

SESSION REPORTS FROM GENERATION 1.5C: AN INTERGENERATIONAL CLIMATE CONFERENCE

Dates: 22-23 April, 2017

Location: Rhodes House, Oxford

SATURDAY, 22 APRIL

Speaker: Clare Shakya

Session: *The Challenges of Generation 1.5 C, keynote*

Clare Shakya is the Director of International Institute for Environment and Development's (IIED) Climate Change Group. She has over 25 years of experience in development, in climate, energy and natural resources working for IIED and DFID. She is responsible for the oversight of the propositional research of IIED's climate change group and their strategy to deliver the SDGs in a 1.5C world.

Note: Below is a summary of Clare Shakya's speech to Generation 1.5C, the 2017 Rhodes Climate Conference. Direct quotes are noted.

The Challenge: Political, Geographical, and Urgent

Climate change is a difficult problem because the planet is warming unevenly and this warming means different things for different places; a degree of warming in Namibia had more severe impacts than a degree of warming in England (but the picture's pretty bad all over). On top of this, the geography of causes and consequences is mismatched. Currently, 10% of the world's population emit 50% of the carbon emissions; they're people like us. This is an environmental justice problem on a global scale. There are four main camps the politics of climate change: outright deniers, who argue that climate change doesn't exist; skeptics, who argue that it exists but is a low priority; incrementalists, who argue that its happening and we will address it slowly with policy and technical fixes; and radicals, who argue that something fundamental needs to change in society.

One way to think about global carbon emissions is through the concept of carbon budgets. This is the amount of carbon we, as a society, can emit globally before reaching 1.5 or 2 degrees Celsius. In 2011, our global carbon budget was 100 billion tons. To stay below 2 degrees of average warming, though, rich countries must get to net zero emissions by 2035 and poor countries must get there by 2050.

"The poorest countries will face the most impacts and have emitted the least."

Tradeoffs & Triple wins

Poverty and climate change are linked. Often development and the environment are framed as a tradeoff. However, you can't decrease poverty without tackling climate change since poor people live in areas with lots of climate vulnerability. It's possible to get to a sweet spot—a triple win—with poverty alleviation and social justice, climate mitigation, and equitable contributions. The Paris Agreement tries to do this, but as it stands right now the poorest countries are doing the most to curb emissions and no nationally determined emissions reductions were binding. This means getting bold climate policy requires us caring and pressuring governments.

How are we doing?

2016 was a fraught year for global policy. Brexit was bad news for the climate. Trump debates pulling out of Paris. But the US and UK government aren't the whole story. The poorest countries and the global business community are taking the lead. Sub-national governments are also making big moves to curb emissions. But to make this all work we need climate finance. And right now, the picture on climate finance is bleak: globally the most developed countries have pledged \$35.3 billion, but only 8% of that has been spent. To meet Paris targets, the poorest countries need \$100 billion. Only about 5% of energy finance, to date, has gone to the poorest countries. Moreover, off grid electricity in rural poor countries constitutes most of the energy generation but the least amount of spending.

“We’ve got a long way to go.”

Achieving Pro-Poor Climate Policy: What we need to do

We need to make four bold changes to climate policy. *First, we need an “accountability architecture” to achieve the Paris Targets.* This includes civic action, government commitments, and meaningful multi-stakeholder engagement around climate policy. *Second, we need to commit to risk management.* In the developed world, a big part of this is transforming the energy system by lowering technology costs and increase solar market growth while promoting distributed and smart grids. *Third, we need money where it matters.* This entails developing serious climate cash transfers from the Global North to the Global South alongside well governed institutions to make these transfers effective. *Fourth, we need long term investment in the capital of the poorest countries.* We don’t need more one-off development projects and fly-in fly-out technical advice, but rather long-term investments in climate smart agriculture and green skills.

