natur und Gesellschaft”, that is, a mixture so that never will we encounter a nature not impacted by – intertwined with – society, and vice versa.

For all the ingenuity of Beck’s insight into what he took to be a historically unprecedented dialectical, meaning truly reciprocal relationship between nature and society, we need to ask whether Beck really helps us recognize the true novelty entailed in the Anthropocene, namely the fact that mankind has become the single most powerful factor on Earth, impacting on all parts of the Earth and on the very workings of the Earth understood as a tremendously complex, rich, and multi-layered life-producing system. The *critical* point about the dynamics – such as positive, self-reinforcing feedbacks – set loose by the Anthropocene is that instead of the two-way dialectic Beck sought to conceptualize, a genuinely novel kind of *imbalance*

is taking place, facilitated by mankind's collective over-efficiency in exploiting everything non-human on Earth, causing systemic overshoot at a pace and to an extent that threatens not just the future of non-human life forms on Earth, but that of mankind as well. This being so, the stakes seem to be considerably higher, the threats both more imminent and far-reaching, than even a perceptive sociologist as Beck was able to foresee thirty years ago.

I began by claiming that the practices of nature-exploitation characteristic of anthropocentrism have throughout history (particularly Western history, increasingly global) been rationalized and justified by the human-centered positions upheld in Western thinking in general, positing humans as the only species possessing intrinsic worth and so inhabiting – both as agents and as addressees – a moral universe in which rights and duties are observed. By contrast, all other species – indeed, what is crudely referred to as “nature” as opposed to humans and the societies and cultures they alone facilitate and help sustain – possess only instrumental value, to be treated as so many means – resources – to satisfy human needs. My further claim is that *as acted-upon* over the centuries and on an increasingly global scale, anthropocentrism has paved the way for the recent entry into the Anthropocene, with the threat of nature-destruction and human-induced self-destruction that we now recognize as a distinct feature of that new geological epoch.

This critique of anthropocentrism is not primarily moral; more fundamentally, it is ontological. The main problem is to do with selectivity, with one-sidedness in outlook and the blind spots thereby entailed. The anthropocentric understanding of life on Earth and of what helps sustain it is simply not up to the facts as we now know them. Humans are not separate from, let alone standing above, as superior to, the rest of nature; instead humans depend on non-human nature to such an extent that degrading that nature will prove utterly self-defeating and ultimately self-destructive.

The entire tradition of “critical theory of society” Western style has taken its bearings from the Marx's view that exploitation, alienation and injustice as produced within societies with a capitalist economy and an anthropocentric metaphysics and ethics are to be criticized to the extent that, and only to the extent that, such human-induced phenomena have humans, and only humans, as the affected party. Marx considered the contradiction between capital and labor as primary as far as crises, pathologies, and injustices were concerned; the contradiction between capital and nature, if mentioned at all, is considered secondary. Capital exploits labor so that labor may exploit nature to the benefit – profit – of capital. What Marx failed to see, and what present-day Marxists such as David Harvey (2014) fail to fully accommodate into their analysis of capitalism, is that as of today,

capitalism's worldwide exploitation of nature has become so wholesale as to destroy that which is being exploited at its core, in its capacity to replenish and reproduce itself. What is hailed as "production" in fact amounts to deletion; the source of scarcity has shifted from human capital to natural capital (see Daly 2007). To my mind, no one has caught this self-destructive dynamic better than the late Australian philosopher Teresa Brennan:

"As the biosphere and species are destroyed, and human quality of life is degraded, the owl of Minerva points to the natural laws governing and regulating the survival of what has been or is being destroyed. *One learns what a necessary condition of life was as that condition ceases to exist.* This diabolic experiment with the Earth and its creatures reveals how individual human organisms depend like other organic life on the diversity of the whole biosphere."
(Brennan 2004: 161; my italics)

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3. Addressing a delusion underlying global climate negotiations: deep reductions in carbon emissions can be achieved in political economies governed by the common sense of capitalism

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Introduction

While the focus in international discussion such as those represented by the COP process has been on quotas, targets and market instruments, the central problem in making a low carbon transformation stems from the high energy, high consumption demands made by capitalist political economies which survive and thrive on material growth and accumulation. It is a delusion to believe that we can engender a low carbon transformation while pursuing the imperatives of capitalist political economy. Economic growth will have to be put aside as an economic and societal goal in the rich countries of the world if high per capita carbon footprints are to be reduced, while allowing lower and moderate income countries to grow their economies in order to reduce poverty and to provide basic welfare. The paper will lay out an argument that new approaches to economy and prosperity are needed at every level from global to national to local if deep reductions in carbon emissions are to be achieved.

Over the 30 years that governments have been negotiating a climate emissions agreement, economies have continued to do what they have been intended from the mid-20th century: grow. Growth in the economy has been a paramount objective of post-WWII national governments, accompanied by growth in material consumption, energy used and carbon emitted. Efforts to reduce the energy needed to fuel growth have relied on increased market and technical efficiency to compensate for expanding production and consumption. The record shows that while energy use has flattened out in the rich countries of the world, 30 years of efforts to reduce energy use have not resulted in noteworthy declines in either energy used or CO₂ emitted. Globally, CO₂ emissions have increased by 70% since 1990. In the country with the purest form for unregulated capitalism, USA, there has been a slight decline in total emissions from an extremely high starting point in 1990 compared to the rest of the world. Still, per capita CO₂ emissions in the USA continue to be the highest in the world (3 times the per capita French emission level, and 10 times that of India). Further, this slight decline does not account for the outsourcing of emissions to other parts of the world through global imports. Sixty percent of all goods consumed in

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the USA are now produced elsewhere (CSE 2005). In the European Union, energy use has declined by 20% since 1990 and overall climate emissions have declined by 23 percent. However, much of this decline is due to contracting economies and deep reductions in energy use in the former Eastern European countries after the fall of the Soviet Union in 1989, as well as low economic growth in the European Union overall after 2005 due to the economic recession. In addition, Europe has exported CO2 emission generation to other parts of the world. Seventy percent of the goods consumed in Europe are now produced outside Europe, mainly in Asia. According to a recent calculation by Chancel and Piketty (2016), if the emissions associated with products produced abroad are accounted for, Europe's CO2 emissions are close to those of the USA and China.

Capitalism's dependence on carbon

The capitalist system thrives on carbon. The authors of several recent books argue that capitalism in its current form would never have come about without fossil fuels. Concerning coal, as Naomi Klein (2014:175) puts it, 'coal was the black ink in which the story of modern capitalism was written'. At the beginning of the 21st century, coal reserves remain plentiful, their extraction and conversion cheap and their environmental consequences extensive, not only in the form of climate perturbation but also in the form of local pollution from the emissions of sulfur, nitrogen and particulates. Coal lobbies such as those led by the billionaire Koch brothers in the USA have dedicated huge sums of money to both research and political lobbying that denies climate change and upholds coal subsidies. Huber (2013) writes that oil is the 'lifeblood' of capitalist economy and society. He makes the case that the USA is addicted to oil, and 'that the problem of oil addiction is about not only our material relation with energy resources but also how energized practices spawn particular forms of thinking and feeling about politics' (2013:xi). Much of the recent denial-related funding in the USA is linked to an interest in expanding oil and gas exploration, including the extraction of oil from shale oil and fracking, responsible for a recent renaissance in oil extraction and production. In addition to the release of carbon emissions, these processes have severe local environmental consequences, including the pollution of water sources from the chemicals used to extract the oil and the risk of earthquakes (Mitchell 2011). Even the latest and most ambitious plan for reducing carbon emissions in the USA assumes that 70% of energy production in 2030 will be based on fossil fuels (CSE 2015). Anthropologist Leslie White's insights on the relationship between energy and capitalism are still relevant today. He wrote that 'modern capitalist (20th century) society was a fuel society to its core; its achievements were fundamentally predicated on fuel consumption such that

rampant consumption had become archetypal throughout its culture' (cited in Boyer 2014:311).

Norway's version of capitalism is sometimes characterized as 'soft' capitalism because of the greater role of government in market regulation and in the provision of human services such as health and education. Still, economic growth remains rock solid as a political objective and both energy consumption and carbon emissions have grown since 1990. Norway is one of the clearest examples of a 'fossil fuel society'. The post-COP21 oil policies and commentaries from political leaders confirm that the specter of climate change has not made a dent in the drive to continue oil exploration and expand production. In early January, less than two months after COP21, the Norwegian government issued 56 new licenses to allow 36 companies to engage in oil exploration near the Lofoten islands, which are home to some of the world's richest cod stocks, as well as in the ecologically sensitive North and Barents seas. At a recent meeting on Norway's oil future in Tromsø, Erna Solberg said Norway had no option but to exploit its oil. "Norway's oceans cover a vast area. The seabed contains large resources of oil and gas. Our oceans provide vast opportunities for harvesting their bounty. Therefore, it is vital that we make every effort to ensure that the oceans are clean and productive (Euractive 2015)". The irony – and tragedy - in this statement from a global climate change perspective should be obvious.

Both India and China's energy futures will draw heavily on coal-based electricity generation. In 2012 China's coal based energy production was 4 times that of the USA and 8 times that of Europe; with 20 percent of the world's population, China has a coal-based energy production equivalent to the rest of the world. Despite predictions of a short term decline, coal production is expected to increase by 50 percent by 2040, despite China's plans to develop and use renewable energy such as solar and wind (Chen and Stanway 2016). The Chinese renewable strategy is ambitious, but predictions by the International Energy Agency are that price disadvantages vis-à-vis coal and other technical issues such as storage and problems with production at scale will slow the transition to renewables. I argue that the climate cannot wait for a change in the production mix to take care of CO₂ reductions. Deep reductions in CO₂ within this century will only be possible if the global economy is contracted and there is an absolute reduction in the amount of energy produced and consumed in the rich countries of the world.

