



# March 2017 NEWSLETTER

CENTRE FOR INTERNATIONAL ENVIRONMENTAL STUDIES  
GRADUATE INSTITUTE OF INTERNATIONAL AND  
DEVELOPMENT STUDIES  
Case postale 136, 1211 Genève 21  
T +41 22 908 44 61 - [cies@graduateinstitute.ch](mailto:cies@graduateinstitute.ch)

## Contents

- CIES Highlights ..... 1
- Geneva Dialogue ..... 1
- CIES News ..... 2
- CIES Research ..... 3
- CIES events and publications ..... 4
- Letter from alumni ..... 4

## Geneva Dialogue

### The Governed Planet: Climate Change, Targets, and The Role of Carbon Negative Technologies

Public lecture by Tim Flannery  
Tuesday 28 March 2016, 18:30 - 20:00  
Auditorium A1A, Maison de la Paix

Humanity is much closer to committing to crossing the 2°C climate 'guardrail' than previously thought. Moreover, impacts from the current 1°C of warming are proving severe, with catastrophic damage to coral reefs, extinctions and rapid ice melt occurring. It is now impossible both to avert crossing the 2°C threshold by reducing emissions alone, and to return Earth's climate to pre-industrial settings. What, then, should be done?

Please register: [graduateinstitute.ch/cies/events](http://graduateinstitute.ch/cies/events)

## CIES welcomes Tim Flannery



Acclaimed Australian scientist, explorer and conservationist **Tim Flannery** has joined the Graduate Institute as a Fondation Segré Distinguished Visiting Professor. Professor Flannery was previously Chief Commissioner of the Climate Commission, an Australian government body providing information on climate change. He was named Australian of Year in recognition of his efforts to explain environmental issues and bring them to the attention of the public.

Your most recent book is called *Atmosphere of Hope: Solutions to the Climate Crisis*. What is there to be hopeful and worried about?

I realised a few years ago that we were making some progress towards dealing with the climate issue, but not enough to avoid really serious consequences. What's heartening is the level of awareness of the dangers of climate change among young people: when I published *The Weather Makers* in 2005, climate change simply wasn't on the social or political agenda. It's also encouraging that global greenhouse gas emissions have leveled off since 2013, while the economy has grown. It's positive that innovation is driving our economies like never before. The wave of innovative technologies transforming clean energy will hasten emissions reductions, for

example by allowing us to draw CO<sub>2</sub> out of the atmosphere. But we must ensure that innovation is funnelled into climate-friendly infrastructure that will remain competitive in the low-carbon economy. Because we are fast approaching climatic tipping points, and it remains unclear whether we can act fast enough to avoid them.

What will you be covering in your course at the Graduate Institute?

I believe that the large scale deployment of carbon negative technologies will be required in the near future to avoid triggering dangerous tipping points in the climate system. My course will focus on the scale of human climate influence and the climate challenge, and the technologies and methods that are likely to be deployable at the gigatonne scale by 2050. These range from kelp farming, to the use of silicate rocks and through to the manufacture of carbon negative carbon fibre and plastics. We'll investigate clean energy's potential to help feed and clean up, as well as power, humanity, and look at new Third Way technologies and a new earth systems approach to carbon capture and storage in ice and oceans.

You are preparing a new book on the history of animals in Europe: what do you have in mind for the work?

Europe is a fascinating and exceptional place. I want to understand the forces that have formed it and shaped its species. And I need to know how those forces are playing out today. Looking back through 100 million years of Earth history, I think I have identified some of the factors responsible for Europe's special nature. Researching the book from Geneva is an exciting and challenging prospect.

## Upcoming CIES public lectures



John KNOX

Graham DUTFIELD

Tuesday 07 March 2017, 12:30 - 13:30

**"Biodiversity and human rights"**, by John Knox, UN Special Rapporteur on Human Rights and the Environment, Professor of International Law at Wake Forest University Auditorium A2

Monday 20 March 2017, 18:30 - 20:00

**"Intellectual Property, Food Security, and Rural Development"**, by Graham Dutfeld, Professor of International Governance, University of Leeds Auditorium A1B

Please register:

[graduateinstitute.ch/cies/events](http://graduateinstitute.ch/cies/events)

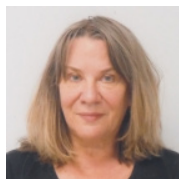
## Charles Mann's public lecture "State of the Species"