Rapporteur: Colin Higgins (Wisconsin & St. Hilda’s, 2016) | MPhil in Geography & The Environment

Speaker: Kathy Jetñil-Kijiner

Session: Art & Activism, workshop session

Kathy is a Marshall Islander poet and speaker. She has been selected as one of 13 Climate Warriors by Vogue in 2015 and the Impact Hero of the Year by Earth Company in 2016.

The Key themes of Kathy’s session were that art serves to humanize climate change, and that poetry can serve as a voice to raise awareness of climate issues particularly to share the importance of the biosphere, the ocean, people, and butterflies.

Using poetry and performance art, Kathy Jetñil- Kijiner brought the Rhodes scholar climate change forum to the world of the Marshall Islands and the problems faced by inhabitants of the islands, including the island where she lives, which sits 2 meters (7 feet) above sea level. She showed us impacts of rising sea levels and extreme weather events being experienced by islanders. Photographs of the island, houses destroyed by the impact of the waves and the description Kathy provided in her poems connected us with the traditions, character and inhabitants of the islands. The changing shoreline, photographs of graves falling into the ocean, and the story of the island that no longer exists brought to life the reality of a world facing the effects of climate change.

Kathy shared poems with us, the first, *Dear Matafele Peinam*, a poem she used to comfort her baby as the child fell asleep. It is a poem that captures a precious moment where a mother provides a snapshot of the beauty and co-existence of a people, an island and the ocean. This is a poem that Kathy presented to the United Nations Climate Summit in 2014 and which led to her discovery as a world-renowned poet.

The second poem, *2 Degrees* spoke of her role in advocating the 1.5 as opposed to a 2.0-degree temperature rise for the United Nations Council of Parties meeting. The poem speaks of the importance to Marshall Islands inhabitants of this .5-degree difference using the analogy of a child with a fever that will become life-threatening unless addressed and treated. Kathy’s message became more determined to gain the listener’s attention as she referenced treating the Marshall Islands and their inhabitants as people to be swept off the table and forgotten in the climate change challenge. Her poetry is strong and brings an enduring impact as it is written and spoken with confidence and care.

Kathy hesitates in calling herself an activist but she should be assured that her message is important and well received by world inhabitants. Kathy's passion and inspiration is taken further with creation of a youth group, Jo-Jikum, that continues to raise awareness of climate change and how it is affecting the Marshall Islands.

In another poem, *Butterfly Thief*, she alludes to the criminality of humankind's role in creating climate change and neglecting to deal with it effectively. This analogy spoke clearly to our group about the need to take concrete action to deal with climate change and not to allow those responsible, all of us, to walk away from the threat to life on earth.

Kathy ended her presentation with an interactive session where she invited Rhodes delegates to share their experiences on a climate change issue. This caused us to reflect and realize that this is not someone else's problem but a problem in which we each play a part.

One of Kathy's poems, *There's a Journalist Here*, leads me to conclude that I am fortunate to be the Rhodes scholar journalist who can convey to those who read this summary how the climate change forum benefitted from inviting Kathy Jetñil-Kijiner, a talented poet and performance artist, to play a part in our forum. She is an artist who has had and will continue to have a significant impact on climate change matters for the Marshall Islands and planet earth.

Rapporteur: Charalee Graydon (Prairies 1982 & Wadham) | Faculty member- EUCLID University;
Member of Mediation Beyond Borders International Climate Change Group, United Nations Working Group and UN Compact sub-committee

Speaker: Achim Steiner

Session: The Policy Challenge, workshop session

Achim Steiner was appointed Director of the Oxford Martin School on 1st September 2016. Prior to joining the University of Oxford he served as United Nations Under-Secretary General and Executive Director of the United Nations Environment Programme (2006-2016). During his tenure at the United Nations, Mr Steiner helped to position UNEP as a central global player on issues such as climate change, technology innovation, ecosystems management and the role of markets and the private sector in sustainable development.

Rapporteur: Coming soon.

Speaker: Bill McKibben

Session: Activism & Civil Society, keynote

Bill McKibben is an author, environmentalist, and the 2014 recipient of the Right Livelihood Prize, often referred to as the 'alternative Nobel'. He has written over a dozen books and founded 350.org, the first planet-wide, grassroots climate change movement. 350.org has organized over 20,000 rallies around the world in every country except for North Korea.