Confronting capitalism

Mainstream green economic models count on the decoupling of economic growth from fossil fuels through a two pronged strategy of substitution of

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fossil fuels with renewable energies and increased technical efficiency. As argued, the renewable strategy is important, but it will take time before it has a significant impact on carbon reductions. In short, the green efficiency strategy, grounded in a strongly influential ecological modernization discourse, has not delivered promised reductions in energy use (McNeill and Wilhite 2015). The green economy models that underlie and inform discussions such as those at COP negotiations ignore the energy-demanding imperatives of capitalist economics, including expansion, marketization of nature, increasing consumption and short product life cycles. In a book forthcoming in April I argue that a low carbon transformation will only be possible if there is a confrontation and break with the principles of capitalist expansion in national political economies, a huge enough task in itself, but that even that will not be enough (Wilhite, in press). In the rich countries of the world, middle classes and elites have come to associate prosperity and well-being with big and individually owned living spaces, individualized transport systems, refrigeration-dependent food practices and many more high carbon habits. The achievement of low energy and climate friendly societies will demand breaking and reforming the collectively reinforced and individually enacted habits of capitalism. The capitalist pillars of growth, individualist consumption and product turnover will have to be replaced with the principles of de-growth, collective consumption, sharing and reusing. A low carbon political economy would emphasize changing the nature and volume of work; massive investments in collective and other non-mechanized forms for transport; reducing the sizes of homes (or increasing the sharing of living spaces); and reducing land hungry and refrigeration-dependent meat consumption and more.

These changes are formidable given what long-term critic of capitalism David Harvey refers to as the ‘common sense of capitalism. Harvey’s assessment is that twentieth century capitalism has had ‘pervasive effects on ways of thought to the point where it has become incorporated into the common-sense way many of us interpret, live in, and understand the world...If successful, this conceptual apparatus becomes so embedded in common sense as to be taken for granted and not open to question’ (2005:3). To reiterate the point of my upcoming book on low carbon transformation, capitalism’s ‘common sense’ of growth, speed, convenience and comfort is driving the formation of habits that make a heavy demand on energy and materials to heat and/or cool for bigger houses, power household appliances and provide motive power for bigger and faster cars. This ‘common sense’ persists in spite of a growing body of evidence that after a certain point of economic development, increased wealth has little impact on people’s feelings of wellbeing (Guillen-Royo and Wilhite 2014). Still, these associations not only permeate the practices of everyday life, but thinking at virtually every level of governance, from international to national to local.

They are bolstered by powerful commercial and political interests. They lay untouched as bedrock assumptions at negotiating tables such as that of COP21.

The only large scale political effort to challenge the tenets of capitalist economics that I am aware of is Europe's effort to operationalize a circular economy. Still, if one looks closely at the descriptions and promotions of circular economy, economic growth is held out to be one of its aims, thus weakening the potential environmental and CO2 reduction effects (European Union 2015). At the community level, there are many examples of community challenges to capitalist political economy; examples are the transition and ecovillage movements, both of which are extensive and growing rapidly. These experiments in a-capitalist political economy may well be the first steps along a path to a new political economy at scale that puts the ecology, human wellbeing and social welfare first; still, these erosions of capitalism from the bottom up are tentative, small and still regarded as 'alternative'. It remains to be seen whether these challenges to capitalism's 'common sense' will grow and spread to the point that they have a serious impact on national debates about economy and carbon.

Unrealistic? Which reality should take precedence?

Arguments for deep changes in the conduct of our social and economic lives are usually met with accusations that they suffer from a lack of realism. There is an unwillingness to risk threatening socio-economic systems that deliver jobs, welfare, and prosperity for some of us. These are relevant concerns, but in the case of climate change they deny or avoid the stark ecological reality, that not only threatens the continuation of economy and prosperity as we know it, but also threatens to alter the global ecology in irreversible and potentially destructive ways. This rhetorical barrier to new governance frameworks and actions is no longer tenable. Which reality should take precedence, a troubled economic system making social and economic promises it is not capable of delivering, or an ecosystem in danger of entering a phase of catastrophic consequences for life on this planet, both human and non-human? This question and its implications for a low carbon agenda are light years away from the COP negotiating table but nonetheless crucial for the success of a low carbon transformation.

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Part III: The Biggest Emitters

4. Evolution of China's actions on climate change

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Introduction

China is now the world's largest emitter of greenhouse gases (GHGs). According to the latest Global Carbon Budget data (Le Quéré et al. 2015), China generates 27% of global carbon dioxide (CO₂) emissions from fossil fuels and industry and its per-capital CO₂ emission is already higher than that of the European Union in 2014. It seems that China has not implemented sufficient actions on mitigation of emissions. However, reviewing the actions on climate change in China since 2007, when China announced its National Climate Change Program, I find that the actions and targets until 2020 pledged by the Chinese government to the international society are probably conservative. For example, the *carbon intensity* represented by CO₂ emissions per unit of GDP is likely to be 49% in 2020 lower than the 2005 level, making its announced target of 40-45% unbinding. The 2020 target on forest stock volume has already been fulfilled in 2014.

Evolution of climate governance

Three stages

The climate policy in China roughly can be divided into three stages since the late 1980s (Stensdal 2014). In the first stage until 1997, the national priority was economic development. Climate change was considered one of the environmental issues that had to yield to economic development. At this stage, China took climate change as a global issue needing further scientific research. In the second stage 1998-2006, climate change gradually emerged in national policy documents and became a development issue on the leadership's agenda, focusing on research on severe impacts of climate change (Hallding et al. 2009; Liu 2011). Since 2007, climate policy has entered its third stage as a national priority indicated by the announcement of its National Climate Change Program. In the 15th Conference of the Parties (COP15) in Copenhagen 2009, China pledged its autonomous domestic mitigation actions until 2020 to the United Nations Framework Convention on Climate Change (UNFCCC 2010). In 2015, China also

pledged its intended nationally determined contribution (INDC) before COP21 in Paris.

Institutional evolution

As the political system is top-down in China, the importance of climate change was indicated by the institutional evolution in charge of the issue. In 1987, the State Science and Technology Commission founded the Chinese National Climate Committee, coordinating research on climate change. In 1990, the National Climate Change Coordination Group (NCCCCG) was established by the Environmental Protection Committee in the State Council (国务院环境保护委员会)¹. The NCCCCG secretariat was in the China Meteorological Administration (CMA) and moved to the National Development and Reform Commission (NDRC) in 2003. Meanwhile, the NCCCCG broadened its members to include more than ten ministries. This indicates that climate change has shifted from a scientific issue to a development issue (Liu 2011). In 2007, the year China became the biggest GHG emitter in the world, the NCCCCG was renamed the National Leading Working Group on Addressing Climate Change (NLWGACC) with Premier Wen Jiabao as its head and the NDRC Climate Change Department as its secretariat (Liu 2011). This indicates that climate change became a national priority. At the same time, most provincial governments gradually established similar climate change groups to develop provincial policies on climate change.

Key documents and actions since 2007

In 2007, China issued its National Climate Change Program document. Since then, China has reviewed its climate policy and actions in special reports released annually by NDRC. These review reports described and assessed increasingly detailed mitigation actions and outcomes although little information was provided on data sources and assessment methodologies.

To fulfill its pledges to UNFCCC in the Copenhagen Accord, China has issued several documents to adjust industrial structure, promote energy savings, reduce emissions, and low carbon development:

1. The Work Plan for Controlling GHG Emissions during the 12th Five-Year Plan (FYP12) Period
2. The Comprehensive Work Plan for Energy Conservation and Emission Reduction for the FYP12 Period
3. The FYP12 for Energy Conservation and Emission Reduction

¹ <http://baike.baidu.com/view/3108896.htm>

4. The 2014-2015 Action Plan for Energy Conservation, Emission Reduction and Low-Carbon Development
5. The National Plan on Climate Change (2014-2020)

In 2008, China set up its first carbon exchange in Tianjin and more such exchanges appeared in the ensuing years. Based on carbon emission trading pilots in seven provinces and cities, a national carbon trade market is promised to operate in 2017 and will become the largest one in the world². China has also implemented low-carbon development pilots in 42 provinces and cities to explore a new model of low-carbon development consistent with its prevailing national circumstances. China also has policies to improve adaptation capacity to reduce negative impacts of climate change.

International pledges

In the COP15 in Copenhagen 2009, China pledged to UNFCCC its autonomous domestic mitigation actions until 2020 (UNFCCC 2010). In 2015, China announced its INDC with targets in 2030 (UNFCCC 2015). Table 1 shows both pledges together with its achievement in 2014.

In 2014, one of the 2020 targets for forest stock volume has already been fulfilled. The 2030 target for forest stock seems unchallenging. However, the 2020 target on forest coverage seems harder to be fulfilled, as its annual increase from 2014 to 2020 must be greater than that from 2005 to 2014. Below we focus on the other two targets on carbon intensity and non-fossil fuel share in total primary energy consumption.

Table 1. International pledges announced by China

Compared to 2005:	Achieved 2014	2020	2030
Lower carbon intensity (%)	33.8	40-45	60-65
Increase non-fossil share (%)	11.2	15	20
Increase forest coverage (million ha)	21.6	40	--
Increase forest stock volume (million m ³)	2.188	1.3	4.5
Peak CO ₂	--	--	Yes, try early

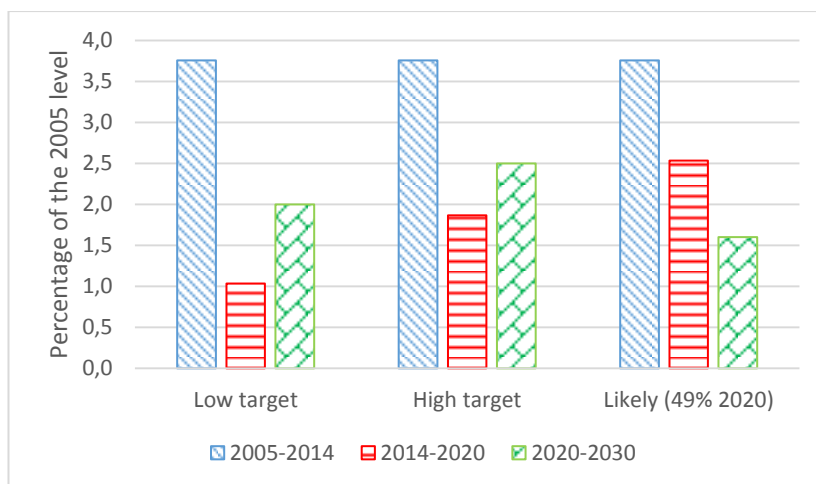
Sources: UNFCCC (2010); (2015).