Last November, CIES welcomed Charles C. Mann, American journalist and author, for a public lecture on "State of the species - thinking of tomorrow's world of 10 billion". Homo sapiens is an unusually successful species, the late biologist Lynn Margulis liked to say, "but it is the fate of every successful species to wipe itself out. Why and how did humankind become "unusually successful"? And what, to an evolutionary biologist, does "success" mean, if self-destruction is part of the definition? Does that self-destruction include the rest of the biosphere? With more than seven billion of us crowding the planet, it's hard to imagine more vital questions. Charles C. Mann is the author of 1491: New Revelations of the Americas Before Columbus, winner of the U.S. National Academies of Sciences Keck award for best book of the year, and 1493, a New York Times best-seller.

## CIES news

### CIES welcomes Professor Susanna Hecht - Interview



A trained biologist, economist and soil scientist and long-time expert on Amazonia, **Professor Hecht** explores the history, dynamics and socio-environmental effects of cultures, economies and land use.

#### What is your academic background?

I've worked in Amazonia and Central America for a long-time, and did my doctorate on its development during the time of the dictatorships. My work revealed how much of what seemed to be "natural forest" reflected past and current management by forest peoples. The American tropics were home to great civilizations which depended on extensive trade routes, and on complex animal management and agricultural systems and forest management, to support large populations.

My more recent research looks at globalisation, both as a driver of deforestation but also as a means of its control. One consequence of extensive migration has been the role of remittances in supporting rural populations and in helping to reduce

land pressure. Dynamic systems of urbanisation have also been part of the picture. Globalisation is usually seen as a driver of destruction and of climate change, but it is perfectly possible to have people and forests in the same place, a proposition many traditional ecologists like to deny.

#### What are your views on climate change?

It's real, it's happening, and life on this planet depends on us doing something about it, fast. I'm part of a team of 50 University of California scholars and scientists studying ways to work towards carbon neutrality. Change will require not only scientific innovation, but also a lot of social innovation. While we wait for the innovative technology that will turn atmospheric carbon into diamonds, we have trees. We can manage them better to suck up more carbon, and we can put them in more places. It is one of the fastest way to offset emissions.



### MIA/MDEV Track on "Environment, Resources and Sustainability"

As of September 2017, Master students registered in interdisciplinary programs (MIA: Master of International Affairs & MDEV: Master of Development Studies) at the Graduate Institute will have the possibility to enroll in the new specialization track on "Environment, Resources and Sustainability". CIES members have been involved in setting up the new programme.

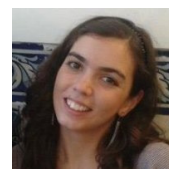
The track will comprise a core course on "Governance of Environment and Sustainability" introducing climate change, water, land use and resource trends and politics, and examining how they modify international affairs and development paths.

The students will be able to choose among 25 courses across four clusters: 1) The Global Framework, 2) Climate Change, 3) Resources, Governance and Politics, and 4) Agrarian Environments and Food Systems. This new specialization track is an important contribution towards CIES's mission to train students towards conducting research projects on environmental topics and towards careers in the fields of environment and development.

### CIES staff



**Nicholas Tyack** joined CIES as of February 1st as Research Assistant. He will be working on a land use project funded by the MAVA Foundation. He has just joined the PhD Programme in Development Economics at the Graduate Institute this past fall, and holds a Master's Degree in Economics from Charles University in Prague. He is interested in the economic valuation of crop diversity and biodiversity, and has worked with the Global Crop Diversity Trust and as an environmental consultant in his home city of Boston.



**Giulia Valacchi**, 4th year PhD student in International Economics, joined as of February 15th 2017 the Economics and Statistics division of the World Intellectual Property Organization (WIPO) as a research fellow. She will contribute to a research project on the role of innovation in the mining sector. The outcome of the project will be part of a dedicated book. Before joining WIPO, Giulia has worked for CIES as a Research Assistant in the Sinergia Project since 2014. Her research interests include innovation, technology diffusion, climate change and environmental economics.



# CIES Research

## Final Report on the Diffusion of Clean Energy Technology for the Green Economy in Developing Countries

The two-year interdisciplinary research project “Diffusion of Clean Energy Technology for the Green Economy in Developing Countries” has recently ended and its final report is now available.

Funded by the Swiss Network for International Studies (SNIS), this project was led by **Professor Liliana Andonova**, Professor of International Relations/Political Science at the Institute and Co-Director of the Centre for International Environmental Studies (CIES), and **Dr Joëlle Noailly**, Head of Research at the CIES, in collaboration with the University of Bern, ETH Zurich, Harvard University and the United Nations Environment Programme.

Innovation and diffusion of clean energy technology is essential for moving toward a green economy in a carbon-constrained world. While the developed world is trying to transition to a more carbon-neutral energy mix, developing

countries are struggling to secure sufficient energy to meet basic human needs.

The objective of the project was to provide an indepth investigation of the determinants of the diffusion of clean energy technologies to developing countries. The project relied on conceptual methods from both the economic (e.g. international technology diffusion and trade literature) and political science literature (e.g. studies on energy governance, regime complexity, effectiveness and social learning) and contributed to new empirical insights.

Although the research project investigated different barriers to clean energy diffusion and different kinds of technologies (efficient lightings, clean cookstoves, renewable energy among which geothermal in particular), the collective contribution of the project highlights the critical importance of domestic policies and policy learning enabled by clean energy governance, openness to trade and imports of new technologies, and social diffusion and peer-group effects to diffuse information among consumers.



## How does green innovation affect the energy-intensity of industries?

New CIES research by **Joelle Noailly** and **Jules-Daniel Wurlod** finds a positive impact of green innovation on the energy intensity of industrial sectors. The research is part of the Energy-Economic-Society research programme financed by the Swiss Federal Office of Energy (SFOE). The project analyzes the impact of green patenting activities on the energy intensity of 14 industrial sectors in 18 OECD countries over the 1975-2005 period. The objective is to clarify empirically the role of green technologies on the decline in energy intensity at the sector level. The results show that an increase in green patenting activities is associated with a reduction in energy intensity in most of the sectors in our sample: a 1% increase in green patenting activities in a given sector is associated with a 0.03% decline in energy intensity at the median. While predicted energy intensity decreased by 16% at the median between 1980 and 2005, input substitution and technological change are found to contribute to a proportion of 50:50 to this decline. Within the estimated contribution of technology, 1/3 can be attributed to green patented innovation, 1/3 to nongreen innovation, and 1/3 to autonomous technical change. In the context of Switzerland, our results underline that policy initiatives aiming to encourage green innovation such as the “Action plan for coordinated energy research” which sets innovative research and development as one of the main pillars of the new Energy Strategy 2050 will effectively contribute to improve the energy efficiency of production processes in Swiss industries.

The report is now available on the SFOE website and as a CIES Research Paper No42.

### New research on the energy-efficiency gap.

In the article “Consumer Myopia, Imperfect Competition and the Energy Efficiency Gap: Evidence from the UK Refrigerator Market”, to appear in the *European Economic Review*, **Francois Cohen** and his co-authors M. Glachant and M. Soderberg develop a novel comprehensive analysis of both demand-side and supply-side inefficiencies that impact the energy-efficiency gap, ie. the assertion that consumers would under invest in EE durable goods. The paper innovates by considering consumer myopia on the demand side as well as market power on the supply side. Using data on the UK refrigerator market (2002-2007), the authors find that the average energy consumption of sold appliances is only 7.2% lower than the level that would be observed in a perfectly competitive market with non-myopic consumers. On the demand side, the empirical analysis finds that consumers tend to undervalue future energy costs leading to an increase of average energy use of sold appliances relative to a scenario with non-myopic consumers by about 9.2%. On the supply side, market power yields an opposite impact as

it tends to reduce energy use by about 4.2% on average. Indeed, as products which consume more energy also tend to have higher market shares on average, when competition is weak suppliers have thus more latitude to raise their price, which reduces demand. Hence, market power actually reduces energy use. As both imperfections exert opposite effects, they jointly lead to a modest 7.2% increase of energy use compared to a perfectly competitive market with fully rational consumers.

The authors also perform a welfare analysis and find that consumer myopia and imperfect competition have limited impact on social welfare (excluding environmental externalities, but including consumer surplus and profits). Consumer surplus would increase by around £76 per sale in the first best optimum – just under 26% of the price of appliances – but most of this increase is a transfer from suppliers, as the overall increase in social welfare is only £18.10. With the exception of energy labeling, which seems to have been sufficient to mitigate imperfections in the UK refrigerator market, policies should primarily be concerned with the traditional environmental externality problem.

# Letter from alumni

**Jules Wurlod**, Consultant at the Boston Consulting Group, Geneva.



I joined the Boston Consulting Group, an international management consulting company in August 2016. My time at the CIES was a true stepping stone, both from a personal and a professional standpoint!

After graduating from my PhD in 2015, I joined an economic consultancy in Paris called NERA, where I worked on energy and climate change related topics.

Among others, we contributed to estimate the risk of delocalization of energy intensive industries due to carbon policy in the European Union. Needless to say, my experience at the CIES was an invaluable help in my work.

I decided to continue my path in a management consulting company, which allows me to work on very diverse topics while learning how projects are carried out outside of academia and the public sector. It is fascinating how private companies view environmental sustainability and how this translates into concrete strategy and action!

Overall, working at the CIES has helped me to deepen my knowledge on truly inspiring topics – such as innovation and energy consumption – as well as to develop a methodology to construct solid research pieces. The supervision I received from senior researchers at the CIES was truly invaluable. My best memories are certainly international academic conferences, where not only you get concrete feedback from very talented peers on your work, but you also get to learn completely new topics in just a few days.

## CIES events

### CIES Geneva dialogues & Public lectures

- Tuesday, March 7th, from 12.30 to 13.30

**Biodiversity and Human Rights**, by John Knox, UN Special Rapporteur on Human Rights and the Environment, Professor of International Law, Wake Forest University.

- Monday, March 20th, from 18.30 to 20.00

**Intellectual Property, Food Security, and Rural Development**, by Graham Dutfield, Professor of International Governance, University of Leeds.

- Tuesday, March 28th, from 18.30 to 20.00

**The Governed Planet: Climate Change, Targets, and the Role of Carbon Negative Technologies**, by Tim Flannery, Fondation Segré Distinguished Visiting Professor.

### Lunch seminars series - a forum for interdisciplinary research on the environment

- Thursday, March 2nd, from 12:15 to 13:30

**Antarctica, The Battle for the Seventh Continent, Book Presentation**, by Doaa Abdel-Motaal, expert on environmental issues

- Thursday, March 16th, from 12:15 to 13:30

**Climate Impacts, the Carbon Budget and Carbon Negative Technologies**, by Tim Flannery, Fondation Segré Distinguished Visiting Professor, Graduate Institute



To register, [graduateinstitute.ch/cies/events](https://graduateinstitute.ch/cies/events)

- Thursday, March 30th, from 12:15 to 13:30

**Field Performances: Knowledge, Cotton, and Political Ecology in Telangana, India**, by Andrew Flachs, VW Fellow, University of Heidelberg

- Thursday, April 13h, from 12:15 to 13:30

**Resource Conflicts Within and Beyond the State: Is There a Role for International Law?**, by Marco Pertile, Visiting Professor of International Law, Graduate Institute

- Thursday, April 27th, from 12:15 to 13:30

**International Organizations and the Conceptualization of Rural Development, 1920-1960**, by Amalia Ribí Forclaz, Assistant Professor, International History, Graduate Institute

- Thursday, May 4th, from 12:15 to 13:30

**Missing Driver of Norm Transformation? Litigation as an Ambiguous Driver of Norm Transformation**, by Defne Gonenc, PhD candidate in Political Science/IR, Graduate Institute

- Thursday, May 11th, from 12:15 to 13:30

**Thin Numbers, Black Markets, and Biosafety Practices: What Cotton Productivity Levels in Colombia Cannot Tell You About Productivity**, by Diego Silva, PhD candidate in ANSO, Graduate Institute

- Thursday, May 18th, from 12:15 to 13:30

**Driven up the Wall? The Role of Environmental Regulation in Innovation along the Automotive Global Value Chain**, by Suchita Srinivisan, PhD

## CIES latest publications

### CIES Research papers

- “Weather and income: effect on household saving and well-being in South Africa”, Ting H., Bozzola M., Swanson T., CIES research paper n°49.
- “Adding fuel to fire? Social spillovers and spatial disparities in the adoption of LPG in India”, Srinivasan S., Carattini S., CIES research paper n°48.
- “Environmental regulations and competitiveness : evidence based on Chinese firm data”, Xu A., CIES research paper n°47.

### Books and articles

- “National Policy and Transnational Governance of Climate Change: Substitutes or Complements?”, Andonova, Liliana B., Thomas H. Hale and Charles Roger., *International Studies Quarterly*, 2017.
- “Consumer Myopia, Imperfect Competition and the Energy Efficiency Gap: Evidence from the UK Refrigerator Market”, F. Cohen, M. Galachant, M. Söderberg, *European Economic Review*, 2017.