



CIERP
Center for International
Environment & Resource Policy



Year in Review

July 2017-June 2018



Building sustainable prosperity in a changing global environment through rigorous, policy-relevant, interdisciplinary research and training of the next generation of leaders.



THE FLETCHER SCHOOL
OF LAW AND DIPLOMACY

TUFTS UNIVERSITY

Directors' Note

2017-18 has been a productive year that has been marked by the maturation of the Center on many fronts. In terms of personnel we were delighted to welcome Jillian DeMair to our team as program coordinator, and to announce that Professor of Practice Eric Hines joined the faculty team.

Together, we have secured 5 new grants. Jenny is leading two projects scaling up earlier pilots in Niger — one, funded by the Bill and Melinda Gates Foundation, tests barriers to adoption of rainwater harvesting techniques, which was piloted in 30 villages in 2015 and is now scaled up to 180 villages; the second, funded by DFID in the U.K., investigates the effects of using mobile phones to provide oversight of, and offer pedagogical support to, teachers, which expands the original study from 160 to 330 villages. A third project, examining barriers to adoption of storage technologies for agricultural produce, was approved and work will start early next year. With Laura Kuhl and Keston Perry, Kelly launched a UNDP-funded project to assist Haiti's Ministry of Environment in developing the institutional capacity to engage with the Green Climate Fund, and an extensive study of China's energy innovation landscape funded by the Breakthrough Energy Coalition.

This year was also the first full year of operation for the Climate Policy Lab and has been a year in which we have expanded our portfolio of partners and projects, deepened our engagement with policymakers internationally, and extended our geographic scope. One of the broader goals of the Lab is to periodically pull back from all the experimentation occurring around the world and draw lessons about what is working, what is not, and why. Each year we choose several policy themes to assess. In 2017, we focused on carbon pricing in practice. The achievements that follow exemplify how quickly the Lab has ramped up and the concrete ways in which it has advanced the policymaking, financial instruments, and technology markets that will shape our low-carbon future.

Our students continue to surprise and delight us with their ability to take what they learn in the classrooms and apply it to the challenging situations they face in the world. One student was so impressive as an intern that she was invited to join the country's negotiating team at the



COP, another has successfully used her capstone on water management in Latin America to advocate for change, and was hired by the National Resources Defense Council to implement that change.

We invite you to read on and learn more about our research and impact!

Kelly Sims Gallagher
CIERP Co-Director
Professor of Energy &
Environmental Policy

Jenny Aker
CIERP Co-Director
Professor of Development
Economics

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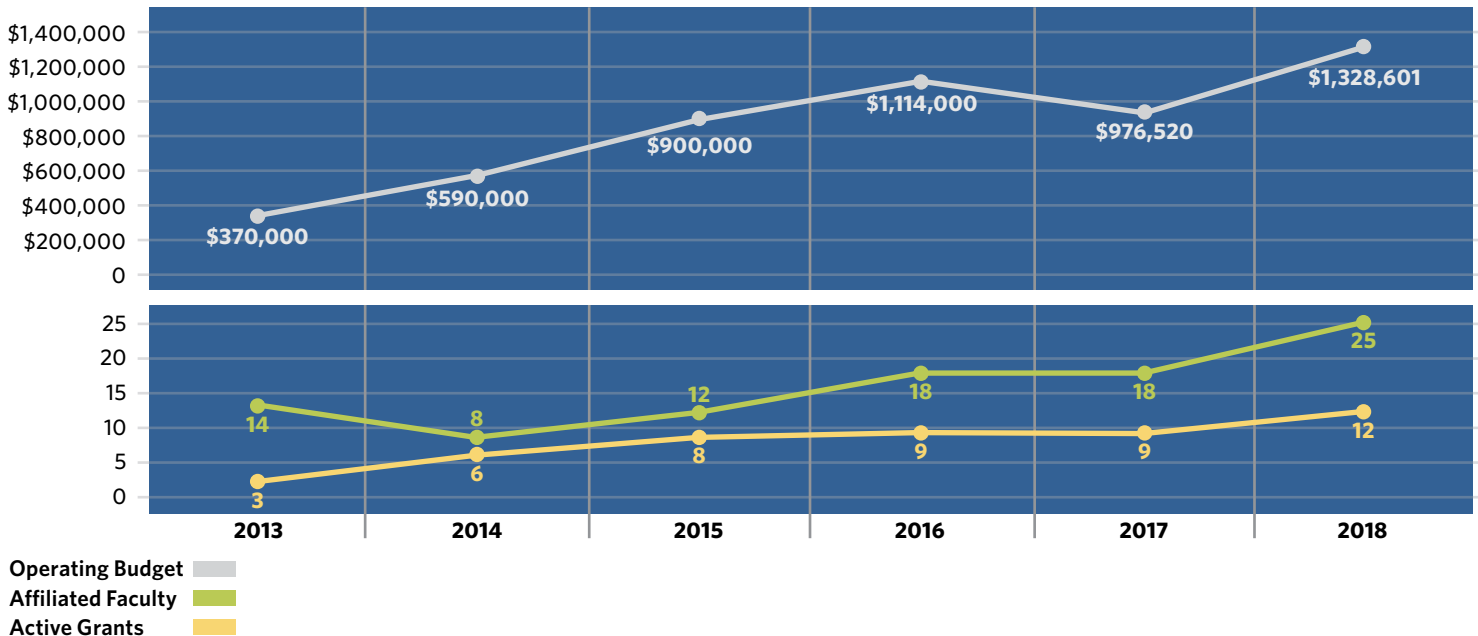
Operating Budget

CIERP's operating budget grew to \$1,328,601 in FY18, with the proportion of the Center's activity that is funded by grants remaining consistent. The Center generated income from Executive Education through two significant trainings: an in-house tailor-made training program for the Chinese Ministry of Environmental Protection and a Climate Diplomacy and Negotiation training in Ethiopia.

In addition, a one-day symposium on the Future of Transportation was hosted in conjunction with Acadia Center. This was the first year the Center generated income from a conference. The contribution of gifts to Center activity continues to grow. Significant gifts were secured to complement grants funding the research project on Corporate Responses to Climate Policy, the first time gifted funding has been

ring-fenced for research. In addition, the number of individual gifts to the Center through the Development gift portal and fundraising drives such as Giving Tuesday and Class Gifts expanded this year. Thanks to generous gifts by IERP alumni in support of experiential learning, CIERP was able to support 17 students with travel scholarships and four summer internships.

Annual Center Growth



Total Expenditure by Source of Income FY18



Grant Funders

(alphabetical): Bill and Melinda Gates Foundation, BP International, Breakthrough Energy Coalition, ClimateWorks Foundation, Department for International Development / Economic and Social Research Council, Energy Foundation (China), Energy Foundation (USA), Rockefeller Brothers Foundation, UNDP-Haiti, and the William and Flora Hewlett Foundation

Research Gifts

(alphabetical): Mr. Peter Boyer, Mr. Chris Kaneb, Mr. Wilhelm Merck, The Rosenthal Family Foundation (Mrs. Nancy Stephens and Mr. Rick Rosenthal), Mr. Glenn Thomas

Unrestricted Gifts

(alphabetical): Mrs. Keya Cain, Ms. Emily R. Chessin, Dr. Charles C. Chester, Ph.D., Darrell Climate Results Fund, Dr. Stephen J. DeVincent, D.V.M., M.A., Ms. Hannah T. Fairbank, Mr. John C. Faulkner, Ms. Virginia A. Fuller, Dr. Kelly Sims Gallagher, Ph.D., Dr. Barbara A. Kates-Garnick, Ph.D. and Dr. Marc B. Garnick, M.D., Mr. John P. Harper, Ms. Tallash N. Kantai, Mr. Eric B. Katz, Ms. Min Soo Kim, Ms. Abby Lindsay, Mr. Allen B. Macomber, Ms. Lynn E. Massengill, Ms. Imke Wesseloh Oster, Mr. Matthew R. Palumbo, Ms. Lesley J. Pories, Ms. Julia P. Radice, Ms. Megan E. Samenfeld-Specht, Dr. Anna H. Schulz, Ph.D., Mr. Jonathan R. Siegel, Ms. Brigitte H. Smith, Mr. Bryan A. Stewart, Mrs. Janot Reine Mendler de Suarez, Ms. Lisa Tessier, Ms. Mieke J. van der Wansem, Ms. Fang Zhang, and generous anonymous donors

To support a CIERP research program, contribute to student-centered activities, or to fund a summer internship, please contact Kate Ryan at 617.627.2720 or Jillian DeMair at 617.627.2778

Research Focus: Niger



As one of the poorest countries in the world, Niger is faced with a myriad of constraints, especially in terms of natural resources. Rural populations typically depend upon one of three income-generating sources — agriculture, livestock and migration — and hence are heavily affected by climatic shocks. With increasing population density and land constraints, a key issue is how land can be farmed more intensively and sustainably.