² <http://www.jiemian.com/article/391480.html>

Carbon intensity

If we use GDP indices officially released by National Bureau of Statistics of China (NBSC) and CO₂ emissions from fossil fuels and cement (Global Carbon Budget 2015), then the carbon intensity in 2014 only reduced by 28% compared to the 2005 level, instead of 33.8% announced in the INDC of China (UNFCCC 2015). Hence, data sources for calculation is essential to assess whether the targets are fulfilled. If 33.8% is used, then China will reduce 49% compared to 2005, making its 2020 pledge (40-45%) unbinding as predicted by Zhenhua Xie, Special Representative for Climate Change of China in a workshop³. As shown in Fig. 1, if China insists on the 2020 targets pledged to UNFCCC, only modest efforts are necessary before 2020 and much harder effort after 2020 to fulfill its 2030 target. Indeed, the 2020 target on carbon intensity would not be binding even in a baseline scenario without climate policy, as shown by some studies (e.g. Glomsrød et al. 2013; Liu and Wei 2016a).

Fig. 1. Yearly reduction in carbon intensity



Sources: UNFCCC (2010); (2015).

Note: the data 2014-2020 and 2020-2030 are calculated to fulfill China's 2020 and 2030 targets on carbon intensity, respectively.

Non-fossil fuel share

In 2015, the official data on energy consumption in China have been revised for the past decade⁴ according to the released third Economic Census data in China 2014. Consequently, coal consumption and the non-fossil fuel share in total energy consumption become higher than officially announced in previous years. The data revision also implies fewer efforts required to fulfill the target on non-fossil fuel share in 2020. The targets on non-fossil share in total energy consumption are 15% and 20% in 2020 and 2030,

³ http://www.lcsysu.com/news_show.php?id=229

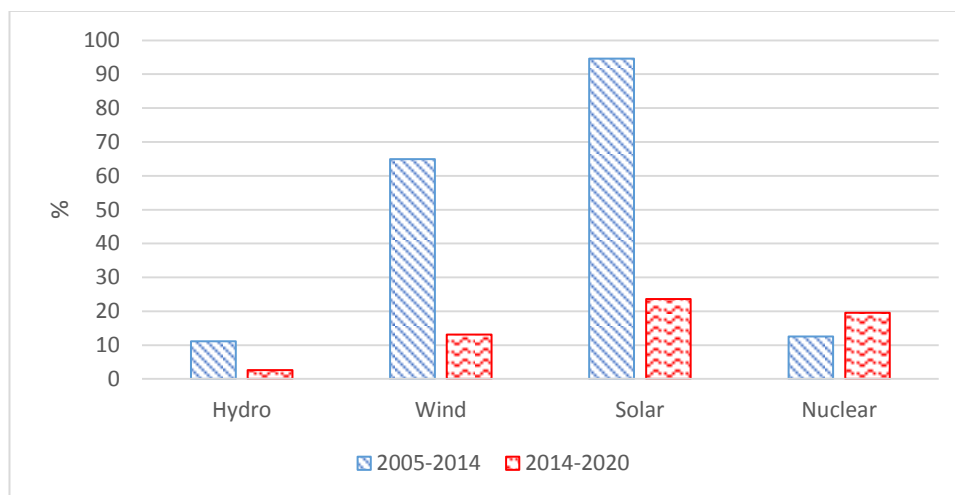
⁴ <http://data.stats.gov.cn/easyquery.htm?cn=C01>

respectively. To fulfil the 2020 target, the non-fossil share should increase annually by 5% (or 6.3% before the data revision).

Domestically, the National Plan on Climate Change (2014-2020) announced to control, by 2020, the energy consumption of around 4.8 billion tons of coal equivalent (tce), of which, gas accounts for more than 10%. According to the Action Plan of Energy Development Strategy 2014-2020 (能源发展战略行动计划2014-2020年), coal consumption in 2020 should be 4.2 billion tons or 62% of total primary energy consumption. This leaves room for oil accounting for 13% of total energy consumption. If so, the coal consumption would increase annually by only 1.0% (2.7% before the data revision) and the non-fossil fuel should increase annually by 7.1% (or 10.1% before the data revision) from 2014 to 2020. Hence, the data revision makes it easier to fulfill the climate and energy targets in China if coal consumption can be controlled at the same level as announced before. This is likely since China has to reduce air pollution. Particularly, the increasing occurrence of smog weather is believed highly related to coal consumption besides transportation and agricultural production.

In 2014, China is the largest country in terms of investment on renewable energy, accumulated capacity and production of renewable energy, and capacity of hydro- and PV solar- power (REN21 2015). In China, non-fossil fuels are dominated by hydropower in the past decades. In the future, more capacity will come from other non-fossil fuels including mainly wind, solar, and nuclear power (Fig. 2). In the near future, China has to implement both market- and non-market-based policy measures to promote renewable energy development as in the past decade (Liu and Wei 2016b).

Fig. 2 Annual growth of non-fossil power capacity



Sources: UNFCCC (2010); (2015).

Note: the data 2014-2020 are calculated to fulfil China's 2020 targets on non-fossil power capacity.

Concluding remark

This article briefly reviews the actions on climate change in China in the past decade. China has gradually enhanced its governance on climate change since the late 1980s, particularly during the last decade.

Consequently, China has already fulfilled its 2020 target on forest stock volume in 2014 and will reduce its carbon intensity by 49% in 2020 compared to the 2005 level, exceeding its target of 40-45% announced in 2009. This would make it easier to fulfil its 2030 target on carbon intensity. The efforts required to fulfil its non-fossil fuel share target are modest compared to the past decade and probably the target will be surpassed in 2020.

The data revision in 2015 due to the third Economic Census in China 2014 has resulted in higher coal consumption and non-fossil fuel shares in total energy consumption than officially announced earlier. This implies that China has more GHG emissions from coal consumption in recent years and could continue at the high level in the near future. The higher non-fossil fuel shares in previous years also imply that China would fulfil its international announced targets on the share by taking fewer efforts in the following years until 2020.

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5. The challenge of translating the Paris Agreement into effective domestic climate policy⁵

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The Paris Agreement was adopted in December 2015 and celebrated as a breakthrough in global climate governance, not least because it includes pledges from *all* major emitters to address climate change. With broad participation, the rigid differentiation in responsibilities between developed and developing countries established in the Kyoto Protocol was left behind. The Paris Agreement is, however, based on a ‘pledge and review’ approach that requires country-driven climate action. Hence, the big job now awaits, namely for countries to implement policies that will stimulate energy system transitions at the domestic level around the world.

Many regard the Paris Agreement as a window of opportunity to start the transition towards low carbon economies across the world. For all purposes, the effectiveness of the agreement must be measured by its ability to spur concrete policy change ‘on the ground’ in countries, regions, cities and companies. Often-used cost-benefit analysis presumes that policies will be implemented if aggregate benefits exceed costs. However, research shows that policy enactment depends not necessarily on its aggregate benefits and costs, but also on how these benefits and costs are distributed across different sectors and industries (Skodvin et al. 2010). This is a critical insight in understanding why effective policies for climate change mitigation are challenging to implement. This paper addresses such political feasibility challenges, and uses examples from the United States, China and India to illustrate conflicting political interests that are likely to play out in domestic climate policy processes.

Over the past two decades, GHG emissions for the world at large have increased in step with population growth, more affluence, and technology development. This trajectory fails, by a wide margin, to achieve the UNFCCC objective of ‘preventing dangerous anthropogenic interference with the climate system’ (Article 2). Given the political imperative to improve living conditions for hundreds of millions of poor people, meeting the UNFCCC objective will require a decoupling of population growth and rising income levels from increasing GHG emissions. Decoupling is most likely to be achieved through some combination of technological

⁵ This workshop paper relies heavily on the book “The Domestic Politics of Global Climate Change” by Guri Bang, Arild Underdal and Steinar Andresen

development, government policies and voluntary measures taken by non-governmental actors (including civil society as well as industry and business).

Some factors commonly influence climate policy trajectories (Bang, Underdal and Andresen 2015). First, highlighting domestic energy resource endowments and large-scale material infrastructure lock-in can serve as a useful tool for identifying important determinants of mitigation costs. Second, the concept of veto players in political institutions is useful in identifying actors capable of blocking certain policy options in a given context. Third, active supply of new governmental initiatives will increase the likelihood of climate policy change. The policies pursued by government will depend on the preferences and beliefs of governmental actors, the distribution of authority and power among these actors, and the extent to which government controls the activities to be regulated (Bang, Underdal and Andresen 2015). In general, if multiple governmental actors have jurisdiction over a certain policy domain or are otherwise empowered, the process will be more complicated than if only a small number of actors have power to propose new policies. Clear differences can be found between democracies and non-democracies in this respect, with clearer specification and differentiation of powers in democracies than in autocracies (Bang, Underdal and Andresen 2015). Moreover, developing country governments tend to see economic growth as a political imperative, leaving the responsibility for climate change mitigation largely with the rich North. Finally, the strength and form of societal demand will influence the ambitiousness and likelihood of climate policy change (Bang, Underdal and Andresen 2015). In democracies, societal demand is likely to be more clearly articulated by a wider range of actors than in authoritarian systems. However, even autocrats and ruling party elites would be concerned about public dissatisfaction that could threaten their power base. Moreover, policy change will be more likely and significant in countries where advocacy coalitions can outweigh or escape veto players (Bang, Underdal and Andresen 2015).

