

of the world have agreed to agree on a global climate treaty that is supposed to give us the best possible climate future as opposed to the catastrophic business-as-usual course we are on.

This [Conference](#), the one I am at, is called Our Common Future under Climate Change (a clever evocation of a ground-breaking, far-sighted book from 1987 described below) has four overarching objectives:

1. Provide state-of-the-art scientific knowledge on climate change, one year after the release of IPCC AR5: physical basis of climate change, impacts, adaptation and vulnerability, mitigation, storylines and scenarios. [The Intergovernmental Panel on Climate Change, or IPCC, issues definitive state of the art summations of what is known on the topic every five or six years; AR5 is the fifth such report, published in three volumes over the course of 2013 and 2014, one on [the physical science basis of climate change](#), a second on [impacts, adaptation, and vulnerability](#); and the third on [mitigation](#), or scenarios for the reduction of greenhouse gas emissions].
2. Explore a wide range of pathways combining climate change mitigation and adaptation, and sustainable development.
3. Assess the potential for evidence-based solutions to climate change challenges.
4. Contribute to a science-society dialogue.

I've come because I want to learn more about climate science, for which I have feelings of profound awe and utmost respect – it lays out, after all, one of the underlying existential justifications for why we need to change the system. And I've not been disappointed: through jet lag, missing baggage, coffee deficits, and the usual format of scholarly presentations (which can be excruciatingly boring, especially maddening when the subjects under discussion are important or gripping), I've come away with that awe intact.

You can hear the first day's opening plenary on The State of Knowledge on Climate Change, which I missed due to jet lag, [here](#). Thomas Stocker, one of the lead authors of the Physical Science Basis report, presents a synthesis of its findings.

Warnings from the frontlines of science

Day Two, on Landscapes of Our Common Future was especially eye-opening. I heard Karen O'Brien, a sociologist at the University of Oslo and a contributing author to the Impacts, Adaptation, and Vulnerability volume of the AR5, give an excellent talk on how we are addressing the wrong problems, i.e. technical problems rather than the diversity of values, mindsets, and worldviews where emotions are key and politics are central: we need to “change the politics, not the climate,” adapting from the inside out and making changes in the twin evils of consumerism and capitalism which drive the crisis.

Ricarda Winkelmann, from the [Potsdam Institute for Climate Impacts](#) told us that the drying of the southwestern United States is one of two dozen global “tipping point” areas for the climate as a whole, where severe impacts are quite possible. One of the scariest and most plausible is that the now irreversible melting of certain parts of Antarctica (we just don't know when) will almost surely affect the Atlantic thermohaline circulation and raise sea levels (add the melting of the

Greenland ice sheet as another tipping point, and then imagine the feedbacks between even just these two events!).

Paul Leadley of the University of Paris was very good at showing how protecting biodiversity can aid in the mitigation of climate change. He noted that most of the less than two degrees Celsius scenarios for global warming in this century now rely on bioengineering and carbon capture and storage, and that attending to biodiversity preservation can alleviate some of our illusory reliance on a last minute deus ex machina miraculous “solution” to the problem of climate change.

Corrine Le Quéré, another of the authors of the AR5 report on the physical science, and Director of the indispensable [Tyndall Center for Climate Change Research](#) at the University of East Anglia, England, observed that the concentration of CO₂ in the atmosphere – the main mechanism that produces the greenhouse effect – now rises at two parts per million a year (it’s at 403 ppm now and 450 is considered another boundary we must not pass), and it’s only this low because the oceans and land biomass have been absorbing more than half the total warming, a gift of mitigation that cannot go on forever, and that, worse, is devastating our creaturely relatives who inhabit the oceans. I made a note to learn more about [the carbon cycle](#) that is so fundamental to understanding climate change.

Shobhakar Dhakal from the Asian Institute of Technology in Thailand talked about the cities of the future. Right now, 71-76 percent of CO₂ emissions come from cities, and even more if one takes into account the upstream effects of cities, which hold fifty-four percent of the world’s population (3.88 billion people) at the moment, a number estimated to rise to sixty-six percent (6.34 billion people) by 2050. China alone is projected to increase from 52.6 percent urban in 2012 to sixty percent by 2020! Low-carbon solutions for city life are thus particularly crucial, and Dhakal stressed that these solutions had to be transformative, not incremental.