Current research in Niger is focused on two primary research initiatives. The first is in the field of agriculture examining the barriers to small-scale farmers' adoption of technologies that have the potential to increase soil fertility yields and to increase household revenues from crop sales. The second explores the potential returns to adult education, and using information technology to improving learning outcomes.

Adoption of Technologies that Improve Soil Fertility

Rained agriculture in the Sahelian region of sub-Saharan Africa is plagued by low and erratic rainfall and strong winds, contributing to soil erosion and degradation. The increasing frequency of drought in the Sahel over the past 30 years has resulted in

shorter fallow periods and increased population density has reduced the availability of arable land, making traditional strategies of shifting from intensive agriculture, aimed at increasing soil fertility and yields, into extensive agriculture unsustainable in the longer-term. Micro-catchments are small structures constructed within a field to collect soil runoff and increase the nutrient content of the soil and the most common micro-catchments used in the Sahelian region of West Africa are *zai*/tassa (soil pits), *demi-lunes* (half-moons) and *banquettes*, some of which are indigenous to West Africa. However, adoption of rainwater harvesting techniques remains low, especially in Niger: it is estimated that fewer than 10 percent of small-scale farmers use micro-catchments on any part of their land.

The current project co-led by Jenny Aker at the Fletcher School and Kelsey Jack in the Department of Economics, and in collaboration with the Ministry of Agriculture, aims to test how the different initiatives — training, cash or both — can overcome the barriers to farmers' adoption of new technologies. Though the final survey will not be conducted until December 2018, preliminary results from in-field observations conducted in June

indicate that, overall, training in these techniques are sufficient to induce adoption. At the same time, providing cash to overcome liquidity constraints associated with hiring labor can increase the intensity of adoption as compared to simple trainings. The medium and long-term impacts of these initiatives on farmers' yields, production and revenues will be available in 2019.

Crop Storage

Household income from agriculture in Niger is frequently undermined by the seasonal fluctuation in prices for produce. With only one growing season per year, the concentration of cowpea production and sales often translates into marked seasonality in prices. In Niger, the second-largest cowpea producer in the world, the intra-annual price fluctuation of cowpea ranges from 20 to 60%. Yet despite the potential for farmers to take advantage of inter-temporal arbitrage, 78% of Nigerien farmers sell their cowpea output in the weeks immediately following the October harvest, and then often purchase smaller quantities of cowpea at a later point in the year. These factors translate into an average loss of \$80 per year in potential revenues, approximately 50-65% of households' total current revenues from cowpea sales.

One explanation involves the difficulties of medium- and long-term storage. Cowpeas are highly susceptible to the cowpea weevil, an insect that destroys 25-30 percent of the output during storage, making the crop a semi-perishable commodity. While hermetically-sealed, chemical-free bags (such as the Purdue Improve Cowpea Storage (PICS) or GrainPro bags) have proven agronomic success in minimizing storage losses, adoption of any hermetically-sealed bag in Niger is low. Even among adopters, little is known about whether they have been able to store their cowpeas in order to take advantage of seasonal price volatility, as asserted by proponents of the technology.

A pilot study in 2016 found that both supply and demand-side issues affected adoption. While knowing about and trusting in the technology was important for farmers, an equally important issue was the supply of the technology on the market.

Based upon these initial results, this project, co-led by Jenny Aker and Brian Dillon of Cornell, will begin in November 2018 to address these constraints in a series of randomized control trials in 60 markets and 120 villages.

Technology for Adult Learning

Despite improvements in school enrollment over the past 20 years, 757 million adults worldwide are still unable to read and write in any language (UNESCO 2015). In Niger less than 30% of the population is considered to be literate (IMF 2013). The rate of teacher absenteeism, which in West Africa ranges from 27-40% (TI 2013) is frequently cited as a barrier to cost-effective learning. Some governments have shifted to community teachers, who are hired on short-term contracts renewable upon performance. However, in a previous adult education program in Niger, we found that these community teachers also missed 1/3 of their classes. While teacher monitoring can lead to improvements in teacher attendance, we have found that oversight remains a challenge, especially in countries with high transport costs and weak institutions.



Jenny Aker's research tests different types of mobile phone monitoring interventions in adult education programs



Faculty Award

Jenny Aker was presented with the Faculty Research Award during the annual Fletcher Convocation ceremony on September 8, 2017

Our research team ran a randomized evaluation in Niger between 2014-2016, which showed that a mobile phone monitoring intervention in the context of an adult education program — whereby teachers, students and village chiefs were called on a weekly basis — significantly improved students' reading and math test scores post-course and these learning gains persisted over a two-year period and increased teachers' attendance and motivation. During the study it was noted that teachers often asked for pedagogical support, which the monitoring team was unable to provide. The current project builds upon this initial research in five ways. First, it expands the program to more villages in order to test the intervention at a larger scale. Second, the research will test different types of mobile monitoring — i.e., calling the teacher only, as compared with calling the teacher, the village chief and students — to determine which approach is the most effective in increasing teacher performance and learning. Third, the program will assess the potential for using

mobile phones to provide pedagogical support to teachers. Fourth, our research will seek to understand how education and technology affect intra-village dynamics, as well as the dynamics between the teacher, community and education service providers. And finally, these interventions will be piloted in a small number of primary schools in order to understand whether the dynamics of teacher monitoring and support are different in a primary school setting and with governmental institutions.

In Niger, both the Ministry of Non-Formal Education — charged with delivering cost-effective adult education and literacy — and the Ministry of Primary Education face challenges in managing and providing support to teachers in remote rural areas and the Ministry of Non-Formal Education will use the results from this research to determine whether and how mobile phone-based monitoring and pedagogy should be adopted as a formal component of its adult education curriculum.

POLICYMAKER INTERACTIONS IN NIGER

- Ministry of Agriculture/Environment
- Results presented at the SPIA/CGIAR conference (February 2018) on natural resource management research
- Results presented to UNICEF and other policymakers (social protection program) in Senegal in summer 2017

Research Focus: China



A Policy Gap Analysis for China

Responding to a request from Chinese government officials, this project investigated whether the existing climate change policies in China — both explicit and indirect — are sufficient for China to meet its non-fossil and peak emissions targets. The project used a mixed methodology with three distinct components:

An inventory of all climate change policies. Of the 100 policies identified, approximately 30 were determined to be particularly influential in reducing emissions.

An expert elicitation survey of researchers working on China's climate change policies provided qualitative assessments of the potential emissions-reduction potential of key climate change policies selected from the policy inventory.

A system dynamics model adapted with Energy Innovation Ltd. and China's National Climate Strategy Center was used to quantitatively estimate the performance of key climate change policy instruments and to take into account the potential interaction among policies.

Preliminary results suggest that the effectiveness of China's climate policy portfolio is dependent on reform of the

power sector and that if the full suite of proposed policies is implemented, a peak in emissions could occur as early as 2020. The final results are in preparation for submission to a peer-reviewed journal.

In the Media

This work is particularly timely given the launch of China's carbon trading market in December. Kelly Sims Gallagher commented on this announcement in the New York Times:

**The
New York
Times**

electricity sector. Taking a good inventory of emissions, ensuring the cap is set at a level that will actually spur a reduction in carbon dioxide and sorting out emissions allocations are all complex tasks that take time, she said. "It's important to realize you can't do that overnight," Ms. Gallagher said.'

'Kelly Sims Gallagher, a professor of environmental policy at Tufts University, said the Chinese government was right to be cautious by starting with just the



Policies Governing China's Overseas Development Finance

China has emerged as a global leader in clean energy investment and capacity over the past

decade. During that time, it has also been growing its foreign direct investment and is now poised to become the largest source of foreign direct investment and development finance in the world. Complementing the work on domestic policy, this project set out to clarify the current governance structure for foreign direct investment, assess whether it is sufficiently robust to reduce the environmental risks of China's overseas investments and, ideally, to foster green development, particularly in those countries included in the Belt and Road Initiative. We examined:

- China's regulatory structure in terms of which are the relevant government agencies and who has approving authority for each type of outward investment.
- The development and effectiveness of the policies governing overseas investments, focusing particularly on those policies intended to 'green' investments.
- How policies governing overseas investment compare to those governing domestic investment.

There is currently no Chinese law regulating environmental impacts arising from overseas investment. Governance is achieved through a variety of mechanisms ranging from guidelines, with which



Clockwise from upper left: Chang Ming, Ministry of Science and Technology (MOST); Ping Huang, CIERP Postdoctoral Scholar; Lian Wei, PhD Student, Tsinghua University; Su Jun, Professor, Tsinghua University; Kelly Sims Gallagher, CIERP; Xu Jing, MOST

compliance is voluntary to those that include enforcement mechanisms for non-compliance, and includes industry and trade association standards that supplement government policies. While companies are required to record their overseas investments, the declarations are rarely subject to review. Furthermore, where enforcement mechanisms are in place, the penalties proposed often do not address all of the rules in the proposed policy.

The expansion of some Chinese industrial sectors overseas has been driven by domestic industrial policies, which stimulated aggressive expansion of capacity and created an oversupply in the domestic market, enabled by abundant low-cost capital from Chinese financial institutions. Many of the guidelines on overseas project finance require compliance with the technical, environmental protection, or energy consumptions standards of the recipient country.

In the Media

This study drew media attention due to concerns over the carbon emissions resulting from China's Belt and Road Initiative. Kelly Sims Gallagher was quoted by Bloomberg Environment:

**Bloomberg
Environment**

'As an example of what may lie ahead outside of China, a

March Tufts University report co-authored by Sims Gallagher said that 50 coal-fired power plants that the Chinese government, banks, and companies invested in abroad between 2001 and 2016 amounted to around 600 million metric tons of carbon emissions per year.'

Online Reach: Policies Governing China's Overseas Development Finance

- 751 opens of email announcement about this paper
- 11,759 views of Tweets by @kellysgallagher and @CIERP_Fletcher about this paper on Twitter
- 6,934 views on LinkedIn

POLICYMAKER INTERACTIONS IN CHINA

- Jing Xu, Director General for Innovation and Development, Ministry of Science and Technology (MOST)
- Zhaoli Jiang, Deputy Director General for Climate Change, National Development and Reform Commission (NDRC)
- Junfeng Li, Director of the National Center for Climate Change Strategy and International Cooperation (NCSC), National Development and Reform Commission (NDRC)
- Ji Zou, Deputy Director of the National Center for Climate Change Strategy and International Cooperation (NCSC), National Development and Reform Commission (NDRC)
- Hairan Gao, Division of International Cooperation, National Development and Reform Commission (NDRC)
- Sanlin Jin, Research Department of Rural Economy, Development Research Center of the State Council
- Jun Ma, Chief Economist, Research Bureau, People's Bank of China
- Lu Guoqiang, Ministry of Ecology and Environment (MEE), formerly Director of the Foreign Economic Cooperation Office of MEP

Chinese Energy Innovation Policy

This new project undertaken in close collaboration with Tsinghua University will use quantitative data and case studies on China's energy innovation investments to shed light on China's innovation priorities and will also collect data on innovation outputs and outcomes. While much is known about China's innovation capabilities in renewables and coal technologies, this project will use in-depth case studies to address the knowledge gaps on energy storage, smart grids, electric vehicles, and advanced building materials.

Research Focus: USA



Lead authors Kevin Knobloch and Barbara Kates-Garnick with project editor and coordinator Jillian DeMair

Research Project: Corporate Responses to Climate Policy

Led by former Chief of Staff at the U.S. Department of Energy, Kevin Knobloch, together with Professor of Practice Barbara Kates-Garnick, this research project assesses whether the increasing momentum toward a low-carbon economy in the private sector is sufficient to withstand a significant policy shift, such as that being advanced by the current administration.

Economic actors have made striking progress over the past decade in demonstrating that the path to decarbonize may be less costly than feared while providing new economic benefits. Businesses of all sizes now incorporate climate risk and reduced emission energy sourcing into their strategic plans. Industries affected by government policy in the realm of climate change have responded with forward-leaning commercial strategies, such as auto manufacturers increasing the range of hybrid-electric and

all-electric models available and manufacturers of heating/cooling, lighting and electronics equipment collaborating with the Department of Energy to strengthen energy efficiency rules.

In the course of this six-month in-depth research project, a total of 53 interviews were conducted across the following sectors: *Electric generation and distribution (10), heavy industry (8), information technology and consumer products (3), motor vehicle manufacturing (4), oil, gas, and coal production (3), renewable energy development and production (4), transmission development and energy management services (5), labor federations (1), investment firms (8), and corporate alliances (7)*. Among this diverse group were a number of striking areas of consensus concerning the nexus of clean energy policy and opportunities to expand markets for zero- or low-carbon products and services or to cost-effectively achieve deep greenhouse gas reductions over time.



Internships in the Private Sector

The Center has strong relationships with a diverse range of organizations that host our students for summer internships.

In the private sector, Greg Goodwin, Fletcher MALD '18, interned at Greentown Labs in Somerville, MA in the summer of 2017 to research and develop a compelling proposal for a 'grid of the future' accelerator program run by Greentown Labs and its partners. The purpose of this program will be to redefine how utilities and corporates work with early stage technologists to enhance the resiliency, efficiency and digitalization of the future to enable further deployment of renewables.

Juliette Devillard is interning at Greentown Labs this summer, working on energy innovation research. She is conducting market research into major utility and corporate stakeholders to identify emerging business models and innovation financing strategies for energy solutions. She is also completing a white paper describing how utilities can best access technologies for their grid modernization programs and how relevant policy vehicles can support collaboration between utilities and startups in the energy and electric transportation areas.



Emerging Focus: India

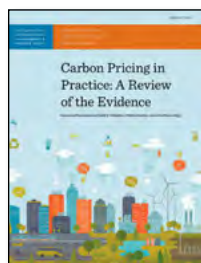


As one of the fastest growing economies, India has huge potential and a high demand to deliver clean energy at home. The current administration has also issued ambitious climate change and renewable energy goals. But whether India can successfully hit these targets highly depends on whether sufficient green financial resources can be mobilized so that investors have timely access to finance at reasonable rates and flexible terms, which is a well-recognized constraint in India. CIERP Research Fellow Fang Zhang is currently working on a project to explore how government agencies in India can mobilize more domestic green finance and what kinds of policies can be most effective by focusing on renewable energy sectors. Her research aims to identify the major actors financing renewables in India, understand the key factors that shape their

(e.g., banks') decisions on financing renewables, and study the influence of governments and domestic policy in the whole process. Her research also aims to explore how governments in other countries, such as the United States, Germany, and China, mobilize their domestic finance to support renewables, and whether these policy experiences and lessons can be applied in the national context of India. For instance, her study investigates whether the policies China uses to shape state-owned enterprises' (SOEs') substantial investments in renewables can be applied in India, where SOEs are notoriously hesitant to fund renewables. The comparative research on other countries in this project is currently underway and the fieldwork in India will be conducted in the Fall of 2018.

CIERP Research Fellow Easwaran Narassimhan is starting a new project that studies the relationship between a country's green industrial policy and its clean energy innovation capacity. His project aims to compare the green industrial policies of China and India in the automobile and power generation sectors. For instance, in the automobile sector, the study will compare India's and China's efforts in promoting electric vehicle technology and the evolution, or lack thereof, of an innovation ecosystem around electric vehicles. By doing so, the study hopes to unravel how countries use green industrial policies to increase their innovative edge on a certain technology value chain and whether any structural and institutional factors influence the technology choice.

Research Highlight: Carbon Pricing



The CIERP discussion paper, “Carbon Pricing in Practice: A Review of the Evidence,” was revised and published as a peer-reviewed academic paper in the journal *Climate Policy*

The Climate Policy Lab at CIERP is committed to using empirical data and analytical rigor to determine which policies actually work, which don't, and why. Given that more than 100 countries stated an intent to use carbon pricing to achieve their Paris Agreement commitments, a major project for the lab this year was to analyze the evidence from existing carbon tax regimes. A total of 15 different direct and indirect cap-and-trade, carbon tax, and hybrid systems that have been in place for on average seven years were examined. The cases were chosen based on their level of jurisdiction, timeline of implementation, and geographic location, in order to identify patterns of learning and evolution of best practices. The study took a comparative synthesis approach and identified certain key ingredients for a successful carbon pricing regime.

Key findings:

- Institutional learning, administrative prudence, appropriate carbon revenue management, and stakeholder engagement are identified as key ingredients for a robust regime.
- Administrative and regulatory structures for carbon pricing strategies appear to evolve and become more robust with learning within and across jurisdictions.
- There is potential for a “double dividend” for emissions reductions even with a modest carbon price, provided the emissions cap or the carbon tax tightens over time and a portion of the revenues are reinvested in other emission-reduction activities.

- To date, price signals to the market from existing carbon pricing policies are modest and less ambitious than they could be.
- There is a significant knowledge gap in understanding the interaction of pricing instruments with other climate policy instruments.

Peer-reviewed publication

The discussion paper was revised as an academic paper, published under the title “Carbon pricing in practice: a review of existing emissions trading systems” in the journal *Climate Policy* in May 2018. The paper analyzes the implementation of emissions trading systems (ETS) in ten regions: EU, Switzerland, Regional Greenhouse Gas Initiative (RGGI) and California in the U.S., Québec in Canada, New Zealand, Republic of Korea, and several pilot schemes in China. The ETS systems are evaluated against five main criteria: environmental effectiveness, economic efficiency, market management, revenue management, and stakeholder engagement. Within each of these categories, ETS attributes, including abatement cost, stringency of the cap, improved allocation practices over time, and the trajectory of price stability, are assessed for each system to clarify what is working, what isn't, and why when it comes to the practice of implementing ETS.

Government Engagement on Carbon Pricing

The report was presented to a general audience at an official side event at COP23 in Bonn. It was then officially released at the meeting of ministers by Professor of Practice



*Left: Marcelos Mena, Minister of Environment, Chile and Patrick Verkooijen
Right: Mexican Environment Minister Rafael Pacchiano Alamán and Patrick Verkooijen*

Patrick Verkooijen, Special Representative for Climate Change at the Bank, where it was extremely well-received by various ministers including Marcelos Mena, Minister of Environment, Chile, and the Mexican Environment Minister Rafael Pacchiano Alamán.

The Lab's aim to work directly with governments on implementation of carbon pricing policies has begun in Latin America. Following the Paris Declaration on Carbon Pricing in the Americas that resulted from the Macron Summit on December 12, 2017, the Climate Policy Lab was invited to participate in the high-level policy dialogue as part of the Carbon Pricing and MRV systems in the Americas. Hosted by the Ministry of the Environment of Chile, with the support of the UN Economic Commission for Latin America & the Caribbean (ECLAC), the Government of Canada, the World Bank Group, IETA, GIZ and the Carbon Pricing Leadership Coalition (CPLC), this event brought together public authorities, and experts from public and private sectors from Latin America as well as international experts from California, Canada, and Europe.

Online Reach: Carbon Pricing

- 2,764 views of the report shared by Kelly Sims Gallagher on LinkedIn
- 516 views and 116 unique clicks of report released electronically on November 13, 2017 from at least 17 different countries.
- 2,299 views of the open access article published online in *Climate Policy* on May 6, 2018

POLICYMAKER INTERACTIONS: CARBON PRICING

- Marcelos Mena (Minister of Environment, Chile)
- Rafael Pacchiano Alamán (Minister of Environment, Mexico)
- Neydi Cruz Garcia (SEMARNAT, Mexico)
- Joselius Samaniego (Director of sustainable development, UN ECLAC)
- Rodrigo Gariazzo (Director of Environmental Economics, Ministry of Environment, Chile)
- Marcos Castro (Senior Environmental Specialist, PMR, World Bank)
- Gajanana Hegde (UNFCCC secretariat)
- Juan Carlos Arrendondo Brun (Director General at SEMARNAT, Mexico)
- Juliana Lopes (Director, CDP, Brazil)
- Frederic Gagnon-Lebrun (Head of Climate change mitigation, IISD)
- Dirk Forrister (CEO, International Emissions Trading Association)



Partnerships at CPL



The Climate Policy Lab was established at the end of 2016 in order to support countries in implementing the Paris Agreement and to advance knowledge about climate policy. Since 2016, the Climate Policy Lab has worked with **11 governments** and **published 31 scholarly papers** towards these goals. In service of its dual mission of training the next generation of leaders, it has trained seven doctoral students, three post-doctoral fellows, and dozens of master's degree students. In addition, CPL has hosted three visiting scholars from different countries.



United Nations Development Programme

The Climate Policy Lab is continually expanding its robust network of scholars, policymakers, and practitioners. In 2016,

the CPL established a partnership with UNDP and signed a formal memorandum of understanding (MOU) in Marrakesh, Morocco. Under this partnership, CPL has directly worked with the governments of Fiji (President of the Conference of Parties to the UNFCCC in 2017), Samoa, Papua New Guinea, India, Haiti, and Uganda. Read more about this work on pages 14-16.



Woods Hole Research Center

In 2018, the CPL established a partnership with the Woods Hole Research Center

(WHRC) and signed a formal MOU at The Fletcher School in February. WHRC has been ranked the top independent climate change think tank by the International Center for Climate Governance (ICCG) for the past four years running. Their expertise is on land use change, the carbon cycle, fresh water resources, remote sensing, and Arctic studies. As such, they are highly complementary to the CPL with its expertise on energy and policy. We will work together to support governments implementing climate policies, with WHRC taking the lead on the land-use side, and CPL taking the lead on mitigation policies and adaptation.

In the Media

Both Kelly Sims Gallagher and WHRC President Dr. Philip Duffy were quoted by *Science Magazine* in a May 9 article revealing that the White House was quietly cancelling NASA's Carbon Monitoring

System (CMS), which allows for research verifying greenhouse gas cuts.