Recent developments in China's climate and energy policies exemplify some of the challenges. China is the world's largest CO₂ emitter, because of unparalleled economic development since the 1980s. Recently, mitigation- and energy policies are becoming more ambitious. The main low-carbon measures consist of reshuffling the economy (larger service sector) and energy mix (less coal, more natural gas), as well as improving China's carbon intensity (Stensdal 2015). The mitigation policies are mainly top-down driven: the central government supplies local governments with measures that they are required to execute. Below the central government level, ministries and local governments advocate for their own interests, at

the same time as being required to emphasize energy saving and emissions reduction that are national priorities. Researchers at select institutions and ENGOs display supportive demand for mitigation policies (Stensdal 2015). Recently the public's awareness of and dissatisfaction with air pollution and PM2.5, spurred by massive discussion via social media like Weibo, has instigated a swift supply of air-pollution mitigation policies. Most pollution reduction measures will also reduce GHG emissions, and as a result mitigation occurs as a co-benefit of air-pollution mitigation. For the central government the challenge is to make economic development and environmental protection feasibly compatible (Stensdal 2015).

India is the world's largest democracy with more than 1.2 billion inhabitants, but with one third of the population lacking access to modern energy services. India's development goals and needs will trump climate change issues, meaning that India is unwilling to make international commitments to reduce emissions (Tankha and Rauken 2015). India argues for its right to development, but at the same time India is highly vulnerable to climate-change impacts, putting climate change on the agenda of Indian decision-makers. In being the world's third-largest emitter, India plays an integral part in future emission scenarios. Still, there are few signs of large emission cuts in India (Tankha and Rauken 2015). India has a fossil-fuel-dependent energy production and there is little political leeway to cut emissions if doing so is seen as limiting economic growth. Instead, India's policymakers tend to focus more on adaptation, and civil society and the general citizenry in India are not in favour of emissions curbs for mitigation purposes (Tankha and Rauken 2015). Thus international pressure is not likely to alone lead to a strong commitment to cut emissions in India. Instead, India will keep economic growth as its primary goal, but if emission-reducing measures are seen as economically profitable, India is more likely to embrace them (Tankha and Rauken 2015).

The United States is the world's second-largest emitter of GHGs, with ample domestic coal, shale gas and shale oil reserves. New hydraulic drilling technology – fracking – has made available large reserves of previously inaccessible oil and gas. Increased use of natural gas to replace coal in the power sector resulted in declining levels of energy-related CO₂ emissions from 2009 onwards (Bang 2015). Deep reliance on fossil-fuel energy in many states, in combination with intense polarization between Republicans and Democrats on climate policy issues, strong opposition to climate action from key stakeholder groups, and lack of public pressure to act on the climate change problem are the most important barriers to an ambitious domestic climate policy in the United States (Bang 2015). Despite these profound barriers, the Obama administration adopted significant changes in the approach to climate change policy in 2015. Obama used his

executive powers to develop new regulations aimed at cutting CO₂ emissions through existing law, the Clean Air Act. As a result, state-specific CO₂ regulations for power plants are being developed for the first time in the United States. While public pressure for more federal climate action has slowly increased in step with the recovery of the US economy after the financial crisis, deep disagreements that have dominated US climate policy deliberations among federal lawmakers over the past twenty years still persist. It is now uncertain whether the next US president will fully implement Obamas climate policy program (Bang 2015)

In sum, this short assessment shows that climate change mitigation remains a strongly contested issue in the United States, and the most optimistic prediction for a federal climate policy seems to be that some of President Obama's recent executive initiatives will survive and be implemented. At the subnational level, states, cities and other actors will continue pursuing divergent policies and achieving different results. Overall, the substantial decline in US CO₂ emissions achieved since 2009 due to the switch from coal to natural gas in the power sector is likely to taper off. India will continue insisting on its right – and, in fact, duty – to prioritize economic and human development. Only if emissions cuts can be combined with economic growth will India be positive to change its climate policy course. Investments in renewable energy will likely increase but not enough to move India off its current trajectory of rapid emissions growth. Finally, China invests massively in renewable as well as fossil sources of energy. The share of renewables in China's energy mix will likely continue growing. Overall, China's GHG emissions will likely continue increasing but at a progressively lower rate than before.

What are the main implications of these findings for the prospects of significant progress in international climate cooperation, as enshrined in the Paris Agreement? It seems clear that a critical factor is broad participation and/or large contributions from participating parties (Victor 2011). The mechanisms established in the agreement that commit all countries to report regularly on their emissions and “progress made in implementing and achieving” their NDCs (nationally determined contributions), and to undergo international review, are intended to sustain broad and deep participation. There will be a global “stocktake” every 5 years to monitor progress. Moreover, all countries must submit new NDCs every five years, with the clear expectation that they will “represent a progression” beyond previous ones, thus increasing ambition. For a truly demanding mitigation agreement to be implemented, big emitters will be pivotal parties, directly or indirectly. This is basically bad news since only few of the key actors seem willing and able to cut their own emissions sufficiently. The flip side of the coin is that, acting together, a group of the biggest emitters would constitute

a winning coalition, meaning that new NDCs agreed to by the top seven to ten emitters will almost certainly be followed up by an overwhelming majority of other countries. In fact, since the seven largest emitters control more than 70 percent of total GHG emissions it would be in a position to achieve significant cuts without contributions from others (Bang, Underdal and Andresen 2015).

For such a coalition to emerge, leadership by one or more frontrunners will be required. In a forthcoming paper (Hovi et al.), agent-based modelling is used to explore under which condition (if any) two or more frontrunners can succeed in establishing a small ‘climate club’ and attract new members through club goods (i.e., benefits reserved for club members only) and/or conditional commitments to enhance mitigation efforts. The analysis shows that even a club with less than a handful of major actors as initial members can grow and eventually reduce global emissions significantly, but only under a set of ‘favorable’ conditions. Conditions that can induce club growth include the provision of large incentives from frontrunners to (initially) reluctant countries, and no ‘contamination’ of negotiations from conflicts over other issues. There are few indications in current international climate negotiations that such conditions will occur in the short to medium term, even if we interpret the Paris Agreement as a window of opportunity for enhanced climate action.

In conclusion, the brief summary analysis of near-term policy trajectories above leads to the conclusion that commitment by big emitters like the United States, India and China to engage in emission cuts and energy system transition is limited by both domestic energy reserves and domestic politics. Moreover, their commitments in the Paris Agreement (along with other big emitters) are not yet broad and deep enough to accomplish what IPCC sees as prudent to achieve the ‘ultimate objective’ of the UNFCCC regime, namely to ‘prevent dangerous anthropogenic interference with the climate system.’

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Part IV: Multilayered governance

6. A core reporting framework to strengthen implementation of the Paris Agreement

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Introduction

The Paris Agreement (PA), adopted December 2015, provides a promising platform for global efforts to limit and adapt to human-induced climate change, but the Achilles heel is countries' willingness and ability to implement and over time strengthen their national climate policy plans, referred to as 'Intended Nationally Determined Contributions' (INDCs). The main incentive to comply with these national plans may well be the review of PA implementation at international and national levels, where other Parties, environmental NGOs, concerned municipalities/cities, organizations, and business can criticize a Party for shirking on its pledges. However, a Party's incentive to freeride on other Parties' efforts lives on. The temptation for freeriding explains countries' avoidance of commitments and compliance for many decades in the climate regime and many other UN processes. The PA does not include any framework for INDCs and reporting of progress meeting these plans – 'stocktaking' (Obergassel et al. 2016; Track0 2015; Mbeva and Pauw 2016). Thus, an essential question is how a transparent reporting framework can increase the probability of implementing national policy plans that can meet the PA's aim of less than 2 °C warming by 2100.

Examining a number of historical case studies of international environmental commitments, Victor et al. (1998) find that institutions influence how commitments are translated into practice and social behavior. Active participation by stakeholders makes implementation more efficient. They conclude, "Systems for implementation review are a crucial aspect of practical and effective international environmental governance". An essential prerequisite for such review is availability, accuracy and comparability of data contained in national reports. Reporting systems attached to international environmental agreements may alternatively be used to 'impress' civil society, confer the concept of 'tote-board diplomacy', that has been employed to analyze agreements to control acid rain (confer Haas et al. 1993).

All policy, business and private decisions are made in a setting of values and norms given culture, political system, institutions (laws and regulations, organizations, contracts, etc.), and interpretations of fairness. Normative assessments also involve fairness towards next generations and people in developing countries. In an economic setting, principal actions to facilitate implementation of INDCs and induce stronger efforts over time are: 1) Reduce costs of INDCs; 2) Increase value of climate actions - in terms of reduced negative climate change impacts; 3) Actions that reduce risks associated with climate change (improved resilience and adaptation); and 4) Strengthen co-benefits of climate action. In a wider social science setting, increased public acceptability and political feasibility is key.

There are still many driving forces and barriers that constrain stronger climate policies: interests and power of fossil fuel and energy-intensive industries; fossil fuel subsidies as part of political compromises; right-wing politicians that think climate policy implies a bigger state; developing countries that think climate policies will impair economic growth and welfare; and politicians and civil society lacking understanding of seriousness and immanency of the climate change problem.

However, there are also driving forces for stronger climate policies: many renewable energy technologies have become much more affordable; new green industries and business; many cities and municipalities prioritizing green transition; a growing coal divestment movement; various organizations having an ethical perspective on climate change; insurance companies and pension funds that understand the importance of climate risk management for their business; and more visible consequences of climate change.

Turning to transparency of PA implementation and INDC reporting and stocktaking, the logic of this paper is as follows:

- a) The reporting system of targets and efforts by Parties to the PA is an important mechanism to enforce implementation of INDCs, and over time strengthen national action plans.
- b) High transparency of national reporting makes efficient stocktaking possible and thus facilitates feedback and critique from national stakeholders, such as environmental NGOs and green companies.
- c) Transparency requires a minimum degree of communality in reporting format (targets; references; emission paths; time horizon; broadness of sectors and climate gases; and actions).
- d) This paper explores increased transparency of INDCs in terms of a specific *core reporting framework*, to facilitate comparison of efforts over time and across Parties, in short, facilitate stocktaking.

Reporting and transparency in the Paris Agreement

Article 4

2. Each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.

8. In communicating their nationally determined contributions, all Parties shall provide the information necessary for clarity, transparency and understanding in accordance with decision 1/CP.21 and any relevant decisions of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement.