Note: Below is a summary of Bill McKibben's speech to Generation 1.5C, the 2017 Rhodes Climate Conference. Direct quotes are noted.

Setting the stage

In April 1970, 10% of the population of the US rallied together to demand environmental action, leading to the passage of the Clean Air Act, Clean Water Act, and other landmark climate legislation under President Richard Nixon. This movement was testament to the ability of large-scale political will to effect meaningful climate action.

The evidence of climate change is clear. The last 3 years have been the hottest on record, the Great Barrier Reef is undergoing rapid bleaching, and the current drought in Somalia could be the biggest humanitarian disaster since WWII. This is not a phenomenon that *will* happen -- it *is* happening. And the worst part?

"The people who did the least to cause this problem will suffer first and hardest from it."

A fight, not an argument

The pace of the disaster should govern the scale of our reaction. In our current state, personal choices are important but not enough. We need large-scale policy responses to climate change. This doesn't necessarily require novel policy; many currently existing policy options, if implemented, could be enough. The necessity of policy-based response makes political will essential.

The science on climate change has been relatively clear since the 1990s, but this hasn't reduced the intractability of the issue. In essence, this is no longer an argument about climate change. It's a fight against money and power.

The fossil fuel industry has studied the environmental impact of carbon for decades. By the 1970s, oil & gas company scientists *knew* what was happening, and company executives listened. But rather than changing practices to curb environmental impact, they moved to take advantage of fossil fuel reserves that would become available with the transforming environment (in previously inaccessible areas in the Arctic, for example). They built a policy infrastructure of denial to fight progress on climate change policy. And they didn't tell anyone else. (This is the subject of ongoing investigations in the US states of New York and Massachusetts).

Policy as usual

Even before Donald Trump, policy responses to climate change weren't adequate.

Canadian Prime Minister Justin Trudeau and his government have expressed support to the 1.5C target, citing the work of island nations. But in a recent Houston meeting with oil executives, Trudeau indicated that Canada would not leave 173bn barrels of currently discovered oil reserves in the ground. When extracted, sold, and burned, this 173bn barrels constitutes 1/3rd of the remaining carbon budget to meet the 1.5C target.

This investment in fossil fuel infrastructure has been mirrored in other countries like Australia and the US, which under Barack Obama surpassed Russia and Saudi Arabia as the biggest supplier of hydrocarbons in the world. COP21 in effect was a greenwashing exercise, allowing countries to nominally commit to stringent targets while continuing with policy as usual. And "liberal politics as usual is not producing the outcome we desire."

Our currency

Facing an enormous accumulation of resources in the fossil fuel industry, climate activists need a different form of currency to compete. That currency is *large-scale movements*.

10 years ago, there wasn't a coordinated, grassroots climate movement. This led to the founding of 350.org, named for the upper limit of carbon in the atmosphere (350ppm) to maintain life-sustaining conditions on Earth. 350.org has organized 20,000 demonstrations in every country except for North Korea, working to center the voices of those most affected and stop (sometimes physically) fossil fuel companies from starting new, large scale products.

"Time does not allow a gradual, orderly transition. We're in an emergency"

Today's movements

350.org fought the Keystone XL pipeline, with activists going to jail in record numbers to stop it. This was a model movement for people around the world to fight ongoing and new pipeline projects.

[350.org](https://www.rhodes-trust.org/350.org) and other climate activists face a harsh reality: the people hit hardest by climate change are the ones who have contributed the least to causing it. People in high-contributing countries must work with those in vulnerable areas to press for swift and comprehensive policy action from governments around the world. For climate activists today,

"Winning slowly is the same thing as losing."