'The move jeopardizes plans to verify the national emission cuts agreed to in the Paris climate accords, says Kelly Sims Gallagher, director of Tufts University's Center for International Environment and Resource Policy in Medford, Massachusetts. "If you cannot measure emissions reductions, you cannot be confident that countries are adhering to the agreement," she says. Canceling the CMS "is a grave mistake," she adds.'

The news story circulated broadly and additional stories quoting Kelly and Philip were published by numerous other media outlets, including BBC, The Hill, Think-Progress, HuffPost, Deutsche Welle, and many other international news sources. Philip Duffy also advised against canceling NASA's Carbon Monitoring System in his testimony about climate change to the U.S. House of Representatives Committee on Science, Space, & Technology on May 16.



Members of the CIERP research team meet with Woods Hole Research Center partners, members of INESI from the University of Puerto Rico, and other academics to discuss resilient recovery in Puerto Rico

THINK PROGRESS

On May 18, ThinkProgress reported that the House Committee

on Appropriations, which is responsible for overseeing NASA, voted unanimously to restore the \$10 million-per-year program established to measure carbon dioxide and methane using satellite technology and similar mechanisms.



CDP

CIERP's newest partnership was formed in 2018

with CDP North America. This collaboration allows for Fletcher students to complete summer internships as Fellows at CDP North America's New York office, thereby gaining additional education and the practical experience required to excel in the field of climate change and finance.



Through a partnership with the Dutch Ministry of Economic Affairs and Wageningen University and Research Center (WUR), The Fletcher School hosted two visiting scholars from WUR this past year.

Other Cooperations

In addition to the formal partnerships with UNDP, WHRC, and CDP, we have worked on specific projects with the following institutions:

International Organizations

Global Centre of Excellence on



Universities and Research Institutes



NGOs



Partner Focus: UNDP



Elizabeth Minchew with the Papua New Guinea delegation at COP23



Ancient coral fields in Niue, summer 2017, photo by Matthew Arnold

The CPL is working with UNDP to provide rigorous analysis and context-specific evidence-based recommendations for policy questions that developing countries face. From UNDP's side, there is ample demand from developing countries for applied research on effective climate policies as well as for direct support with implementation. In addition, UNDP is interested in working with CPL on quantitative analysis of data collected on existing and new UNDP projects to help draw lessons about effective interventions and projects.

The CPL and UNDP have agreed to cooperate in various areas, including:

- Applied research on policy instruments to mainstream climate change risks and identify adaptation options in key economic sectors;
- Impacts of different climate policy strategies for particular countries, in consultation with governments;
- Exchange of technical know-how and joint collaboration in development of innovative applied policy instruments, experimental design, monitoring, and evaluation, and economic analysis for adaptation to climate change.

Climate Information and Early Warning Systems (Papua New Guinea):

Fletcher graduate student Elizabeth Minchew, working under CPL faculty affiliate and Asst. Prof. at Northeastern University

Laura Kuhl, spent the summer in **Papua New Guinea** with UNDP to work on a new project on climate information and early warning systems. Climate information plays a critical role in supporting adaptation to climate change. When gathered, analysed, and distributed effectively, climate information can help governments plan for climate impacts and design programs and policies to adapt while increasing the resilience of individuals and nations. Through interviews with key stakeholders in Papua New Guinea, as well as analysis of existing climate information and early warning adaptation projects, this research seeks to add to our understanding of the role of climate information services for adaptation. This research was conducted in parallel with an internship at UNDP supporting the development of a GCF proposal for Papua New Guinea. Research findings were presented at the 5th international conference on adaptation and development, *Adaptation Futures*, held in June 2018 in Cape Town, South Africa.

Integrating Climate Change and Development (Samoa and Niue):

Fletcher graduate student Matthew Arnold, working with Kelly Sims Gallagher, was based in Samoa for the summer with UNDP working on a regional project for the **Pacific Islands** assisting with the identification and conceptualization of potential GCF-funded projects in the Pacific Island Countries (PICs) that they cover. He also conducted

research on the progress that Polynesian states have made towards integrating climate change and development priorities. He examined the gains and tradeoffs yielded from such efforts. In climate change mitigation, this includes exploring the incongruence of *global* and *localized* priorities. In adaptation, the research focuses on the blurred lines between adaptation and development by clearly defining differences between the two and comparing instances where they have been implemented in parallel approaches and where they have been integrated. This research involved an institutional ethnography approach, analyzing attitudes and perspectives from the bottom-up (government stakeholders, in-country NGOs, in-country UNDP personnel) and the top-down (GCF Board decisions, regional GCF focal points, trends in funding decisions, etc.). This research was conducted in parallel with an internship at UNDP supporting the development of GCF proposals for Samoa and Niue.

Additionality in Adaptation Finance (Global):

Laura Kuhl is leading a research project looking at the role of additionality in adaptation finance. Additionality is a key funding principle for climate finance, and is intended to ensure that climate finance is used to advance climate objectives, and not substitute for traditional development finance. What interventions qualify as



Climate finance training workshop in Haiti

additional, however, is not always clear, particularly for adaptation projects. The results of this study will be published in a peer-reviewed journal article led by the CPL, including co-authors from UNDP, and synthesized into a report for policymakers jointly published by the CPL and UNDP. Research findings were presented at the 5th international conference on climate change adaptation, *Adaptation Futures*, held in June 2018 in Cape Town, South Africa.

Measuring Coastal Resilience (Global):

Laura Kuhl has also been working with collaborator Asst. Prof. Steven Scyphers at Northeastern University on developing a framework of indicators to measure resilience in the context of coastal adaptation projects in developing countries. The project will characterize existing coastal adaptation measures and evaluation efforts. Building on evidence generated from coastal adaptation projects as well as existing literature on measuring resilience, the project will identify indicators that will address the efficacy, cost-effectiveness, and feasibility of various coastal adaptation investments and their contribution to coastal resilience. This framework will then be tested in a coastal adaptation project implemented by UNDP. This project is funded by the Global Resilience Institute at Northeastern University.

Impact Evaluation Analysis (Cambodia):

As part of her course on impact evaluation, Jenny Aker worked with students to analyze data collected by UNDP in **Cambodia**. This project analyzed data from the GEF-funded project "Promoting Climate-Resilient Water Management and Agricultural Practices" implemented by UNDP in Cambodia. Using econometric impact evaluation techniques, the project assessed the impact of project interventions. Evidence of project impact on variables of interest was provided. Based on the analysis, recommendations for program and policy design of future agricultural adaptation strategies were made in three separate team reports, as well as recommendations for the design of future impact evaluations.

Climate Investment Priorities (Haiti):

Postdoctoral scholar Keston Perry, working with Laura Kuhl and Kelly Sims Gallagher, is assisting with the **Haiti GCF Readiness Programme** and providing key analytical support. Haiti has received funding from the Green Climate Fund (GCF) for Readiness and Preparatory Support that will allow them to strengthen their national capacities to effectively and efficiently plan for, access, manage, deploy, and monitor climate financing, in particular through the GCF. The Programme is focusing on a range of preparatory activities to: a) strengthen the institutional capacity of the Focal Point, b) build and strengthen the institutional capacity and fiduciary and financial manage-



Rishikesh Bhandary presenting on global climate finance

ment capacity of national entities in Haiti to seek accreditation with the GCF, with a focus on enabling direct access; and c) help Haiti to prepare a Country Programme including climate change mitigation and adaptation investment priorities through the active involvement of the private and financial sectors.

In addition to supporting Haiti to build its institutional capacity, the CPL will be looking at synergies and trade-offs between mitigation, adaptation, and development, and identifying opportunities and gaps in existing policies. The engagement will lead to a research product on mitigation and adaptation synergies, and integrating climate change into sectoral policies. The Haiti project represents a new form of engagement for the CPL-UNDP partnership, in which the Haiti UNDP office and the CPL have entered into a contractual agreement to deliver results under the Readiness Programme.

POLICYMAKER INTERACTIONS IN HAITI

- In December, the CPL team traveled to Haiti to meet with the UNDP team and the Ministry of Environment, which serves as the focal point for climate finance.
- Laura Kuhl presented the Readiness Project and Work Programme at an official launch event hosted by UNDP and the Ministry of Environment.
- In June 2018, Kelly Sims Gallagher, CIERP Fellow Rishikesh Bhandary, and Keston Perry conducted a climate finance training workshop in Haiti.

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Zerin Osho, MALD '18 (right) with colleague Aditi Chaturvedi at UNDP India, Summer 2017

Domestic Emissions Trading (India):

Fletcher graduate student Zerin Osho completed a summer internship at **UNDP India**. She worked on India's market-based PAT (Perform, Achieve and Trade) Mechanism, adopted by the Ministry of Power and Bureau of Energy Efficiency (BEE). The PAT scheme seeks to

improve energy efficiency in energy-intensive industries through tradable energy savings certificates. She provided assistance with UNDP policy briefs that looked at the expansion of the PAT model to other sectors of the Indian economy while making the targets for the existing designated consumers even more stringent. After three months, she was successful in getting approvals to launch a dedicated project on the PAT Mechanism at the UNDP India office and having the Ministry of Power and Bureau of Energy Efficiency consider her proposal for implementation of a pilot program. This project contributes to the broader CPL research on carbon pricing.

POLICYMAKER INTERACTIONS IN INDIA

- Mr. Manoj Singh, Joint Secretary, Ministry of Environment and Forests
- Dr. Amit Love, Chairman, National Ozone Office
- Dr. Ashok Kumara, Bureau of Energy Efficiency, Ministry of Power
- Prof. Agarwal, Senior Scientist and Advisor, National Ozone Office
- Mr. Subbarao, UNDP-Govt of India Attaché, Ministry of Environment and Forests



National Climate Funds (Fiji):

Rishikesh Bhandary is leading the effort to study how a range of developing countries are mobilizing climate finance with the help of national climate funds. Two components that directly support governments are:

- Supporting the national climate fund design process for **Fiji**, including validation of an assessment of the feasibility of a National Climate Fund (NCF) for Fiji and a South-South learning exchange on National Climate Funds in the Pacific. Through the GCF Readiness Programme, UNDP has been working with Fiji on assessing the feasibility of establishing a National Climate Fund. A feasibility study was completed in 2016 and was presented by a team of CPL and UNDP researchers to the government for discussion and further consideration. The CPL worked with

UNDP to present the findings of the feasibility study, conduct stakeholder validation assessments, and collect feedback. UNDP has also been working to produce guidance on establishing national climate funds, and the CPL has been contributing to this effort. Next steps will take place once the Fiji COP Presidency is over. There may still be another South-South meeting as part of the ClimateReady program with funds from USAID.

- Updating the National Climate Funds Guidebook. The new Guidebook has been co-authored by UNDP and CPL staff, and will be launched in the Fall of 2018. There is discussion about building in a South-South learning component to the NCF Guidebook launch.

CIERP at COP23



Kelly Sims Gallagher at the COP with research collaborator Agus Sari, Landscape Indonesia

The UNFCCC Conference of the Parties (COP) is always a busy time for CIERP faculty, staff, and students and this year in Bonn, Germany was no different. Seven CPL faculty, staff, and students attended the 2nd week of the COP, participating in a wide array of events and activities. Kelly spoke at 5 different side events:

- An official COP23 side event entitled *The Role of Carbon Pricing Mechanisms in Achieving NDC: A View of Multistakeholders* — at this event Kelly and Easwar Narassimhan launched and

presented *Carbon Pricing in Practice: A Review of the Evidence*. Afterwards, Kelly was invited to speak at a Brazilian business symposium interested in advancing a carbon pricing policy in Brazil on December 4th.

- A Track II meeting organized by Zou Ji, the new President of the Energy Foundation China which included, among others, Jonathan Pershing (Hewlett Foundation), Jos Delbecke (EU Climate Change Director General), Laurence Tubiana (European Climate

Foundation), Nick Stern (Grantham Research Institute on Climate Change and the Environment, LSE), and Wang Yi (National Peoples' Congress Standing Member, China). The purpose of this high-level group is to help move the climate negotiations forward and to create an action agenda around green and low-carbon development through a dialogue platform.

- The IEA side event on *Clean Energy Technologies: Tracking Progress and the Role of Digitalization*, where Kelly presented on our findings of global investments in clean energy RD&D; based on work led by CIERP Fellow Zdenka Myslikova.
- A special event at the America's Pledge tent (organized by Bloomberg) on *The Role of Universities in Climate Action* — Kelly spoke about two particular research projects of CPL (China Policy Gap Analysis and Carbon Pricing) and how these studies feed into the policy process.
- A university networking event entitled *Colleges United for Climate Action* — Kelly and CIERP Affiliate Gib Metcalf joined other global higher education leaders to say a bit about our work at CPL.

Outreach

CIERP and the Climate Policy Lab's goal is to inform policymakers about how to reform existing, and design and apply new, climate policies in order to support countries in implementing the Paris Agreement, and to advance knowledge about climate policy more broadly. As each study is completed, briefings are provided to relevant policymakers, either in person or via digital video conference. Small-scale workshops on particular questions are occasionally held among scholars, experts, and policymakers to structure these interactions. We always

organize and participate in side events at the annual Conference of the Parties (COP) in order to reach the maximum number of governments at that event. Members of the CPL team also interact with policymakers throughout the year.

In addition, ongoing contribution to the stock of scientific knowledge is achieved through the publishing of research results in peer-reviewed academic journals and through contributions to the media.



Meeting with the Ethiopian delegation at COP23

Publications

All papers are available for download under “Publications” on the CIERP website.

Reports & Policy Briefs



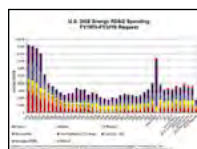
Gallagher, K. S. and Qi, Q. (2018). *Policies Governing China's Overseas Development Finance: Implications for Climate Change*. Medford, MA. Climate Policy Lab.



Knobloch, K., Kates-Garnick, B., Foster, D., Koester, S. and Harmache, C. (2018). *Clean Energy Policy and Expanding Markets: Insights from Corporate, Labor and Investor Leaders*. Medford, MA. Climate Policy Lab.



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Academic Papers



Narassimhan, E., Gallagher, K. S., Koester, S., & Alejo, J. R. (2018). “Carbon pricing in practice: a review of existing emissions trading systems.” *Climate Policy*, 1-25. doi:10.1080/14693062.2018.1467827



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Kuhl, L. (2018). “Potential contributions of market-systems development initiatives for building climate resilience.” *World Development* (108), 131-144.



Tanaka, S., Zabel, J. (2018). "Valuing nuclear energy risk: Evidence from the impact of the Fukushima crisis on U.S. house prices." *Journal of Environmental Economics and Management*, 88, 411-426.



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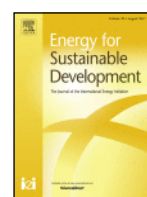
Cohn, A., Newton, P., Gil, J., Kuhl, L., Samberg, L., Ricciardi, V., Manly, J., Northrop, S. (2017). "Smallholder Agriculture and Climate Change." *Annual Review of Environment and Resources*, 42(1).



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Zhang, F., and Huang, K.M. (2017). "The role of government in industrial energy conservation in China: Lessons from the iron and steel industry." *Energy for Sustainable Development* 39, 101-114.



Jack, B.K. (2017) "Environmental economics in developing countries: Introduction to the Special Issue" *Journal of Environmental Economics and Management*, 86: 1-7.



Caron, J., Metcalf, G.E., and Reilly, J. (2017). "The CO₂ Content of Consumption Across US Regions: A Multi-Regional Input-Output (MRIO) Approach." *The Energy Journal* Vol. 38 (1): 1-22

Books



Khan, S. W. (2018) *Haunted by Chaos: China's Grand Strategy from Mao Zedong to Xi Jinping*. Harvard University Press



Gallagher, K. S. (2017). *Acting in Time on Energy Policy*. Editor. Beijing, China: China Environmental Science Press (中国环境科学出版社).



Singh, Kartikeya. (2017). "Deployment of Solar Home Lighting Systems in Rural India" in 'Bottom-up' Approaches in Governance and Adaptation for Sustainable Development: Case Studies from India and Bangladesh. Sage Publishing.

Book Chapters

Media

Members of the CPL team were invited to give expert commentary on energy & environmental policy by media outlets that included:



Links to media articles are posted on CIERP's "In the Media" page.

Education and Events

A core mission of CPL is to train the next generation of leaders in the practice and study of climate policy and to develop the skills of those who are currently working on climate change issues in governments and NGOs around the world. In addition to teaching core courses in the International Environment and Resource Policy Field of Study at The Fletcher School, faculty host a range of events to give students an

opportunity to share and test what they are learning in extra-curricular activities that range from large-scale student run conferences to small-scale informal lunches with current policymakers. Training courses were offered to high-ranking officials from China, India, and a range of Least Developed Countries through three programs.

24 Events in Academic Year 2017-2018

- 8 research seminars
- 4 invited guest speakers (Regina Asmutis-Silvia, Todd Moss, John Holdren, Bruce Schulte)
- 3 co-sponsored speakers (Ed Muller, Rachel Gottesfeld, Al Gore)
- 3 student lunches with invited lecturers (Rachel Kyte, Wendin Smith, Gardiner Hill)
- 2 student receptions (open house and graduation luncheon)
- 2 conferences (North East Universities Development Consortium & The Future of Transportation)
- 1 launch event with University President and Fletcher Dean (Woods Hole Research Center partnership)
- 1 co-sponsored conference (Tufts Energy Conference)



Vice President Al Gore in conversation with Kelly Sims Gallagher at the Tisch College Distinguished Speaker Series, February 2018



Senior Government Officials from the Chinese Ministry for Environmental Protection at The Fletcher School for a CIERP training program in December 2017

Training Senior Government Officials

Environmental Policy and Enforcement

In December 2017, CIERP hosted a group of 25 members from the Ministry for Environmental Protection of the People's Republic of China, in coordination with the Environmental Defense Fund, China, for a two-day training in U.S. environmental policy and enforcement at The Fletcher School. The training provided an overview of environmental policy, environmental law, and enforcement of federal and state regulations, and lectures were complemented with field trips to the Environmental Protection Agency and to a U.S. power plant. The delegation had

representatives from each of the five regional centers and the educational trip was an opportunity for them to share experience and practice amongst each other as well as to understand how enforcement of laws and regulations for environmental protection operate in a different socio-cultural and political context. While the U.S. and Chinese contexts are vastly different, exchanges like these are indicative of the growing momentum for change in the realms of both policy and practice.

Climate Diplomacy and Negotiation

In October 2017, CIERP co-taught the Climate Diplomacy and Negotiation Training at the Ethiopian Ministry of Environment, Forests, and Climate Change in Addis Ababa. The five-day training, funded by the Government of Norway, brought together 48 climate negotiators from 33 Least Developed Countries to learn about the negotiation procedures of the United Nations Framework Convention on Climate Change (UNFCCC) and to practice negotiation skills in preparation for the 23rd Conference of the Parties of the UNFCCC. The training included theoretical and practical

sessions, as well as various exercises and a 2-day UN-style negotiation simulation. Countries represented were Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Burundi, Chad, Central African Republic, Comoros, Djibouti, Ethiopia, Gambia, Guinea, Lesotho, Liberia, Madagascar, Myanmar, Malawi, Niger, Senegal, Sao Tome, Sierra Leone, Mali, Mauritania, Mozambique, Nepal, Palestine, South Sudan, Sudan, Tanzania, Vietnam.

POLICYMAKER INTERACTIONS IN ETHIOPIA

- Dr. Mulugeta Ayalew, Director, Climate Change Affairs, Office of the Prime Minister
- H.E. Dr. Gemedo Dalle, Minister, Ministry of Environment, Forests and Climate Change and 4 other members of the Ministry
- 4 professors from Addis Ababa University
- Dr. Morten Heide, Embassy of the Kingdom of Norway, Addis Ababa, Ethiopia
- 4 representatives from the GGGI (Global Green Growth Institute)
- 2 representatives from the Agricultural Transformation Agency
- Ms. Louise Chamberlain, Country Director, UNDP Ethiopia



H.E. Dr. Gemedo Dalle, Minister, Ministry of Environment, Forests and Climate Change addressing attendees at the Climate Diplomacy and Negotiation Training



Senior level diplomats from the Indian Ministry of External Affairs

Leadership Program in Advanced Diplomacy

In September 2017, Fletcher hosted a one-week executive education program entitled the Leadership Program in Advanced Diplomacy (LPAD), for 40 senior-level diplomats (ambassadors, consuls general, DCMs, High Commissioners, etc.) from the Ministry of External Affairs, through the Indian Foreign Service Institute. LPAD's mission is to prepare diplomats from around the world to thrive in positions of leadership. CIERP presented 2 sessions on International Environmental Policy. The first session was on International Environmental Negotiation: Traditional and Alternative Approaches, which included

a case study of climate change. The history of the international climate change negotiations was reviewed and analyzed from Toronto to Paris (1988-2015). The second session summarized the persistent challenges in international environmental negotiation based on the first session, introduced some elements of negotiation strategy, and engaged participants in two negotiation simulation exercises focused on reframing country positions into interests and on creating value, through the application of the Mutual Gains Approach in climate negotiations.

Conference on the Future of Transportation

On January 11, 2018, the Climate Policy Lab hosted a symposium on "The Future of Transportation" together with the Acadia Center, a nonprofit organization focused on advancing the clean energy future. Matthew Beaton, Secretary of Energy and Environmental Affairs for the Commonwealth of Massachusetts, provided the welcoming address.

Focusing on New England, the symposium brought together companies, academics, advocates, and state, regional, and municipal decisionmakers to explore the rapidly shifting transportation landscape and to identify ways technology and policy are poised to shape transportation systems over the next 20 plus years. This transportation symposium sought to delineate the concrete opportunities and challenges surrounding regional market-based solutions, advances in technologies, and innovations in transportation accessibility, all under the broader rubric of reducing carbon pollution from the transportation sector.

Under the leadership of Barbara Kates-Garnick, the proceedings of the symposium were compiled into a discussion paper by CIERP students.



Top: Secretary Matthew Beaton
Left: Symposium publication discusses transportation, energy, and climate goals

Board



Andy Darrell (F88-MALD), Chief of Strategy, Global Energy & Finance, Environmental Defense Fund



John Harper (F85-MALD), Principal and Founder, Birch Tree Capital



John Holdren
Teresa and John Heinz Professor of Environmental Policy, Harvard Kennedy School



Ed Hoyt (F62-MALD, F64-PhD), Former director of Morgan Guaranty Trust in Central and South America and Singapore

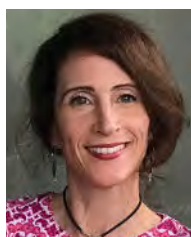


Barbara Kates-Garnick (F73-MA, F78-MALD, F85-PhD), Professor of Practice and Senior Research Fellow, Fletcher School



Chris Wendell (F93-MALD), President, Volta Industries

Faculty: Appointments are at The Fletcher School unless otherwise noted *(continued on next page)*



Jenny Aker, Center Co-Director
Associate Professor of Development Economics



Steve Block, Professor of International Economics & Academic Dean



Ujjayant Chakravorty, Professor of Economics, Tufts University



Charles Chester, Lecturer in Environmental Studies, Brandeis University



Kyle Emerick, Assistant Professor of Economics, Tufts University



Kelly Sims Gallagher, Center Co-Director, Director: Climate Policy Lab, Professor of Energy and Environmental Policy



Timothy Griffin, Associate Professor, Friedman School of Nutrition Science and Policy



Eric Hines, Professor of Practice, Tufts University Department of Civil and Environmental Engineering



Hans Hoogeveen, Non-Resident Professor of Practice of Natural Resource Policy

Faculty: Appointments are at The Fletcher School unless otherwise noted *(continued from previous page)*



Kelsey Jack, Assistant Professor of Economics, Tufts University



Barbara Kates-Garnick, Professor of Practice and Senior Research Fellow



Sulmaan Khan, Assistant Professor of Chinese Foreign Relations



Kevin Knobloch, Senior Research Affiliate, Director: Corporate Approaches to Climate & Clean Energy



Laura Kuhl, Assistant Professor of Public Policy and Urban Affairs and International Affairs, Northeastern University



Rachel Kyte, Professor of Practice



Gilbert Metcalf, Professor of Economics, Tufts University



William Moomaw, Professor Emeritus, Founder of CIERP, Center Director 1992–2013



Colin Orians, Professor of Biology, Tufts University



Mihaela Papa, Lecturer in Sustainable Development and Global Governance



Ann Rappaport Lecturer, Department of Urban and Environmental Policy, Tufts University



Dan Reifsnnyder, Research Affiliate



Shinsuke Tanaka, Assistant Professor of Economics



Joel Trachtman, Professor of International Law



Patrick Verkooijen, Non-Resident Professor of Practice of Sustainable Development Diplomacy



Rocky Weitz, Professor of Practice



David Wirth, Visiting Professor of International Law

Fellows



Rishikesh Bhandary,
Predoctoral Fellow



Zdenka Myslikova, Junior
Fellow



Easwaran Narassimhan,
Junior Fellow



Qi Qi, Junior Fellow

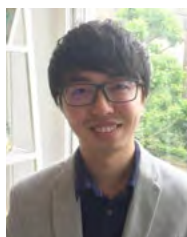


Fang Zhang, Predoctoral
Fellow & China Research
Coordinator

Postdoctoral Fellows



Jinliang Zhang,
Energy economics and
forecasting in China



Huang Ping Huang,
China's energy innovation
landscape



Keston Perry,
Climate investments
in Haiti

Staff



Mieke van der Wansem,
Associate Director,
Educational Programs



Penny Storey,
Associate Director,
Administration & Finance



Jillian DeMair,
Program Coordinator



Prof. Jenny Aker with Maman Lawan Borko, Head of Programs at Sahel Consulting, in Dosso, Niger, conducting field research on technology for adult learning

Visiting Scholars and Affiliates

Veerle Boekestijn
Alexander Gard-Murray

Abhishek Malhotra
Eunice Wangari

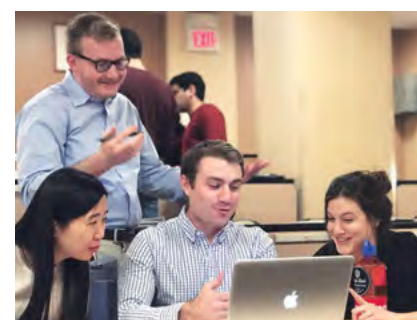
Anna Watson

Research Assistants

Itamar Ben-Aharon
Mohammed Nabil Bennaïdja
Bilal Choudhary
Laurent Frapaise
Peter Freudenstein
Ruying Gao

Jonathan Gillis
Coralie Harmache
Stefan Koester
Stephanie Mann
Alejandra Mazariegos
Prianka Mohan

Matt Palumbo
Qi Qi
Mohammed Sacko
Hiba Mezalek Tazi
Yuanda Wang



Students working on an energy market simulation in class

Teaching Assistants

Zdenka Myslikova
Fang Zhang
Zerin Osho

Interns

Daniel Tobin
Juliette Devillard
Leif Hanson
Matthew Lee

Travel Scholarships

Zdenka Myslikova – Adaptive Leadership
Fang Zhang – APPAM
Stefan Koester – UNFCC Conference of Parties
Elizabeth Minchew – UNFCC Conference of Parties & Adaptation Futures
Eunice Wangari – UNFCC Conference of Parties
Lucia Avila – Arctic Assembly
Zachary Kashdan – 2017 Annual Conference of the American Evaluation Association
Sookrit Malik – Microgrid Global Innovation Forum
Leif Hansen – Mexico Trek

Maria Elena – Mexico Trek
Andrea Becerra – New England Women in Energy and the Environment Gala
Amanda Formica – New England Women in Energy and the Environment Gala & World Bank/CPLC
Grace Tamble – New England Women in Energy and the Environment Gala
Peter Freudenstein – Atlantic Council
Vanessa DiDomenico – International Maritime Organization
Danny Tobin – World Bank Spring Meeting – CPLC
Vanessa DiDomenico – International Maritime Organization

CIERP Alum Highlights

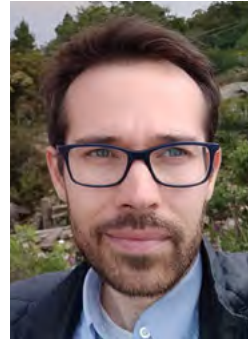
Diwakar Jhurani, MALD '17



"I currently work as a Young Professional with the Economic Advisory Council to the Prime Minister of India. As a part of my job, I have to regularly draft succinct policy memos on multiple economic policy subjects. I got my first exposure to drafting such a memo in the International Energy Policy class at Fletcher, taught by Prof. Kelly Gallagher. This skill along with the insights I got from attending CIERP research seminars play a crucial role in enabling me to think through various policy

problems. Moreover, I have mental comfort that when I am unable to carve through complicated tasks at work, I can always reach out to my Professors at Fletcher who can help me analyze issues and derive solutions."

Julio Rivera Alejo, MALD '17



"I feel very fortunate because today I'm doing exactly what I wanted to end up doing after Fletcher. At the Center for Clean Air Policy I work on climate mitigation in the waste sector in developing countries. And my work involves policy, economic and technical analysis, but also stakeholder engagement to advance the implementation climate mitigation projects on the ground.

An aspect of my work that I love is the fact that I get to travel to the countries where we work. This helps to better understand the local contexts, what can be really done, and ultimately to engage and work with the relevant stakeholders so the project becomes a reality.

I'm very grateful to Fletcher, and especially to CIERP, because if I'm here today it's because of them."

Elizabeth Peyton, MALD '15



"I attended the Fletcher School from 2013–2015 and focused my studies on energy policy and management in South Asia. After graduation, I began to work with a company called Ranger Solar, on developing large-scale solar projects in the New England market — a bit closer to home. While at Ranger, I negotiated with large land owners for rights to build solar farms on their property, and supported early stage permitting and interconnection efforts. About two years later, Ranger's projects were acquired by NextEra Energy Resources, the country's largest developer and owner of renewable energy projects. I relocated to Juno Beach, FL to work at NextEra's headquarters and continue to push Ranger's projects towards construction. Today, we have permitted the largest solar projects in the region, and are building our first 20 MW project in Vermont, which will be online later this year. Fletcher and CIERP helped me to see this field from 360 degrees, to own the different aspects of the development process and engage many different stakeholders along the way. Building more renewables in the US and abroad will require collaboration across many skills and disciplines—Fletcher taught me to bring these disciplines together to take projects forward."



Students, faculty, board members, and staff at the 2018 CIERP Graduation Luncheon



THE FLETCHER SCHOOL
OF LAW AND DIPLOMACY

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