9. Each Party shall communicate a nationally determined contribution every five years in accordance with decision 1/CP.21 and any relevant decisions of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement and be informed by the outcomes of the global stocktake referred to in Article 14.

13. Parties shall account for their nationally determined contributions. In accounting for anthropogenic emissions and removals corresponding to their nationally determined contributions, Parties shall promote environmental integrity, transparency, accuracy, completeness, comparability and consistency, and ensure the avoidance of double counting, in accordance with guidance adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement.

Article 13

5. The purpose of the framework for transparency of action is to provide a clear understanding of climate change action in the light of the objective of the Convention as set out in its Article 2, including clarity and tracking of progress towards achieving Parties' individual nationally determined contributions under Article 4, and Parties' adaptation actions under Article 7, including good practices, priorities, needs and gaps, to inform the global stocktake under Article 14.

Box 1. Main references to INDC reporting and transparency in the Paris Agreement.

Box 1 shows the main articles and paragraphs on INDC reporting and transparency in the PA. The references to INDC reporting clearly shows the emphasis on transparency, including comparability and consistency in reporting.

Strengthening implementation through transparent reporting

An essential prerequisite for INDC transparency is comparability of data and reports. Unless there is a minimum level of consistency of INDCs over time and across Parties, stocktaking of efforts and achievements with regard to targets become meaningless. Therefore, all INDCs and reports must adhere to a joint reporting framework, containing a core of minimum requirements.

In a hierarchical setting a reporting framework must contain:

- 1) A set of components (such as time horizon, reference situation, GHG emissions, and targets),
- 2) Definition of each component (such as GHG emissions per 2010), and

3) Target for each component (such as percentage reduction of GHG emissions by 2030, compared to the reference situation).

A further issue is whether targets and efforts across different components can be meaningfully compared, e.g. in a case where one Party seemingly has a ‘strict’ target and ‘soft’ reference case (e.g. emission intensity target), whereas another Party has a ‘soft’ target and ‘strict’ reference case (e.g. emission level 2010). ‘Exchange rates’ for targets and efforts at such a level, to calculate and compare efforts across various components of INDCs, is more complex than within a component, and therefore out of the scope of this paper.

Status of INDCs

Let us assess INDCs submitted in order to examine how they differ on various accounts, and in terms of what communalities may exist. Kreibich and Obergassel (2016) summarize 160 INDCs (representing 187 countries), submitted by January 2016. They explore provisions for international emissions trading building on the highly varied INDCs submitted, referring to the ‘transfer of mitigation results’ trading mechanism outlined in the Paris Agreement. Out of these INDCs, 105 have GHG emission targets, 20 have combinations of GHG and non-GHG targets (such as afforestation/reforestation, renewable energy, and energy efficiency), 22 have actions only, and eight have combinations of non-GHG targets and actions. Furthermore, out of the 105 INDCs with targets, 33 have absolute reductions (with base years varying between 1990 and 2014), 76 have reductions compared to a baseline scenario, five have fixed level targets, and seven have emission intensity targets.

Moving on to a somewhat more detailed level on variation of INDCs, Table 1 presents primary features of INDCs, but leaving out a huge number of details (covering 119 INDCS, submitted by 147 Parties as of 1 October 2015, confer UNFCCC 2015). According to the table, main components are time horizon; reference for emission mitigation targets; emission reduction target; sectors covered; conditions – if any; GHGs covered; and actions to implement targets. The table includes the range from most to least ambitious targets. Table 1 clearly indicates the substantial spread of INDC formats along most dimensions. The variation in reporting formats is a challenge when assessing a Party’s implementation over time, not the least in terms of strengthening of targets, and make comparison across implementation efforts by different Parties very difficult. Therefore, more standardization of the INDC reporting format is necessary to improve transparency and comparability.

**Table 1. Summary of primary features of INDCs as of 1 October 2015
(119 INDCs from 147 Parties)**

Category	Notes	Range	Most ambitious	Least ambitious
Time horizon		2030, 2050	2100	2030
Mitigation reference		Global GHG emissions 1990, 2000, 2010	Global GHG, 2025, 2030, least cost 2 °C trajectory	Pre-INDC global GHG, 2025, 2030
Policy level			Sectoral, sub-sectoral	Economy wide
Emission reduction			90 % Carbon neutrality 2050	9.8 %
Target, reference	Business as usual		-89 %	-1.5 %
	Intensity		-65 %	-13 %
	Peaking year		2030	
Sectors	Indicator	Energy share. Installed capacity. Generation.		
	Target		100 %	3.5 %
	Broadness		All IPCC sectors	Most important sectors
LULUCF*	Many INDCs lacking information on methods.	Emissions Removals		
Conditions		Efforts by others. Availability of market mechanisms. Financial resources. Technology transfer. Capacity building support.	No conditions	
GHGs		CO ₂ +	All Kyoto gases; plus additional gases (incl. SLCFs**)	CO ₂
Adaptation	Projected loss and damages by several Parties	Included in most INDCs. Key impacts and vulnerabilities. Scaling up efforts. Needed means of implementation. Establish indicators.		
Action	Sectors	Renewable energy. Energy efficiency. Sustainable transport. CCS. Forestry. Non-CO ₂ gases.		
	Measures	Grid modernization. Financial schemes. Environmental taxing. Subsidy reform. Standards. Low-emission agriculture. Waste management. Forest conservation.		

* LULUCF: Land Use, Land Use Change and Forestry.

**SLCFs = Short-Lived Climate Forcers.

Standardization of reporting format

As a contribution towards standardization of the INDC reporting format, one way forward is to agree on a core format for reports and stocktaking. Figure 1 depicts such a core format. The reporting format puts emphasis on transparency and comparability of time horizons, reference situations, emission mitigation targets, and sector and GHG coverage. For developed countries emission reduction compared to a reference year such as 2010 is most relevant, whereas for developing countries and emerging economies, anticipating further growth in emissions for some period, an emission peaking year is most relevant. ‘Business as usual’ references and intensity targets cannot be encompassed since they imply contingency with regards to future economic growth and expected emission paths, thus introducing uncertainty elements. In terms of coverage, all major sectors important for mitigation and adaptation should be included, together with all GHGs included in the Kyoto Protocol, as well as short-lived climate forcers (and other gases and particles that are climate active), given sufficient knowledge and data availability. A stricter format for targets and emission paths is more important than for actions undertaken, and tools and measures introduced. Each Party can choose the most fitting actions to increase cost effectiveness, with provisions for accessing the international trading mechanism outlined in the Paris Agreement, which could further reduce implementation costs of the national plans.

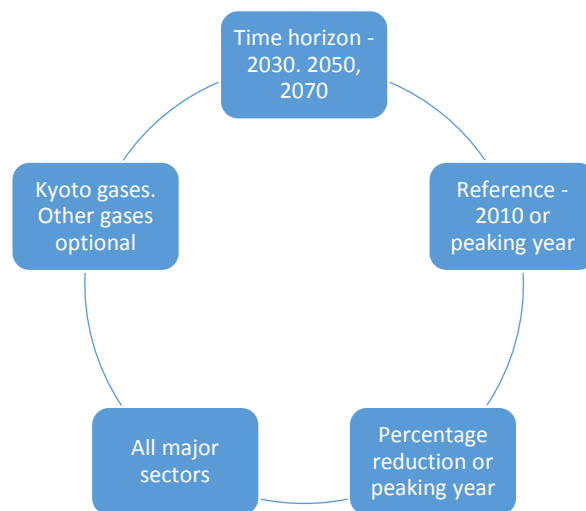


Figure 1. Proposed core format of INDC reporting.

Building on a standardized INDC core reporting format, there will be a scope for convergence of target formatting, implementation strategies, and actions over time.

Summary and way forward

So far, there is no common framework for Parties' reporting of targets and efforts to fulfill and strengthen their INDCs under the Paris Agreement. Over the next few years, a more specified reporting format will likely emerge through negotiations, in order for the Paris Agreement to enter into force from 2020. A transparent reporting format is crucial for comparison of targets and efforts across Parties and over time, which also makes efficient stocktaking possible, and consequently expedites feedback and critique from civil society at national and international levels. This paper develops frames for a core reporting format for INDCs, with emphasis on time horizon, reference situation, emission reduction targets, and coverage in terms of sectors and greenhouse gases. Building on this proposed core, a more comprehensive and detailed reporting format may over time become advantageous and feasible.

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7. The four transformative governance shifts emerging from COP21

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Introduction

The 2015 Paris Climate Change Conference (COP 21) represents a transformative shift for climate governance. This is not just because the agreement commits the parties to a lower threshold of climate risk (below 2 degrees), but because the Agreement transforms how governance actors think about climate change and act on it. The agreement has been praised and criticized by many. Among researchers, the key arguments evolve around the misalignment between scientific predictions of temperature rise and impacts and the feasibility to achieve a target below 2 degrees C. In policy the arguments evolve around the still insufficient commitments made by countries via their Intended Nationally Determined Contributions (INDCs) and political will to act. In this paper, however, we choose to see a glass half full and to explore the governance shifts that are embedded in the Agreement from an opportunity and innovation perspective, as well as from a humanities and social science angle.

We argue there are four transformative governance shifts emerging from the Paris conference. First, the Agreement shifts responsibilities and actions to the national and transnational levels, and to subnational and non-state actors. It breaks the paralysis of all waiting for the global scale to act. Second, the Agreement acknowledges the climate change impacts already visible and those on the horizon, emphasizing the very short term nature of climate change and thus the need to place adaptation on par with mitigation with emphasis on co-benefits. Third, the agreement explicitly mentions the need to develop measures for transparency and accountability which in the absence of global legally binding frameworks will lead to the rapid emergence of quality assurance, best practices, and standards as well as other hybrid forms of governance. Last, the Paris Agreement gives special attention to those most vulnerable today as much as tomorrow, revealing the deep interconnectedness of climate change with multiple other forms of vulnerability. This means climate governance needs to listen to the critical voices of the social sciences and the humanities and promote integrated research across the sciences. This also calls for an equally deep integration in the policy arena across institutions. Climate change is not only an environmental issue and climate governance is no longer the same as environmental governance.

Shifting responsibilities

First, the Paris Agreement shifts responsibilities and actions to the national level and the transnational level, and to multiple sources of power and legitimacy. It breaks the paralysis of all waiting for the global scale to act. The internationally agreed “top-down” global target of keeping warming between 2° and 1.5° C is complemented by clear “bottom-up” responsibilities at the national and transnational levels. This includes responsibilities of sub-state actors such as cities, non-state actors like companies, and also individuals. Climate governance is no longer the territory of a single global, distant regime but the territory of a multiplicity of actors.

The Agreement therefore reinforces the trend that climate governance involves actors other than central governments and actors that operate across borders (transnationally) (Pattberg and Widerberg, 2015). Over the past two decades, private actors such as civil society organizations, multinational corporations, networks of experts, global industry associations and certification organizations, and public actors at the international level such as agencies established by governments (e.g. international organizations) and public actors the subnational level (e.g. cities) have entered the climate governance arena (Pattberg and Widerberg, 2015). While for example cities have been key climate governance actors for some time, the Paris Agreement gives them more maneuvering room and legitimacy as well as responsibility vis-a-vis other governance scales.

Non-state actors such as businesses and business associations were also very visible and engaged in processes leading up to COP 21. A clear example is the Low Carbon Technology Partnership Initiative (LCTPi), coordinated by the World Business Council for Sustainable Development (WBCSD). The LCTPi is a collaborative platform that brings together WBCSD’s Action2020 Business Solutions, the Sustainable Development Solutions Network (SDSN) Deep Decarbonization Pathways, and the International Energy Agency’s (IEA) Technology Roadmaps. Other examples of business engagement are the United Nations Global Compact-led Science Based Targets process, a joint initiative with the Carbon Disclosure Project, the World Resources Institute (WRI) and WWF. It is intended to increase corporate ambition on climate action by changing the conversation on GHG emissions reduction target setting and creating an expectation that companies will set targets consistent with the level of decarbonization required by science. These along with other initiatives were active before and during COP 21, also operating under a wider umbrella - the We Mean Business Coalition - which has successfully engaged with UNFCCC processes and contributed to raise awareness about how addressing climate can also lead to other co-benefits for business and stimulate new forms of

growth. While it is critical not to become complacent that these initiatives will be sufficient to change the world towards climate resilient pathways, it is clear that such a goal is not possible without the critical contribution of businesses.

COP 21 thus plants the seeds for polycentric governance, with sources of power divided across multiple actors and calling for concerted action across all societal stakeholders (Ostrom, 2010). However, polycentrism applies also to individuals. The Paris agreement breaks the complacency of us as people and opens space to seeing the role of individuals in a different vein. As consumers, citizens, or in our everyday professional roles, there is no doubt climate change calls for personal political agency (O'Brien, 2015). O'Brien rightly argues that a new view of political agency is required by the urgency and the deep transformations needed to tackle climate change. A deeper notion of political agency draws attention to the beliefs, values, and world views that maintain habits and the status quo (O'Brien, 2015).

Adaptation on par with mitigation

Our second argument on transformative governance emerging from COP 21 relates to the central role given to adaptation. The Paris Agreement formally acknowledges climate change impacts that have already occurred or are just over the horizon and puts adaptation on par with mitigation. This central focus on the need to adapt is critical and has substantive consequences for how we think, research and generate climate policies. The Paris Agreement recognizes both the potential for adaptation and opportunities for adaptation and mitigation interactions. It states the primacy of adaptation and vulnerability through the creation of a global goal of enhancing adaptive capacity, strengthening resilience and reducing vulnerability, and the establishment of a mechanism to provide insurance and emergency preparedness where climate impacts are already an issue and adaptation may not be possible.

This means governing climate is no longer a problem for the future but an urgent and immediate task. Conveying this immediateness is new in the climate governance debate. Also, the agreement gives adaptation a different flavor. Adaptation to climate change is a transformative process that requires looking into the future as well as into the present. Trade-offs and co-benefits were clearly highlighted by the IPCC Working Group 2 Report, as well as the opportunity space created by the need to transform societies and their economies towards climate resilient pathways. Although the opportunity space reduces with time of inaction, it clearly points to a shift from adaptation to transformations that go beyond technology and beyond valuing nature.

Hybrid forms of governance

The third governance transformation emerging from COP 21 relates to the primacy given to hybrid forms of governance. The agreement mentions explicitly the need for multiple forms of transparency and accountability giving a central role to hybrid forms of governance such as standards to enhance compliance. Standards are a private or hybrid form of governance involving multiple institutions and stakeholders, often at multiple scales; they can be local, national, regional or international. Voluntary standard setting is a governance process and has led to very substantive changes in the way industries operate and in the speed of innovation (Murphy and Yates 2009). Attention to these hybrid forms of governance, although voluntary in nature, can enhance democratic processes and bring both accountability as well as innovation.

As standards acquire a more prominent role in climate governance, it is critical to understand the effects of standards on mitigation and adaptation actions. Further, it is important to understand how standards may lead to trade-offs or synergies between mitigation and adaptation, and also their potential as drivers of innovation and growth in the transformation to low carbon, resilient societies. This means that a new generation of climate governance research needs to pay attention to how these standards and best practices are developed, and the way in which different power structures affect positively or negatively these processes.

Focus on interconnected vulnerabilities

Last, the Paris Agreement clearly sets the scene for focusing special attention on those most vulnerable today as much as tomorrow, revealing the deep interconnectedness of climate change with multiple other forms of vulnerability. This acknowledgement highlights the need for an understanding of the social and human dimensions of climate change, challenging silos created by current disciplinary research, and policy and practice wrongly treating climate change as merely an environmental problem (Hackmann & St.Clair 2012; ISSC/UNESCO 2013). For example, much of the literature on global climate governance emerges from the literature on global environmental governance and too few studies address the social dimensions of climate change from alternative perspectives. Although the literature on normative concerns related to the role of equity in climate negotiations and the critical role of fairness in producing legitimate governance structures has expanded (O'Brien and St.Clair, 2009; Timmons and Parks, 2006; Shue 2015), climate related research remains strongly dominated by *scientificism* and a linear model of science very clearly reflected in the IPCC Fifth Assessment Report (Fløttum et al 2016; Sundqvist et al 2016). Climate governance can no longer be a form of

environmental governance. Rather, climate governance needs to open up to investigate and to govern multiple forms of vulnerability, and incentivize innovation and opportunities in an equitable and ethical manner.

Concluding remarks

The four shifts entailed by the Paris Agreement tells us that climate governance is no longer the territory of a single global, distant regime but the territory of a multiplicity of actors. It also tells us that governing climate is no longer a problem for the future but an urgent and immediate task. It points our direction to the critical role of processes outside what is considered climate research or climate policy, and to hybrid forms of governance such as standards and best practices. And it tells us that climate governance can no longer be a form of environmental governance but the governance of multiple forms of vulnerabilities and the enabling of innovation and opportunities.

These four transformational governance structures that emerge from COP 21 can be theorized as a polycentric and hybrid form of climate *governmentality*, an urgently needed shift in both research and policy to prevent transformations to sustainability that are either too little, too late, or potentially blind to negative consequences (Hackmann et al 2014).

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Part V: Multilateral Cooperation

8. The structural limits of the Paris Agreement and the need of a global coalition for deep de-carbonization

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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 wellbeing. 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 short 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 doctrine, 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 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.

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.

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 ascendancy 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 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 and, 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 analyzes 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, 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 analyzes 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 dynamic, 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 hindered, so far, a consistent pro-global governance policy, even considering major progress made during the last couple of years by the Obama administration confronting the Republican Party dominated Congress. 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

At the 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 Moon 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 increased 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 INDCs are voluntary and non-compulsory due mainly to the open resistance of countries like the USA 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 3°C on the average will implies an increase of more than 4°C in some terrestrial regions of the Earth.
- 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 adding 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 clarifying 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 INDC 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).

- 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 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 it highly unlikely to avoid dangerous climate change. 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 to come.

This paper argues 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 March 2016, but the second condition has low probability by March 2016. An 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.

In China there are three favorable trends: 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 China 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, 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, including keeping the United Kingdom inside.

Japan is the first developed country that has gone through a secular economic stagnation (started in 1991) with relative acceptance of its population. Even if was not a deliberate choice; Japan's recent experience shows to the world that it 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 continues to be an example for 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.

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9. Adapting to what? The neoliberal politics of climate change and alternative forms of governance in the Andes

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The Paris agreement of December 2015 has been celebrated as a success by most state leaders and media, yet it failed to pass the so called “People’s Test” that was agreed upon by social movements, environmental groups and trade unions around the world before the talks in Paris.⁶ One of the criteria to meet the test was to deliver “justice for impacted people.” However, while the term “adaptation” appears 85 times in the Paris agreement, the word “justice” is just mentioned once in a small note:

noting the importance of ensuring the integrity of all ecosystems, including oceans, and the protection of biodiversity, recognized by some cultures as Mother Earth, and noting the importance for some of the concept of “climate justice,” when taking action to address climate change. (UNFCCC 2015: 21)

That Mother Earth is mentioned in the same sentence as “climate justice” seems to indicate that the people who are most vulnerable to the effects of global warming are often the same people who consider the earth to be a living being. This is also an expression of what has recently been identified as “pluriversal politics” or “indigenous cosmopolitics” (de la Cadena 2010), which is a politics that would allow for disagreements on the definition of nature itself, and accept nature as multiplicity. The modern concept of “nature” as singular and universal, and the modern dualistic understanding of nature as separate from culture, has been widely criticized in social anthropology (e.g. Latour 1993; Descola and Gíslí 1996; Viveiros de Castro 1998; Ingold 2000; Descola 2006). Similarly, “adaptation” is not a neutral term, but embedded in neoliberal ideology and political economic structures.

In this paper, I argue that global inequalities increase not only because of climate change, but also because of neoliberal politics of adaptation. I will show this by using examples from ethnographic research in the Peruvian Andes.⁷ People living in the climate-sensitive areas in the highlands in Peru are first suffering from poverty and discrimination. Secondly, they suffer the

⁶ <http://peoplestestonclimate.org>

⁷ The ethnographic data was generated in two long-term fieldworks (March–Oct. 2011 and Nov. 2013–April 2014) in Chivay and other villages along the Colca-Majes watershed in the region of Arequipa.s

consequences of climate change, and thirdly, they are imposed measures of adaptation inspired by neoliberal ideas about payments for user rights to water. I also argue that climate justice is not only about relations between the global North and the South, but that a range of actors in developing countries – like for example mining companies – should be accounted for in questions of justice across local, regional and global scales. Finally, I suggest that we should take other versions of nature – non-anthropocentric natures – seriously in our approach to global climate governance.

Not only does the Paris agreement not mention justice, but it also introduces a clause saying that the deal provides “no basis for any liability or compensation”. The agreement focuses on adaptation, and it commits developed countries to provide finance for mitigation and adaptation in developing countries. As a consequence, it leaves it up to the developed countries to take the initiative of defining what kind of projects they will finance and how much they will pay. The developing countries will often prioritize projects according to possibilities for funding, like for example the World Bank’s promotion of “a new water culture” in Peru, which is an example of what I call “adaptation from above.” When adaptation projects initiated from above happen in a context of neoliberal extractivist politics, deregulation, water grabs, and socio-economic inequalities, it’s pertinent to discuss issues of justice across scales. In social science, several scholars have analysed inequalities and justice in climate change on a *global* scale (Beck 2010; O’Brien & Leichenko 2000; Liverman 2009; Mearns and Norton 2010; Roberts and Parks 2007). Yet few have analysed climate justice within national territories. In many parts of the world the effects of climate change translates into change in water supply (Bates 2008), and water governance has increased in importance in the 21st century on a global level, resulting in paradigms such as Integrated Water Resource Management (Orlove and Caton 2010). However, this paradigm encounters a variety of water governance systems on local levels. Therefore, we should look into climate and water justice at various scales; not just on a global scale, but regional and national. I further argue that we should move away from just talking about adaptation, which is dominant in climate change discourse, to talk about structural inequality and justice, and also about responses and responsibilities, taking into account the multiple forms of governance that are being practiced in the world, and which we can call “adaptation from below.”

In the Colca-Majes watershed, located in Caylloma province, Arequipa region, in the southern Peruvian Andes, practices and policies of adaptation and justice are negotiated among farmers, engineers, state administrators, non-governmental organizations (NGO’s) and politicians. Although Peru, as the rest of the Global South, contributes little of the world’s carbon dioxide

emissions,⁸ the impacts of global warming are manifest in melting glaciers, declining water supplies and seasonal irregularities (Vuille et al. 2008; Oré et al. 2009; Vergara et al. 2011). In the headwaters of the Colca-Majes watershed, above 4000 metres of altitude, the inhabitants are among the poorest in the region as they are making a living on alpaca pastoralism in the extremely climate-sensitive environment. Glaciers have disappeared, springs and pastures are dry, the rain is more irregular and when it finally comes, it falls so hard that it erodes the soil. Both in the highlands and in the Colca Valley farmers report hotter days and colder nights. The incidents of strong frost periods and heavy snowfall are more common than before and harder to anticipate. The local authorities have declared states of emergency several times since 2011, after large quantities of crops have been ruined and thousands of animals killed by extreme weather events. In April 2014 a group of mayors from the highland districts travelled to the capital Lima to present their complaints and demands to the government: financial compensation, insurance for camelids, and agrarian insurance. However, they were bought off with small Band-Aid measures like medicines for the alpacas in the highlands and two kilos of seeds to each farmer in the valley.

Simultaneously as the highland peasant farmers suffer from drought, water is dammed and channelled through a canal system from the headwaters to the desert, where large-scale irrigation projects and export agriculture foster economic growth and regional development. This year, the second phase of the irrigation project Majes-Siguas II is starting up, and a new dam will be constructed in order to expand the irrigated areas and promote agro-business and “progress”. This land will be sold in units of 500 and 1000 hectares, which means that big business will dominate. The concession was awarded to a private consortium that will administer the infrastructure, and the small and middle-sized farmers fear increased water tariffs. “We call this privatization”, a farmer told me. No matter how strongly the government argues that the water is still public property, the farmers know that the operator that administers the infrastructure also controls the water flow. In other words this can be seen as a form of extractivism and water grabbing (Franco et al. 2013).

At the same time, the National Water Authority in Peru is introducing stricter control with permit systems and licenses for use rights to water. The recent water law from 2009, which was partly justified by the threat of climate change (ANA 2010), is based on the principles of integrated water resource management, which is promoted by the World Bank. The law emphasizes the economic value of water and the fostering of a new

⁸ In 2011, Peru was ranked as number 133, with 0.49 metric tons of carbon per capita, in a ranking of the world's countries per capita fossil-fuel CO2 emission rates (CDIAC): <http://cdiac.ornl.gov/trends/emis/top2011.cap>

universal “water culture”, embedded in ideas of modernity, efficiency and productivity. This also entails a system where users have to apply and pay for licences to water use rights. This adds to other payments – like the irrigation tariff – for the use of canals and other infrastructure. A pertinent question is whether making the small-scale farmers pay for water is a solution for water scarcity and climate change? The National Water Authority claims that only by buying a license can they ensure the communities’ water rights against mining companies and the threat of global warming. However, the mines usually manage to get the permits they need for as much water as they want. While for the farmers, climate change is used as a reason to make them register their use and pay more for water. Moreover, climate change is used as an excuse by mining companies when they respond to farmers’ complaints about water scarcity. When peasants from the community of Llanca nearby Colca Canyon confronted a mine for destroying their underground water sources, the mining company claimed that they were not to be blamed, since the declining water supplies were caused by global warming.

Furthermore, in the farmers’ view, it is not the state but the surrounding mountains and springs that provide them with water. While the “new water culture” is associated with individual payments and efficiency, the local forms of water governance are characterized by collective labor and reciprocity, which also includes relations to earth-beings: springs (*pukyos*), mountain-lords (*apus*), the earthmother (*pachamama*), and the watermother (*yakumama*). Every year, the irrigation committees in Colca elect a new *regidor* who is in charge of the water distribution and of maintaining good relations among farmers and also with the earth-beings. He does this by giving packages of food and drink (called *pagos*, which means “payments”) to the mountains, and by “calling the water” through a ritual technique that attracts rainclouds from the Pacific Ocean (Stensrud 2016). In this world, the springs eat, drink and respond to human action, and thus emerge as living beings. When people in Colca say, “water is life” it is not metaphorical. Water is related to as an animate substance and a female life source that connects humans, plants, animals and spirits. Water enables life and practices, and it also emerges from these practices as a living being. In the hierarchy of beings, the mountain-lords are the most powerful. They are also the owners of the water, and give water to the people living in the territory they overlook and of which they are guardians.

These relations of ownership to water have in recent years been articulated as political claims for compensation in order to take control over the flows of water and money. District mayors and leaders of irrigation committees in the poor highlands of Caylloma province demand financial compensation from companies that make money on water that “is born” in the highlands:

the Cerro Verde copper mine, the electric company EGASA and agrobusiness companies in the Majes Irrigation Project. The mayor of the province in the period 2011–2014 said that water is their wealth: “When the world gives value to the water, we can say that our water costs [money].” They base their claim in the principle of reciprocity that is practiced in the Andes: “I give you water, so you should give me something back.” With the money they could preserve the headwater environment, which consists of a particular kind of wetlands (*bofedales*) that serve as pastures for alpacas. Projects of planting native trees around the water sources and building micro-dams are called “sowing and harvesting of water”. The micro-dams replace the glaciers that have disappeared; they collect water when the heavy rains come in short periods, protecting the soil against erosion and enabling a more even distribution of water throughout the year. Several micro-dams have already been built, partly financed by farmers in Majes. They started contributing in 2010, after the people in the highlands organized and threatened to block the water flow if the people in the lowlands did not contribute (Stensrud in press).

The claim of the water payment echoes the environmental justice movements, also called ecologism of the poor, which address conflicts about unequal access to nature’s services and resources, connecting economic and ecological distribution to political power (Martinez Alier 1992). The struggle for environmental justice in Peru can be traced back to the 1930s, when highland communities opposed the pollution from mining companies (Chacón 2003). During the mining boom in the 1990s, a new ecologist movement rose from the communities affected by mining. Today’s social protests in Peru are mainly directed against multinational mining companies. When water scarcity is caused by global warming, however, there is no local industry that can be held directly responsible. Hence, presenting demands to companies making profit on the water is an attempt at taking control in an uncertain situation. Presenting gifts to the mountain-beings is also a way of taking control over an uncertain future.

Outside of the United Nations Framework Convention for Climate Change, several scholars have criticized the analytical use of the term “adaptation”. Some have criticized how the term is inadequate in explaining how people engage in creating political change, and that we should change the focus from *how to adapt* to *how to create change* (Sejersen 2009). Others point out that it directs attention away from the problems that cannot be easily measured, such as people’s concern for non-humans – both animals and mountains (Orlove 2009).

Climate governance needs to address both human-environmental relations and structural issues of inequality; the uneven distribution of impact, power and control. Adaptation from above is often framed in a universal neoliberal

logic, and does not challenge structural inequality. In Peru, concerns with efficiency and growth overshadow debates on inequality and justice in dominant political arenas and media. In this context, local initiatives of adaptation from below are often connected to ecologism of the poor and climate justice, and emerge from relational worlds where all beings are connected. In Bolivia and Ecuador, the national constitutions are inspired by indigenous ontologies and acknowledge the rights of nature and Mother Earth. However, as the governments continue their extractivist politics in the name of national development and the growth of GDP, these rights exist just on paper. Without political action from below, most initiatives of climate change mitigation will be just on paper. I argue that globally coordinated responses to the climate crisis must be embedded in a systemic critique, and should take alternative forms of environmental governance seriously, acknowledging that all entities and beings in the world – both human and nonhuman – are intrinsically connected and mutually dependent.

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Part VI: Rapporteur's Synthesis

10. Analyzing and critiquing COP21: The problems and potentials of the Paris Agreement

Rapporteur's synthesis from the workshop *Analyzing and Critiquing the Climate Governance Roadmap Set Out in COP 21*, University of Oslo, 15.02-16.02 2016

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As was to be expected of a broad discussion of climate change and climate negotiations, we have over these two days had presentations covering several positions and approaches to climate governance on many different levels.

Although I will not be able to give a complete synthesis of the complexity of the issues covered, I have located five overall topics, although there has been considerable overlap between these: Systemic flaws; governance and accounting; the role of emerging powers/emerging economies; consumption versus production; the role of civil society.

Systemic flaws

The most fundamental difference between the approaches in this workshop concerns whether it is possible to make the needed changes within systemic or ontological structures of capitalism and anthropocentrism. I would say discussions have ranged from mild skepticism to outright pessimism. We heard Arne Johan Vetlesen approach anthropocentrism and its ontological dualism: Humans are subjects, nature consists of objects. He approached anthropocentrism not as a philosophy or theory, but as a practice that has been acted upon individually and collectively on a global scale.

'Anthropocentrism has been acted upon to bring forth the Anthropocene', as Vetlesen argued. This in turn has created the situation where capitalism's exploitation has become so wholesale on a global scale that it is destroying its capacity to reduce itself and replenish. In Vetlesen's view, if we continue along the path where only humans have intrinsic worth, we are bound to destroy everything on which we depend to survive on earth, and following this view I suppose it does not matter how many COPs we organize as long as we do not make fundamental changes in the way we think and act in relation to nature. This I would label as well-grounded pessimism. We could

benefit from pushing the discussion further and consider how these insights in turn can shape new practices.

Moving along the pessimism-optimism scale, Harold Wilhite also approached COP21 from a systemic viewpoint, seeing the problems as central to the imperatives of the political economy of capitalism. Similarly, although these are my own words, capitalism is a social system. Wilhite showed how, despite all our efforts, OECD countries have only been able to stabilize, not decrease, energy consumption. This relates to the shortcomings of ecological modernization and purely technical solutions to climate change, as history has shown us that technological progress, for example through energy efficiency, has been outperformed by higher levels of consumption. Prosperity and wellbeing have come to be deeply associated with large housing space, privatized means of transport, refrigeration and a range of energy consuming everyday practices. The challenge is just getting bigger. While we have to some extent been able to stabilize energy consumption – at a very high level - there is an increasing and basic structural demand from emerging economies as they are using more energy to fulfill their domestic demands. We know that if current trends continue the majority of global consumption of energy and resources will take place in Asia.

Those were the most fundamental systemic critiques of COP21 to emerge from the presentations on the first day of the workshop. Similarly, we heard from Astrid Stensrud how international climate negotiations ignore alternative forms of climate governance. Indigenous knowledge and belief systems are given no attention in this specific knowledge paradigm. Stensrud powerfully argued that this is not only a problem of mitigation efforts, but also approaches to climate adaptation. While adaptation is often approached as a relatively neutral activity, Stensrud showed how adaptation measures are embedded in existing power structures and ideologies, such as in neoliberal commodifying approaches to water conservation through privatization of water resources.

Market-based approaches to climate change were also debated in the plenary session during the first day of the workshop. Here opinions varied greatly both among the panel members and the other workshop participants. Should we make the market work to our benefit, or would this imply trying to find solutions to our problems by using the tools and logic that have caused the crises we are in? I will certainly not try to answer that question in this brief note.

Governance and accounting

Turning towards the framework of the Paris agreement, we were given an excellent overview of the agreement by Guri Bang. The COP21 was

approached through what I would here label as cautious optimism. While it is clearly positive that an agreement was reached, a central question was how loosely the agreement had to be framed in order to get all the big emitters aboard.

Asuncion St.Clair argued that there are transformative governance structures emerging from COP21. First of all, the agreement opens for polycentric governance, and for a range of actors—from businesses to communities and individuals—to push ahead without waiting for traditional governance structures. Secondly, St.Clair argued that adaption is for the first time on par with mitigation. Climate governance, she argued, is finally recognized as an urgent and immediate task, not something of the future. St.Clair contended that adaptation to climate change in turn can lead to increased awareness of the problems we are facing, which in turn can benefit mitigation processes. Thirdly, COP21 further opens for hybrid forms of governance through for example recommended practices and standards, and fourthly, there is increased focus on interconnections. St. Clair strongly argued that climate governance cannot be approached as an issue separated from other societal concerns, and this is something that also needs to be realized in research on climate change.

Asbjørn Torvanger explained how the agreement is based on contributions, not commitments. There are certain rules, but there is no real compliance mechanism. So how can we expect the agreement to make an impact? Torvanger argued that it is possible to build on transparency and that reporting and stocktaking will be crucial for national implementation. The problem is that so far countries use widely different measures and time lines, and in order to achieve consistency and comparability he thus suggested a framework—a core reporting format—consisting of the same time horizons, reference situation, emission reduction targets and coverage in terms of sectors and greenhouse gases.

The role of emerging powers/emerging economies

We know that the world economy and power structures are shifting towards the East and South. How is this reflected in international climate governance? Again, the views presented by the panelists ranged between pessimism and careful optimism.

There was some disagreement concerning the “right to development”. Does the rest of the world have a moral right to reach the high consumption levels of the rich parts of the world? Turning things around, should the rich countries take on a greater share of the global carbon reduction burden?

Guri Bang argued that one of the great breakthroughs of COP21 is that all major emitters are at the table. While it is still too early to tell what the final

outcome will be, this represents an important window of opportunity, although she reminded us that the trajectories of the big emitters so far have given more reasons for concern than hope. Bang analyzed the highly different economic, social and political contexts of the big emitters, from Obama's efforts in the US through India's dire need for economic development to China's top-down political system trying to balance rapid economic development and environmental concerns. Bang also discussed the often crucial role played by non-governmental actors, which I return to below.

Staying in China, and staying carefully optimistic, Taoyuan Wei gave us important insights into the evolution of Chinese climate politics. He presented the three main historical stages of China's position towards climate change as earlier located in a paper by Iselin Stensdal, developing from a scientific research issue in 1988-97, a development and security issue in from 98 to 2006, and finally a national priority starting in 2007. Although China's high-carbon actions in the years following 2007 gave little reason for optimism, as Eduardo Viola pointed out in a comment, Wei explained this as a time lag between decision making and implementation. Since 2007, China has started adjusting the industrial structure, promoting energy savings and low-carbon development and attempted to reduce emissions. Nevertheless, Wei showed how this fits into broader development objectives of China, and that the pledges made to the Paris agreement may look impressive but are actually rather conservative. Again, public pressure has played a central role, and again I will return to this below.

While China may provide a glimmer of hope, Eduardo Viola sees little promise in the other emerging Asian superpower, India. Viola located China and India as two out of four "Great Climate Powers", with the US and the EU the two other. To be considered a great climate power, Viola argued, a country should cause a high proportion of global emissions of greenhouse gases as well as have the relevant human and technological capital to be a part of more climate friendly future solutions. Viola further classified the great climate powers along with the middle climate powers as conservative, moderately conservative and reformists based on their climate commitments. In contrast to China, Viola argued, India is seemingly not taking any measures regarding climate change, but is instead 'developing as if developing pre-climate change'. Viola furthermore argued that we need a deep de-carbonization coalition. While he remained rather pessimistic due to a wide range of structural problems of international climate agreements - such as the failure so far in financial transfers to poorer countries - Viola argued that the Paris agreement gives us a very helpful normative framework, thus giving us some reason for optimism.

Consumption versus production

Consumption has not been among the most discussed issues of the workshop, but something that kept emerging in presentations and the following discussions. In a globalizing world economy measurements based on production gives a distorted picture of resource use. Nevertheless, as Torvanger pointed out, emissions from production are easier to measure, and, as Viola argued, production-centrism is deeply embedded in climate negotiations.

The emerging economies give reasons for concern when it comes to consumption. While rich countries continue increasing their ecological footprints, emerging middle classes represent significant increases in consumption and pressures on the environment. And, while we are making some partial progress in developing greener standards, developing/emerging countries are largely moving in the opposite way. Housing gets less climate friendly, diets more meat intensive, transport more individualized and motorized. This is not only the case in China and India, but in a wide range of countries experiencing rapid economic growth.

Still, there are fundamental differences between emerging economies and rich countries overall, with many remaining challenges in terms of economic and human development in the former. As a development geographer, I usually take the opportunity to mention that achieving economic development is an extremely difficult task in itself. Thus, to expect that these countries should manage to do what we have never done is probably at best a delusion.

The role of civil society

My final point concerns civil society, however we define this rather elusive category.

I should probably mention business as well, which I am not including as part of civil society. In the discussions and presentations of the workshop, opinions on business ranged from being seen as key to a sustainable transition to Capital's exploitative imperative as the problem itself. I leave that for now, and end with some words on civil society.

In most discussions, civil society was seen as comprising important actors, although in very different ways, and not necessarily as pro-environment.

But non-governmental forces are important, to different extents, for the transparency processes asked for by Torvanger, for the green community movements located by Wilhite, for the policy environments described by Bang, for the change in China's environmental policies discussed by Wei, St.Clairs transformations, Viola's deep de-carbonization coalition,

Stensrud's climate justice or ecologisms of the poor; and probably for the change towards a less anthropocentric worldview called for by Vetlesen.

Thus, and perhaps somewhat surprisingly, the (potentially) important and largely neglected position of civil society in global climate governance was where the rather divergent discussions of the workshop actually converged.

This Oslo Academy of Global Governance working paper is the product of a workshop conducted at the University of Oslo on February 15 and 16, 2016, the purpose of which was to analyze and critique the outcome of the 21st annual Conference of Parties (COP 21), the theory of change behind it and the COP process in general.

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