Rapporteur: Abi Kulshreshtha (Texas & St Peter's, 2015) | DPhil in Theoretical Physics

SUNDAY, 23 APRIL

Speaker: Dr. Varun Sivaram (California & St. John's, 2011)

Session: The Clean Energy Revolution, workshop session

Dr. Varun Sivaram (California & St John's 2011) is the Douglas Dillon fellow and acting director of the Program on Energy Security and Climate Change at the Council on Foreign Relations. He has been an advisor on energy policy, counseled Fortune 500 companies on adapting to the modern energy landscape as a consultant with McKinsey & Company, and been recognised in Forbes' 30 under 30 in Law and Policy. His presentation highlighted the complexity of deep decarbonisation of the energy sector, and the role of new technologies.

Solar energy has potential to become the leading renewable technology, and supply one third of the world's energy by 2050. This requires innovation in business models, energy system design, and the underlying technology to allow mass production and applications beyond direct electricity generation. For the broader goal of decarbonization, similar changes are needed along with a shift away from '100% renewable' targets.

This is because meeting demand at all times without wasting electricity requires a combination of constant, fast peaking, and intermediate peaking energy generation. Supply from solar and wind is highly variable, depending on factors like weather, sunlight hours, and seasonal cycles. Relying on those technologies would therefore require substantial excess capacity, and battery storage equivalent to 8-16 weeks of current demand, more than could be achieved by installing the best available battery units in every home worldwide. Instead, solar or wind energy could make up the variable daytime supply often provided by natural gas currently, coupled with more rapid control from storage, biogas, or demand response measures. A reliable baseload of nuclear power, reservoir hydroelectric generation, or fossil fuels used in combination with carbon capture and storage would also be needed.

Not all of those technologies are currently available, and predictions indicate that 80% decarbonization by 2050 will be necessary to stabilize global temperature at all, without consideration for a 1.5°C or 2°C limit on warming. This creates a pressing need for continued development and innovation. The potential future grid Varun described would use a different mix of energy sources, a changed structure of localized microgrids connected by long range transport to generation sites, and intelligent control of usage patterns to make the most of high generation periods.

The discussion generated by this presentation was wide ranging and animated. Participants engaged on the varied potential of future technologies from transport to energy storage, challenged the wisdom of future reliance on nuclear power, and grappled with the tension between striving to keep emissions below warming targets, and following an achievable path to decarbonization. There were no easy answers to the politics of pushing for 100% renewable, nor the realistic limits to how fast we can cut emissions short term or decarbonize long term. Instead, we left the workshop with plenty to consider, and a better understanding of energy generation and its many possible futures.

Rapporteur: Kimberley Savill (New Zealand & Brasenose 2016) | DPhil in Condensed Matter Physics

Speaker: Dan Esty (Massachusetts & Balliol, 1981)

Session: Towards a Green Economy, workshop session

Dan Esty is the Hillhouse Professor of Environmental Law and Policy at Yale University with primary appointments in Yale's Environment and Law Schools and a secondary appointment at the Yale School of Management. He serves as Director of the Yale Center for Environmental Law and Policy and on the Advisory Board of the Yale Center for Business and Environment, which he founded in 2006.

The key theme of Dan Esty's session was that a top-down governance approach to climate change does not work. Instead, there have been many promising developments in the business sector, in private philanthropy and in finance which could be harnessed to tackle climate change. He outlined his ten key principles for how to effectively tackle climate change. These were:

The top-down approach of the 1992 Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol wasn't successful and many countries did not meet their binding climate commitments. The approach under the Paris Agreement of allowing countries to choose their own nationally determined contributions has encouraged greater cooperation and more countries to take on mitigation actions.

Laws are not enough to tackle climate change, as often people simply don't implement them. Instead, having effective incentives to influence behaviour is more important.

The Annex 1-non/Annex 1 divide in the UNFCCC was a mistake as it meant the developing countries were 'not in the game', but sitting on the sidelines which is no longer feasible – all countries need to take action to tackle climate change.

Business is not just a problem, but can also be a solution to climate change.

The Official Development Assistance (ODA) approach to helping developing countries address climate change hasn't worked. Markets are needed to incentivise and stimulate climate action.