One of the scariest things I registered here for the first time is that most of the scenarios for remaining under two degrees require negative net emissions after 2050, which means that they assume that we will pass the greenhouse gas concentration levels that we have to stay under, and can only get back to them by relying on taking carbon out of the atmosphere at some future point after having put it there in the first place!

Some see this happening through increasing the world’s forests and biomass to absorb more carbon, others through technological fixes which aren’t yet deployable like carbon capture and storage. For others, including Kejun Jiang of China’s Energy Research Center, both CCS and nuclear power are part of the plan. The mainstream thinking is that if we exceed the planetary boundary on climate change, we can reel it back later, or maybe deploy some massive scale geo-engineering fix to carry on more or less with business-as-usual.

Yet, to be fair, most of the people I heard speak made it quite clear that continuing on the path we are on is a recipe for catastrophe. So there seems to be a kind of cognitive disconnect between the science and the solutions to our planetary dilemmas.

This disconnect was magnified when I encountered the cutting edge of the big picture social and policy analysis in these meetings.

Warnings to the social science around the IPCC

Another of my aha moments was the realization that the mainstream – and this would be even more true of the negotiators at the COP as well, to the degree that they understand the science, which I have to suppose that many of them do – is that most of the people chosen as speakers here not only present overly optimistic scenarios of the future, but have next to no idea or understanding of the ways to overcome the obvious barriers to attaining them. Dealing with existing social, economic, and political crises while managing climate change as best we can, requires deep systemic change. We simply have to talk honestly about capitalism, consumption, poverty, social justice – and critically, without assumptions or illusions (if that's possible). I see no way around this; for starters they might read Naomi Klein's [This Changes Everything: Capitalism vs the Climate](#).

An important and highly praised new initiative that I only became aware of here is [The World at 2050: Pathways Toward a Sustainable Future](#), a project jointly launched in March 2015 by the International Institute for Applied Systems Analysis (IIASA), the [Stockholm Resilience Center](#) at Stockholm University, the [Earth Institute](#) at Columbia University, the UN Sustainable Development Solutions Network (SDSN), and the [Alpbach Laxenburg Group](#). Indeed, one of the morning's plenary speakers was Johan Rockström, director of the Stockholm Resilience Center, and leader of the group of Earth scientists who in 2009 developed the visionary [Planetary Boundaries](#) approach to understanding the ecological impacts and limits of human activity on the planet.

In the afternoon, I attended The World in 2050 session, headlined by Rockström and Jeffrey Sachs, Director of the Earth Institute at Columbia University, an economist and former advisor to the governments of Bolivia and Poland now better known for his more recent work on poverty reduction and sustainable development. So many others in attendance had the same idea that we were moved to a larger auditorium.

While waiting in the corridor, I had the surprise and pleasure of meeting Kevin Anderson and Alice Bows, both of the Tyndall Centre, two of the leading radical climate scientists in the world and personal heroes of mine since hearing them speak in Warsaw at COP 19 in 2013, where Anderson [said](#) "Today, after two decades of bluff and lies, the remaining 2°C budget demands revolutionary change to the political and economic hegemony." Here in Paris he said to me that the IPCC and UNFCCC, which oversees the COP climate treaty negotiations were both locked into a discourse where they cannot understand or act upon the implications of their own science. Why is this? Because of the fossil fuel industry's control of the process and the discourse, basically.

Once the session resumed, with Sachs absent, Johan Rockström introduced their World in 2050 project, describing it as an initiative to link climate science (his specialty) with the [Sustainable Development Goals](#) (Sachs's specialty), set to be finalized when the UN convenes in New York at the end of September. Four of the seventeen SDGs currently under consideration refer to planetary boundaries, and Rockström sees it as the first treaty to connect people and the planet, a more precise successor to the highly influential 1987 Brundtland Report which was called [Our Common Future](#) and coined the term "sustainable development," famously – if open-endedly – defining this as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

In the project launch back in March, Rockström [said](#),

“The novelty of the World in 2050 project is both the integration, exploring the feasibility, tradeoffs and synergies of the deep transformations; and the approach of starting from our goal of a future where humanity thrives on a stable resilient planet, and back casting from this point to find different pathways to meet this goal.”

