2022 Climate Pipeline Project
https://projects.iq.harvard.edu/climatepipeline
Hosted by Harvard Weatherhead Center for International Affairs
June 16, 2022, Harvard University
Faculty Contact: Dustin Tingley
Graduate Student Coordinator: Chelsea Green
Logistics: Sarah Banse

8:15 – 8:30 am Check-in
8:30 -9:00 am Breakfast and Introductions

9AM - 9:15AM: Opening Remarks by Robert Keohane and Dustin Tingley

9:15AM – 10:45AM

Panel I: Widening the Methodological Toolkit for Addressing Climate-Related Social Science Questions

- "Incorporating Political Economy Insights into Integrated Assessment Models," *Wei Peng*, (Pennsylvania State University, weipeng@psu.edu), Gokul Iyer (Pacific Northwest National Laboratory, gokul.iyer@pnnl.gov), David Victor (UC San Diego, david.victor@ucsd.edu)
- "Ecological Tools for Political Analysis," *Robert Darrow* (Mount Holyoke College, rdarrow@mtholyoke.edu)
- "Do Bigger Trade Shocks Mean Fewer Green Bills? - Congressional Voting on Environmental Policies after China Shock," *RyuGyung (Rio) Park* (UC Davis, rgpark@ucdavis.edu)
- "Community-Based Organizations for Disaster Recovery and Hazard Mitigation," *Sara M. Constantino*, Northeastern University (s.constantino@northeastern.edu), Alicia Cooperman, Texas A&M University (alicia.cooperman@tamu.edu), Sloan Huebner, Princeton University (huebner@princeton.edu), *Manuela Muñoz*, Texas A&M University (manuela.munozf@tamu.edu)

Discussion Opener: Dustin Tingley

11AM – 12:15PM

Panel II: Individual as Unit of Analysis

- "If not now, when? Climate disaster and the Green vote following the 2021 Germany Floods," *Susanna Garside* (European University Institute, susanna.garside@eui.eu) and Haoyu Zhai (European University Institute, haoyu.zhai@eui.eui)
- "Does Fossil Fuel Divestment Impact the Public's Policy Preferences?" *Paul Lendway* (Yale, paul.lendway@yale.edu), Avi Nuri (Yale), *Josh Schwartz* (Harvard, joshuaschwartz@hks.harvard.edu)

- "Race and climate change: understanding group differences and mechanisms," *Salil Benegal* (DePauw University, salilbenegal@depauw.edu), Flavio Azevedo (Institute for Communication Science (IfKW) Friedrich Schiller University Jena, Germany, flavio.azevedo@uni-jena.de), Mirya Holman (Tulane University, mholman@tulane.edu)

Discussion Opener: Megan Mullin

12:15PM – 1:30PM: Lunch

1:30PM – 3PM:

Panel III: Governmental Unit as Unit of Analysis

- "Fuel to the Fire: The Political Externalities of Energy Transitions," Amanda Kennard (Stanford University, amanda.kennard@stanford.edu), Rebecca Perlman (Princeton University, rlperlma@princeton.edu) and *Christina Toenshoff* (Stanford University, ctoensh@stanford.edu)
- "Uncertainty and Ambition: Forging Green Industrial Policy," Bentley Allan (Johns Hopkins, bentley.allan@jhu.edu) and *Jonas Nahm* (Johns Hopkins, jnahm@jhu.edu)
- "No More Leaps of Faith: Understanding the Role of Certainty in Climate Policymaking," *Alexander Gard-Murray* (Brown University, gard-murray@brown.edu), Geoffrey Hendereson (UC Santa Barbara, ghenderson@ucsb.edu)
- "Market-based Energy Policies as Promoters of Policy Diffusion: Evidence from Low- and Moderate-Income (LMI) Solar Incentives in the U.S.," *Aparajita Datta* (University of Houston, adatta3@uh.edu)

Discussion Opener: Leah Stokes

3:30PM – 5PM:

Panel IV: Region as Unit of Analysis

- "The Climate Advocacy Gap," *Samuel Trachtman* (UC Berkeley, Sam.trachtman@berkeley.edu) and *Jonas Meckling* (UC Berkeley, Meckling@berkeley.edu)
- "Economic Geography and Corporate Political Activity: Evidence from Fracking and State Campaign Finance," *Zhao Li* (Princeton University; zhaoli@princeton.edu), Richard DiSalvo (Princeton University; rdisalvo@princeton.edu)
- "Think Globally, Act Locally: The Determinants of Local Policymakers' Support for Climate Policy," Sabrina Arias (University of Pennsylvania , sarias@sas.upenn.edu), Joshua Schwartz (University of Pennsylvania, joshuaschwartz@hks.harvard.edu)
- "Conflict in the Energy Transition: Exploring actors, equity, behavior, and outcomes of social opposition to large-scale solar siting in New England," *Juniper Katz* (University of Massachusetts Amherst, juniperkatz@umass.edu)

Discussion Opener: Michael Ross

6PM – 8PM: Dinner

Panel I: Widening the Methodological Toolkit for Addressing Climate-Related Social Science Questions

Incorporating Political Economy Insights into Integrated Assessment Models

Wei Peng, (Pennsylvania State University, weipeng@psu.edu), Gokul Iyer (Pacific Northwest National Laboratory, gokul.iyer@pnnl.gov), David Victor (UC San Diego, david.victor@ucsd.edu)

Over the last three decades, as policy makers have tried to manage the problem of climate change, the research community has built a powerful set of tools to combine insights from economics, technology, and climate science. These integrated assessment models (IAMs) have,
for example, estimated an array of decarbonization scenarios and identified cost-effective pathways that could avoid the consequences of climate change. However, IAMs still rest on highly simplified representations for how institutions work and how humans behave. These models typically represent idealized policy choices that don't properly reflect the incentives of crucial political actors or what is feasible given the political realities. Based on years of discussions, we–a group of modelers and social scientists–outlined a vision for how IAMs can better represent reality in a Nature commentary published last year. We argued that better connections between IAM and the relevant social sciences needed to be forged not in the abstract but by working on specific projects and tasks—each designed to use the model to facilitate communication across disciplines. To turn this vision into concrete modeling experiments, we hope to work closely with political scientists on two demonstration cases that are highly relevant for the U.S. to decarbonize its economy: domestic policy instrument choices and global supply chain strategies. Our presentation will both be a summary of our ongoing efforts and an invitation for collaboration.

Ecological Tools for Political Analysis

Robert Darrow (Mount Holyoke College, rdarrow@mtholyoke.edu)

The mid-twentieth century behavioral turn in the social sciences has absorbed decades of criticism, and yet its basic assumptions about the preferred methods and subjects of political analysis remain pervasive in academic research. While the failure to adequately conceptualize and respond to novel threats like climate change exposes some underlying weaknesses of the dominant paradigm, a workable alternative framework for the empirical investigation of complex political phenomena has yet to gain widespread purchase in the discipline. This paper asks whether it is time for a shift toward a more ecological perspective on political processes, and what fruits such an approach might yield for efforts to understand and act on one of the defining global challenges of this era in human history. After a brief survey of innovative starts at integrating ecological considerations into political science and the broader social science literature, I develop proposals for a more holistic and deliberate application of conceptual and methodological tools borrowed from the ecological sciences to the empirical analysis of political

phenomena, which have traditionally been studied with categories and procedures derived from the economic and physical sciences. Drawing on recent developments in field ecology, evolutionary biology, and interdisciplinary social science, I describe several ways ecological modes of explanation are relevant to the study of political change, and also consider the limitations of adapting tools designed for studying natural ecosystems to political questions and contexts. I close with some observations about how an ecological orientation opens new avenues for action on the climate crisis and renewable energy transitions.

"Do Bigger Trade Shocks Mean Fewer Green Bills? - Congressional Voting on Environmental Policies after China Shock"

RyuGyung (Rio) Park (UC Davis, rgpark@ucdavis.edu)

Despite the gravity of environmental issues, passing an environmental legislation is not an easy task, especially when a more immediate and significant economic concern is looming over, such as a *trade shock*, or a sudden strenuous change in the local labor market due to an increase in imports. *Do trade shocks affect a congressional district's support for stricter environmental policies?* Previous research suggests that both the public opinion and the interest group politics can push the congresspeople to vote against environmental policies when there is a trade shock. I hypothesize that trade shocks can decrease support for environmental policies at the congressional district level. I test my theory using the widely accepted trade shock measures from the China shock literature (*e.g.* Autor et al. 2013) and the US Congress roll call vote data from 1990's to 2000's. My results from both stacked first-difference models and decade fixed-effect models show that, contrary to my hypothesis, the congresspeople vote more favorably for the environment after an increase in trade shock. On the other hand, partisanship appears to be an important predictor as predicted. This begs further research on how a trade shock influences the public opinion and interest group dynamics with respect to the environment to explain the congressional voting behavior.

Community-Based Organizations for Disaster Recovery and Hazard Mitigation

Sara M. Constantino, Northeastern University (s.constantino@northeastern.edu), Alicia Cooperman, Texas A&M University (alicia.cooperman@tamu.edu), Sloan Huebner, Princeton University (huebner@princeton.edu), *Manuela Muñoz*, Texas A&M University (manuela.munozf@tamu.edu)

Community-based organizations (CBOs) could be powerful private governance mechanisms for climate change adaptation and hazard mitigation due to the position they occupy between the public and the state, but their role in these decisions is complex. While some homeowner associations (HOAs) and neighborhood associations may strengthen social capital and facilitate adaptive responses, others may resist adaptation efforts and have been active participants in segregating communities. Under what conditions do community-based organizations facilitate

social trust and participate in disaster recovery and hazard mitigation? First, we review a growing body of empirical and theoretical research on CBOs from political science, public administration, sociology, and urban planning. We propose a framework for understanding the role of CBOs in shaping community resilience and responses to emerging risks, public goods provision, and hazard mitigation. In particular, we focus on how variation in i) their institutional design and governance structure, and ii) and their multilevel cooperation and coordination with external actors shape individual and community relocation patterns, community green infrastructure investment, and flood risk maps and zoning policy, among others. Second, we explore these dimensions in ongoing empirical field research about the role of CBOs in coastal communities facing high risk of and exposure to flooding. We identify counties along the Texas Gulf Coast and in South Florida that vary in social vulnerability. We present the preliminary results of interviews conducted with key stakeholders of HOAs, neighborhood associations, and civic leagues, in the areas surrounding Galveston, Corpus Christi, and Brownsville, TX, and our future research plan.

Panel II: Individual as Unit of Analysis

If not now, when? Climate disaster and the Green vote following the 2021 Germany Floods

Susanna Garside (European University Institute, susanna.garside@eui.eu) and Haoyu Zhai (European University Institute, haoyu.zhai@eui.eui)

Can first-hand experience of a climate-related natural disaster make citizens more likely to vote in favour of progressive climate politics? Leveraging the rare occurrence of a large-scale natural disaster just two months before a federal election, we use a difference-in-differences design to study the short-term electoral effects of the devastating 2021 Germany Floods on voter support for Germany's major environmentalist party (Alliance 90/The Greens). We find that those living in areas affected by the floods were marginally more likely to vote for the Greens (0.4 - 1.6%). The largest increases in Green vote share are observed in municipalities which were directly exposed to flooding. Contrary to expectation, we tend to find larger increases in Green party support in the less severely affected areas. This paper is based on a registered report which has an in-principle acceptance at Research & Politics.

Does Fossil Fuel Divestment Impact the Public's Policy Preferences?

Paul Lendway (Yale, paul.lendway@yale.edu), Avi Nuri (Yale), *Josh Schwartz* (Harvard, joshuaschwartz@hks.harvard.edu)

Divestment is a prominent strategy championed by activists to induce positive social change. For example, the current fossil fuel divestment movement includes over 1,500 institutions that control $40 trillion in assets. A primary pathway through which divestment is theorized to be effective is by influencing public opinion and thus pressuring policymakers to take action.

However, prior research only tests this argument via informal qualitative case studies and government action to combat climate change remains limited. We conduct a systematic analysis of the impact of fossil fuel divestment on public opinion through the use of national survey experiments in three major greenhouse gas emitters: the United States, India, and South Africa. Across a range of different types of treatments, we find surprisingly little evidence that divestment can increase public support for policies that address climate change. Our findings suggest that divestment movements may be less effective at changing policy preferences than previously realized.

Race and climate change: understanding group differences and mechanisms

Salil Benegal (DePauw University, salilbenegal@depauw.edu), Flavio Azevedo (Institute for Communication Science (IfKW) Friedrich Schiller University Jena, Germany, flavio.azevedo@uni-jena.de), Mirya Holman (Tulane University, mholman@tulane.edu)

Addressing the increasing temperatures of the globe requires society-wide adaptation and mitigation efforts. One central challenge to these efforts is the resistance of particular groups of individuals to belief in the human causes of climate change or the need to engage in broad policy efforts to reduce global temperatures. In the United States, these concerns loom large as large segments of the population resist policy efforts. While scholars have broadly established the role of partisanship, ideology, racism, sexism, and demographic origins of the opposition to climate policy, we do not yet understand the role that racial and ethnic identity might play in these views. In this paper, we first use pooled data from the Cooperative Congressional Election Data (N=185,000) to examine differences in overall attitudes about climate change between Asian, Black, Latino, and White Americans. We then use data from the Psychology of Political Behavior Studies (including an oversample of Black respondents) to examine the psychological underpinnings of climate change views across White and Black respondents. Our efforts provide a much-needed examination of how identity shapes views on climate change and the degree to which central, replicated results in scholarship on climate change apply exclusively to the views and behaviors of White Americans.

Panel III: Governmental Unit as Unit of Analysis

Fuel to the Fire: The Political Externalities of Energy Transitions

Amanda Kennard (Stanford University, amanda.kennard@stanford.edu), Rebecca Perlman (Princeton University, rlperlma@princeton.edu) and *Christina Toenshoff* (Stanford University, ctoensh@stanford.edu)

Abstract: The environmental impacts of decarbonization are well-established, yet national policies that aim to reduce carbon usage also create political externalities that have gone largely understudied. As decarbonization shifts long-standing patterns of trade in energy and resources, it reshapes political relationships and dependencies. We analyze the implications of this in the context of the European Union's emissions trading system (ETS), to date one of the

most significant international efforts to reduce greenhouse gas emissions. We first show that regions most constrained by the ETS regime substantially increased reliance on natural gas, particularly gas from Russia. We then leverage UN voting data spanning 1990-2020, to demonstrate how this greater reliance has led EU countries to align more closely with Russian diplomatic interests.

Uncertainty and Ambition: Forging Green Industrial Policy

Bentley Allan (Johns Hopkins, bentley.allan@jhu.edu)
Jonas Nahm (Johns Hopkins, jnahm@jhu.edu)

The resurgence of industrial policymaking—particularly for emerging low-carbon or net-zero industries—challenges social science theories that consider such interventions the domain of strong centralized states or suggest that different kinds of states specialize in different forms of innovation policy. Interventionist forms of industrial policy have made a comeback even among liberal market economies and coordinated economies make use of market-driven strategies. Moreover, states are using a range of tools, sometimes employing market-based and state-led measures in the same sectors. While states are converging on a broad menu of industrial policy measures, it is not clear when and why states deploy one kind of strategy rather than another. We need new theories to make sense of the rise of low-carbon and net-zero industrial policies and present a starting point for practical action in this space. This paper presents a new framework for classifying industrial policies that disaggregates the role of the state into how it orients the policy (top-down or bottom-up) and who takes the initiative (government or industry). We argue that governments choose among these options based on the level of technological uncertainty and the industrial development ambition (i.e., whether they seek to foster competition or develop a domestic ecosystem).

No More Leaps of Faith: Understanding the Role of Certainty in Climate Policymaking

Alexander Gard-Murray (Brown University, gard-murray@brown.edu), Geoffrey Hendereson (UC Santa Barbara, ghenderson@ucsb.edu)

A rising tide of research on distributional conflict has shown that strong climate policy becomes more feasible when it creates economic winners, not just losers. For instance, labor unions are more likely to support energy transitions when they expect to gain jobs for their members. However, merely offering the prospect of benefits may not be enough to persuade interest groups to join the coalitions needed for policy enactment. If winners do not trust that they will receive their intended benefits from a policy, they are unlikely to make substantial contributions to collective efforts to secure the policy's adoption. Yet there is relatively little work on how policies can be designed to increase winners' certainty that they will benefit. In this paper, we examine six policymaking episodes across three states, focusing on whether organized labor was effectively incorporated into climate policymaking. We trace the path of carbon pricing from

early failure to recent success in Washington, how Massachusetts started as a climate leader but lost its momentum, and how coal miners in West Virginia came to support a version of the Clean Air Act amendments in 1990 and Build Back Better three decades later. We show how failure to provide certainty can frustrate efforts to build coalitions around stringent policy proposals even in favorable political environments such as low-carbon economies, and how successfully providing certainty can secure allies even under unfavorable conditions. The findings offer important lessons for scholars, policymakers, and campaigners: creating winners without creating certainty is politically inefficient.

Market-based Energy Policies as Promoters of Policy Diffusion: Evidence from Low- and Moderate-Income (LMI) Solar Incentives in the U.S.

Aparajita Datta (University of Houston, adatta3@uh.edu)

The global growth in policies supporting renewable energy has spurred many works on policy diffusion. While previous studies on policy diffusion, including the diffusion of energy policies, have largely focused on political determinants and inter-state competition, little has been explored about how previously adopted policies and regulations may impact the adoption and diffusion of new policy programs. This work addresses these questions by examining the simultaneous effect of two market-based policies, i.e., energy efficiency policies and renewable portfolio standards (RPS) on the policy diffusion of solar energy incentives targeted at low- and middle-income households (LMI solar incentives). By creating a novel data set and utilizing event history models, this work demonstrates that the adoption of LMI solar incentives from 2010 to 2019 has been conditional on a state's RPS, but independent of its energy efficiency policies. The external determinant of RPS in neighboring states is found to have a regressive impact on the probability of adoption, while directional evidence for vertical diffusion indicates that the intergovernmental transfer of federal grants in support of renewable energy increases the probability of adoption for LMI solar incentives. The results provide promising evidence for the inclusion of previously adopted policies in the analysis of adoption and diffusion of new policies and highlight the critical role policy antecedents may play in achieving energy and climate justice goals.

Panel IV: Region as Unit of Analysis

The Climate Advocacy Gap

Samuel Trachtman (UC Berkeley, Sam.trachtman@berkeley.edu) and *Jonas Meckling* (UC Berkeley, Meckling@berkeley.edu)

Advocacy groups are central to advancing climate mitigation policy, but their presence is unevenly distributed across jurisdictions. We curated a new dataset on pro-climate groups—both environmental groups and clean energy interests—in US states, using lobbying data and a machine learning model. We find a threefold climate advocacy gap. First, the representation of

pro-climate groups is low among all energy-related interest groups. In the large majority of US states, less than 20 percent of energy-related interest groups are pro-climate groups. Second, the representation of pro-climate groups is lower in Republican-leaning than in Democratic-leaning states. A few Republican states are outliers: clean energy interests—as opposed to environmental groups—are well-represented in those states. Third, the representation of pro-climate groups is lower in states with high total carbon emissions than in states with low carbon emissions. Overall, climate advocacy concentrates where the political opportunity is greatest. While this is likely rational in the short to medium-term, it raises questions about continued polarization in climate mobilization across US states. Our findings have implications for climate advocacy strategy in emission-intensive, conservative climate laggards. Investment in clean energy manufacturing and deployment in these states offer the most feasible path to strengthening climate advocacy in times of political polarization, as the path of some Republican-leaning outliers shows. This would complement a logic of political opportunity with a logic of economic opportunity in the distribution of climate advocacy.

"Economic Geography and Corporate Political Activity: Evidence from Fracking and State Campaign Finance"

Zhao Li (Princeton University; zhaoli@princeton.edu), Richard DiSalvo (Princeton University; rdisalvo@princeton.edu)

"Business entry into communities may stimulate local economies, but its negative externalities—including environmental degradation—can generate backlash. To understand how firms use campaign contributions to preempt opposition to their expansion, we study the fracking boom as a natural experiment that transformed the geography of drilling activities across the U.S. Through panel analysis and an instrumental variable design, we show that state legislative districts where drilling expanded due to the fracking boom saw a surge in oil and gas drilling-related campaign contributions. While this effect was primarily driven by in-district drilling firms, out-of-district, same-state firms also contributed to the overall rise in money. Finally, the influx of contributions into fracking districts disproportionately benefited Republican candidates in historically Democratic districts, even relative to the industry's high baseline support for Republicans. These findings illuminate the roles of business geography in corporate political strategy, energy and environmental policymaking, and democratic representation.

Conflict in the Energy Transition: Exploring actors, equity, behavior, and outcomes of social opposition to large-scale solar siting in New England

Juniper Katz (University of Massachusetts Amherst, juniperkatz@umass.edu)

Despite broad public support for renewable energy, opposition to specific renewable energy projects in rural locations, is growing. In this study, I systematically explore the intensity of conflict, actors, framing, distribution of burdens, and behavior around large-scale solar siting in rural locations in New England. Using news media data collected by the author, I create an original dataset of 25 cases spanning the past seven years that shows that 1) there is

widespread opposition to large-scale solar siting, 2) the politics of rural energy siting varies by conflict intensity, formal institutional design, proximity to environmental justice communities, and the presence of a democracy deficit (outsized influence by relatively small, but civically engaged groups), and 3) concerns about equity and environmental justice in siting debates are vague and symbolic. By bringing together policy conflict, social acceptance, and equity concerns I suggest how the goals of the energy transition are deflected by the elevation of refrains for more planning, more protections, and more rules.

Think Globally, Act Locally: The Determinants of Local Policymakers' Support for Climate Policy

Sabrina Arias (University of Pennsylvania , sarias@sas.upenn.edu), *Joshua Schwartz* (University of Pennsylvania, joshuaschwartz@hks.harvard.edu)

Given the lack of sufficient progress at the national level to combat climate change, local environmental initiatives have taken on increased importance. However, relatively little research examines the policy preferences of local policymakers themselves, whether the design features of climate policies impact their preferences, and whether policymaker and public preferences are contradictory or congruent. To address these gaps in the literature, we conduct a conjoint experiment on over 500 local policymakers and pair this elite experiment with an identical replication conducted on the American public. Per our theoretical expectations, we find that a range of climate policy design elements have a significant impact on policymaker support, and elite preferences are largely congruent with public preferences. Although national polarization over climate change suggests hope for progress is far-fetched, our findings demonstrate progress is indeed possible at the local level *if* environmental policies are optimally designed to maximize support.