We need clever philanthropy from those wealthy enough to make a difference.

We also need clever finance and investments to stimulate green technology and sustainable business practices.

We need metrics to track our performance and answer the question: how do we know if we are on track to meet our climate goals of 1.5-2 degrees C?

We should move from a model of 'red lights' and saying 'no', to a positive vision and incentives to encourage and say yes to 'good' behaviour.

It is important to be optimistic - optimism can be self-fulfilling.

Throughout his talk, Esty also suggested that we shouldn't be completely closed-minded about geo-engineering and that geo-engineering with a robust governance framework should be researched in more detail. He also argued that adaptation and mitigation are now widely recognised as both being essential responses to climate change, which is a stark difference from the attitude in the 1990's where talk of adaptation was considered to be 'giving up'.

With regards to incentivizing sustainable behavior, Dan Esty argued that we need to connect with people on their own terms. Using language and ideas such as 'innovation', 'clean energy', 'reduced energy costs' and 'independence from foreign oil' motivates people and policy makers, whereas framing climate change as a problem which is too big cause people to turn away or feel helpless.

One key point of discussion was about the role of limiting population growth in tackling climate change. Dan Esty argued that population growth slows naturally once people reach a certain level of wealth, which linked back to

his support for markets, philanthropy and economics-based policies for tackling climate change. Dan argued that people should not need to sacrifice a comfortable standard of living to tackle climate change, but that taking smart steps to combat climate change through business, finance, philanthropy and intelligently designed incentives can help tackle climate change while growing and maintaining a high quality of life for all.

Rapporteur: Rebecca Byrnes (Tasmania & Wadham, 2015) | MSc in Environmental Change & Management

Public Panel: Climate Solutions for Generation 1.5°C

Moderated by Charles Conn (Massachusetts & Balliol, 1983), CEO & Warden, The Rhodes Trust

Professor Myles Allen: *Professor of Geosystem Science, School of Geography and the Environment, University of Oxford*

We are currently at 1°C of warming, it isn't all over. But if we keep planning to use the Carbon underground we will pass 1.5°C. Only a tiny fraction of the innovation money is spent on CO₂ disposal, because the technology is very expensive. But that is the big innovation we need. The only industry that has the resources to develop this at the scale we need is the fossil fuel industry, which is 10% of the world economy. They created an undesirable product, so this should be considered a waste disposal problem.

The most effective way to make people change is to talk about their street. Climate change affects some people a lot more than others, and the longer we put off the discussion of who's being affected the more explosive it will be.

Congresswoman Elizabeth Esty: *U.S. Representative for the 5th Congressional District of Connecticut*

Both Bill McKibben and Dan Esty's approach to tackling climate change matter. We need political activism from the true believers. We also need to work on persuasion and use arguments and mindsets of people who aren't already onboard.

We will see a rise of regional blocks, and a resurgence of states in the US in the fight against Climate Change. California is the world's 6th largest economy, companies will want to meet California's standard.

Clare Shakya: *Director of Climate Change, IIED*

If the US leaves the Paris Climate agreement, it would hurt the US most. A coal based economy would drive up the cost of energy. Some companies have committed to go 100% renewable, and if those companies cannot do that in the US they will go elsewhere.

The 48 least developed countries don't just need recognition – they need action. \$100 billion that the rich countries pledged to the poorest countries is far too little. Only 40% of the adaptation funds go to the poorest countries. If irreversible damage is done to poor countries they should be compensated.

Dr. Varun Sivaram (California & St. John's, 2011): *Douglas Dillon Fellow and Acting Director of the Program on Energy Security and Climate Change, CFR*

The US needs to invest more in innovation. China has already won the battle for today's products, so the US should invest in more advanced products. Investing in solar could give oil companies a strategic edge, and in post-oil economy it would be good for them to diversify their investments. We should also be thinking of creative ways of getting rid of CO₂ like using it in making cement.

Rapporteur: Jessy Phillips (Ontario & Merton, 2016) | DPhil in Zoology