Nebojsa Nakicenovic, former Professor of Energy Economics at the Vienna University of Technology and now Deputy Director General of the International Institute for Applied Systems Analysis (IIASA) then discussed in very general terms the shape of these pathways, showing us a slide of a “Possible Unified Field Analytic Approach” to climate change, which included values, power structures, and culture among the “ultimate drivers” of climate change.

Dr. Detlef von Vuuren, senior researcher at PBL Netherlands Environmental Assessment Agency and a professor in Integrated Assessment of Global Environmental Change at the Faculty of Geosciences, Utrecht University, spoke on integrated assessment models, and showed us a slide with a dotted line between The World at 2050/SDG’s ambitious goals and “business-as-usual” scenarios which have us heading for a world of plus four degrees Celsius. The dotted line represented “transformative actions and policy.”

This prompted a pretty engaging discussion, which I led off by saying:

“Your assumptions are backwards – you cannot reach the SDGs on equity, poverty reduction, or democratic governance under the present global political economy. The only way to achieve these wonderful goals is to make fundamental system change in governance that makes it actually democratic, to get the fossil fuel industry out of politics, governance, and the economy. If you’re talking about real, substantive, qualitative sustainable development, you can’t get there from here without leaving the logic of the systems we are now in – markets, capitalism, neoliberalism, unrepresentative democracies. The only way to do that is through social and political movements for radical social change.”

Kevin Anderson followed up with a more measured but devastating call for new emissions scenarios, pointing out that almost none of the 160 considered by the AR5 were going to achieve less than two degrees without requiring negative emissions after 2050, which, even if it were somehow possible, would be too late. In fact, he said, most of the less than two degree scenarios had emissions peaking by 2010, wryly noting that in addition to a *deus ex technologica* this would require time travel.

All of this was very politely handled by Nakicenovic, Rockström, van Vuuren, and Dr. Pavel Kabat, IIASA’s Director. Each expressed their openness to more radical approaches to pathways; van Vuuren welcomed collaboration “with people who bring different story lines.”

Not so Robert Socolow of Princeton University, who accused me of being unrealistic and crazy (I paraphrase), taxing me with ignorantly advocating the dangerous route taken by twentieth century revolutions.

I was graciously allowed a closing reply, which I used to say that indeed I was something of an expert on twentieth-century revolutions, and that he perhaps needed to learn more about twenty-first century movements for radical social change, such as the global climate justice movement, which I tried to reassure him didn't too closely resemble the social revolutions of the twentieth century. I concluded by saying that the global climate justice movement was the only social force that was taking the science seriously (here I was exaggerating for emphasis in full knowledge that there are many social forces and even some states who do so).

* * * * *



My DIY effort under construction. [Click for larger image](#)

My own participation in this massive conference was a poster presentation titled Re-Imagining Radical Climate Justice for the Post-Paris World, unfortunately just an abstract for a talk I would not be giving. In the end, I had a wonderful time chatting with nearby poster-mates Lukas, from Germany, working on how carbon markets were failing around the world and therefore would undermine the treaty; Daoud, from Burkina Faso, who is part of a team in Montpellier working on malaria, poverty, and the impacts of climate on both; and Michael, from South Africa, who is working with others on a project that involves community-agenda setting for climate issues in South Africa, Peru, Chile, and Brazil.

Other friendly passersby included Vijaya, from India whose research shows how carbon offsets fail to trickle down to indigenous communities, and a man who works in northern Thailand and neighboring countries on water provision and management in rural communities. As usual, there's good news and bad news out there in the world, where real people are facing the onslaught of climate change and showing us our own futures here in the global North. Let's learn from and with them and share everything we know far and wide to build this movement, whose day is coming.

Share: